EVIDENCE
Oral and Documentary
RECORDED BY THE
BACK BAY ENQUIRY COMMITTEE.

1926.

PART I.

EVIDENCE RECORDED IN INDIA.

LONDON:
PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:
Adastral House, Kingsway, London, W.C. 2; 120, George Street, Edinburgh;
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff;
15, Donegall Square West, Belfast;
or through any Bookseller.
1926.

Price 10s. Net.
## INDEX

<table>
<thead>
<tr>
<th>Name</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbuthnot, Mr. C. W. E.</td>
<td>230</td>
</tr>
<tr>
<td>Bean, Mr. S. M. L.</td>
<td>169</td>
</tr>
<tr>
<td>Bole, Mr. S. K.</td>
<td>309</td>
</tr>
<tr>
<td>Brins, Mr. G. R.</td>
<td>83, 111 &amp; 291</td>
</tr>
<tr>
<td>Chitale Rao Bahadur, C. K.</td>
<td>215</td>
</tr>
<tr>
<td>Delves, Mr. B. H. A.</td>
<td>440</td>
</tr>
<tr>
<td>Duggan, Mr. E. M.</td>
<td>315</td>
</tr>
<tr>
<td>Elgee, Mr. H. A.</td>
<td>184 &amp; 450</td>
</tr>
<tr>
<td>Girdwood, Mr. A. C.</td>
<td>118</td>
</tr>
<tr>
<td>Hansoti, Mr. G. J.</td>
<td>349</td>
</tr>
<tr>
<td>Harvey, Mr. T.</td>
<td>450</td>
</tr>
<tr>
<td>Headlam, Captain E. J.</td>
<td>3</td>
</tr>
<tr>
<td>R.I.M.</td>
<td></td>
</tr>
<tr>
<td>Hepper, Sir Lawless</td>
<td>6, 450, &amp; 503</td>
</tr>
<tr>
<td>Hirachand, Mr. Walchand</td>
<td>322 &amp; 447</td>
</tr>
<tr>
<td>Horniman, Mr. B. G.</td>
<td>334</td>
</tr>
<tr>
<td>Hudson, Sir Leslie</td>
<td>147</td>
</tr>
<tr>
<td>Jehangir, Mr. Oswaji</td>
<td>479</td>
</tr>
<tr>
<td>Kangas, Mr. K. D.</td>
<td>299</td>
</tr>
<tr>
<td>Kay, Mr. J. A.</td>
<td>430</td>
</tr>
<tr>
<td>Kerr, Mr. J.</td>
<td>236</td>
</tr>
<tr>
<td>Lalji, Mr. Hooseinbhoy</td>
<td>331</td>
</tr>
<tr>
<td>Mackie, Mr. A. A. W.</td>
<td>1</td>
</tr>
<tr>
<td>Merrett, Mr. S. R.</td>
<td>233</td>
</tr>
<tr>
<td>Mistry, Mr. J. P.</td>
<td>309</td>
</tr>
<tr>
<td>Mody, Mr. H. P.</td>
<td>334</td>
</tr>
<tr>
<td>Naranjii, Mr. Lalji</td>
<td>410</td>
</tr>
<tr>
<td>Nariman, Mr. K. F.</td>
<td>379</td>
</tr>
<tr>
<td>Neilson, Mr. W. H.</td>
<td>100</td>
</tr>
<tr>
<td>O’Rorke, Mr. G. M.</td>
<td>120</td>
</tr>
<tr>
<td>Petit, Sir Dinshaw</td>
<td>291</td>
</tr>
<tr>
<td>Phillips, Captain F. B.</td>
<td>163</td>
</tr>
<tr>
<td>Rodrigues, Mr. D. D.</td>
<td>368</td>
</tr>
<tr>
<td>Rutherford, Mr. J. G.</td>
<td>177</td>
</tr>
<tr>
<td>Spero, Mr. W.</td>
<td>249</td>
</tr>
<tr>
<td>Sukhia, Dr. N. H. E.</td>
<td>241</td>
</tr>
<tr>
<td>Surve, Mr. A. N.</td>
<td>370</td>
</tr>
<tr>
<td>Thomas, Mr. W. H.</td>
<td>138 &amp; 450</td>
</tr>
<tr>
<td>Wadia, Mr. C. N.</td>
<td>303</td>
</tr>
<tr>
<td>Wallace, Mr. J. K.</td>
<td>180</td>
</tr>
<tr>
<td>Page</td>
<td>Lines</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>60</td>
<td>Insert “the” before “dockyards” and “to be” before “repaired”.</td>
</tr>
<tr>
<td>9</td>
<td>37</td>
</tr>
<tr>
<td>40</td>
<td>Insert “had” before “agreed”; after “pay” delete remainder of question and substitute “any extra expense you might incur would you have agreed to the dredging?”.</td>
</tr>
<tr>
<td>17</td>
<td>Insert semicolon after fifth word.</td>
</tr>
<tr>
<td>11</td>
<td>Delete “that”.</td>
</tr>
<tr>
<td>19</td>
<td>Insert “that” after “done”.</td>
</tr>
<tr>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>16</td>
<td>Insert “on” before “by”.</td>
</tr>
<tr>
<td>26</td>
<td>Insert “1st” before “us”.</td>
</tr>
<tr>
<td>25</td>
<td>Insert “them to” before “us”.</td>
</tr>
<tr>
<td>24</td>
<td>Insert “still” before “hold”.</td>
</tr>
<tr>
<td>29</td>
<td>Insert “A.” at beginning of line.</td>
</tr>
<tr>
<td>19</td>
<td>Insert “is” before “required”.</td>
</tr>
<tr>
<td>20</td>
<td>Insert “the” before “then” read “them”.</td>
</tr>
<tr>
<td>13</td>
<td>Insert “are” read “do”.</td>
</tr>
<tr>
<td>36</td>
<td>Insert “not an estimate of” read “Do you not take out figures for”.</td>
</tr>
<tr>
<td>29</td>
<td>Insert “them” to before “us”.</td>
</tr>
<tr>
<td>53</td>
<td>Insert “included” read “do you include”.</td>
</tr>
<tr>
<td>62</td>
<td>Insert “dredger” read “dredging”.</td>
</tr>
<tr>
<td>29</td>
<td>Insert apostrophe at end of “Engineers”.</td>
</tr>
<tr>
<td>37</td>
<td>Insert “that” read “they”.</td>
</tr>
<tr>
<td>64</td>
<td>Delete last seven words; insert (line 50) “A—You can have it in a fortnight.” Remainder of line remains unchanged.</td>
</tr>
<tr>
<td>65</td>
<td>Delete “not” (now 59)</td>
</tr>
<tr>
<td>30</td>
<td>Insert “which” read “who”.</td>
</tr>
<tr>
<td>54</td>
<td>Insert “project” after “takka”’.</td>
</tr>
<tr>
<td>57</td>
<td>Insert “and also” read “showing”.</td>
</tr>
<tr>
<td>52</td>
<td>“it” read “were”.</td>
</tr>
<tr>
<td>33</td>
<td>Insert “de” before “you”.</td>
</tr>
<tr>
<td>34</td>
<td>Insert “it” read “them”.</td>
</tr>
<tr>
<td>37</td>
<td>Delete “in”.</td>
</tr>
<tr>
<td>63</td>
<td>Insert “Sir George” before “Lloyd”.</td>
</tr>
<tr>
<td>35</td>
<td>Insert “respect” read “respect”.</td>
</tr>
<tr>
<td>29</td>
<td>Delete “during the whole time”.</td>
</tr>
<tr>
<td>63</td>
<td>Insert “Mr.” before “Elgove”.</td>
</tr>
<tr>
<td>30</td>
<td>Insert “them” at end of line.</td>
</tr>
<tr>
<td>5</td>
<td>Insert “The” before “Sir”.</td>
</tr>
<tr>
<td>19</td>
<td>Insert “alone” read “along”.</td>
</tr>
<tr>
<td>29</td>
<td>Insert “Q.” at beginning of line.</td>
</tr>
<tr>
<td>35</td>
<td>Insert “the” before “Sir”.</td>
</tr>
<tr>
<td>37</td>
<td>For “lipped” read “tipped”; for “lipping” read “tipping”.</td>
</tr>
<tr>
<td>34</td>
<td>Delete last five words.</td>
</tr>
<tr>
<td>38</td>
<td>Insert “after” before “black”.</td>
</tr>
<tr>
<td>2</td>
<td>For “They do” read “Do they”.</td>
</tr>
<tr>
<td>39</td>
<td>Delete last six words and substitute “per shift”.</td>
</tr>
<tr>
<td>40</td>
<td>For “will” read “would”.</td>
</tr>
<tr>
<td>17</td>
<td>For “1904” read “1929”.</td>
</tr>
</tbody>
</table>

CORRIGENDA.
For "as" read "to that which", 183
For "had never" read "never had", 183
Insert "did" before "Mr."; for "did all" read "do all it", 183
For "poles" read "piles", 183
For "build" read "bills", 183
Insert "a" before "gantry", 183
For "they" read "this", 183
For "Kolaba" read "Colaba", 183
For "stones" read "stone", 183
Insert "had" before "so", 183
For "had" read "had", 183
For "reels" read "reels", 184
For "them" read "it", 184
For "putting" read "put", 184
Insert full stop after "estimate"; use capital letter for "what", 184
Add "none" at end of line, 184
For "What for" read "Why", 184
For "drain" read "drains", 184
For "drain" read "drains", 184
For "dredger" read "dredged material", 184
Delete "in" after "wrong" and substitute "according to", 184
For "costed" read "cost", 184
Insert "the" before "question", 184
Insert "a" before "more", 184
Insert " Merchants" before "before", 184
For "final" read "their", 184
Delete "of the Engineers", 184
For "potentially" read "particularly", 184
Delete whole line, 184
Delete first three words, 184
For "307" read "307", 184
For "conceals" read "consider", 184
Insert full stop after "think"; begin new sentence with "Until", 184
For "symons" read "Simmons", 184
For "symons" read "Simmons", 184
Delete "in a contract", 184
Insert "A" before "E", 184
Add "her" at end of line, 184
Insert the "before "Secretary", 184
Insert "them" after "upon", 184
Insert the "after "seen", 184
Insert "an" after "all", 184
Insert the "after "have", 184
Insert the "after "have", 184
For "has" read "includes", 184
For "Meik, Buchanan & Co." read "Meik & Buchanan", 184
Insert full stop after conditions; begin fresh sentence, 184
Insert "the" before "Honourable", 184
Substitute commas for semicolon at end of line, 184
vii
Po.g. LiM
361

21
22

362

43
49
5

363

18
36
6
7

363

16
17
26
28
l!9

364

8

365

23

IrI

41
49

59
60

366

6
7

21
54
61

For If are It read II were ".
For cc are not turning out the right
outturn U read U were not giving
the specified output U j for U are "
read II were ".
For Ie like n read cc that u.
For u they were U read If it was".
Insert " under" after u is ".
Delete U we had n.
Insert II and" before "50".
Delete II Rs.I-J.2..0 ".
Delete first word.
For U of JJ read Ie to n ; insert
U work JJ after U carrying JJ.
Insert II increase U after U per
cent".
Insert U it JJ after at transfer u.
Insert II per brass" after " 1..8-0 I t .
Insert If to 8Upply it at U before

45
42
29

377

41
'N

381

40

382

37

383

27
32
47
60
59

61

405

406

407
408

8
28
mI
56
61
62
23
31
22
26
24

81

410
415

4
8

For If alterior U read II ulterior II.
Delete "but ".
Delete tc in It.
Delete If Dot u.
For II fund" read I. fundS ".
For II won't U read "don't".
For If it JJ rea.d U them It.
For Ie this" read cc these" .
Insert II he II after II Had n.
For CI contract II read " oontracte ".
Insert II more" before U e1Iicient ".
For" referenoe -to.. reed .. terms
of reference of".
For u thNe-4Iuarter" read If three..
quartan It.
Delete words in brackete.
Insert U p JJ to complete II department u.
For U The Chairman" read If Sir
M. Visvesvaraya".
For II The Chairman" read II Sir
M. Visvesvaraya".
For Ie The Chairman II read ,I Sir
M. Visvesvaraya I I .
For U The Chairman" read U Sir
M. Visvesvaraya".
For U can U read I t can't" •
For II Chairman" read II Bir M.
Visvesvaraya " .
For II Chairman ,n read U Sir M.
Visvesvaraya ".
Fol" U Chairman" read U Sir M.
Visvesvaraya ".
For" II make" read U give ".
For II Cho.irman" read II Sir M.
Viavesvaraya JJ.
For II Chairman IJ read II Sir M.
Visvesvaraya n.
For U Chairman" read U Sir M.
Visvesvaraya Ir.
For IC Chairman" read "Bir M.
Visvesvaraya ".
For U Chairman U read It Sir M.
Visveavaraya II.
For CI Chairman II read II Sir M.
Viaveavaraya fl.
For "Chairman" read "Sir M.

416
51
cc Ra. 2..a..o I I .
For If have placed U read Ie be in
417
6(r
the place. of ".
For Ie Buggesing "
read U sug_
418
26
gesting "~
Add "useless" at end of line~
420
36
For fourth 'Word read U for u.
For U of it means II read U indicates
421
64
that they were II.
422
6
Delete first four words and aubstitute II which was ordered u.
25
For II page It read II pages It; for
U receipt II read II receipts".
35
For first word read "Their n.
For U whether II read II why" .
39
For first two words substitute
423
1
" U whose tenders were".
Insert cc it " after U make Jt.
23
For first; five worda of second sentenca substitute It is ".
424
7
Delete last wOl'd.
For II regards U read II far as " .
fl11
For II the question II read II que~
tions JJ.
43
For U bulged II read U bulked u.
For If I should look up U read "I
49
could look it up u.
Insert "A. J.u before II Billi53
moria II •
V~vesvaraya u.
For U draining" read II dra.wing ".
01
Insert u the beat" after It get".
Insert "the" before ' If K.alu " '.
68
For" If Ohairman" read II Sir M,
Insert u the JJ before U expert".
Viavesvaraya ".
For II for U read II at a ".
425
50
Delete comma after II inconceivInsert u the U before ' U Kalu" '.
able" and insert It and n.
For II Zinga U read U J,inga ".
61.
For "productive U read U unproFor U Zinga" read. II Jinga ". For
ductive ". II Simon and 00." read
U Wm.
426
86
For U Chairman
read It Sir M.
£imona & Co. u.
·Viavesvar,.aya II.
For II 400 U read U 4000 " •
~ Delete.
For n Zinga It read II Jinga ".
54
Delete first 88Dtenoe.
Delete u as" before II some " ,
57
For II Ohairman" read II Sir M.
For II of II Nad U with JJ •
~an
"11\
" Viavesvaraya.". ~nd "ntence
For II large" read U larger" .
CUi.
For U would JJ in _'"""
DV
Insert; u"when " after U days" ,
. read II might JI •
For U afBuenced n read U afBuent " .
29
For II will" read "may"; delete
For Uto U read "at".
"abouf;u.
For It country" read II county".
31
For "d ~ould want to " read CI might
For I f acreable U read II acreage II.
not " .
For "The" Chairman" read U Sir
84
For"' U Chairman U read Ie Sir M.
M. Visvesvaray~ ".
Vi.a~araya 'J~ ,
F.or U Chairman" read. II Sir M.
40
For If field" read R ground".
Vuvesvaraya ". . '
41 . For If that" read U it "; for U purFor .1 Chairman)) read "Sir M.
..n
pOle" read U putp09811 n .
" V~ve8VaraYa".
"'""
For U Chairman" "read U Sir M
For CI makers of machinery" read
V"18vesvaraya. H •
•
II builders of dredgers ".
52
For II Re. S-4-O h read U 12 annas " .
Add U syndicate U at end of line.
428
11
For ':,on" . read ,.,. one n. " .
Insert II for" after 'I searclt. ".
25
For.
Chalrm~,?
read
811' M.
For ''"translat' U "Teia~"ft"~-----·--·· VIBV8svaraya .
•
n
Ion
re
28
Insert" there U after U residing".
Fo~:~~t ~f" read II of it It
m For U to It read II for" i for
For"9" read. "7".
".
499
8
F~;dic~~:i:a-:nf:,d:Z:':;Sir M.
For :: n~tur&l :', x:ead n nat~re ":
Visvesvaraya ".
For mistake lD second qUestiOD
M
For U Chairman II read. U Sir M.
read U mistakes I I . '
Vimlivaray"a ".
(I

!tIrl
369
1r15

Po.g. Lin.
404
56

J)

,384
385

386
390

391

4
6
7
16
21
62
8
36
8
24

394

(6

395

16

... ' 31
399

401

29"

15
61

402

18

408

11
23
23
8


EVIDENCE (ORAL AND WRITTEN) RECORDED BY THE BACK BAY ENQUIRY COMMITTEE

Hon'ble Sir Grimwood Mears, Kt. ... ... Chairman.
Sir M. Visvesvaraya, K.C.I.E., D.Sc., M.I.C.E. ... ... Members.
Sir Frederick Hopkinson, K.B.E., M.I.C.E. ... ... Members.
Mr. S. B. Billimoria, M.B.E., J. P. ... ... Members.
Mr. R. B. Ewbank, C.I.E., I.C.S. ... ... Secretary.

The Committee met at 11-0 a.m. on August 3rd at the Civil Secretariat, Bombay

1st Witness

A. W. W. Mackie, Esq., I.C.S., Deputy Director, Development Department

Chairman.—Mr. Mackie, what are your Christian names?
A.—Alfred William White Mackie.

Chairman.—Are you a member of the Indian Civil Service?
A.—Yes, Sir.

Q.—What is the position you are holding at present?
A.—I am acting Deputy Director of Development, acting Secretary to Government in the Development Department, and acting Commissioner of the Bombay Suburban Division.

Q.—When did you first become associated, if at all, with the Bombay Reclamation Scheme?
A.—On the 1st April 1926.

Q.—Are you here today in the main as a formal witness to produce certain documents which it is necessary that we should have?
A.—Yes, that is how I understand it.

Q.—Have you got the documents there?
A.—I have already supplied the documents, I have got a list of them.

Q.—Will you give the list of documents to us. Have you got the list in order of dates?
A.—I have got it in chronological order except where otherwise necessary.

I produce to this committee the following documents:

1. Outline of History of the Scheme compiled from Government records.
2. Reports of the Committees of 1887, 1897, and 1907.
5. Report of the Committee which investigated this scheme in November 1913.
7. Correspondence leading up to the Secretary of State's sanction of the scheme and the method of financing it.
8. Correspondence leading up to the appointment of Messrs. Meik & Buchanan as Engineers of the Scheme.
9. Speech of H. E. Sir George Lloyd, Governor of Bombay, introducing the Bill further to amend the City of Bombay Improvement Act, the City of Bombay Municipal Act.
10. Correspondence with Messrs. Meik & Buchanan regarding the execution of the works, and the termination of their agreement.
11. Reports by Sir George Buchanan on his visits to Bombay.
12. The first and second ad interim Reports of the Advisory Committee.
13. Correspondence and notes regarding the termination of the agreement of Messrs. Meik & Buchanan, and the responsibility of the firm in connection with the Back Bay Reclamation Scheme.
Correspondence and notes with Messrs. William Simons & Co., Sir John Biles and Sir George Buchanan with regard to the stiffening of the intermediate pumping station, "Colaba."

Memorandum by Sir George Buchanan to the press regarding the Black Bay Reclamation Scheme.


Copy of Debates.

Report on some results of the work done by "Jinga" and "Kalu".

The Annual Reports of the Development Directorate since its formation.

Copy of the Reply of Mr. Nariman to the last letter of Government included in the Press Note.

These documents have been supplied by you to Mr. Ewbank, the Secretary?

Yes, Sir.

Chairman.—Are you prepared to give us some information about the origin and progress of the scheme?

No, I am not.

Sir Frederick Hopkinson.—I take it that this is the complete list of all facts and figures?

No, it is not a complete statement of all the details by any means. Any papers on any point—every paper in the possession of Government, confidential or otherwise—will be produced at once.

Q.—These papers cover all the main points?

A.—Yes; they go right through from beginning to end. These are official papers, and will presumably only be published when the reports or appendices are published; only the parts required for the reports or appendices will be published.

Mr. Billimoria.—What position did you hold before taking over your appointment in the Development Directorate?

I was Collector of Ahmednagar.

Q.—You had nothing whatever to do with the Development Directorate before April 1926?

Nothing whatever.

Q.—After you had taken over charge, was it ever brought to your notice that a report had been made by Mr. Jacob of New York which was published in the report of the Bombay Development Directorate in 1914?

A.—A witness referred to it in giving evidence before one of the committees, in which he said it was a mad project. I forget the exact language, but it was strong.

Q.—Why is it not produced when you have produced other documents?

I do not know whether we have got this report. I do not know the exact year of the committee. Anything that you want will be produced.

Q.—You have been in this Department from April 1926; I presume you have read all the papers in connection with this scheme?

Not beyond the production of papers.

Sir M. Virendaraya.—Which other official, do you think, would be able to give us the information about the origin of the scheme and the various stages through which it has passed?

Mr. R. D. Bell, the man for whom I am acting; Mr. J. R. Martin also is due in India, I think, towards the end of this month.
Q.—Can you not collect the information?
A.—Certainly.
Q.—What about Mr. Monie? Is he in India?
A.—He is retired.
Q.—Where is he at present?
A.—I do not know his address in England. It can be got by communication. He was associated with the scheme from the beginning.

2nd Witness

Captain E. J. Headlam, Director, Royal Indian Marine

Chairman.—Will you tell me your Christian name?
A.—Edward James.
Q.—What is your present position?
A.—I am Director of the Royal Indian Marine.
Q.—How long have you been Director of the Royal Indian Marine?
A.—Since September 1922.
Q.—Had you any connection with the Royal Indian Marine in March and June of 1921?
A.—I was Deputy Director.
Q.—You can speak to the events of March and June and onwards, 1921?
A.—Oh, yes, I have been Deputy Director since 1920.
Q.—When did the question come up before the Royal Indian Marine of the proposed dredging operations in the Harbour in relation to the Back Bay Scheme?
A.—Just previous to August or in the beginning of August 1921.
Q.—Do you know, as a matter of fact, that the question had arisen previously in March 1921 with the Port Trust?
A.—Oh, yes, I do know that.
Q.—And then in August 1921, the question had to be considered by the Royal Indian Marine?
A.—Yes, it was on the 17th of August 1921 that Admiral Mawley, the then Director, wrote his letter to the Director of Development.
Q.—Have you got the correspondence?
A.—Yes, all that we have in our office about it. That was written by Admiral Mawley after he and I discussed the question.
Q.—Did the Development Directorate submit a map to you showing the area over which they proposed to dredge?
A.—Yes.
Q.—Was that map examined by the experts of the Royal Indian Marine?
A.—The matter was discussed by Admiral Mawley, the Director, myself, and the Commander of the Dockyard, who is responsible for mooring.
Q.—Were you of opinion that, in the interests of Royal Indian Marine, the proposed dredging could be allowed to the extent to which the Development Directorate wished?
A.—No, they wanted to go too deep.
Q.—Ultimately, did the Port Trust and the Royal Indian Marine, in conjunction with each other, considerably limit the area of the proposed dredging works?
A.—Oh, certainly. We did not refuse to have dredging done over the area; we simply limited the depth that the dredging must be done.
Q.—That is to say, the dredger was designed to work down to 70 feet below water level?
A.—Yes.
Q.—You refused to allow the dredger to operate lower than 35 feet?
A.—That is right.
Q.—And the reason for that was anchorage amongst others?
A.—Yes, anchorage for the Indian Marine and for men-of-war, etc.
Q.—And to that decision of the Royal Indian Marine, the Development Directorate had to submit?
A.—Yes, they did acquiesce.
Q.—You and the Port Trust were the authorities?
A.—Yes.
Q.—The scheme was announced on the 3rd August 1920 by Sir George Lloyd. Before 3rd August 1920, had the Royal Indian Marine been consulted at all as to whether dredging would be permitted?
A.—Before August 1920, not that I remember.
Q.—At all events, is there any indication that there had been any consultation?
A.—No. I was officiating as Director, and I should have known it.
Q.—Had the Royal Indian Marine been doing any dredging?
A.—We have to dredge continuously to keep our dockyard open.
Q.—Did the Government of Bombay ask your opinion or advice as to the feasibility of dredging on a large scale?
A.—No.
Q.—Or as to the nature of the sea bed?
A.—No.
Q.—Or as to the experience which you had gained from the use of dredgers of any particular type?
A.—We had never been consulted.
Q.—As far as you know, no consultation of any kind on any of these points took place?
A.—The only consultation that we had in connection with the reclamation scheme was with regard to taking over our dockyard. But there was no question of dredging.
Q.—Did Sir George Buchanan ever make similar enquries from you as to whether dredging would be freely allowed?
A.—No.
Q.—Or the feasibility of the scheme?
A.—I never discussed it with him at all.
Q.—As far as you know, Sir George Buchanan made no enquiry of the Royal Indian Marine as to any of these matters of which I spoke?
A.—No.
Q.—There was a map which passed between the Port Trust and the Development Directorate and between the Royal Indian Marine and the Development Directorate?
A.—The first information we had was the production of this map. I think it was a map that we have not got in our office.
Q.—Did any other person, apart from the Government of Bombay and Sir George Buchanan, approach the Royal Indian Marine to obtain information on these matters?
A.—Not to my knowledge.
Q.—Do you happen to have a copy of the map showing the area which is restricted?
A.—I have not got a copy of that map.
Q.—The actual original map will be in the possession of the Development Directorate?
A.—I should imagine so.

Sir M. Visvesvaraya.—Doubtless you have copies of that map. Could you very kindly give us one?
A.—I will send you a chart of Bombay with the actual limits of the Royal Indian Marine. I could send you a map on a fairly large scale. I could send it in half an hour.
Q.—What was the area which has been excluded from the operation?
A.—I could not tell you the area because we do not measure it in acres. It is between Apollo Bunder and the Middle Ground really.
Q.—Have you studied the question of reclamation? Do you have an interest in it?
A.—I take a great interest.
Q.—Have you any opinions of your own to give?
A.—Yes, I have been here the whole time it has been going on.
Q.—To what extent does the restriction affect the estimate?
A.—It is such a small portion it did not appear to us important at all. Afterwards some one said that our particular portion held the best soil, whatever it is, for reclamation purposes. But we had no idea. It was a very small portion of the harbour.
Q.—Have you studied the question of the suction dredger plant?
A.—We have had one of the dredgers in dockyards repaired.
Q.—Speaking generally, what do you think are the reasons for the failure of the dredger to give the required output?
A.—The length of the pipe line I imagine is too long. I imagine that is the reason.
Q.—It did not function properly because the pipe line was too long?
A.—The pipe line is not always perfectly straight.
Q.—That was put in the specifications originally?
A.—I do not know.
Q.—Have you any opinion as to what extent the reclamation should be completed, in a general way?
A.—My own opinion is that in a great city like Bombay the whole of it should be completed.
Q.—But what about the cost?
A.—No. I have not gone into the question of cost.
Q.—In what parts is such reclamation being carried on at present? Karachi is one?
A.—Karachi, Cochin and Tuticorin.
Q.—Do you happen to know what it is costing them per 100 cubic feet?
A.—I do not know. In the case of Cochin which I visited 3 years ago they are doing the same thing they did at Durban in South Africa. They are developing the harbour, dredging and reclaiming the same moment, which means they are deepening the harbour, and instead of taking the silt out to sea they are putting it on shore.
Q.—You have no idea as to what it is costing them?
A.—No, the Engineer in Cochin should know them.
Q.—What other suction dredgers are working in this harbour?
A.—I do not know the exact number and size of the Port Trust Dredgers. Ours is the only one I have control of. It is the bucket dredger.
Q.—What is the maximum output of a dredger?
A.—It all depends on the size and what it is working at.
Q.—You have no dredger of the dimensions they have purchased for the reclamation?
A.—No.

Sir F. Hopkinson.—In his letter dated 12th September 1921 to the Secretary of the Port Trust, Sir Lawless Hepper refers to the limitation of the dredging and says: "This will mean a shortage of the material for reclamation to the extent of nearly 15,724,000 cubic yards and this quantity is proposed to be recouped by an extension of the dredging area out in the harbour from middle ground to the southern boundary of the area originally proposed." Is that the report you have been referring to?
A.—That is right. I imagine that that is the total limitation. We said that we were quite willing to allow dredging to be carried out down to about 36 feet but we heard afterwards from Sir George Buchanan that those few feet we were content to have dredged on was not the good stuff they wanted, and it was ordinary silt, and that if they dredged 25 feet they would not get the good stuff they wanted. If they went up to 70 feet of water there would have been practical danger to shipping.

Sir M. Viswanaraya.—There is a very large margin between 35 feet and 70 feet, but supposing that they agreed to pay the cost of extra moorings, would it have affected you so long?
A.—Our moorings have to be lifted every year, all our dockyard buoys and moorings have to be increased in weight and size, so there would be continual extra charge but as it was there was no pressure. They accepted our objection and we were never asked to reconsider our decision.

Mr. Billimoria.—Do you think, Captain, that the dredging would have endangered the property of the Port Trust if the dredging was not restricted in the area of the Port Trust?
A.—It would have meant the same effect as on my area. It would have rendered the moorings unsafe to shipping.
Q.—Would you limit the area because it was unsafe for the harbour?
A.—We only have control over a very limited area which is definitely marked on the chart, and I would decline to have it dredged down to 70 feet.
Q.—Did the Development Department consult you on the area before they raised any objection?
A.—They did not consult us about any particular area. They simply showed us our own area.
Q.—Have you reclaimed any area for the Port Trust?
A.—No. I was not then a Trustee of the Port Trust. I have been one since 1922.
Q.—In answering a question of the Chairman you just now mentioned that you have to carry on dredging every day. Where do you throw the stuff that you take out of the dredging?
A.—There is a portion of the harbour set apart where the dredgers can go and where it would do no harm.
Q.—That means that the material is simply wasted. Is it of no use?
Do you think that material could have been very well utilised by the Development Department if it had been taken from you?
A.—I was concerned only with silt deposits, and there would be no means of getting it out unless you have a specially built dredger which would discharge the silt through a pipe straight to the shore. The only other means are barges.

The 3rd August 1926, at 3 p.m.

3rd Witness

Sir Lawless Hepper, Kt., Director of Development

Chairman.—Did Messrs. Lowther and Kidd report upon the practicability of reclaiming 1,145 acres in Back Bay on the 3rd of August 1919?
A.—Yes.
Q.—The report, in fact, was prepared by Mr. W. Kidd?
A.—It was.
Q.—Did the Government of Bombay on the 30th of May 1919 ask Sir George Buchanan of the Firm of Messrs. McIl and Buchanan to report on Mr. Kidd's scheme?
A.—They asked Sir George Buchanan, at that time Sir George Buchanan was not a member of the firm.
Q.—Do you happen to know roughly when he became a member of the firm?
A.—It was in 1919, after he was asked to prepare the report and prior to the submission of the report.
Q.—Was that report in the hands of the Government of Bombay in October 1919?
A.—It was.
Q.—Was it on August 3rd, 1920, that Lord Lloyd, then Sir George Lloyd, announced the decision of the Bombay Government to reclaim the Back Bay in accordance with Sir George Buchanan's report?
A.—It was on the 3rd of August 1920.
Q.—Did Sir George Lloyd in the same speech announce the intended formation of a body to be called the Development Directorate and were part of their duties indicated—-the first duty mentioned, the duty to carry out with the assistance of their engineering staff the Back Bay reclamation scheme and any other reclamation schemes which may be found necessary in or near Bombay city?
A.—Yes.
Q.—The Development Directorate had many other activities besides Back Bay?
A.—Yes.
Q.—And they are all set out year by year in the report of the Development Directorate?
A.—Yes.
Q.—But the Back Bay Reclamation Scheme was of all the most important?
A.—It was the most important.
Q.—Were you appointed Director on the 8th of November 1920?
A.—Yes.
Q.—Have you remained in that position ever since?
A.—I have.
Q.—Were you assisted by two groups of gentlemen, Secretaries and engineers?
A.—The engineers were directly under me, and I and the engineers form the directorate, which is the executive part of the organisation to carry out the work. The Secretary to Government in the Development Department occupied a dual position. He was Deputy Director of Development as well as being Secretary to Government in the Development Department. All the orders of Government were, in all questions, issued over his signature as Secretary to Government in the Development Department. He formed a sort of link between the Secretariat and the executive part of the organisation.
Q.—Was the first Chief Engineer, Mr. Lewis, appointed on the 11th of December 1920?
A.—I have not got the exact date. It was in December, I think.
Q.—Mr. Lewis was appointed on the 11th December 1920, and except for the fact that in 1922 he was away on leave from May to October, did he remain as Chief Engineer until the 12th of July 1924?
A.—Yes.
Q.-There was also a Mr. G. M. O'Rorke who acted as Chief Engineer during the period of Mr. Lewis's absence on leave?
A.—Yes, that is correct.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
A.—Yes.
Q.—And then Mr. H. A. Elgee, who was appointed on the 12th of July 1924, and except for a short period of leave, has been one of the engineers to the scheme and is to-day the Chief Engineer?
A.—Yes.
Q.—Then as regards Secretaries, Mr. P. W. Monie was appointed on the 8th of November 1920, and acted until the 8th of July 1922?
Q.—Would you tell us what experience, as far as you know, Mr. Lewis had of a work of this character?
A.—He had been employed under Sir George Buchanan at the time when Sir George Buchanan was Chief Engineer and Chairman of the Rangoon Port Trust, and I understand that considerable river training works were carried out there by Sir George Buchanan, and presumably Mr. Lewis was working on those works, but exactly what his part was I am unable to say. Then subsequently when Sir George Buchanan was employed in Mesopotamia, reclamation works were carried out there with the " Ratu", which is now working for us, and I understand that Mr. Lewis was also working on those works under Sir George Buchanan.

Q.—The Rangoon undertaking was a river one?
A.—That was a river training work.

Q.—What was the Mesopotamian one?
A.—The Mesopotamian one was making wharves at Basra about 70 miles up the river.

Q.—Again inland?
A.—Yes.

Q.—With regard to Mr. G. M. O’Rourke, was he an Engineer nominated by Sir George Buchanan?
A.—He was.

Q.—Can you help us at all with regard to his experience?
A.—I am afraid I cannot give any details.

Q.—Were you associated with him daily from 1922 throughout the period in which he was acting?
A.—Yes.

Q.—Did you ever discuss with him what had been his previous experience of reclamation on an open sea front?
A.—I cannot say I did. He has been employed the whole of his time at the quarry at Kandivali.

Q.—And Mr. Elgee who was appointed on the 12th July 1924, was he nominated by Sir George Buchanan or not?
A.—He was.

Q.—You have been good enough to furnish us with a statement and we may take that as being in the main your evidence?
A.—Yes.

Q.—Would you kindly turn to the bottom of the first page where you are speaking of the survey of Lowther and Kidd carried out in 1913. You say drawing No. 5 shows the results in detail of this part of your investigation. Have you got in the office of the Development Directorate drawing No. 5?
A.—I think we have all these drawings in the Chief Engineer’s office.

Q.—Turning over to page 2, you point out that Mr. Kidd spoke of the clay as being stiff and unctuous and later about the middle of the page he speaks of it as blue clay?
A.—Yes.

Q.—Whatever description he used, whether he called it stiff or hard or unctuous or merely clay, he does not indicate any doubt as to the capacity of a dredger to deal with it. He says, “I the machinery we would employ would be designed and guaranteed to effect the removal of 2,000 cubic yards of all or blue clay per hour; that is, without the addition of the words “hard or unctuous”?
A.—Yes.

Q.—But taking the whole of Mr. Kidd’s report whatever description he used of the clay, he appeared to have no doubt that a dredger would be capable of dealing with it?
A.—Yes.

Q.—In your statement you very rightly point out that Sir George Buchanan recommended the purchase of a dredger designed to discharge soft clay, that is page 2, about line 35, and you emphasised the point that Kidd spoke of stiff and unctuous clay whereas Sir George Buchanan spoke of soft clay. Later you speak of it as one of the mistakes which has proved disastrous. That I suppose is your considered opinion?
A.—Yes.

Q.—Were you not quite pleased with the quality of the clay down to March 1924?
A.—The dredger began to work on the 5th of December 1923.

Q.—And the date I am putting to you now is March 1924. Were you not quite pleased with quality of the clay down to March 1924?
A.—We were quite pleased with it as material for reclamation. But I do not think we had realised then that it was going to result in reduced output.

Q.—I am now reading from the report on the working of the Development Department for the year 31st May 1924, page 2, “The material obtained proved to be of much better quality than had been anticipated, being a hard, heavy clay with sand”?
A.—Yes.
Q.—So that up to March 1924 you were approving of a hard heavy clay?
A.—Yes. A material for reclamation.

Q.—Is there anything in this report ending 31st May 1924, which in any way speaks of the disadvantages of hard, heavy clay?
A.—No, I do not think there is.

Q.—And was it on account of the hard heavy clay that it was considered by Sir George Buchanan that a saving of 17 lakhs could be effected by doing away with some of the bunds?
A.—Yes.

Q.—And that was mentioned with satisfaction in this report?
A.—Yes.

Q.—When you became Director in November 1920, I suppose there had been some preliminary consultations before your appointment?
A.—I had been asked by Sir George Lloyd about the end of December 1919 whether I would take up this appointment and after a good deal of discussion I finally agreed to it some time towards the end of January.

Q.—At about what date, as far as your recollection serves you, did you first see Kidd’s report and Buchanan’s report?
A.—I went on leave for six months on the 1st of May or about that time, and some time prior to that I was shown a copy of Sir George Buchanan’s report, about April 1920.

Q.—And knowing that there was a possibility of your becoming Director did you have a copy of the report before you went on leave?
A.—I do not think I had a copy of my own. Mr. Kidd’s report was not shown to me. Before the 1st of May 1920 I saw Buchanan’s report.

Q.—Did you at that date study it carefully?
A.—No, I cannot say I did.

Q.—But when you became Director in November 1920, you must of course have studied Kidd’s report and Buchanan’s report with very great care?
A.—I had to study it in connection with the preparation of the revised estimate. That was one of the most important things we had to do at the beginning. I read all the papers I could in connection with it.

Q.—All I am concerned with for the moment is Mr. Kidd’s report and Buchanan’s report. Am I right in assuming that you studied them with great care?
A.—I studied Buchanan’s report with great care, but I am not sure that I studied Kidd’s report with great care till some time later.

Q.—Were you satisfied with Buchanan’s report?
A.—At that time I had no reason to think that there was anything unsatisfactory except as regards the estimate.

Q.—Except for the prices, your study of Buchanan’s report satisfied you?
A.—Yes.

Q.—And, of course, in reading a report like that your previous training as a Royal Engineer would give you an advantage over a layman in studying documents of that description?
A.—It would, I think.

Q.—Did you notice in your study of Buchanan’s report that he had described the clay as soft clay, whereas Kidd described it as stiff and unctuous?
A.—Yes.

Q.—Did it strike or have any effect on your mind in 1920?
A.—It did not.

Q.—It may turn out later of course that the discrepancy is not of any importance, but when first was it that you realised what to day you are alleging that the difference in description has been one of the mistakes which have proved disastrous? When did that strike you?
A.—It struck me after the first season’s dredging.

Q.—The first season’s dredging ended about May 1924. How long after the end of the first season’s dredging?
A.—It was about the end of that season. We had correspondence with Meik and Buchanan and brought to their notice the very low output compared with the specification and discussed it with the engineers. The engineers expressed their opinion that the clay was of much harder nature than had been specified.

Q.—Did you in that correspondence make the point that whereas Kidd had spoken of stiff and unctuous clay Buchanan had described as soft clay?
A.—No.

Chairman.—And ever since that time have you had the gravest misgivings about the success of dredging?
Sir Lawless Hepper.—I have been doubtful about it. Sir George Buchanan in 1924 assured Government that the results of the first season were purely experimental and that no estimates should be based on them and that we ought to wait until the first complete season, which was 1924-25, before we arrived at any conclusions.

Q.—But from May or June 1924 have you always had in your mind that this difference in the description of clay was a matter likely to cause disaster?
A.—I began at that time to have doubts as to whether the output would come up to the standard that was specified.

Q.—That is in May or June 1924 you appreciated the point which is emphasised at page 10 of your report:

[The Chairman here read out paragraphs 27 (1) and 27 (6) of witness's written statement.]

Would it be fair to say that from May 1924, you were personally uneasy about the amount of dredged filling that would be deposited within the reclamation area?

Sir Lawless Hepper.—Yes, I was.

Chairman.—Did you in your Development Report for the year ending the 31st March 1925 make any reference to this point—"stiff, unctuous and soft"?
A.—No.

Q.—But it had been in fact in your mind some nine months before the publication of this Report?
A.—Yes.

Q.—Mr. Kidd's Report in 1913 shows that he had complete confidence in the practicability of the scheme?
A.—Yes.

Q.—Sir George Buchanan's report shows that he had complete confidence in the scheme if carried out as he proposed?
A.—Yes.

Q.—Had you while reading Sir George Buchanan's report, yourself any doubt as to its complete practicability?
A.—None whatever.

Q.—Mr. Kidd and Sir George Buchanan were both of opinion that the scheme would prove to be a great financial success; is that right?
A.—I think they were.

Q.—Had you, at the time you assumed the Directorship of the Development Directorate, any doubt yourself that the scheme would prove to be a great financial success?
A.—No.

Q.—One of the objects of the sea wall was of course to retain what was pumped into it?
A.—Yes.

Q.—Did you notice the particular type of sea wall which Sir George Buchanan advocated?
A.—Yes.

Q.—Did you consider in November 1920 that that particular type of sea wall as advocated by him would in fact prove satisfactory?
A.—We had no experience that would lead us to believe that it would not be.

Q.—Do you mean to say that there was nobody in the Development Directorate who had sufficient practical experience to say whether a wall of that description would retain the material?
A.—The Chief Engineer would certainly have some experience.

Q.—As you yourself said, and very fairly, you had not got practical experience to enable you to say whether from the engineering point of view that wall would retain the material pumped in?
A.—Yes, I had no previous experience of work of this class.

Q.—Was it Sir George Buchanan's proposal to commence the building of the wall from both ends?
A.—Yes.

Chairman.—I will come to that a little later on. But the present position is that the sea wall has been entirely built with the exception of 1,850 feet in the centre?
A.—Yes, that is so.

Q.—When the Government of Bombay approached the Government of India with a view to secure the Government of India's sanction to the scheme the estimate that was put forward was 367·61 lakh?
A.—Yes.
Q.—It was, I suppose, on the basis of that being the price that at which the work would be done, the Government of India sanctioned the scheme?
A.—I think so.

Q.—Soon after you took office, it became necessary to look into the figures of Sir George Buchanan’s report?
A.—We were required by the Accounts Department to prepare detailed estimates in the usual course. There had been no detailed project estimate prepared before.

Q.—Therefore, soon after you assumed your duties this detailed project estimate was prepared?
A.—Yes.

Q.—At that time you had to assure yourself very carefully whether there was a considerable rise in the prices of machinery, fuel, labour and plant, and to submit figures that would prove approximately to be correct?
A.—Yes.

Q.—And the figures of the detailed project estimate came to 702.43 lakhs?
A.—Yes, that is the figure.

Q.—Did that figure rather disturb you?
A.—I was not unprepared for it. It was Mr. Lewis who had been working on the estimates for some time before it was actually submitted by him and I and Government knew that there was likely to be a considerable increase over Sir George Buchanan’s estimate on account of alterations in prices. Sir George Buchanan had himself also submitted a revised estimate in 1922 which was considerably in excess of his previous estimates.

Q.—There is no doubt the prices were at that time going up, but the point I want to put to you is this: the scheme which might be well worth undertaking at 367 lakhs might not be a scheme worth undertaking if it is going to cost you 702 lakhs? Did you ever consider it from that point of view?
A.—We had a forecast worked out on the basis of the 702 lakhs estimate and assuming the land would be disposed of in 11 years, which was at the time considered reasonable, the whole scheme showed a profit. It was worked out on the basis of Rs. 28 per square yard. It rose from Rs. 40 to Rs. 60 per square yard later on.

Q.—Did it ever occur to you personally to consider whether in the circumstances it might be prudent to wait until trade conditions were more settled?
A.—I did not think that the 702 lakhs estimate was likely to result in the scheme proving a financial failure because I thought that the prices that had been suggested in the earlier forecast at Rs. 28 per square yard were very low and that it was not unreasonable to consider somewhat higher prices.

Q.—At about that date, on the 26th February 1921, do you recollect Sir Chimanlal’s statement saying that the cost per square yard will be about Rs. 10/15 and, at a very modest estimate, the profit would be at least 30 crores?
A.—Yes, I remember that statement.

Q.—Then you estimated, at a very modest estimate, the financial yield of this undertaking would be 30 crores?
A.—Yes.

Q.—Did you believe that it was of a character that would bear the additional burden of the difference between 367 lakhs and 702 lakhs?
A.—Sir Chimanlal’s statement was made in 1921.

Q.—There had been other statements too, but what I am asking is, did you consider that the financial prospects were sufficiently good to make it worthwhile to go on even at 702 lakhs?
A.—I think so.

Q.—The dredger “Sir George Lloyd” arrived in March 1923? (When I am referring to dredger “Sir George Lloyd” I shall say “dredger” and the dredger “Kain” will be called by name.)
A.—Yes.

Q.—It began work on the 8th December 1923?
A.—Yes.

Q.—Therefore she was laid up for a period of 21 months?
A.—Yes, 21 months.

Q.—The cost of the dredger and plant connected with her was about £450,000?
A.—Something like that.

Q.—And interest at £450,000 for 21 months at 5 per cent. is £40,000?
A.—Yes.

Q.—I am taking the cost as £450,000 including the cost of pipe line, and taking this figure as an approximate one, it meant a loss of £40,000 by locking up all this capital?
A.—Yes.
Q.—Suppose instead of beginning the sea wall from both ends at the same time, it had been decided to commence the sea wall either from block 8 or from block 1, and enclose block 1 or block 8 as early as possible, could not the dredger have begun work in October 1922?
A.—I do not think so, because the dredger cannot work in Back Bay in any case. It was confined to the harbour.

Q.—Suppose it were decided to enclose block 8 and to carry a bund from the extremity of the sea wall to the shore, would you not have got the lagoon that you wanted? If you had not been building the sea wall from both ends, could not have the lagoon been ready by October 1922?
A.—I do not think so. The delay in completing the sea wall in block 8 was due to the necessity of laying a railway alongside the foreshore down to Colaba, putting in sidings and making preliminary arrangements for filling. Also the first 2,000 feet of sea wall was built directly on the reef, which meant that the foundations could be built only at low tide.

Q.—The point that we must go into with some care, is as to whether, if the work of building a sea wall and a cross bund to an extent necessary to enclose block 8 had been concentrated upon, would not a whole season of the working of the dredger have been gained?

(The witness made note of this point which he said the Chief Engineer would answer fully.)

Q.—The points which are given in your report, which I am coming in a moment, must have been taken from some progress reports?
A.—They are based on reports submitted by Chief Engineer.

Q.—At one time was it the idea of the Development Directorate that one lagoon should be completed so that the dredger could get to work at once?
A.—Yes, but we had not yet completed block 8; we had a smaller compartment.

Q.—The passage to which I am referring is the "Report on the working of the Development Directorate" during the period ending 31st March 1921, and it says that the dredger is due to arrive in Bombay after the monsoon of 1922 when it is expected to have a compartment of the reclamation area ready for filling.
A.—At that time we hoped we should have a compartment on 31st March.

Q.—You hoped that by October or November 1922, there would be a compartment ready for filling?
A.—Yes.

Q.—Of course it would have been of very great advantage if you could in October or November 1922 have got the dredger pumping material into block 8. It would have saved a year?
A.—Yes, it would have.

Q.—Now in your statement you give us the number of pumping hours at page 3. Are these hours the combined working hours of "Sir George Lloyd" and "Baka"?
A.—No, they are of "Sir George Lloyd" only.

Q.—The estimated number of working hours was 2,550 for 170 days in the season?
A.—Yes.

Q.—In point of fact, instead of doing that in the season 1923-24, the dredger did less than one-third of these working hours—843?
A.—Yes.

Q.—And a year later the working hours came to 1,473?
A.—Yes.

Q.—The addition of these two, i.e., 843 and 1,473, gives you still a less figure than the one working season figure estimated by Sir George Buchanan?
A.—Yes.

Q.—There must have been both in 1923 and 1924 considerable interruptions and considerable delays?
A.—In 1923-24 the dredger did not commence until 8th of December and then almost immediately after commencement, there was bad weather and considerable damage was done to the pipe line. Throughout the season we had trouble because the anchors that had been supplied for holding the pipe line were not heavy enough and the tides were very strong and the pipe line was continually getting out of position and breaking. It was not until we got a complete new set of heavy anchors that we were able to get the work going in the season. I think also that during the preliminary period, the staff had not become fully trained.

Chairman.—Is that by the end of December?
A.—By the end of financial year, ending 31st March 1924.

Q.—Instead of getting 2,000 cubic yards per hour you got a total of 627 cubic yards per hour?
A.—Yes, of actual filling.
Q.—Taking the year 1924-25, the 1,473 pumping hours is a little more than half the number of pumping hours given in Buchanan's report?
A.—Yes.
Q.—Both the time that the work would take and the cost that the work would involve depended upon Sir George Buchanan's calculation that the dredger would work continuously 15 hours a day for 170 days of the year delivering each hour 2,000 cubic yards of consolidated filling?
A.—Yes.
Q.—That was the essence of it?
A.—Yes.
Q.—The moment you drop down from 9,550 to 1,473, the cost and time is going to increase in the proportion of 14 to 25, that is, your progress is going to fall below that which was estimated?
A.—That is so.
Q.—As regards annual reports, has there been one published in 1926?
A.—It has been in the press for some time. I hope to get copies out in a day or two.
Q.—The document is one intended to give to the public the history of the working of the Development Department in all its many branches?
A.—Yes. It is meant to be a record of progress.
Q.—That is to say, anybody interested in Bombay turning to these volumes would find the report on the working of the Development Department in all the matters which were from 1920 entrusted to it?
A.—Yes. It has been a little difficult in the case of Back Bay reclamation to deal with technical questions because the Director who writes the report is not the technical official. The officials in charge of technical matters are Messrs. Meik and Buchanan.
Q.—Who actually has been writing these reports?
A.—I have myself.
Q.—Apart from any question of the technical side, you were desirous no doubt to represent to the public exactly how the Back Bay Development scheme was progressing?
A.—As far as concerned the amount of work done each year, but I did not, in the early stages, begin to throw doubts on the financial part of it, because we were not sure what was going to happen, and Sir George Buchanan said that matters were going to improve in the future, and I did not want to cast doubt prematurely.
Q.—Take the figures of March 1925. This is how the report opens : "Work on the Back Bay Reclamation Scheme made steady progress during the year." Would you turn to page 3 of your statement and look at the figure 1,473 pumping hours as compared with 2,550 stipulated number? Could that be said to be steady progress?
A.—It was not progress at all like the estimates.
Q.—When you tell the general public that work on the Back Bay Reclamation Scheme made steady progress during the year, do you not mean them to assume that the progress was according to the estimate and according to the plan?
A.—I do not think I meant that.
Q.—In fact, the work as you told us of the dredging was not making steady progress?
A.—It was not making the progress that it would have done if it had proceeded in accordance with Sir George Buchanan's estimate.
Q.—On consideration was it an accurate statement to say that during this time work on the Back Bay Reclamation Scheme had made steady progress?
A.—There had been no interruptions. Of course, from the point of view of actual output of the dredger, it was extremely disappointing. But the question was, at the time I wrote the report the figures having been just placed before Government for that season, whether the Government would wish me to give information about the financial effect of the low output at that stage. That was always my difficulty.
Q.—Now the question is as to whether Government would wish you to give any information of the difficulty?
A.—The figures for the season's dredging are only available towards the end of June each year and it is at that time that the report is drafted, and there was no time to calculate the effect of those figures.
Q.—You knew that the dredger had been working for 1,473 pumping hours. We knew that to carry on the scheme you had to work 2,550, and therefore as regards that operation of dredging far from there being steady progress there was a most serious failure of output?
A.—Yes.
Q.—That must be so, it follows?
A.—Yes.
Q.—Was nothing done at the floating pipe line end to estimate at all what volume of filling was coming through it?
A.—No, I do not think so. I do not know whether it could have been done.

Q.—You have said that you did not know whether Government would like you to indicate the facts as in truth they were?
A.—What I meant was that we did not know what the effect on the financial prospects of the scheme a reduction of the output of this kind was likely to have. I did not think it desirable to say too much about it until that aspect had been gone into.

Q.—In October 1922, sanction was given by the Government for the revised estimate. When you were dealing with this matter in the report of 1923, did you speak of it at all as a revised estimate?
A.—I forget what reference I made.

Q.—The point I am trying to make is this: Did the Development Directorate in any of these annual publications tell the public that the scheme had been sanctioned for 367 lakhs, and that through rise of prices the detailed project estimate had gone up to 702 lakhs. Was that ever stated in any of these annual publications?
A.—I think the figure of the sanctioned project estimate was given, but I am not sure whether any comparison was drawn between that and the original figure of Sir George Buchanan.

Q.—Was the original figure of 367 lakhs ever mentioned in any of the annual report?
A.—I do not think it was.

Q.—And the way in which this detailed cost is increased in the report as follows, reading “the detailed project estimate amounting to 702-43 was sanctioned by Government in October 1922, the figure being almost exactly the same as that on which the information was supplied to the Indian Merchants Chamber in September 1921. There was therefore no change in the previous forecast of cost per square yard.” No one reading that would think that the original estimated figure had been 367 lakhs?
A.—No, but I think that was all gone into at the time that the statement was made to the Indian Merchants Chamber.

Q.—But if this report is fairly to represent the working of the Development Directorate, it might seem that the figure of 367 lakhs should have been mentioned in one of the volumes and some reasons given for the increase to 702 lakhs. It would have given the public more information?
A.—Yes. We never locked on the figure 367 as our figure at all. We simply went by the project estimate which we prepared ourselves.

Q.—But the Government of India look upon the figure 367 as one of importance, and it was on that that sanction was given?
A.—Yes.

Q.—Continuing the reading of page 1 of the report “it depends on the time required for the execution of the project, and as to this all that can be said at present is that the indications are that a somewhat shorter period will be needed than was at first estimated.” Sir George Buchanan had estimated five pumping seasons?
A.—He estimated five we estimated six which is right.

Q.—The main reason was that the wall was considerably in advance of the programme—that the construction of the wall had been quicker than laid down in the programme?
A.—It was. There was a regular programme for each year. If the dredging had come up to expectations, I think that the statement was not unreasonable. The dredging did not start till the following December. There were no grounds to suppose that we could not do it in time.

Q.—When were you to finish?
A.—1929-30.

Q.—For the year ending 31st of March 1925, which is the year in which you stated that steady progress had been made you give at the bottom of page 3 a statement that during the season up to the 31st March 1925 a total of some 13 lakhs of cubic yards of material had been pumped ashore and deposited in the military area so that at that date you knew approximately that 37 lakhs had been pumped short?
A.—Yes.

Q.—Am I right in saying that the proper figure to make up for the shortage would have been some 37 lakhs?
A.—Quite that. That includes the working of two seasons.

Q.—Surely not? During the season from October 1924 to 31st March 1925 a total of some 13 lakhs cubic yards had been pumped ashore and deposited in the military area?
A.—That is the work of two seasons 1924-25 and 1925-26.
Q.—At the bottom of page 3 where you give the total of 13 lakhs you are there giving the whole amount that was pumped in from the beginning of the work?
A.—I am not quite sure. I think I must have been referring to the season of 1924.
Q.—The season about which you were writing?
A.—Yes.

Q.—Then we get during the season from October 1924 to the 31st of March 1925 a total of some 13 lakhs cubic yards had been pumped ashore and deposited in the military area. That represents the total output of the dredger "Sir George Lloyd"?
A.—Yes.

Q.—Was the proper output of that dredger for that season 5 million cubic yards?
A.—Yes, on Sir George Buchanan's estimate.
Q.—Therefore the estimate of 13 lakhs cubic yards was a most disappointing figure?
A.—It was.

Q.—Does that enable you to feel that the statement on page 1 that the work had made a steady progress deserve some qualification?
A.—What I meant was that there were no interruptions. We had a good many interruptions in previous years.

Q.—When you were working smoothly without doing very much dredging?
A.—We were losing a great deal. We had made arrangements to stop the loss in the following season.

Q.—At that rate the dredging was going to take four times as long with the consequent cost of upkeep throughout the length of twenty years, interest charges, renewals of plant, etc.?
A.—Yes.

Q.—There came a time when the Port Trust and the Royal Indian Marine stepped in and excluded a certain area from dredging?
A.—Yes.

Q.—Mr. Kidd had according to him made surveys and had reported that there was three times as much material available as was necessary for the completion of the work?
A.—Yes.

Q.—It was estimated that 95 million cubic yards was the amount to be deposited?
A.—Yes.

Q.—And therefore Mr. Kidd's statement meant that there were available some 75 million cubic yards?
A.—I do not think that agrees with our figure. It is on Kidd's basis.
Q.—Mr. Kidd says it was three times as much?
A.—Yes.
Q.—According to Mr. Kidd's estimate there were 75 million cubic yards?
A.—Yes.

Q.—The areas over which the Port Trust and the Royal Indian Marine forbade you to dredge were in fact those of which Mr. Kidd had spoken highly?
A.—Yes, that is so.

Q.—And whatever was the size of the area of the Royal Indian Marine from which you were excluded, they refused to allow dredging to a depth of greater than thirty-five feet?
A.—Yes.

Q.—Whereas "Sir George Lloyd" had been constructed to dredge seventy feet?
A.—Yes.

Q.—And of course to lose a solid bed of thirty-five feet was a disturbing matter?
A.—The restriction the Port Trust imposed reduced it by 8,280,000 cubic yards and the further restriction of the depth by the Royal Indian Marine reduced it by 7,296,000 cubic yards. The total is 15,526,000.

Q.—That is how you get the 15½ millions and in that way you were debarred from taking from the harbour 15½ million cubic yards of what was said to be good dredgeable material?
A.—Yes.

Q.—The immediate result was an increase in expenditure of some 28 lakhs?

Q.—That came a little later. The Chief Engineer at that time when the restriction was made did propose that we should extend our area in the harbour. Later on after discussion with Sir George Buchanan, at his next inspection, it was decided to dredge in Back Bay.

Q.—The ultimate result of the refusal of the Port Trust and the Royal Indian Marine was that you went and dredged in Back Bay?
A.—Yes.
Q.—And to dredge in Back Bay required an additional expenditure of some 25 lakhs?
A.—Yes, in plant.

Q.—Is there anything said in the report on the working of the Development Directorate about the increased cost?
A.—I am not sure. I cannot remember. There have been five or six reports.

Q.—If there is, would you give me the reference to it?
A.—I would look up and see.

Q.—And is there any reference to the fact that the Royal Indian Marine and the Port Trust had deprived you of an area of 15½ million cubic yards?
A.—No, I do not think so.

Q.—Nor is there, as I think you told me, any mention of the point that you now so strongly rely on, the stiff and unctuous and soft clay?
A.—No.

Q.—Indeed, reading these reports right away through from the commencement down to 1926 could you point to any passage in them giving any cause for alarm?
A.—No, I do not think I can. The difficulty has always been, in writing these reports about the reclamation works, that we are writing about works which are being carried by the firm of Meik and Buchanan as Engineers to the Government, and they are responsible to Government to carry out the work, and it has always been rather difficult to determine how much we ought to say, and how much we ought not to say, of the details about the financial prospects.

Q.—It was a question of how much it was good for the public to know?
A.—We had to consider what the firm of Meik and Buchanan would say if we were to go and inform the public that their dredgers during the last year had not done what they were supposed to do. Sir George Buchanan has always asserted that the dredgers were perfectly capable of doing the work, and he reiterated that they were the responsible engineers. I am not sure. I think you told me, the stiff and unctuous and soft clay?

Q.—But why should you spare Meik and Buchanan? After all if the annual report of the working of the development directorate had set out the oddest facts that they could, and had contrasted them with the promises of Meik and Buchanan, would not something have happened; either Meik and Buchanan would have carried out their contract, or the matter would have been discussed and some re-arrangement made?
A.—The matter was discussed between Government and Meik and Buchanan.

Q.—But in a wider field?
A. I always felt it rather difficult. I do not think there is any intention to conceal anything, but it has not been altogether very easy work.

Q.—Now one of your minor criticisms of Sir George Buchanan is that he over-estimated the number of hours of useful work which the dredger could perform?
A.—Yes.

Q.—When in November 1920 you were studying the report did you consider that 15 hours’ work a day was practicable?
A.—I had no opinion on the subject then.

Q.—Ought you not to have had an opinion? You see in 1920 you had been in India for a good many years. You had been Agent of a Railway. You had general practical experience as a man who had held very high positions. Did it not occur to you whether 15 hours a day was a practicable proposition?
A.—At the commencement we took Sir George Buchanan’s estimate. He was an expert and knew a great deal more about it than any of us. It did not occur to any of us at that stage to criticise.

Q.—Here is Buchanan putting forward the practicability of a dredger coming into Bombay, working 170 days in the year, and doing for it 15 hours a day, and as far as I know you did not dissent in any way from that. In fact you must have accepted it as practicable?
A.—Government had already accepted it, and the Development Directorate were told to go on and do the work.

Q.—But assuming Government had accepted it, suppose you had come to the conclusion that it could not have been done, would it not have been your duty to have spoken out and told the Government it could not be done?
A.—I could not have said that at the time.

Q.—If you had come to the conclusion that it could not be done, all you have got to say is, “I shall have nothing to do with it.”
A.—I have come to the conclusion now, and have become wise after the event.

Q.—At that stage the question whether 15 hours a day was practical did not force itself upon your attention?
A.—For two shits it did not seem to be unreasonable.
Q.—A 15-hour working day has up to now proved impracticable?
A.—Yes, on the average.

Q.—Did the Development Directorate or Sir George Buchanan take any borings in Back Bay just before the time when it was decided to take the “Sir George Lloyd” there?
A.—The Chief Engineer took a series of borings in Back Bay.
Q.—Before you took the Sir George Lloyd there?
A.—Before the “Kaln” was taken there.
Q.—Can the Chief Engineer produce a map?
A.—Yes, he can.

Q.—Did the Chief Engineer report the borings gave promise of success?
A.—He said there was sufficient material and it was very good material for the purpose of reclamation, but I think he indicated it would be difficult material for dredging.

Q.—And in fact they got upon very hard clay and sandstone?
A.—In the first year they did.
Q.—And the results of that dredging were disappointing?
A.—In the first year they were, owing to the necessity of the dredger having to dredge its own flotation before beginning work. It could only dredge for a couple of hours each tide, and it had then to be taken out into deep water and it meant several months elapsed before it could work continuously. I do not think the results are ever likely to be good in Back Bay, because the material is undoubtedly much harder.

Q.—When did you become a Trustee of the Port?
A.—I think somewhere about 1913.

Q.—That would be just at the conclusion of the dredging operations of the “Kaln” and the “Jinga”?
A.—I think I must have become a Trustee about 1910, not 1913.
Q.—“Kaln” and “Jinga” were dredging between 1910 and 1913?
A.—Yes, the dredging operations were going on when I was a Trustee.
Q.—Did you in your capacity as Trustee get to know between the years 1910 and 1913 the average output of the “Kaln” and “Jinga”?
A.—No, I do not think any of the Trustees had any information on the subject.
Q.—Do not matters of that character come before the Port Trustees?
A.—The Trustees went on several occasions to see the work going on, and progress plans used to come round about once a month showing the areas that has been covered with mud and the areas that has been covered with clay, and so far as I know the results of the dredgers were never communicated to the Trustees.
Q.—In the whole of the three years did no one to your knowledge inquire what was the guaranteed output of the dredgers and what output they were in fact giving?
A.—Nobody that I know of.
Q.—And was it quite recently that you learned that the output of the “Kaln” was 34 per cent. of its guaranteed output?
A.—I think that 34 per cent. must be a slip. I think it is 25 per cent. The figures seem to indicate a loss of 25 per cent. I drew the attention of the Chairman of the Port Trust to this but I did not hear from him.

Q.—Throughout the period 1910—1913 was the “Kaln” in fact giving far less than her guaranteed output?
A.—She gave far less. I make it 1,126 cubic yards per pumping hour for the two, “Jinga” and “Kaln”.

Q.—What amounts should they have done?
A.—One dredger did better than the other. The average of the two combined works out to 1,126.
Q.—What should they have done?
A.—They were specified to do 2,000 cubic yards each. The average I get is 1,125.
Q.—So it was doing roughly half its guaranteed output?
A.—Yes.
Q.—Did you know that fact in November 1920?
A.—No.

Q.—It would have made you hesitate about the whole plan if you had known that?
A.—Well, I might have had misgivings about it.
Q.—Suppose you had known that the “Kaln” was giving half her guaranteed output and that the “Sir George Lloyd” was being purchased from the same firm and was of the same type, cutter suction dredger, would you not have felt it your duty to make some communication to Government or Sir George Buchanan or somebody?
A.—Certainly I would have brought it to the notice of Government at once.
Q.—And although Government had decided to go on with the scheme, Government could equally have decided to vary the scheme or even to abandon it?
A.—Yes.

Q.—In November 1920 you must have known that you as Director were hoping to dredge over a sea-bed which was the property of the Indian Marine and the Port Trust?
A.—It was part of the scheme we were to carry out that we should do so.

Q.—Did it occur to you to ask the Port Trust if there would be any objection?
A.—I do not think it did. I think they made their objections very soon though, in June 1921.

Q.—But it did not occur to you to ask them what experience they had of dredging?
A.—At that time when the work was started in 1920 the question of dredging was not one that was very much to the front, because we knew that the dredging was not going to come on for a year or so. The main question which concerned us was the opening of the quarry and the starting of the sea-wall and the construction of the Railways, and I do not think these questions about possible output and the area over which the dredgers were to work were very important at that time; at any rate we did not attach great importance to them.

Q.—But the dredging was the crux of the whole thing. Was not it?
A.—Yes.

Q.—There was no good building a sea-wall, and no good buying a dredger, unless you had material at the bottom of the sea-bed suitable for dredging. Material was the crux of the position, was not it?
A.—Yes, but the scheme had been reported on by two sets of experts and we were appointed to carry it out according to the sanctioned plan of the second expert. It never occurred to me to try to find fault with others.

Q.—But the proposal was to dredge from the harbour. You as a Trustee of the Port Trust must have been perfectly well aware that under section 28 of the Act of 1879 all right, title and interest in the stone and the rock and so on of the harbour was vested in the Port Trust?
A.—I knew that.

Q.—Therefore you knew that the Development Directorate were intending to interfere with the property which was vested in you as a Trustee of the Port Trust?
A.—We should have had to obtain their formal permission before we started dredging.

Q.—That is just the point. Did you in November 1920 appreciate that?
A.—I do not think the question ever occurred to anybody because there was no question of dredging at that stage.

Q.—Did it occur to anybody to ask the Port Trust what was their previous experience of the dredging of the sea-bed?
A.—I do not think so.

Q.—Did it occur to anybody in the Development Directorate to ask them what were the performances of the "Kalu" and the "Dinga"?
A.—No.

Q.—Or to make any inquiry from them as to their views on the feasibility of the scheme?
A.—No, we took it that Government had accepted Sir George Buchanan's advice as to the feasibility of the scheme and the cost and the time, and the dredging plant had been ordered seven months before, and we took it that our business was to go on and do the scheme as well as we could. It never occurred to us at that stage that we were intended to carry out a further inquiry into the whole project.

Q.—I am hardly suggesting that. What I am suggesting is this: that to you as Director it was of the greatest importance that Sir George Buchanan's scheme should be a sound one from an engineering point of view, and that his scheme should not show on the face of it that there were defects in it. That was of importance to you as Director?
A.—And much more so to Sir George Buchanan.

Q.—And also to you as Director?
A.—Yes.

Q.—If you had in 1920 noticed this point about the stiff and unctuous clay and soft clay, had noticed the point about the permeability or porosity of the rubble wall, had noticed the point about the practical impossibility of working 15 hours a day, if you had noticed all these things in November 1920, would you not have called the attention of the Government to all of them?
A.—Certainly.

Q.—I think I have asked you, and you have answered about the type of sea-wall. In your statement now you think the principal reasons for the, may I say, present partial failure is attributable to the mistakes of Sir George Buchanan. Is there
any other reason apart from those contained in your statement on account of which you are led to think the scheme has been a failure?

A.—No other reasons. There are no other reasons except those that I have given—

Q.—Is there anything in the answers which you have given this afternoon that you would like to qualify or add to?

A.—I do not think so.

Q.—I want to make this clear about the Reports of the working of the Development Directorate. This was an official document which necessarily had to give some account of the workings of a scheme that was of a very exceptional and difficult character. That is right?

A.—Yes.

Q.—On the one hand Sir George Buchanan was saying in 1923-24 you could form no estimate because the Dredger had not had a fair trial.

A.—Yes, he said so.

Q.—And you had, I assume, the hope that Sir George Buchanan’s statement with reference to the improvement would be made good in the succeeding year?

A.—Yes, we were all hoping so.

Q.—Is it a fact that in the year 1925-26 since the sea-wall has been sealed there has been a considerable improvement?

A.—Well, we have retained a very much larger amount of material. I have the actual figures. The actual quantity dredged by the “Sir George Lloyd” last season was 18,28,303 cubic yards and the actual amount measured on site in June was 22,64,000 cubic yards.

Chairman.—Is it a fact that in the year 1925-26 since the sea-wall has been sealed there has been a considerable improvement?

A.—Well, we retain a very much more material. The actual quantity dredged by the “Sir George Lloyd” last season was 22,64,000 cubic yards and the actual amount measured in June was 22,64,000 cubic yards.

Q.—That is because the clay has expanded, is it not?

A.—Because the silt is full of water. It is not dry. Our Engineers always assumed that there would be a shrinkage of 20 per cent.

Q.—Your engineers have and possibly they may be asked questions on that, but on the other hand Sir George Buchanan’s contention is that far from shrinking, it bulks?

A.—Yes, I understand that his reason is that if you got clay under pressure for centuries and you release that clay and bring it out in the open it will expand?—As regards the clay, yes. But our engineers think there will be considerable shrinkage in the silt.

Q.—Is the position, at all events, that you have dredged 1,828,000 and have actually got in the wet stage 2,824,000?

A.—The Engineers Committee assume a reduction of 40 per cent. owing to the wet state. Our engineers consider this a very liberal allowance but we are not in a position to say it is excessive.

Q.—Just one or two questions about that rubble wall. There came a time when you were satisfied that a considerable amount of the pumped filling was passing through the rubble wall and escaping into the sea?

A.—Yes, in January 1924 soon after the dredging started.

Q.—And you endeavoured to impress that upon Sir George Buchanan, but whatever his opinion may have been, he did nothing?

A.—No.

Q.—And ultimately on the responsibility of the Development Department the inside of the rubble wall was sealed and the cross bund as well?

A.—Yes.

Q.—Did any one form any estimate of the depths of the sealing that was necessary—how many feet, how many yards?

A.—No, I do not think so.

Q.—There has been a very great quantity of moorum put into it?

A.—Yes. I do not think that Mr. Lewis was suggesting any design. It was Sir George Buchanan who would do what he thought necessary.

Q.—Now you are satisfied that practically the whole if not the whole of the pumped material is retained in a sea-wall and a cross bund backed by moorum?

A.—I think practically all has been retained, but I do not know what sort of reclamation is going to result.

Q.—I suppose you will be in Bombay during the next month?

A.—Yes.

Mr. S. B. Bhilwadia.—In connection with the steady progress made as stated in the report I hope Sir Lawless meant to indicate by his answers to the questions that Government was not anxious to disclose that the dredger was not working satisfactorily?
A.—I did not mean to indicate that Government did not want to disclose everything. The matter had been referred to Meik and Buchanan. My explanation was that we got these figures of dredging just about the time when that report was drafted, and it was only fair, I think, to give the firm who were responsible for doing this dredging an opportunity to tell Government what they had got to say about it before saying too much to the public as to what the results were. I do not think the Government in any way wished to screen the facts. Once Government were satisfied that something was going wrong there would be no intention to withhold anything. With the exception of the last season, the results of which have been fairly good, there have been two seasons pumping before that. The first one was more or less experimental, and Sir George Buchanan had very strongly urged on Government that no conclusions should be formed on the results of the first year’s working, and when the results of the second year’s working were found to be unsatisfactory it was referred at once to Sir George Buchanan and he was asked to come out and if necessary to arrange to bring out representatives of the makers of the dredger and have the thing gone into here.

Q.—You were responsible for the drafting of the report; it was not by the Government?
A.—No, it is not the Government.
Q.—That was keeping back information?
A.—It was simply from a working man’s point of view that I drafted that report.
Q.—The inference I drew from your answer was that the Government was inclined not to disclose something?
A.—No.
The Committee assembled at 11 a.m. on the 4th August 1926, at the Secretariat, all the members being present.

Chairman.—Sir Lawless Hepper, I asked you a question with regard to a statement which was said to have been made in the Legislative Council by Sir Chimanlal Setalvad, and I understood your answer to be in accordance with the Report of the speech. Also I asked you whether notwithstanding the increase of the estimate to 703 lakhs you still thought the undertaking had a prospect of success. I understood your answer to be definitely in the affirmative.

A.—It was in the affirmative.

Q.—There is a statement in one of the newspapers which is not correct, and I think I had better ask you the questions again. I was on the point as to the general belief that this undertaking would be a financial success. I asked you whether on the 28th February 1921 Sir Chimanlal Setalvad said, “Now taking the present valuation of land in the city, on a very modest estimate, the result of the reclamation would be a profit of at least 30 crores to the city. It may be more, in all probability it will be more, and in certain circumstances it may even go to 50 crores”. Was that the statement that has been officially attributed to Sir Chimanlal on the 28th February 1921?

A.—To the best of my recollection that is correct.

Q.—And again on the 14th March 1921 he is officially reported to have said in the Bombay Legislative Council, “But even supposing we get land for Rs. 20, making all liberal allowances for mistakes and miscalculations, which we do not anticipate, still bearing in mind the present market value of the land, we would make very very big profit on the scheme”. You are a member of the Legislative Council, are you not?

A.—Yes.

Q.—Are you able to say that it was apparently the view held not only by Sir Chimanlal Setalvad, but by Government, that there would be a very big profit?

A.—That was the view.

Q.—I am reported to have put this question to you, “In February 1921 do you remember Sir Chimanlal Setalvad saying that the cost would be 93 crores’. Have you any recollection of my having put that question to you?

A.—No.

Q.—The question I had put to you was whether he said there would be a profit of 30 crores, and to that you assented?

A.—Yes.

Q.—Then the report goes on, “Did you think the financial prospect sufficiently good to go on with the scheme”? My recollection is you said it was in your opinion sufficiently good.

A.—That was my reply.

Q.—What is attributed to you is, “Witness was heard to say, ‘I don’t think’.”

A.—That is incorrect.

So it comes to this, that Sir Chimanlal Setalvad said on the 28th February 1921 and again substantially reiterated it on the 14th February that on a very modest estimate there would be a profit of 30 crores?

A.—That is right.

By Sir M. Vasavada.—We understand that the Bombay Government have appointed two committees. Can you tell us what each of these committees is for and what reports they have compiled?

A.—They have appointed a small Committee of Engineers, the appointment of which was recommended in the Report of the Advisory Committee with the object of checking the estimates prepared by the Chief Engineer. Their work is simply confined to checking those estimates and reporting to Government whether in their opinion those estimates may be taken to be reasonably correct.

Q.—Are the reports sent to you or to the Government direct?

A.—They are sent to me. I submit them to Government.

Q.—What is the report of Mr. Kay’s Committee for?

A.—The other Committee is the Committee which has been appointed to advise Government as to how far any further operations of the reclamation can be undertaken with reasonable prospect of reducing the present debt. The idea is that they are men who have local knowledge of prices of land in Bombay and that they would be able to produce some facts and some opinions which would be useful to this Committee.

Q.—Both those reports are going to be placed before this Committee?

A.—The report of the Engineers Committee is to be sent to Mr. Kay’s Committee in the first instance, and when the report of Mr. Kay’s Committee is received it will be submitted by the Bombay Government to the Government of India, and will be, I understand, by them, placed before this Committee.
Q.—I want to ask you a few questions to obtain information from your own point of view of the present financial position of the works. What is the total expenditure on the work up to 30th June 1926?
A.—I have not got that figure. I think the figure was supplied to the Secretary, but I have not got it. They can be easily got from the Accounts Office.

Q.—Could you kindly give it to us to-morrow?
A.—Yes, total expenditure including interest or without interest?

Actual expenditure excluding interest.

By Sir F. Hopkinson.—Don’t you have a monthly statement made showing all that?
A.—No, we can always get it from the Accounts Officer. By the middle of the month he can give the expenditure up to the end of the preceding month.

By Sir M. Viswanaraya.—How much filling has been done in blocks 1 and 8 against the estimates given in the statement here?
A.—As regards block 8, the totals of the figures are given on page 3. But the difficulty is how much of the filling should be taken as consolidated filling. We have got the actual measurement taken in June, which was 2,264,000 for block No. 8. These figures are for dredging only. There has been a certain amount of dry filling done as well.

Q.—Can you tell us how much filling has been done up to 30th June?
A.—I cannot give them now, but I can get them.

Q.—We ought to have a tabular statement of the material of all kinds required in each individual block, from 1 to 8, together with a statement showing how much has been put into each block.
A.—Only in blocks 1 and 8 has any material been put in.

Q.—You can give that information for those 2 blocks?
By Sir F. Hopkinson.—We should want to know how much is required in all the other blocks.
A.—It is already there in the statement attached to the Advisory Committee’s Report. It gives the area and cubic contents of each of the eight blocks.

By Sir M. Viswanaraya.—Do you accept the figures given in this table for blocks 2 to 7?
A.—These are the corrected figures, that is, for consolidated filling.

Q.—You accept them? You have checked them?
A.—Our Engineers have verified them. They were from sections taken by our own engineers. I consider them reliable.

Q.—You cannot give us the quantity of filling remaining to be done in each of the blocks Nos. 1 to 8?
A.—That was the information I was asking the Chief Engineer to get. He can get it in half an hour.

Q.—Unless we get that we cannot find out what the cost will be of completing blocks 1 and 2.
A.—We have just received the report of the Engineers Committee, and I think that is what is going to give. According to their estimate for the execution of block 8, there is something over 44 lakhs of cubic yards, still remaining to be done, but that all depends upon how much they assume that the 2,264,000 cubic yards measured to be there now will shrink. They have assumed it will shrink 40 per cent.

Q.—I understood block No. 8 was nearing completion. The figures given in your estimate is 39 lakhs, and the quantity you have shown there is 22 lakhs?
A.—That is what was put in last season only.

Q.—You cannot give the quantity for block No. 1?
A.—That is what I am going to give.

Q.—If you are allowed to proceed with the other blocks, which is the next block you will take up, and which after that, from your own point of view as Director?
A.—I shall be inclined to take up block No. 7.

Q.—Why do you prefer block No. 7?
A.—Because it is one of the shallow blocks. It is less deep than blocks 2, 3, 4, 5, or 6.

Q.—Since recently the idea was to complete block No. 2?
A.—Yes.

Q.—Supposing Government were guided entirely by financial considerations, how many blocks would you complete, which of them and in what order?
A.—It depends upon what the future extent of filling is, and Government have undertaken to be guided in their estimates by the Report of the Engineers’ committee, which was only received on Saturday, so that we have not been able to work out the cost of filling block 2 on the basis of the figures which they have approved, but we have their estimated cost of filling block 7.
Q.—What are your own conclusions on the point as the Departmental head in immediate charge and in daily contact with the work?
A.—My own opinion is it would be a profitable thing to fill block 2. I am doubtful about the remainder. I agree with the Advisory Committee that block 2 should be filled, and I think the Advisory Committee’s Report was written it was expected block 8 would not be completed through 1926-27, but owing to the larger result obtained in 1925-26 we have to consider whether we should go on to block 7 or whether we should lay up the plant, because there is no more pumping to be done in block 8. If we had gone on at the same rate as during 1924-25 it would have taken two seasons more. We have done the work earlier, and therefore a decision has to be arrived at now whether the plant in the harbour should be laid up or not. That decision has to be arrived at at once instead of two years hence. To that extent the prospects are changed.

Q.—How much land will the Military Department purchase, and at what rate? I want the latest information on the point.
A.—24½ acres at Rs. 20 a sq. yd.

Q.—Does the previous understanding with them hold good?
A.—Yes.

By the Chairman.—Is it an understanding or is it a contract?
A.—Well, it is an agreement which was come to by representatives of the Government of India and the Government of Bombay at a conference which was held in Bombay, signed on behalf of both. The loss if the work had been stopped on 1st October 1925 would have been 533.67 lakhs.

Q.—That is, without allowing for any recoupment for the sale of the plant?
A.—Yes, assuming the same condition.

Q.—Assuming the work is stopped immediately, what will it be now?
A.—It would be the 533.67 lakhs with interest up to date, plus the expenditure from the 1st October up to the present time with interest on that amount.

Q.—Could you kindly give us the correct figure to-morrow?
A.—Yes. We shall take the same valuation for the plant in the calculation, i.e., the scrap value.

Q.—What is the estimated cost per square yard of land in this neighbourhood according to your latest information?
A.—I think that is a very difficult thing to say, for at present there is no demand for land. The Government of India have about a lakh of square yards for sale in Queen’s Road, and there is no demand, so that it is very difficult to say what the value of the land is at present. I know of no recent sales in the neighbourhood of the reclamation.

Q.—Assuming you had to estimate the cost per square yard, what would you put it at?
A.—I should be inclined to put it at the figures adopted by the Sub-Committee of the Advisory Committee, that is, an average of Rs. 50 per square yard, all over the reclamation, ranging from something like Rs. 60 in the neighbourhood of Churchgate station, to probably a little over Rs. 50 in block No. 7 at the southern end of the reclamation. We are not going to sell block No. 8 to the public. The price I am mentioning of an average of Rs. 50 per square yard, is for a square yard of net building area.

Q.—Have you been measuring and checking the work done by the dredgers and also by dry filling from time to time?
A.—Oh, yes. The Engineer checks the work done by the dredgers at the end of every season by taking sections on every ground over the filling that has been done. The dry filling that has been done by trains is measured in the wagons. The only other dry filling that is done is by lorries from Churchgate station, and that is measured by checkers at the site and check measurements are taken occasionally over the whole of the filling.

Q.—But when you have completed the filling the result at the end of the year has been very low as compared with 1921-23. The figure at page 3 of your report is 528,000. The next figure is 680,000?
A.—650,000 is the figure arrived at by actual survey of the area.

Q.—Have you no better means of measurement from day to day? Have you not checked what the dredger would perform daily and taken an average? Would it not be a gamble if you did it once a season?
A.—I do not know whether it would be possible to take the output of the dredger every day. Measurements are made and soundings are taken every day, but it is not possible to measure the actual filling in the reclaimed area every day, for that is all under water. You have to wait until the end of the season and allow it to dry sufficiently for the surveyors to go and take the sections over it.
Q.—Did you not take out a certain quantity of liquid mud and dry it and see what
the result is for the contents of each block?
A.—The Neilson Committee have done that.
Q.—That is in order to try and get some figure for shrinkage?
A.—They agreed that this figure of 2,264,000 was the actual measurement in
June. Their own surveyors checked the sections, and they checked the quantities as
computed from the sections, and they agreed that 2,264,000 was the measurement in
June. They wanted to find out what would be a reasonable allowance for shrinkage,
for on that allowance depends the calculation of what filling remains to go in. We
have always assumed 30 per cent. Mr. Neilson’s Committee have assumed 40 per cent.
and our Engineers think 40 per cent. is a very liberal allowance, but we are not in a
position to say that it is excessive, because we have no actual experience.
Q.—Have you any surprise in store for us in the shape of quantities added without
any effort on your part?
A.—I think the Block 2 originally was shown to measure 7 lakhs of brass on that
sketch.
Q.—Twenty-six lakhs filling required for block 2?
A.—That is cubic yards. I think it was very nearly 7 lakhs of brass, and that was
when it was measured originally in 1920 or early in 1921. That was the measurement
then. It was measured again last February for purposes of calling for tenders for, dry
filling in block 2, and the measurement then was a little over 54 lakhs of brass. The
difference between 7 lakhs and 54 lakhs being a lakh and a half in about five or six
years.
Q.—Did you carry on observations from week to week to watch the silting, or from
month to month?
A.—We have done it monthly after the monsoon. They have sections marked
on the wall and on the shore and then levels taken over then and they are compared
with the actual levels as they were before the work was started.
Q.—You have said that some of the filling has gone back to the sea through the
foundations of the sea wall?
A.—Yes.
Q.—When did you notice the loss?
A.—A month after the dredging started, in January 1924.
Q.—When did you take steps to stop the loss?
A.—We brought it to the notice of Sir George Buchanan at once and he was asked
if he would care to have steps being taken to stop the wastage. But he did not consider
it necessary or advisable to take any steps at that time. It was brought to his notice
again, but nothing was done until early in 1925 after Sir George Buchanan left here.
I in consultation with the Chief Engineer decided that we should not allow this loss
to continue for another season—that was the season 1925-26, and I put up a proposal to
Government that we should seal the wall with moorum and that was agreed to and the
work was done and completed by September 1925.
Q.—Is it mentioned in any of the published reports of yours?
A.—I do not think so. My published reports were merely reports on the progress
of the work as an engineering work.
Q.—But the quantity of wastage seems to be very considerable?
A.—It is.
Q.—From 1 million to 680,000, nearly half has gone?
A.—Yes, that is so.
Q.—Could not that have been prevented earlier?
A.—It could have been prevented. But opinion was divided as to whether retention
of that silt was advisable. Sir Alexander Gibb was of opinion that the silt would make
very bad filling for purposes of reclamation.
Q.—Do you happen to know why?
A.—He thought it was very soft and would remain wet probably for a very long
time and possibly the lower part of it might never dry at all. My impression is that
Sir George Buchanan also thought that it would make inferior filling to the clay which
remained behind. Clay would certainly make very much better filling which would dry
almost immediately.
Q.—And the fear was that this would not dry?
A.—We have the experience of Mazgaon-Sewri reclamation.
Q.—If it remains wet at the bottom 15 feet below the surface, what does it matter?
A.—I personally do not think it very much matters. I know that was the opinion
of Sir Alexander Gibb. He stated it in his report.
Q.—Would you kindly describe the organisation and the disposition of the staff
employed on the works? Into how many sections was the work divided?
A.—It was first of all divided into three sections under the Chief Engineer: there
was the quarry section at Kandivli and the Marine Lines section which was dealing with the construction of the wall at Marine Lines end and the Colaba section dealing with the Colaba wall. At a later stage a dredging section had to be organised to take over the work of dredging and at that time the Marine Lines section and the Quarry section were amalgamated, so that there still remain only three sections. At the present moment we have reduced it to two sections only: the dredging section and one section looks after Marine Lines, Colaba and the quarry.

Q.—Is it for the monsoon period only?
A.—It is because we stopped the progress of the wall, and the quarry is now supplying no stone. It is only supplying moorum. Except for the storm-water drains, work is practically confined to dredging.

Q.—Do you do any dry filling now?
A.—We are.

Q.—At what rate?
A.—Two trains a day.

Q.—How many cubic feet?
A.—A thousand tons each train, and allowing for 250 days in the year, that amounts to about 4 lakhs of cubic yards a year.

Q.—Do you prepare a monthly progress report, a clear statement showing quantities and costs against each item of the estimate from month to month?
A.—No, not from month to month.

Q.—You don’t prepare any progress report?
A.—There is a weekly report of the dredging showing the amount of material dredged, the length of the pipe lines, the depth that the dredger is working and so on, but the cost is worked out at the end of the season.

Q.—Not an estimate of the quantity of work done?
A.—Yes. There is a report every week. That is the quantity as measured by the soundings in the harbour.

Q.—You cannot infer from the measurements you take what the actual quantity is?
A.—We shall be able to in future. If we pump it into a compartment that is water tight, we shall then be able to assume that we can retain everything that we excavate from the harbour as ascertained by soundings.

Q.—Do you maintain daily cost sheets of entire expenditure of the work?
A.—The Chief Engineer does.

Q.—Perhaps you can get a sample of the sheet? 
A.—But that won’t give the cost per day of the actual dredging, because the cost of dredging is for whole year. We have to take the cost of the repairs every year after the season, and the pipe lines and there is a good deal of expenditure during the monsoon in Back Bay and maintenance of the plant and all that expenditure has to be allocated against the number of hours that the dredger works in the working season.

Q.—Could you not separate the special repairs from the ordinary maintenance of work?
A.—We have not done so, so far. We had no special repairs. There has been ordinary annual reconditioning of the plant and that is a sort of obligation that we have to incur and we charge that against the dredging.

Q.—What progress reports do you submit to Government and the Accounts Department of Government, in what form and at what intervals? We want to understand the organisation and the working. One of the terms of reference is the conduct of operations?
A.—The Accounts Officer keeps a record of the expenditure.

Q.—But the officers in charge ought to know how the expenditure is progressing with reference to the output?
A.—They know that.

Q.—I want to know what records you keep in that respect?
A.—It is kept in a register of works. I will take a note.

Q.—You ought to know the progress?
A.—Yes.

Q.—Also a list of reports and returns you render to Government?
Q.—On which sanctioned estimate are the works being carried on at present?
A.—702.43 lakhs.

Q.—That estimate was sanctioned in October 1922? I take it?
A.—In October 1922.

Q.—A Sub-Committee’s report mentions another estimate for 11 crores. Where does that come in?
A.—That is an estimate only prepared for the Sub-Committee. It is an approximate estimate only prepared by the Chief, Engineer in July 1925 to show what the probable
cost of completing the reclamation would be, assuming that the results of dredging would be no better than they were in the season 1924-25.

Q.—Now that the results are better, have you made a revised estimate?
A.—No. We only got the results on Saturday. We have got the Chief Engineer’s figure, but Government had agreed that before we made out any fresh estimate, the Chief Engineer’s estimate should be checked by Neilson’s Committee, and so what we want to get from them is the figures that they agree to for the annual output and unit cost of the dredging. We have got that and we can now revise these estimates, but it takes a little time to do so.

Q.—On what date did you prepare the present estimate of cost (appendix page 11 of your report)?
A.—That is the same estimate as the 11 crore estimate.

Q.—I suppose you add interest charges?
A.—It excludes certain items which depend on the length of time that the work will take. That is establishment charges and annual repairs. They brought the total estimate to about 11 crores. The actual figure is 927,34, and establishment charges at 7½ per cent. would be 101 lakhs, and then there are repairs and maintenance which have been about a lakh and a half a year. But in the case of this 11 crore estimate, as the work was going to extend up to 1944-45, provision had to be made for renewal of the whole of the floating pipe lines twice.

Q.—That you consider is not necessary now. I mean this estimate is excessive?
A.—Now it is, on the results of the last season.

Q.—Could you not give us an estimate of your own under present conditions?
A.—We are going to do so.

Q.—We want it before we wind up here?
A.—I think it possible, but it is a very big business. And Government specially wish that the estimate when made out in revision of those estimates in the Advisory Committee’s report should be based on figures approved by the Engineer’s Committee. Until we get their report our figures will be of no use.

Q.—You have got the figures now. How soon do you think you can give us?
A.—The Chief Engineer thinks that he could give an approximate figure within a fortnight.

Sir Frederick Hopkinson.—Would you not prefer the estimates of your own engineers who are thoroughly experienced—I would myself?
A.—My position is that the Government have appointed this Committee of Engineers to check these figures.

Q.—We will also study theirs separately. Government surely will have no objection to your giving us your own estimate?
A.—The Chief Engineer only received the report of the Engineers’ Committee yesterday morning and he has not had time to go through it, and he is not in a position to say whether he was asked to give an estimate himself disregarding the report of the Engineers’ Committee he would adopt their figures or whether he would adopt different ones. He has not had time to consider it.

Chairman.—As I understand it, we have got a report handed to us a few moments ago, which gives us certain figures. They express the view of a committee that has been sitting. The Chief Engineer might be able to get out an approximate set of figures independently of that committee. That is, an approximate set of figures derived from his own experience. Would that be a difficult matter?
A.—It could be done in a fortnight. That would be the Chief Engineer’s own view of the ultimate cost.

Q.—Is that it?
A.—That would be so.

Q.—We can then consider that in conjunction with the report of the Committee?
A.—The report of the Committee only refers to blocks 1 and 7. The total filling required in block 1 is 4,06,159 brass or 1,626,740 cubic yards. 1,307,000 cubic yards is the total quantity required. The amount deposited up to the 31st of June 1926 is 55,987 cubic yards. The amount deposited up to the 31st of May 1926 was 783,493.

Q.—How much will that be in cubic yards?
A.—About 877,700. That is the quantity remaining to be done.

Sir Frederick Hopkinson.—That is, a million and a quarter still required?
A.—Yes.

Sir M. Visvesvarayya.—How much in block 8?
A.—The total estimated quantity is 3,908,544 cubic yards.

Sir Frederick Hopkinson.—How much is done?
A.—Up to 31st May 1926, dredged filling amounted to 762,493, that is, after allowing shrinkage.
Q.—You have taken the same percentage in the case of block 1 also?
A.—Yes. Dry filling has also been deposited in block 8.
Q.—Kindly give us roughly now the quantity remaining to be done in block 8
and block 1?
A.—The amount of dry filling is 351,698 cubic yards. The total amount of filling of
both kinds deposited in block 8 is 3,114,188. That leaves us still remaining on the 31st
May last 755,398 cubic yards in block 8.
Q.—In block 1, 577,700?
A.—Yes.
Q.—The total is about a million and a quarter cubic yards?
A.—Taking blocks 1 and 8 together, but these figures are not up-to-date. They are
up to May in the case of block 8.
Sir M. Viswanaraya.—What is the estimated cost of completing blocks 1 and
8? I want rough figures.
Sir Lawless Hopper.—I can give it as regards block 1. According to the
estimate of the Engineers' Committee, it is about 15 lakhs.
Q.—What about block 8?
A.—I have not got the figures.
Q.—Can you make a rough estimate without committing yourself?
A.—It would be somewhere in the neighbourhood of 38 lakhs.
Q.—Roughly the total will be 44 lakhs?
A.—Yes. I have got here one of the monthly statements of accounts. It is sent
every month by the Account Officer to the Chief Engineer.
Q.—The work remaining in blocks 1 and 8 is estimated to cost 44 lakhs. I
suppose you want some time to allow the stuff to settle and you will not be able to
complete it at once?
A.—The reclamation would take 2 seasons. We estimate that block 8 will be
completed by March 1923.
Q.—And block 1?
A.—It will also be completed about the same time.
Q.—Have you any idea of the total cost of the work up to the time these two
blocks will have been completed?
A.—You want the cost including interest.
Q.—No, excluding interest.
A.—I do not know the cost up to date. I think it is given in the statement
I have supplied.
Up to 30th June 1923 the total expenditure works out to 43123 lakhs and
including interest and general charges, establishments and suspense, it comes to
590,91 lakhs.
Q.—So, roughly you can tell us what the total cost will be by the time the two
blocks are completed. Of course you will have to add to it 44 lakhs and there would
be expenditure from the 1st July until the commencement of the work during the
season?
A.—Most of the expenditure will be included in the 44 lakhs.
Q.—Do you propose to go on with No. 2 and No. 7 simultaneously?
A.—No decision has been arrived so far.
Q.—You will have reclaimed about 15 lakhs sq. yards.
A.—We shall be due a credit of 239 lakhs from the Government of India.
Q.—You will then be about 4 crores to the bad?
A.—Yes, against 533 lakhs.
Q.—I understand that if you are allowed to proceed with other blocks you will
take up No. 7 first and No. 2 afterwards?
A.—I think No. 2 and No. 7 together; that is my personal opinion.
Q.—You said yesterday that Sir George Buchanan was not a member of the firm of
Meik and Buchanan until the latter took up the Bombay Back Bay Scheme?
A.—I think he was not until after the Government of Bombay asked him to report.
Mr. Meik was a member of the firm and had his office in England. There were two
engineers who were members of the firm, I believe.
Q.—When did Mr. Lewis retire?
A.—On 1st July 1924.
Q.—Why did he leave the work?
A.—He retired under the 55 years rule. He was an officer of the Public Works
Department.
Q.—Could you give us some rough figures to show what it is costing you now per cubic yard or per brass to obtain moorum filling?
A.—I can only give it per brass. The figure which the Committee of Engineers have arrived at for consolidated moorum filling by train is Rs. 0-75 per brass.

Q.—And dry filling?
A.—Moorum and dry filling are the same.

Q.—What would be the rate for filling it by dredger?
A.—By working at the rate which the Engineers' Committee have adopted, it comes to 11 annas per cubic yard.

Chairman.—Let us change the price 5-79 per brass into cubic yards.
A.—It comes to Rs. 1-56 per cubic yard.

Sir M. Visvesvaraya.—The corresponding rate for filling with dredger?
A.—Rs. 0-75 per cubic yard. It is on the report of the Engineers' Committee who assumed shrinkage at 40 per cent.

Q.—Is this figure 0-75 per cubic yard for dredging from the Back Bay or from the harbour?
A.—From the harbour.

Q.—What would it be for the Back Bay?
A.—The figure given by the Engineers' Committee for the dredging is 1/3 per cubic yard.

Q.—Why has the cost of dredging risen from Rs. 0-75 to Rs. 1-3?
A.—The cost of dredging in the Back Bay has always been higher.

Q.—Do you think these rates which are now given are satisfactory for framing future estimates for filling the remaining blocks or do you think that by further experience you will be able to lower the rates?
A.—The idea was as recommended by the Advisory Committee to revise these rates every year in the light of the experience gained during the previous season but as far as we can see these figures are being adopted by the Engineers' Committee. They seem to be quite safe and rather on the safe side because they allow considerably more shrinkage than our engineers ever thought it necessary to adopt.

Sir F. Hopkinson.—In other words you approve these?
A.—I think that on the experience of past years, they are very safe.

Sir M. Visvesvaraya.—It will run up the cost of reclamation?
A.—It will, but it is very much less than the figure on which the Advisory Committee based their statement, that is 12 annas per cubic yard.

Q.—I may be mistaken but I understand that it is stated somewhere that in the harbour there was three times as much material as you wanted for the reclamation.

Sir F. Hopkinson.—That is stated in Mr. Kidd's Report.
A.—You are getting 15 million.

Sir M. Visvesvaraya.—What becomes of the remainder?
A.—You are losing the remainder out of that particular area but Mr. Lewis suggested that we could obtain the balance of the material by going further out in the harbour. But it would have meant a much longer pipe line and possibly another intermediate pumping station to obtain the material. The difficulty is whether it could be got at all and it was therefore decided to get it in the Back Bay in preference to going out further into the harbour.

Q.—You think it is cheaper?
A.—I am not sure.
Q.—Would it not be wise to go into the question?
A.—It will have to be investigated.

Sir F. Hopkinson.—The figure which has just been arrived at—I am referring to 0-75 per cubic yard—does it cover superintending charges or is it only working cost?

Sir M. Visvesvaraya.—What overhead charges are included in it?

Sir F. Hopkinson.—I personally want to see how the figure is arrived at?
A.—The figure is based on the total working expenditure of the whole 12 months and then establishment charges at the rate of 13½ per cent. are added to it.

Chairman.—Is the Report of the Committee of Engineers signed?
A.—Yes, this is a copy of the Report.

Q.—You approve of it?
A.—I have only read it through once. The only thing that struck me was that they have made a very large allowance for shrinkage.

Sir F. Hopkinson.—The cost of the dredger is the most important factor in an enquiry?
A.—This Committee has discussed the question of cost with the Chief Engineer and our Accounts Officer and they are all agreed as to the actual cost for the whole year including repairs, overhead charges and expenditure of all kinds.
Chairman.—Mr. Neilson is the proper person to speak about it and not yourself.
A.—Yes.
Sir M. Virendrapando—Can you give us an advance complete estimate of the cost of the whole scheme?
A.—The estimates are framed for us. I am still in doubt whether it should be based on the figures of the Engineering Committees.
Q.—We want your own figures as well as those based on the Committee's figures.
Chairman.—If you can furnish us approximate figures within 14 days, those can be compared with the estimate of the Committee; that would be sufficient for this Committee.
A.—The question is whether we ought to work on two different sets of figures. The Committee appointed by the Government of India want us to prepare figures on our own estimates and we are also required to prepare estimates on the figures arrived at by the Engineers Committees and it would be most awkward to advise the Government of Bombay on the adoption of those figures when the figures prepared for you will be quite different.

Sir F. Hopkins.—What is your experience?
A.—I am pointing out the difficulty.
Q.—You are the Chairman of the Development Directorate and with the assistance of your engineering staff you might be able to advise us what the work is ultimately going to cost if completed as a whole or in part. I understand there will be no difficulty in your furnishing us with an approximate estimate within 14 days?
Chairman.—Therefore we should have the Committee's figures on the one hand and the Development Directorate's on the other.
A.—The results would not compare.

Sir F. Hopkins.—We should be able to compare as regards blocks 1 and 8?
A.—Not unless we show figures for each block separately which is difficult.
Q.—Why not? You have got experience from year to year of the rates arrived at and from these you could deduce what rates should be put in including overhead charges?
A.—I can prepare a works estimate of the total cost of the scheme for comparison with the sanctioned project estimate of 702 lakhs.
Q.—We are asked to recommend what should be done in future and unless we know what the works are likely to cost, we cannot possibly make any recommendation.
A.—The cost is very much complicated by the interest charges.

Sir F. Hopkins.—The interest charges are bound to accrue. As far as we are concerned leave the interest charges, that can be separately calculated.
A.—We can give you estimates for the whole scheme within a fortnight.
Sir M. Virenderpando.—Could you also give an alternative estimate taking into account the rates given by the Neilson Committees?
A.—I do not think the Neilson Committees are prepared to agree that these rates should be taken for the completion of the whole scheme. They are to advise Government what may reasonably be taken for completing blocks 1 and 7.
Q.—You can use their figures as you think proper. In addition to that could you also take their rates into consideration?
A.—We shall take into consideration their rates in framing our own rates.
Chairman.—Let me explain what we really want. What we want is a document of a definite character from the Development Directorate dealing with the amount which they estimate it will cost to finish the work and a document which can be held up later on by the Development Directorate as being a most excellent prophecy or it may be held up against the Development Directorate as having been an entirely mistaken document as regards the figures of cost. We want a document which for good or bad is the considered opinion of the Development Directorate. They have had experience of years of the scheme. Can we have it?—We can do it in a fortnight.

Sir M. Virendrapando.—At one time 15 hours working in two shifts was considered possible. Why did you find it impossible?
A.—We found in practice that it was not possible.
Q.—In the fair season?
A.—In the fair season there are two shifts of 8 hours each, and out of that we find by experience that we cannot do 15 hours of actual pumping. It averages 13 hours.
Q.—Could you not have 3 shifts of 8 hours each?
A.—They work from 6 in the morning till mid-night. I don't know if we can get men to work longer shifts than 8 hours.
Q.—I suppose a third shift is not possible if you organise it?
A.—You cannot run the dredger for 24 hours week after week. There may be repairs.
Q.—You may stop it at intervals and work on in three shifts. There are factories in India working with three shifts of 8 hours each?

A.—I think there would be very great difficulty about it. I don’t know whether we shall be able to get the staff to do it. To begin with, we will have to arrange that the whole of the staff employed live on shore. At present they live on the dredger, and six hours from mid-night till 6 in the morning is the only time when anybody can sleep.

Q.—There are people living near factories which do this?

A.—That is a different thing.

Q.—Could you not try to have three shifts; the overhead charges would be considerably reduced thereby?

A.—The Chief Engineer tells me that he is going into it with the Deputy Chief Engineer.

Q.—The interest charges of the plant would be saved?

A.—Oh certainly.

Q.—What was the original estimate for the sea wall prepared by Sir George Buchanan, roughly?

A.—118'11 lakhs.

Q.—What was your estimate? I understand you have the latest estimate. I want these three figures separately?

A.—106'85 lakhs is the sanctioned project estimate.

Q.—At present what is your estimate, 53 lakhs?

A.—No, it is the sum of the first 3 items on page 11 of my statement. It is 101'85 and the figure now is 78'81. 101'85 is our sanctioned project estimate, but the cost as anticipated now is 78'81.

Q.—Was that due to any specifications of the work?

A.—It was due mostly to reduction in the concrete wall on the top of the rubble mound. At Colaba it was reduced in width from 16 feet to 12 and at Marine Lines it remained 18 feet, but the blocks which were originally designed solid were made hollow. Twenty-ton concrete blocks were originally provided to come on the outside as protection. It was decided not to use them but to use large blocks of stones from the quarry and that produced a certain amount of economy.

Q.—I take it that Sir George Buchanan first approved of the revised estimate of 702 lakhs?

A.—Well, it was not sent to him, as a matter of fact. The Accountant General was pressing for the detailed project estimate and it had to be submitted without Sir George Buchanan’s firm seeing it.

Chairman.—Does Sir George Buchanan’s statement violently dissent from the 702 lakhs estimate. He says it was extravagant?

A.—Yes. We sent it to him afterwards, and he protested against it very strongly.

Then a subsequent estimate was prepared, and that estimate was sent to him.

Q.—What did it come to?

A.—There have altogether been 6 estimates. The first estimate of Sir George Buchanan was 267'61. Then Sir George Buchanan himself submitted a revised estimate for 598'89 lakhs in February 1924. As submitted, it was actually 498 lakhs, but before he left Bombay he put it up by a crore. The next one was the detailed project estimate for 1029'43. Then as a result of the decision to dredge in Back Bay a revised estimate was prepared by Mr. Lewis for 726'54 in July 1924. That was further revised again by Mr. Elgee in January 1925, his figure being 712'79 lakhs. The last one of all is 1109'43 which is based on the results of the dredging in 1924-25.

Q.—Who is responsible for that?

A.—The Acting Chief Engineer Mr. O’Rorke. That is not a detailed estimate. That is an approximate estimate prepared for the Advisory Committee.

Q.—For purposes of accounts, you are going on the 702 lakhs?

A.—Yes.

Q.—Could you kindly give us a comparative statement according to 702 estimate and also the actual expenditure up to 30th June 1925?

A.—I think it can be given in the form of Appendix A to my statement. If you want it in detail I can get it from the Account Officer, but some of the sub-heads are large.

Q.—We want general abstracts for each of these big figures?

A.—Have you seen the sanctioned project estimate. It was submitted by the Chief Engineer in May 1923 and sanctioned in October 1922.

Q.—Will your office give us a general abstract for each figure? We can’t understand the details at all, because many of the figures are in crores and lakhs?

A.—Could you give me an item.
Q.—For example roads and lights Rs. 119.96 lakhs?
A.—No work will be started for several years. The details are given in page 18. There has been no expenditure incurred on that head.

Q.—Of items on which you have operated could you give us abstract estimates?
A.—I should like to ask the Accounts Officer. I shall do what I can.

Sir Frederick Hopkinson.—Could you please give us not only the lump sum but the quantities and rates and how it is arrived at?

A.—This is a question of expenditure.

Sir M. Visvesvaraya.—Was Sir George Buchanan’s estimate described as approximate when Government applied for the Secretary of State’s sanction?
A.—It was an estimate. Government said they were prepared to make some addition on account of the increased cost of prices.
Q.—But it was not described as approximate?
A.—No.

Q.—The detailed estimates were prepared after the sanction of the Secretary of State was received?
A.—The Secretary of State’s sanction was in May 1920 and the detailed project estimate was called for in December 1920 soon after the Directorate was formed.

Q.—You say as a reason for preparing the detailed estimates and for increase of expenditure by about 3 crores, the prices of machinery, labour, fuel, etc., went up?
A.—Yes.

Q.—Have not the prices gone down since and have you made any allowance for this in your revised estimate?
A.—The main cause was the cost of the plant which we bought.

Q.—The cost has gone down now?
A.—But that does not help us.

Q.—Could you not reduce your working charges? The price of fuel has gone down?
A.—We are using oil fuel. There has been a slight reduction.

Q.—Will you kindly give us with reference to the dredger plant in a tabular form the following information—

1. The initial cost of each plant up to the date of erection and up to the date on which operation began. (The witness handed over a book.)

Q.—The hours of working in each area?
A.—Is not that a sufficient statement that I have already given.

Q.—Could you give us information about the working of this dredger plant, the time in each year, the period of working, the cost of work done each year? We want to know the rate at which work was done in each year?
A.—We can give that.

Sir F. Hopkinson.—Sir Lawless, have you been Director of Development since the inception of the Back Bay Scheme?
A.—Since the 5th November 1920.

Q.—And as such I presume you were solely in charge of the Back Bay Reclamation from that date?
A.—The Back Bay Reclamation was one of the schemes that came under me, but I was not in charge of it from the technical point of view.

Q.—No, you had the general charge of the whole scheme. You were entirely responsible?
A.—It came under me.

Q.—Therefore you are entirely responsible for the scheme as Director?
A.—I am not in any way responsible for the technical details of the scheme.

Q.—For the design or the carrying out?
A.—No, I am not responsible.

Q.—Who is?
A.—Sir George Buchanan was.

Q.—And who is since he left?
A.—Nothing has been said about that.

Q.—Do you mean there is no one in sole charge of the whole scheme?
A.—I suppose now that his agreement has been terminated, in the absence of any other orders from Government, I take it I am in charge.

Q.—I thought as Director you would have been responsible from the beginning?
A.—Not for the technical part of it.

Q.—In the report of the working of the Development Department for the period ending 81st March 1921 one of the duties of the Department is said to be to carry out the Back Bay Reclamation Scheme and any other reclamation scheme?
A.—Yes.
Q.—Surely as Director then, you are responsible?
A.—I have always assumed that for the technical details Messrs. Meik and Buchanan have been the responsible Engineers.

Q.—Being in general charge of the whole thing you are responsible?
A.—My duties in connection with it are of an administrative character.

Q.—They are purely the Engineers. You have the sole responsibility. They act under your instructions?
A.—No, not in technical matters. I have never considered I am competent to give them instructions in technical matters.

Q.—But they sent their reports to you?
A.—Yes, every time Sir George Buchanan came out he made reports to the Government.

Q.—To you or to Government?
Sir M. Visvesvaraya.—It is all addressed to you?
A.—Yes, I think it is addressed to me, but I have never assumed that I was in a position to dictate to them in any way as regards engineering technicalities.

Q.—I understand, but with regard to the general scheme you would be associated with it almost daily, and you would know everybody, and if the Engineer asked your advice or instruction you would give it?
A.—The agreement is that the Chief Engineer is to carry out the work under their instructions.

Q.—Will you tell me how long Sir George Buchanan was actually out here during the progress of the works?
A.—He was out here on the average I should think, something like 5 weeks a year, except in one year when he came out in the monsoon. I would prefer to give the exact dates. There was one year when he stayed rather long, and some of his visits were rather short.

Q.—The working period is about 7 months?
A.—About that.

Q.—He was here about 15 per cent. of the working time, 5 weeks out of 30?
A.—Yes, something like that.

(Chairman.—I will tell you. He arrived in November 1920 and stayed till February 1921.)

Q.—I am not particular about the exact dates but what I wish to show is that he was here such a short time and that therefore there would be someone else who would have to take general control and direction of the works, and that, I presume, would be you?
A.—The Chief Engineer was to carry out the works under their instructions, and they had to send to Meik and Buchanan complete reports weekly showing exactly what was being done, and they had to take their instructions in any case where they wanted to.

Q.—Would not those go to you?
A.—Correspondence between the Chief Engineer and Meik and Buchanan was addressed through the Director.

Q.—Therefore you being here the whole time you would be in constant touch with every phase?
A.—I knew what was going on.

Q.—Therefore we come back to what I said before that you are in fact responsible for the whole carrying out of the work, particularly as Director?
A.—Yes, subject to Meik and Buchanan being the responsible Engineers.

Q.—As Director and having been so long associated with the scheme, and the Government being dubious about what they ought to do, will you say what you would recommend the Government to do as regards the whole scheme?
A.—I should advise them to go on and finish it.

Q.—At any cost?
A.—I think so.

Q.—Have you so advised them?
A.—No.

Q.—Have you told them what it is going to cost them?
A.—No, I have not got that figure yet.

Q.—Then it is hardly a commercial way of putting it to say you would advise them to go on without knowing what it is going to cost them and what they would get for it?
A.—Having gone so far and spent so much money I believe it would be better to complete it, the main reason being that you can build the marine drive right round, which would make a feature on the land and make it more attractive. In making proposals for partial completion it has always seemed to me you would lose the advantage of the amenities, and the land would not have the same value as it would have if the complete scheme is finished.
Q.—It is understood that we are to have from you in a fortnight a detailed estimate as to quantities, unit prices and totals of the whole cost of completing the scheme?
A.—I think we shall give an approximate cost.
Q.—Surely after three years' experience you can give us exact figures?
A.—It depends on the Chief Engineer. Do you want the figures for the roads, etc.
Q.—Everything.
A.—We shall certainly do our best.
Q.—You see the position of the Committee. We are asked to advise the Government what to do in the future. It is impossible for us to advise the Government unless we can see what it is going to cost.
A.—Yes.
Q.—Therefore it is essential for this inquiry that we should have the closest possible estimate that can be made, based upon past experience, of what you expect the work will cost in the future. You had three years or more to find out the values of all the works in the reclamation, and I imagine you can tell within a small figure how much it will be?
A.—I think we ought to be able to give a pretty close estimate.
Q.—How close you mean, 5 per cent., 10 per cent., 20 per cent.?
A.—A variable factor is the dredging.

By Sir M. Visvanagar.—You know so much more about dredging than we can possibly know. We want the best information you can give us. You and your assistants ought to be in a position after three years' experience to tell us what the dredging would really come to?

Sir F. Hopkinson.—Within what margin do you think you can give us?
A.—10 per cent. I think.
Q.—That is a very wide margin surely after three years of experience.
A.—The dredging figures have varied very considerably during these three years.
Q.—Surely after three years' experience you have nothing to learn about the dredging in Bombay?
A.—It depends on what the shrinkage is going to be.
Q.—If you can give an estimate as to what the dredging will cost, the shrinkage is a minor affair?
A.—I can do so. Last season there has been an increase of bulk by 20 per cent.
Q.—Is that consequent on the year's work or some difference in levels, or mistake in previous figures?
A.—It is the year's work.
Q.—Clay does not shrink?
A.—Clay does not, but silt does.
Q.—What proportion of silt is there?
A.—It is probably in the neighbourhood of 60 per cent.
Q.—Is this silt so impalpable that it runs like water?
A.—A considerable quantity of it simply goes away with water. It looks like dirty water.
Q.—If it is pumped and enclosed, it cannot go away, except the overflow?
A.—We arranged the overflow at a high level and the result was we had a large lagoon and we were pumping into it at one end. The overflow was on a high level at a point remote from the discharge, and the water passing over the weir was perfectly clear. Afterwards the end of the season, when the silt which was being deposited gradually rose up and finally came nearly up to the level of the water, and then it was impossible to prevent a certain quantity of the silt going over the weir. Practically the whole of the silt has been retained this year.
Q.—And in previous years it has not been the case?
A.—No.
Q.—Do you think that accounts for your increase of 20 per cent.?
A.—We think that that is what is due to.

Sir F. Hopkinson.—The silt is the material we saw the other day. Will that ever solidify?
A.—The only example I know of is the Mazagon-Sewri reclamation which is reclaimed mainly with silt. And it is now covered with roads and railway sidings, the whole of the cotton trade has been removed there and quite large and important buildings have been built on it. There is a very large area of sheds for dealing with grain and seeds, the whole of the rail borne coal traffic of Bombay is dealt with on it, and the G. I. P. Railway have a large store yard on it. It is true there was a good deal of trouble at the commencement, but I believe the difficulty is getting less, although I am told that if you stand by the side of the road and a heavy lorry is passing you can feel the ground shake, and 20 or 30 of the cotton stations have cracked owing to the vibrations caused by the trains; but there is no difficulty in maintaining the railways and sidings or the roads on it, and there is no doubt that the reclamation has been an extremely valuable addition.
Q.—Was that Sewri reclamation pumped into an enclosed lagoon, or was there a rubble wall?
A.—I think, into an enclosed lagoon.
Q.—How do you account for the loss of 24½ per cent.?
A.—I find it very difficult to account for it. Mr. Neilson would be in a better position to explain that.
Q.—It seems an extraordinary amount to lose?
A.—There must have been an overflow of some sort. As the water was being pumped in it must have gone away somehow.
Q.—Have you got with you sections of the dredging in the harbour?
A.—I have not got it now.
(I shall want those and the same in Back Bay showing the top level of the mud and the surface level of the clay, and how far you have dredged into the clay.)
A.—The difficulty about Sewri was there was a soft bottom beforehand. The foreshore consisted of very considerable depth, about 30 or 40 feet of mud and the reclamation was put on the top of that. In the case of Back Bay there is hard bottom and clay and rock everywhere, so that the foundations would not be very deep and you would get good bottom.
Q.—I think you said this morning that the earliest date No. 8 block would be ready in the middle of March 1928?
A.—Yes.
Q.—That is the earliest date the Government could reckon upon that portion of the reclamation?
A.—There has been a suggestion we might be able to transfer parts of it if we could get them ready before, and if we do not require them for our own purposes and if they would be of any use to the Government of India, it will go to reduce the ultimate cost of it. Of course as soon as it is ready it will produce results in the way of payment. But about block 1, when do you think it would be ready?
A.—Probably about the same date or a few months later in 1928.
Q.—If I remember rightly the land which will make up block one will be recreation ground?
A.—That was so according to the provisional lay-out plan. But it is very doubtful whether the Government will be able to allot such a large area as recreation ground, and the Consulting Surveyor to Government is at present preparing a lay-out plan for that block based on the assumption that the recreation ground would be smaller and the whole of the frontages facing the marine drive would be sold, and also a certain amount of land around about Churchgate Station would be available to be productive.
Sir F. Hopkinson.—Have you noticed in the previous year that you had silt in block 8 of the consistency we saw day before yesterday when the man waded into it?
A.—We had a small quantity.
Q.—Did that solidify?
A.—It did. It shrinks for a certain time, then it contracts laterally, and fissures appear.
Q.—That is only near the surface?
A.—No, they go down. It did become solid as far as one could see.
Q.—And broke up under the sun?
A.—Yes.
Q.—If you cover that with moorum then it won’t crack?
A.—No.
Q.—Can you tell me the present working season’s cost per cubic yard of the dredging in the Back Bay and the Harbour?
A.—I am working at them. The only figures we have got is the figure in the report of the Engineers’ Committee.
Q.—I am asking you as representing the Back Bay Reclamation. They only know what you tell. I want the answer from your Department, not what somebody else thinks about it.
A.—I would like to send it to you in separately.
Q.—In this estimate you are going to give us I want you if possible to keep each block separate, because it may be that we shall report on certain blocks being finished and certain blocks not being finished. The wall does not matter, because it is to all intents and purposes finished, and we have got your estimate.
A.—We can give that information in blocks.
Q.—Have you seen the particulars of the tests of the dredger Lloyd?
A.—Yes.
Q.—If I remember right the dredger was supposed to have dredged 3,700 cubic yards of clay in an hour. Is that so?
A.—Without pipeline it is reported to have done so. It is at page 31 of the printed correspondence.
Q. — When did you first see the results of those trials?
A. — We got them some time in the middle of February 1922. They came from the Director General of Stores with a letter dated 31st January 1922.

Q. — Were you satisfied with them?
A. — I discussed them with Mr. Lewis, and they seemed to us to be of a rather sketchy kind, but the dredger was practically on its way or it was just on the point of starting to Bombay. It arrived in March of the same year.

Sir Frederick Hopkins. — It looked to me on reading the report that they were not dredging at all. They were simply pumping water. They give the various details about the working of the pumps. Was that before or after you took the soundings, so that really according to this report they were only pumping water?
A. — I think so.

Q. — The second test is referred to at page 36. On the 19th and 20th December those trials were carried out. The first was on the 24th of November to ascertain that the pumping engines were of strong enough design to pump against the equivalent discharge head required by 5,000 feet of 42" piping. They don't say here that they were doing any dredging at all?
A. — No. At the same time in other places they say these measurements represent 7,402 cubic yards and then go on to say it was not possible to reproduce these circumstances entirely, but subsequent tests as recorded on page 7 were carried out with a restricted orifice to approximate the load due to discharge pipe. It does not look as if any dredging was done on the second occasion.

Sir Frederick Hopkins. — Then there was only two hours' test?
A. — We got them some time in the 24th of November to ascertain that the pumping engines were of strong enough design to pump against the equivalent discharge head required by 5,000 feet of 42" piping. They don't say here that they were doing any dredging at all?
A. — No. At the same time in other places they say these measurements represent 7,402 cubic yards and then go on to say it was not possible to reproduce these circumstances entirely, but subsequent tests as recorded on page 7 were carried out with a restricted orifice to approximate the load due to discharge pipe. It does not look as if any dredging was done on the second occasion.

Sir Frederick Hopkins. — Then there was only two hours' test?
A. — Yes, if you only raised 7,000 yards. A letter was sent to us by the Director General of Stores who said that the Naval Architects stated that the dredger fulfilled the contract in all respect and would be ready to sail in about a week.

Q. — I believe it is stated in one of these reports that your department is satisfied with the dredger as a dredger?
A. — The Chief Engineer had reported that there was nothing wrong with it as a dredger.

Q. — Will you please tell who can give me the best opinion as to what is considered to be the failure of the dredger to do the stipulated quantity of work? Can you?
A. — I have already given my opinion which is based on the opinions of our Engineers that the failure was due to the material. But of course either the Chief Engineer, or Mr. Brims or Mr. Speirs himself will be able to give evidence from actual experience. Mr. Speirs has, not only been with us the whole time but has also been in charge of the Port Trust work during the whole time.

Q. — I believe he is in England?
A. — Yes, he is in England.

Q. — Would you call any of the clay of the harbour hard for your cutters?
A. — It is very hard and heavy when you get down to the lower levels and the dredger cannot get the same amount.

Q. — Is that due to the hardness of the clay or the suction pipe?
A. — The Chief Engineer thinks it is the hardness of the clay. I have seen the pressure in the pipe rising due to the clogging, and finally something has to go and what goes is a block of clay of 42" in diameter. I have seen it myself.

Q. — That is 5,000 feet away. Doesn't that mean that the dredger has been digging too much? — Was digging too big a cut at one time? You only want a small percentage to make 2,000 yards per hour. It is quite a small percentage?
A. — Yes.

Q. — Therefore the pipe should not clog?
A. — The clogging occurs mainly at low tide where the floating pipe line terminates on a terminal pontoon, and then there is a long pipe which goes from the pontoon to the shore and rises and falls as the tide rises and falls, and it is apparently at low tide that the clogging occurs.

Q. — You cannot help, can you?
A. — No.

Q. — It has nothing to do with the dredger?
A. — No.

Q. — How much silt have you on the top of the clay in the harbour?
A. — The Chief Engineer says that the silt varies from 15 to 18 feet, but Mr. Brims will be able to give better information.

Q. — We leave it at that until Mr. Brims and Elgee are here?
A. — Yes.

Q. — I want you to understand that in all our estimates I am not dealing with the subject of interest at all, but plain cost?
A. — Yes.

v 165-56
Q.-Is it possible for us to see the working of the dredger which is undergoing annual overhaul and the various parts which have been removed? I cabled out three weeks ago that I would like to see?
A.-The Chief Engineer reported that he could not see how it would be possible.

Q.-Will you just tell me now what stage the various dredgers are in? "Sir George Lloyd" is undergoing overhaul and will be ready to work when?
A.-About the middle of September.

Q.-And the "Colaba", in what state is she in?
A.-They are lifting the engines in order to complete the stiffening which we had to do to prevent the excessive vibration that set in last year.

Q.-Do you know the cause of that?
A.-There seems to be a difference of opinion about the cause. The dockyard authorities in Bombay seem to think that it was necessary to stiffen the hull of the ship but Sir John Biles, Messrs. Meik and Buchanan and Simons said that it was not necessary, and that the way to get over it was to operate the sea valve on the suction side of the pump. But that was not found to be effective, because it took four men 15 or 20 minutes either to open this valve or to shut it, and the changes from vacuum to pressure were momentary only.

Q.-The position of the "Colaba" is simply to pass material alone?
A.-Yes.

Q.-Is she a self-propeller?
A.-Yes.

Q.-Twin-screw engine?
A.-Yes.

Q.-Can you tell me what that is for?
A.-She came out under her own steam.

Q.-Just to come out?
A.-Yes, except to go about in the harbour.

Q.-Is she in?
A.-Yes.

Q.-Twin-screw engine?
A.-Yes.

Q.-Just to come out?
A.-Yes.

Q.-Are there separate engines to pump?
A.-Yes.

Q.-Her duties could be carried out by good pontoon?
A.-Quite as well.

Q.-There is no need whatever to make her a self-propelled ship?
A.-No.

Sir M. Viswanaraya.-Could you get "Sir George Lloyd" ready for working in three weeks' time?
A.-The Chief Engineer says that she is being reconditioned.

Sir Frederick Hopkinson.-In the memorandum of Sir George Buchanan on pages 14 and 15 of his report, it is stated in the report of the 7th of February 1921, "On the fullest consideration, I am not in favour of accepting any tender. No contractor has been able to evolve a plan for carrying out the work so well or so cheaply as can be done departmentally". Have you seen that?
A.-Yes.

Q.-Did you in fact get tenders for building a wall?
A.-Tenders were called for the first 8,000 feet from Colaba.

Q.-On what date?
A.-It was I think in December 1920 or January 1921, very soon after the work started.

Q.-December 1920? Sir George Buchanan says on February 7th that he was not in favour of accepting any tender?
A.-The tenders were referred to him.

Q.-Do you know why they asked for tenders on that date? I think Sir George Buchanan recommended that tenders should be invited. In this report he discusses the way in which the work should be done. He recommended (on pages 14 and 15 of his report, paragraph 419) that the dredging should be done departmentally in any case. As the bottom of the page he says tenders should be asked for the construction of the sea wall?
A.-Yes. He proposes two alternatives.

Q.-Actually tenders were asked for in 1920?
A.-I cannot give the exact date.

Q.-I believe tenders were sent in?
A.-I think there were about six tenders.
Q.—And declined by Sir George Buchanan on February 7th?
A.—Yes.
Q.—Is it not a fact that the whole of the plant required for building the sea wall was ordered in November 1920 by your department?
A.—I think the plant that was ordered was the plant for building the wall at Marine Lines. So far as I remember, for the wall at Colaba there was very little plant required. The first 3,000 feet was built directly on the rock, but there was not at that time any special plant for building the wall at Colaba.
Q.—But the whole of the plant was all ordered in November? There was no pile driving at Colaba?
A.—It was done at the Marine Lines.
Q.—How was the concrete put in?
A.—That was put in with steel forms. They ran along rails on the top of the rubble mound and formed a block about 40 feet long leaving a gap. Finally the gaps were filled, but that plant was not ordered until long after 1921. That was at Colaba.
Q.—But surely there are piles at the Colaba end?
A.—No.
Q.—Which is the Colaba end?
A.—The block 8 end.
Q.—There are no piles there at all?
A.—No.
Q.—The concrete was pushed on the top of that rubble mound?
A.—Yes. The end lipped bank was widened out by the side tipping wagons and heavy stone put on the outside.
Q.—Have you a sketch map of that section of the wall?
A.—I think we must have.
Q.—On which progress would be entered?
A.—Yes.
Q.—I want to see the depth of the foundation of the whole wall from one end to the other?
Sir M. Visseringhoven.—You have a longitudinal section, I think?
Sir Frederick Hopkinson.—I see that for the building of that wall your plant cost nearly £400,000?
A.—That includes the plant and the rolling stock. I have not got that.
Q.—Can you tell why the wall was built from both ends simultaneously?
A.—I think Sir George Buchanan recommended it in one of his reports.
Chairman.—On the contrary. You mean the report of Sir George Buchanan of February 1922, page 2, about the middle?
A.—I think it was discussed with Sir George Buchanan. I am sorry I was under the impression that it was his suggestion. I see I was wrong.
Q.—The paragraph reads as follows:—Under the orders of Government the construction of the new wall is being proceeded with from both ends simultaneously instead of from one end as in the original scheme involving an increased expenditure in machinery and plant. Who gave those orders?
A.—I should like to look that up.
Q.—It says "under orders" from Government?
A.—Yes, it would not have been issued by me.
Q.—It must have gone through you?
A.—Through me, yes.
Q.—And did you approve of it?
A.—I should like to refresh my memory about it from the papers.
Q.—But the Government surely did not take the initiative and say 'this must be done in this way'?
A.—My impression is that Sir George Lloyd was anxious that the work should be started at the Marine Lines end, because it was seen by everybody and from the spectacular point of view it would be perhaps good propaganda to show some work.
Sir Frederick Hopkinson.—But surely the Marine Lines is the proper end to begin?
A.—No. That was not the proper end to begin. The Colaba end is the proper end.
Q.—Block 8, isn't that the Marine Lines?
A.—No.
Q.—Colaba end was surely the proper end to begin the dredging, and therefore the wall should begin there and the dredging followed along that?
A.—Yes.
Q.—What is the good of building the wall at the other end?
A.—There was not much use.
Q.—It was simply to give a spectacular display for purposes of propaganda?
A.—I have said I would like to refresh my memory from the papers of my office. So far as my memory goes, it was something of the kind.

Q.—According to your own project estimate, the wall at the Colaba end could not possibly have been wanted until about 1928-29?
A.—Colaba?

Q.—The Marine Lines?
A.—Yes.

Q.—And therefore the construction of the whole of that wall beyond block 8 must have been paying interest ever since it has been built?
A.—That is so.

Q.—Will you agree with me that the proper way to do that would have been just to have kept it at a reasonable distance in advance of the dredging beginning from block?
A.—Yes.

Q.—And that all the work done at the other end has been quite useless and is quite useless to-day?
A.—Yes.

Q.—It was no part of the original scheme to dredge from the Back Bay?
A.—No.

Q.—And therefore the whole of the wall should not have been built?
A.—Yes, if you were going to adhere to the original plan of dredging everything from the harbour.

Q.—Wherever you were going to dredge it from you had five years to do it in, and therefore you did not want the wall until your dredging was close up to it?
A.—No.

Q.—But the dredging was not started till 1923, and you started the wall in 1921 and therefore you had ample time?
A.—Yes.

Q.—Consequently the whole of the money spent on the wall beyond block 8 has been costing money in interest from the date it was built?
A.—Yes.

Q.—And that it was absolutely a wrong method to carry out the work?

Sir F. Hopkins.—The dredger was supposed to dredge at the rate of 2,000 cubic yards per hour by working 15 hours daily?
A.—Yes.

Q.—And on that computation it would do 5 million cubic yards a year. Therefore the earliest time you could possibly have the dredging finished would be, allowing for a reasonable time for starting, in 6 years.
A.—Yes.

Q.—Tell me how could anyone conceive that the dredger could, with a capacity of 2,000 yards an hour, do that quantity per annum by working 15 hours a day? Did you ever think that it would do?
A.—I must say I knew nothing about it at the time.

Q.—Did it ever strike you that the calculations are based on a 100 per cent. efficiency.
A.—I must say I had no opinion in the matter at all. I had nothing to do with the dredger in 1920.

Q.—Did it ever strike you that it meant practically 100 per cent. efficiency? As a business man it ought to strike you that men and machinery could not do such a thing?
A.—It did not strike me in 1920 because we were not thinking very much about the dredger in 1920 or early in 1921. We were only thinking about making preliminary arrangements.

Q.—Surely you were thinking about the scheme as a whole because the work of dredging effected everything else?
A.—Yes.

Q.—You found that the efficiency of working time of the dredger is only 64 per cent., that is, 1,900 hours?
A.—I have not gone into the figures.

Q.—(It is given in the Correspondence and Notes regarding the termination of contract with Messrs. Meik and Buchanan.) Did it not occur to you that it would take a little time to adjust your anchors, the dredger anchors, the pipe line anchors, to extend the floating pipe line, the engine room repairs, delays by heavy silt and other minor repairs? Did not all these things occur to you in 1920?
A.—I had no experience of dredgers at all.
Q.—But you had experience of other machines, you had experience of railways. Does the railway engine give you 100 per cent. efficiency? They do not want repairs?
A.—There was plenty of time for repairs of that type.
Q.—These figures are based on working of 100 per cent. efficiency for the whole season?
A.—The heavy repairs are done in the monsoon.
Q.—But what about other repairs besides heavy repairs. If you had given that figure a little attention, if you had spent 5 minutes on this simple calculation, you would have seen that the maximum that you can expect is something less than 3½ millions a year and therefore doing it will require more time than 5 years?
A.—That figure had been accepted by the Government of Bombay and the Government of India.
Q.—But surely you were representing the Government of Bombay and it was for you to tell them?
A.—The whole question had been settled and sanctioned after the exhaustive enquiries made by the Government of Bombay, the Government of India and the Secretary of State for India.
Q.—Do you mean to say the Government of India had simply sanctioned it like that without consultation?
A.—I think if the Government said that they had decided to do this work and that they are satisfied and the Government of India and the Secretary of State said that the work can be done and they appointed an executive authority to carry out the scheme, I do not think it would be one of the duties of that executive authority to go into the whole scheme afresh.
Q.—Did not any of your engineers point out the impossibility of doing 5 million yards a year?
A.—I do not remember Mr. Lewis, the then Chief Engineer, ever doing that.
Q.—You should also have done that, it is simply a matter of calculation only?
A.—With double shift Sir George Buchanan proposed to work the dredgers 15 hours every day and I had no reason to suppose that he could not.
Q.—Even with two shifts do you think that it would work something like 15 hours a day?
A.—With double shift each working for 8 hours a day, which comes to 16 hours a day, we expected to get 15 hours each day.
Q.—But they had no means to make it up. No big machines like that would have done it. You cannot start by simply turning steam at full speed. You have to oil round and to see that everything is in order and all this takes up half an hour?
A.—That is done every day beforehand.
Q.—Did you get 8 hours' actual work, that is, 12 hours' actual pumping?
A.—No.
Q.—You knew by experience how many hours it would work and were you satisfied that it could work 15 hours a day, that is, 100 per cent. efficiency?
A.—That was Sir George Buchanan's estimate.
Q.—You knew from the first two years' experience how many hours exactly you were working and therefore you should know how much it could work?
A.—The work was going on according to Sir George Buchanan's wishes.
Q.—You mean to say that Sir George Buchanan wanted to work 15 hours a day and the work was going on according to his wishes?
A.—We did not ask him.
Q.—Even if you are working 2 shifts of 8 hours each the actual working time of the dredgers every day is just about 12 hours; therefore in no circumstances you could get 5 million cubic yards. I do not say it is unreasonable but such things always happen with big machines. The point is perfectly clear that as in no circumstances, by working 15 hours a day, the dredger could turn out 5 million cubic yards, it put off the date of the completion of the whole work and ought also put off the date of the completion of the reclamations wall?
A.—Yes.
Q.—It must have been the result of some consultation or of some correspondence, because you see Sir George Buchanan saying on the 11th February 1920: "Under the orders of the Government the construction of the sea wall is being proceeded with from both ends simultaneously instead of from one end as originally the scheme provided, involving increased expenditure in machinery and plant." I take it in the sense of a protest from Sir George Buchanan?
A.—I cannot say.
Chairman.—Tomorrow will you let us have any correspondence with the Government of India or the Secretary of State or a record of any interview that took place with Sir George Buchanan with regard to the building of the sea wall from both ends?
(The witness noted it down and said that he would send it.)
Sir F. Hopkinson. — Can you tell me why dredger was ordered in May 1920?
A. — I think Sir George Buchanan told Government that an offer had been received and the prices would hold good for three months, and it was essential to place the order. The suggestion was, I think, at the time that if the order was not placed the cost would probably be increased.

Sir M. Visveswaraya. — Can you tell us what specifications were sent out and what tenders were received?
A. — I have no recollection. I think quotations were received from 4 builders of dredgers.
Q. — Have you got those quotations?
A. — They must be in the Director General of Stores Department.
Q. — Have you not even got copies of them?
A. — No.
Q. — Did you prepare the original specifications or did you not approve them before they were sent out?
A. — The specifications were prepared and sent out before the Development Directorate came into being. It was sometime in May 1920 the order was placed and the dredger was here in March 1924 and we came into existence on the 8th November 1920.
Q. — When the specifications were sent and the dredger was ordered, had you any official connection at all?
A. — No.

Sir F. Hopkinson. — The dredger was lying here for 18 months and the cost of the dredging plant was about £1,000,000. Consequently the interest on this sum would be £50,000 a year. So there was a loss of £75,000 in order to take advantage of this offer?
A. — Yes.
Q. — Although the best thing would have been to order the plant a year later?
A. — Yes.
Q. — Whose idea was it to push it through so rapidly? It had arrived 18 months before you were ready for it?
A. — Yes. This was done on the advice of Sir George Buchanan. My impression is that Sir George Buchanan advised Government that this offer was only open for some time and if they did not place an order they would have to pay more.
Q. — But actually they would have got it for much less?
A. — Yes.
Q. — Who drew up the original statement of plant required?
A. — It was drawn up, I understand, by Sir George Buchanan and Mr. Lewis sometime in August 1920. Mr. Lewis was working in Sir George Buchanan's office and they were both concerned in getting the plant.
Q. — Practically it was ordered in November?
A. — I think so.
Q. — Had Mr. Lewis any previous experience of that sort of work?
A. — He was employed in Rangoon under Sir George Buchanan in river training work but I do not know what that was. In a letter that Sir George Buchanan wrote he said that Mr. Lewis had been employed in connection with quarry work and he also said that he had been employed in connection with the reclamation of land in Mesopotamia during the war.
Q. — I want to know by sections this reclamation wall? The 8,000 feet of this end was all wall, no rubble mound?
A. — 2,000 feet.
Q. — What is the 8,000 feet?
A. — Out of this 8,000 feet, 2,000 feet is solid wall and 6,000 feet is concrete wall on rubble mound.
Q. — 20 ton blocks was the original proposal of Sir George Buchanan and it was afterwards decided to use heavy blocks from the quarry. Do you know that?
A. — I think the proposal was made by Mr. Lewis because he thought that it would be cheaper.
Q. — In the meantime you got a 20 ton crane?
A. — Yes.
Q. — But it was not required and was not used. 3 ton would be ample?
A. — 3 to 7 ton.
Q. — But nothing like 20 ton. This wall all together has taken 4 years to build?
A. — Yes, they could have finished in 4 years.
Q. — Have you got the unit actual cost per cubic yard to build that wall?
A. — Yes, we have got it. (The witness made a note to send this information.)
Q. — I take it that the expenditure is shown to you at least once a month in order to compare it with your estimates?
A. — Yes.
Sir Frederick Hopkinson.—Can you give me any idea how much material is available from your present quarry site? I am only asking a question about the approximate soft material?

A.—8 months' work. We notified some land adjoining the quarry. The land is being notified under the Land Acquisition Act. It is generally soft moorum.

Q.—Any possibility of getting 20 million yards?
A.—Not from that particular area, but from the neighbouring island of Salsette.

Q.—With railway connection?
A.—More or less close to railway.

Q.—Easy to get railway connection?
A.—Yes. There are two or three quarries working.

Q.—Can you tell me what information Sir George Buchanan had on which he founded his 1919 report and estimates?
A.—He was given the previous estimate made by Messrs. Lowther and Kidd, and he was apparently asked to re-examine the thing and report to Government whether the project was feasible.

Q.—Is there anyone connected with Government who is responsible for giving him such information as would lead him to have made an estimate of 867 lakhs? He says "my estimate of the cost of the work"?

A.—The Government of Bombay asked him in a letter dated the 80th of May to report on the Black Bay Scheme. They put down certain terms of reference, one of which was to examine and report on the scheme prepared by Mr. Kidd and so on.

Q.—You know how long he was out here at that time or did he make up his estimate in England?
A.—He was here early in 1919 and I think he stayed for a month or two and then he went to England.

Chairman.—On the 12th of September, he was in England?
A.—Yes.

Q.—On the 12th of September Simons and Company of Glasgow are addressing him a letter. That accounts probably for the reason why the report was drafted and ready in September, but has always been spoken of as having been submitted to the Government of Bombay in October. It took 9 weeks to come out here. It looks like that?
A.—Yes.

Q.—The report, on the face of it, is printed as September 1919, but the first record of the Government of Bombay having anything to do with it is in October 1919. It appears to have come by post. Can anyone out here tell me if Sir George Buchanan had any assistance to prepare that report and schedule of prices?
A.—I think it can be found from the records. My department was not in existence at that time. I was agent of the G. I. P. Railway.

Q.—There was no Public department here from whom he could get prices?
A.—It was being done through the General Department.

Sir M. Visveswaraya.—P. W. D.?
A.—No. In the General Department.

Sir M. Visveswaraya.—I know the details were being worked out in the Public Works Department in 1904 and 1905 when I was in the Secretariat. The investigation has been going on for a long time.

Sir Frederick Hopkinson.—Do you know if Sir George Buchanan was helped in these estimates by the Public Works Department?

Sir M. Visveswaraya.—No, I do not know.

Sir Frederick Hopkinson.—What is the actual chain of responsibility. When Sir George Buchanan was in charge, he was supposed to be the Chief Engineer directing all operations?
A.—Yes.

Q.—Although he was only out here 5 weeks in the year. Did you think that was sufficient?
A.—I did not.

Q.—Did you protest against it?
A.—I told him.

Q.—What did he say?
A.—He said he thought it was enough. It arose out of a complaint from me that he was not being supplied with sufficient information by the Chief Engineer, who was then Mr. Lewis. I went home in 1923 on 8 months' leave and at Marseilles I got a letter from Sir George Buchanan, and he said that he was very anxious to have a meeting with me as soon as I arrived. I had a meeting and he showed me a letter which his firm proposed...
to write to the Government of Bombay about the question of the relationship between themselves and the Chief Engineer. I pointed out that we were having a large number of estimates and surveys to do, and under their agreement it seemed to me that the Government ought not to pay any officers out here for preparing surveys of railways and works of that kind which I thought ought to be prepared by Messrs. Meik and Buchanan. I can read the paragraph from my D. O. to Mr. Monie which deals with that point. The principal question was really at that time whether Messrs. Meik and Buchanan were entitled to be paid 2 per cent. on the cost of reclamation only or whether they were also to be paid commission on the subsequent of the development of the reclaimed area. It had been apparently assumed that they were entitled to be paid on the whole cost, and I was of opinion that they were not entitled, and there was a discussion on that. I then raised the whole question of the relationship. I promised that Government would see that the Chief Engineer kept them advised as to the progress of the work, but as regards the design and method of execution of work it was for Messrs. Meik and Buchanan to take the initiative. I agreed that they were the responsible Engineers and said I did not think that Government ought to be concerned in the Directorate any engineers for designing works connected with the Back Bay Reclamation as that was the business of Messrs. Meik and Buchanan. I expressed the opinion that it was the duty of Messrs. Meik and Buchanan, under their agreement, to properly carry out their part of the business, and unless they opened a properly staffed office in Bombay, I did not see how they could efficiently control their business from England, however well they might be kept informed by the Chief Engineer. The construction of storm-water drain and of a culvert to take the sub-marine cables, had to be undertaken the following cold weather. Neither of these works have been foreseen or provided for by Messrs. Meik and Buchanan. The Chief Engineer’s business was to construct the work in accordance with their plan.

Q.—If you look at the agreement that was definitely settled there. It was laid down that such works shall be commenced forthwith and all such drawings, specifications, schedules and estimates and any fresh or amended drawing, specifications, schedules of quantities and rates of estimates as may from time to time be required during the progress of the works shall be promptly prepared and forwarded to the Government of Bombay and shall become the property of the Secretary of State.” So it is all laid down definitely. Actually you were doing Buchanan’s work out here?

A.—Yes.

Q.—I think so. That is clear?

A.—Yes.

Q.—But instead of that Sir George Buchanan gave five weeks a year. Who took the soundings and made all the preliminary survey before Sir George Buchanan’s estimate of 1919?

A.—Mr. Kidd.

Q.—There was nothing else to go upon?

A.—Nothing beyond that.

Q.—Sir George Buchanan took what Mr. Kidd had done absolutely blindly?

A.—Not only as regards the surveys, but as regards the clay, dredging and everything below the surface.

Q.—I want to see those documents. Do they give the levels of the clay? Do they show that borings were made in the hard clay?

A.—They go down to the rock.

Q.—Does anyone here know how they were made? How did they get down to the rocks? Can you tell me of any way of making a washboring do that? Do you know of any?

A.—I do not know. Kidd refers to it as a hydraulic system (another term is washboring).

Q.—I want to know how you can take a washboring through impervious clay. Who paid, the Government? I think I have seen somewhere that Government pay £15,000?

A.—Yes.

Q.—Is it possible to find anyone who made the borings?

A.—Borings were made by Mr. Kidd.

Q.—He could not have done that himself with his own hands. I want to know who actually made the borings?

A.—We might try and find out from the Port Trust or the Public Works Department.

Chairman.—Mr. Kidd uses a very curious phrase “a system of boring by hydraulic tubes was devised which proved to be perfectly reliable as well as rapid in action”?

A.—Yes.
Sir Frederick Hopkins.—If you are boring in incompressible clay you do not require tubes, but when going through soft clay you require tubes. At the same time do you think the Public Works Department have particulars of the 75 million yards? Have you got a plan giving particulars of the 75 million yards?

A.—There is a plan showing the borings and depths.

Q.—Does it give the depth and the level of the rock?

A.—Yes.

Q.—It looks as if he reached the level of the beds.

Q.—Have you got his table of quantity showing how he got these 75 million yards?

A.—No.

Q.—Because it appears to one superficially if the Marine and Port Trust deprived you of 15½ million yards it does not matter. You have still 55 millions left?

A.—I think Mr. Lewis estimated about 58 millions.

Q.—He says in his letter on page 24 of correspondence that the amount to be given up being 15½ millions, the amount available over the total area down to 70 feet below mean water level is 88,094,785 which reduced by 15½ millions becomes 22 million cubic yards. *The amount of filling required is estimated at 80 million cubic yards. We are therefore 7 million short.* Was it in consequence of that that they looked out for possible quantity from the Back Bay?

A.—Yes.

Q.—Have you got the particulars of the Back Bay borings and soundings?

A.—Yes.

Q.—How much can you get there, unlimited quantity?

A.—Oh, no.

Q.—Strictly limited?

A.—I think we have got a later statement where the estimated quantity is given.

Q.—Taking a broad view of the whole work you would not call it a difficult or risky job, would you?

A.—I should call it a straightforward job except for the dredging.

Q.—Would you call it a simple easy job?

A.—When I was first asked to join the Development Directorate it seemed to me to be a straightforward job. I did not expect the building of walls to be difficult operation.

Q.—Was it only on Sir George Buchanan’s recommendation that the Government decided to do it departmentally?

A.—I think it was on his recommendation.

Q.—Don’t you think it was pre-eminently a work which should have been advertised to contractors all over the world?

A.—I think it should have been, but I am doubtful whether under the conditions at that time you would have got contractors to tender. That was Sir George Buchanan’s opinion, I know. Things were rather unsettled at the time and there had been considerable fluctuations in prices of material and labour.

Q.—And therefore unless there was very great urgency for it, would it not have been wise to have put it off for two or three years?

A.—It was a matter for Government.

Q.—I am asking your opinion?

A.—If it was not a matter of urgency it would have been better to have put it off.

Q.—It was not a matter of urgency since it was not coming into operation for 8 years?

A.—My own opinion is on record on the proceedings of the Development Committee of 1914. When everybody was examined and asked to state whether the Back Bay Reclamation would be a good thing, and my view was that if there was a large demand for additional housing in Bombay, I thought the development of the north of the island and the neighbouring island of Salsette and the provision of proper means of communication between the business part of Bombay, roads and railways, should take precedence over the reclamation of a large part of the sea. That was the view I took then, and I do not think I have altered that view. I was asked the work having been sanctioned by Government, whether I would take up the work.

Q.—In view of the magnitude of this work, don’t you think that it was a work that would call for the very best business management that could have been in the whole world?

A.—Yes. I do not think that it was a difficult thing.

Q.—It was a big thing?

A.—Yes. A very big thing.

Q.—Unusually big?

A.—Certainly.

* 109–6a
Q.—There are few such works done in modern times?
A.—Yes.

Q.—And you agree with me that it calls for the best, most experienced people in the whole world, and should have been called in to control it regardless of cost?
A.—Yes.

Q.—Do you think it has had that?
A.—I think that it was a straightforward job.

Q.—Do you think that it had the management of that character?
A.—I think the management is deserved. I do not know how far I am personally concerned in this.

Q.—I put you aside. Meik and Buchanan were doing the work. I ask you, do you think it had the management it deserved?
A.—In that view I do not think it had the management it deserved.

Q.—Nor do I.

Q.—Had they decided to do it departmentally, don’t you think the proper procedure would have been to search the world and offer 20 to £20,000 a year for the best man available to manage this thing?
A.—I cannot imagine the Government doing that.

Chairman.—It might have been a very prudent thing to do?
A.—Yes.

Q.—Don’t you think it would have paid well to have done such a thing?
A.—I think probably it would have.

Q.—Looking back on what you know now, don’t you think it would have paid to have done such a thing?
A.—After the dredging plant was ordered?
Q.—At the very inception of the scheme?
A.—I think it would have paid, but after Government were committed by ordering very expensive plant it was rather limited.

Q.—Even then do you not think it would have paid?
A.—Yes, but he would have had less scope than if he had been called in early.

Q.—I have been a little in doubt about the estimate of the Colaba scheme. That is all suspended, isn’t it?
A.—Yes. There is a little rubble deposited, but it has been stopped.

Chairman.—I asked you some time ago, and I do not think we got a full answer. Tell me the chain of responsibility before and after Sir George Buchanan’s connection with the work. During the time that he was Engineer did he give instructions to the Engineer on the site?
A.—He sent instructions.

Q.—Direct or through you?
A.—They were addressed to the Chief Engineer but they went through me, and a separate copy was sent by the firm for record in my office. It was correspondence between Messrs. Meik and Buchanan and the Chief Engineer, and vice versa.

Q.—That of course was very difficult?
A.—Yes.

Q.—To get an answer to a question which was too long for a cable you cannot get an answer for a month?
A.—Yes.

Q.—So that when you are doing seasonal work, that is of very much greater importance to you than if you were doing yearly work and not limited to 6 or 7 months’ work?
A.—Yes.

Q.—It seems to me an unsuitable arrangement. Do you agree with me?
A.—I also think so now.

Q.—In fact the Bombay Government had stipulated for his presence in Bombay. That was the arrangement?
A.—Yes, at the commencement of each working season.

Q.—He was to stay if required, during the major portion of the year?
A.—I do not think so. He was to devote the greater part of his time to the work. But I do not think that implied that he should be present here.

Q.—Did that imply that during the working season he was 66 be in Bombay? You were saying his actual attendances here at Bombay were so infrequent as to make it an unfortunate arrangement?
A.—Yes.
Q.—Since Sir George Buchanan ceased to have any connection with it, what has been the chain of responsibility? Who is actually responsible for giving orders for carrying on the entire work?
A.—The work is going on, such work as is going on, of course. It is done by the Chief Engineer, and he refers for orders to me, and I refer to Government, that is, I refer through the Secretary to the Honourable Member. I put up recommendations if any.

Q.—Can you make any alterations?
A.—Any alterations have to go to Government.

Q.—Is not that waste of time?
A.—For instance, we do not know whether we ought to begin reconditioning. We do not know whether Government propose to use the plant next season in Bork Bay or not. The Chief Engineer puts the case to me. Then I have to put the case to Government. I have not the authority to tell the Chief Engineer to go on.

Q.—That again seems unfortunate. You are the professional adviser of the Government at present?
A.—Nothing has been said but that is what in fact it amounts to since the termination of the agreement. The position is rather difficult and it arises in connection with the annual reports. I have always treated them as reports by the head of the Executive as to the progress of an engineering work only. They never went to the Honourable Member.

Q.—They were issued on my own responsibility.
A.—Do the Government review your report?
Q.—I say the Government did not. They were always issued by me. They gave the progress of the work as a work. Government had all the information.

Q.—You were very careful not to give information away?
A.—I gave the information to Government, but I think it was for the Government to say how much or what they proposed to make public. Last year after the figures were known in July there was a very full discussion in Poona, and it was decided to write a strong letter to Melk and Buchanan, but as the whole question was under consideration by the Sub-Committee Government considered it better not to make any announcement at that time, but to wait until they got the report and then to publish that at once.

Q.—What has become of the Jinga?
A.—She was purchased in order to be converted into a boosting station for the “Kalu” for working in Bombay. It was only bought quite recently, some time last year. It was not bought at the same time as “Kalu.”

Q.—I take it generally speaking that the Chief Engineer has full power to carry out the works according to his own ideas.
A.—Yes, he has full powers.

Q.—Buchanan made a statement that it took him nearly a year to get a reply to a letter. Is that so?
A.—I think it must have been rather an exceptional case. The letter must have been lost or anything like that should not have happened.

Q.—Was not there a proper system of cost accounting?
A.—Not at the commencement. We simply had an audit.

Q.—How could Sir George Buchanan know how the work was going on unless he was given the costs?
A.—It was difficult to commence with, because the Government of India thought it was not necessary to have an Accounts Department of our own. They said the Government Audit Department would audit accounts and give us a pro forma statement, and that would be sufficient. We found out that it was not sufficient, and after a great deal of correspondence and trouble we got the Government of India to agree to keep our accounts in a commercial form. The Government audit only requires that all expenditure must be covered by a sanctioned estimate, and that for every rupee spent there must be a voucher.

Q.—Sir M. Viserunvares.—Their contentment does not mean much for us
A.—Exactly.

Q.—Has he made any charges when out here?
A.—Never. He has generally been the other way. He has been rather complimentary in most of his reports. I could not understand this at all.

Q.—At the bottom of page 4 Sir George Buchanan says all control was transferred from his firm and himself to the Director?
A.—That is absolutely untrue.
Q. — Again he says the Resident Engineer was not given an office in the centre of the work. Is that true?
A. — He was given an office in the block of offices where the Development Directorate Offices are. It was more convenient for everybody.

Q. — Is it convenient for the works?
A. — The Deputy Chief Engineers are there.

Q. — Then further on he says his visits to Bombay became literally a weariness to the flesh. As a matter of fact it was only 5 weeks. (Chairman: — 5 weeks is an under-estimate) because no one took any notice of him. That is the first allegation. What do you say about that, Sir Lawless?
A. — Unfortunately there was mutual antipathy between Mr. Lewis who was the Chief Engineer and Sir George Buchanan, Mr. Lewis had been nominated by him. He was with him at Bursa and with him at Rangoon, and the impression I formed was it was something which dated a good way back. What it was I do not know, but he was certainly nominated by Sir George Buchanan, but when Sir George Buchanan came out here it was very difficult to get Mr. Lewis to speak to Sir George Buchanan. They did not seem to be able to get on at all.

Q. — When did Mr. Lewis leave?
A. — In July 1924. He went on 6 months’ leave preparatory to retirement under the 55 years rule. Government could have retained his services as a special case on a temporary appointment, but in view of the difficulty between Sir George Buchanan and Mr. Lewis it was not considered advisable to extend the appointment.

Q. — Was very much done then, July 1924?
A. — No.

Q. — And Sir George Buchanan says, ” My reports were pigeon-holed”. Is that true?
A. — That refers to a report with which he submitted a revised estimate of 598 lakhs. He handed it to me on the 11th February 1922. It was a report with an estimate amounting to Rs. 4,98,89,000. At that time the sanctioned project estimate of 702 lakhs was approaching completion, and of course I had discussed it on numerous occasions with the Chief Engineer, and I knew it was going to be in the neighbourhood of 7 crores of rupees, and in this report Sir George Buchanan said that his estimate of 498 lakhs had been arrived at in consultation with Mr. Lewis after a very complete investigation. So I did not know quite what to do with this estimate, because there was a very great difference between it and the project estimate that we were just getting out, and for a few days I did nothing with it. Sir George Buchanan was not satisfied with that. He wrote to Sir George Lloyd and sent him a copy of the report and estimate direct and I think he indicated that sufficient importance was not attached to his report and estimate. Sir George Lloyd then sent for me and I explained what the position was. And he asked me to see Sir George Buchanan, and he approved of the action I took in not making use of the report and estimate at the moment, and he asked me to explain the position as fully as possible to Sir George Buchanan, and I did and I told him that the reason why I thought it would be inadvisable to make use of it was that we thought that his estimate would be found to be a good deal too low mainly owing to insufficient provision having been made for roads, etc. After discussing it with him the day before he left he asked me to return the estimate and report, and he handed it back to me the next morning with the total estimate of Rs. 598 lakhs, a crore of rupees having been added to it.

Q. — How was the 1 crore added, as a lump?
A. — It was added on in a lump. The estimate was retyped.

Q. — Separate items were probably increased so as to show a total of Rs. 1,00,00,000 more?
A. — No, I think it was added to one figure.

Q. — You have been speaking of the 11th February. Here in a report of Sir George Buchanan of that date is an estimate which gives 668 lakhs. I do not see anywhere there a lump sum of 100 lakhs by which any estimate has been added to?
A. — In the 598 lakhs report we have not got the original. The original was handed back to him and he gave the revised.

Q. — You think that he altered the various prices throughout with certain percentage to make up his 100 lakhs, or what?
A. — I cannot make how he added this extra 100 lakhs.

Q. — At least you would not be right in saying that he threw into the accounts 100 lakhs in one lump sum?
A. — I am only right in saying that the total of the estimate was increased by 100 lakhs.

Q. — By spreading over various items?
A. — Quite likely.
Q.—Have you got cross-sections of the reclamations for blocks 3, 4, 5, 6 and 7 showing the extent of the silt?
(The Chief Engineer:—We have got diagrams to show the cross-sections.)
Q.—Have you formed any opinion as to what would happen to these various blocks if nothing was done?
A.—I think it looks as if the silting would continue to go on.
Q.—At what rate?
A.—I think it is difficult to say. The Chief Engineer thinks it would be difficult to fix the rate of silting in the future.
Q.—You know what it has silted in the past?
A.—Yes.
Q.—Is it appreciable enough to measure?
A.—Yes.
Q.—Then you might let us know that. I was rather taken with the suggestion of Sir Alexander Gibb that it might be advisable to go on with building of the 1,800 feet of the wall that is left unfinished, that is if the siltings were going on?
A.—It seemed to me a very reasonable suggestion. The Chief Engineer does not agree on that point.
Q.—Surely if the thing is silting, you should do everything to hold the silt in?
A.—That is what one would think.
The Committee assembled at 11 a.m. on the 5th August 1926, when Sir Lawless Hopper's examination was resumed: Present—Chairman, all Members and Secretary.

Chairman.—Sir Frederick Hopkinson did not use the words for propaganda purposes. It was part of a subsidiary answer given by the witness?
A.—I think I said it was my impression.

Sir Frederick Hopkinson.—Have you got the plan showing the position of the dredging area of the reclamation?
A.—I have got only a small sketch.

Chairman.—Before we continue the examination there is one other matter for the gentlemen of the press. Mr. Kidd reported that he had made 1,814 borings in his project of 1912. In his report he describes the borings in a method which seem to show that they were experimental. That is, he was adopting a plan apparently new to him. Now what we really want is to find out if there are any witnesses available in India who were present at the time when those borings were taken. We want those witnesses here to ask them what was the method of boring, how it was done, how long it took and what were the results, and generally to find out how it came about that Mr. Kidd was enabled to record 1,159 borings giving various sections of the clay. If you gentlemen could put in an announcement that the Committee are very anxious to get in touch with any witnesses who assisted Mr. Kidd in taking the borings in 1912 we shall be very greatly obliged. We are sending a cable to Mr. Kidd enquiring whether he can give the names of any witnesses. It is quite possible there are many men in the city who will be able to tell us what was done, and this will have a very important bearing on the findings of the Committee.

Witness handed over a map to Sir Frederick and said:—This shows the reclamation and the dredging area.

Sir Frederick Hopkinson.—Can you tell me which part of this area has been refused by the Royal Indian Marine and the Port Trust for dredging?
(Witness pointed the portion.)
Q.—After the objection of the Royal Indian Marine and Port Trust to the dredging in the northern area, the dredging in the southern area would give a greater distance than 10,000 feet for filling up the reclamation, is not that so?
A.—That is so.
Q.—And therefore it was physically impossible for the dredgers to do work assigned to them at the speed intended?
A.—Yes, they could not do without exceeding the length of 5,000 feet of pipe line.
Q.—You said yesterday that the trouble arose at low water at the shore connection of the boring of the clay?
A.—That was when the clogging occurred.
Q.—Is that due to difference of head of water, the difference of head material had to be pumped or was it connected with something inside the shape of the pipe?
A.—I am afraid I cannot say that myself. The Chief Engineer tells me he thinks it is a question of difference in head of water.
Q.—Therefore it follows that the pumps were not so designed as to properly deal with dredging at low water?
A.—I think this was allowed for in the specification.
Q.—But was it sufficiently allowed for because your trouble arose at low water?
A.—Yes.
Q.—What I am suggesting is that the difficulty at low water arose through the pumps being given more to do than they were fitted to do?
A.—It seems likely but I should rather that the Chief Engineer and Mr. Brims were asked that question.
Q.—These are all single pumps? Are not they?
A.—Yes.
Q.—Is it not the universal modern practice for pumps on dredgers of this description to be made in series and not singly?
A.—I am afraid I could not say I have no experience.
Q.—There is one thing we did not finish yesterday and that was the present position of the dredging plant. You told me that the "Sir George Lloyd" was undergoing annual refit?
A.—Yes.
Q.—Can you give me any idea what it is going to cost?
A.—We don't yet know how much there is to be done—certain parts are being dismantled for examination.
Q.—But can it all be finished before the beginning of the next season?
A.—Yes.
Q.—Now what is the condition of the " Colaba "? Isn't she in a rather serious condition?
A.—Excessive vibration occurred last season.
Q.—No, the condition of the dredger at present, what state is she in?
A.—The engines have been taken out in order to complete the stiffening under the engines, which was not possible to do during the working season.
Q.—Who advised that stiffening should be done?
A.—The Chief Engineer and the Naval Constructor of the Government Dockyard.
Q.—Who has done the work?
A.—The first part of the work was done in the Government dockyard, but the dockyard authorities told us that owing to work of their own they would not be able to undertake this stiffening under the engines in time for the "Colaba" to be ready for the next season, and so it is to be done at Mangalore factory.
Q.—Have you got a contract for doing it?
A.—There was no contract.
Q.—I suppose no contract has been drawn up as to what is to be done and how it is to be done?
A.—The engines have only just been lifted out.
Q.—Can you give me any idea of what the repairs of this boat are going to cost?
A.—The Chief Engineer says he thinks they will be about Rs. 45,000 altogether of which we spent Rs. 25,000 on the work that was done in the Government dockyard during the working season.
Q.—It means the alteration is very much more extensive?
A.—The major part of the stiffening has already been done for Rs. 25,000.
Q.—That doesn't point to anything very very serious?
A.—Well, the Chief Engineer will produce the plan showing the actual work done.
Q.—With regard to block 8, would it be feasible to finish moorum filling in a short time? I mean, would it be feasible having regard to the nature of the dredged filling?
A.—We do not think so. We must allow the filling to solidify to a certain extent, otherwise the moorum would sink and we would lose it.
Q.—You say somewhere else you lose it from the top?
A.—We have not anticipated that we shall be able to do very much in the moorum covering until probably next December or January.
Q.—You mentioned yesterday that you did not expect to finish that area until 1928 whether it would be feasible physically possible to do it, you say not?
A.—I don't think so.
Q.—What is the state of the " Kalu "?
A.—The " Kalu " is in good condition. It is a very old ship, of course, but she has been re-conditioned. When she was docked after last season's work she was found to be in a better condition than the engineers expected.
Q.—Can you give me any idea as to what the alterations to the " Kalu " will cost?
A.—There are no alterations and repairs. The annual overhaul, the Chief Engineer tells me, will be about Rs. 10,000.
Q.—That is very little, that seems to be a very small sum?
A.—The Chief Engineer and Mr. Brims would, of course, be able to give details about that.
Q.—And now with regard to "Jinga" what money has been spent on the "Jinga" including the new pump I saw on the reclamation the other day. I think I will leave a
lot of these questions until we have Mr. Brims and Mr. Elgee here. My object for putting
that to you was that they may know what is wanted? I understand that the "Jinga" is
intended to be used as a booster to the "Kalu", and consequently your dredging for
next year in Back Bay will be proportionately increased in cost as much as the material
will be handled by both "Kalu" and "Jinga"?
A.—The provision is for the "Kalu" to work 6 months and the "Jinga" to work
for 8 months only, because it is anticipated that if the experience is the same as it was in
1924-25 the hole that was dug out by the "Kalu" last season will be filled up mostly
with sand.

Q.—These holes fill up every year?
A.—The first year the holes were completely filled up and the engineers anticipate
that it will do so again, but we cannot tell.

Q.—You have taken no soundings?
A.—The sea has been too rough.

Sir M. Visvesvaraya.—They won't work simultaneously?
A.—They were during the last 8 months of the season.

Q.—That is when the distance is too great?
A.—The "Jinga" would be moored in the hole where the "Kalu" has worked, and
the "Kalu" itself would be further out in the Back Bay.

Sir F. Hopkinson.—Did "Sir George Lloyd" work aground on her first trial?
A.—She did go aground on the first season.

Q.—Did she do much damage?
A.—The damage was very very slight.

Q.—Of course, had Sir George Buchanan's ideas been satisfactory there would have
been no other dredger required but the "Lloyd" and the "Colaba". There is no
provision in his scheme for pumping from the Back Bay?
A.—No, there is not.

Q.—Of course, had Sir George Buchanan's ideas been satisfactory there would have
been no other dredger required but the "Lloyd" and the "Colaba". There is no
provision in his scheme for pumping from the Back Bay?
A.—No, there is not.

Q.—That originated afterwards?
A.—Yes.

Q.—I presume all your floating craft is insured?
A.—Yes. It is all insured.

Q.—The reason I am asking is that I see in one of the estimates you take credit for
75 lakhs of rupees for the value of the plant when you finish the work; that is approxi-
mately half a million sterling?
A.—It is in the sanctioned project estimate.

Q.—Do you consider that as a rosy estimate?
A.—Yes. I do.

Sir Frederick Hopkinson: So do I. The capacity of the "Lloyd", I made a rough
calculation this morning, of water alone is something like 10,000 cubic yards. Now have
you checked them? Is that right?
A.—Yes.

Q.—So that about 2,000 yards of clay from dredgings you would want reckoning on
20 per cent. of solid material going through the pumps?
A.—Yes.

Q.—Have you ever known such a result to be achieved?
A.—I have had no previous experience of dredgers at all. This is the first dredger
I have ever had anything to do with.

Q.—You hope it will be the last?
A.—I sincerely hope so.

Q.—I am going to ask you a rather delicate question. Are all your staff connected
with the dredging in a happy or an unhappy state of mind?
A.—I think myself they are in a happy state of mind, I have heard nothing to the
contrary.

Q.—Are they not thoroughly disheartened?
A.—No, I do not think so. They have small grievances.

Q.—No, I am not talking of that?
A.—The Chief Engineer tells me that they all work splendidly and are doing their
best.

Q.—What I want to know, are they disheartened at the state of affairs. I suggest to
you that they are?
A.—I have heard nothing about it but Mr. Brims is daily in contact with them.
I think, if I may mention a personal matter, if I had anything to do with the pumping I should have been heartbroken at the results achieved.

Sir F. Hopkinson.—Supposing Government decided to go on with blocks 2, 3, 4, 5, 6 and 7?

A.—I have not come to a definite conclusion but I have very serious doubts whether certain of these blocks could be filled by dredging.

Q.—I presume you have consulted your engineers on this matter?

A.—I have, but we have not come to definite conclusions.

Q.—You have been in great doubts as to whether it can be done?

A.—Yes. I was going to raise that question in connection with the estimates that you asked me to prepare. Whether it is intended that we should base our estimates on the proposals of Lowther, Kidd and Sir George Buchanan that the whole scheme should be done by suction dredging, or whether we should prepare estimates for carrying out the scheme in the way in which we believe it can, in practice, be carried out. It is of course no use preparing an estimate to do a thing which cannot be done.

Sir M. Visvesvaraya.—Whether it was by dry filling, dredged filling or by both?

A.—I said that if it is not possible to do the whole work by dredging. It is no use preparing estimates on that basis.

Q.—Will it take a longer time to carry out the work by dredged filling than by dry filling?

A.—It might not be a practical proposition to fill certain of these blocks with dredged material.

Sir F. Hopkinson.—The point is this; we have asked Sir Lawless Happer to prepare an estimate showing how much the whole scheme will cost if Government decides to proceed with it. Now I have asked if he thinks the dredger could do it and he says that it cannot. I want him to tell us how he will do it and by what means, and what would the cost be in the way in which he would do it. We also want to find out within the next fortnight whether sufficient soft material can be found in order to fill up the portions that he thinks cannot be done by dredger or whether it would be done cheaper than by dredger.

A.—I have no doubt as to the material; it can be got.

Q.—It is a very important point and I would like you to tell us to-morrow approximately whether it can be obtained and from where, and the estimate for it also.

A.—But the Port Trust, the railways, and the Improvement Trust and everybody get their murrum filling from Salsette.

Q.—Supposing we want 15 to millions cu. ft.?

A.—I do not know if we can get such a large quantity.

Q.—Do you see any difficulty in filling blocks 2, 3, 4, 5, 6 and 7?

A.—I do not see much difficulty about 5, 6 and 7. 7 is a shallow block.

Q.—Can you tell us the depth?

A.—The average depth of block 7 is 12'75 feet, 6 is 14'67 feet and 5 is 16'8 feet and when you get to block 4, it is a little over 20 feet.

Q.—Of course you will give us quantities and details?

A.—Yes.

Q.—What was the damage done to the cutter blade of the dredger “Sir George Lloyd”? A.—Two of the blades were broken and we had to get a new one. We had a spare cutter available.

Q.—Can you tell us how that one was broken?

A.—The reason was that it touched a rock and the engineers at the time thought that there was a flaw in the material, and we sent the pieces to a firm, who are specialists in examining fractures for flaws. The report was indefinite because the pieces were rusted.

Q.—That is the only time you had any trouble?

A.—Yes.

Q.—Are there any loose stones or boulders in the clay?

A.—There are a few boulders.

Q.—Of what sizes?

A.—I find it difficult to answer. I have seen stones coming through myself and one generally sees a certain amount of them in the clay when pumping is going on. I do not think they were very large.

Q.—Were those too large boulders to go into the cutter blades?

A.—No.

Q.—So far it is not of very much consequence about the boulders you have come across?

A.—It has never been held as presenting any serious difficulty.
Q.—Can you now tell the dates Sir George Buchanan was here?
A.—Not yet.

I can give you the information regarding the beginning of the wall at both ends. I find on the Secretariat file a telegram dated 15th July 1920, from the Secretary of State for India to the Governor of Bombay. It reads “Your telegram of 15th. My telegram of 12th repeated in 1919 cipher code. Begins “Buchanan reports that it is practicable to begin work on the Back Bay scheme on both ends simultaneously in constructing the wall. The bulk of the work will be carried out from the western end, the stone being carried to the site by railway from quarry at Andheri but a considerable length of wall could be built from the eastern end as wall would be of concrete throughout and sufficient stone can be procured locally. To begin building the wall in two places will not materially advance matters unless reclamation can be proceeded with. Buchanan is considering whether the new dredger and ‘Kalu’ can work simultaneously on eastern and western areas. Buchanan understands Lewis is on his way Home and he will discuss all these points fully with him”. This was in July 1920.

Q.—Have you got the telegram to which this telegram is a reply?
A.—I have not been able to get it. It is not on the Secretariat file. It was apparently a telegram from the Private Secretary.

Q.—I want to point out that that telegram only states it was practicable. There is no order that it should be done. We want to know how it came about that the wall was built at both ends simultaneously? On whose instructions was this done? That telegram only says that it is practicable. It says nothing about expense.
A.—There was this telegram and another one also. The second telegram is dated 17th July 1920. It is from the Secretary of State for India to the Governor of Bombay and reads “Your telegram of the 14th instant and my reply repeated July 15th. Buchanan reports now satisfied myself that the dredger ‘Kalu’ and the new dredger can work together on Bombay reclamation and therefore asks construction of the wall can proceed from both ends simultaneously. Buchanan asks for further early orders as to whether he is to proceed on these lines as considerable change in designs of arrangements for execution of work will be necessary”.

These two telegrams were sent to the Secretariat by the Private Secretary on the 22nd July 1920 with a letter as follows:

“I am to send you the enclosed copies of two cables received from the Secretary of State for India regarding the Back Bay Reclamation."

That is when the telegrams first came on the Secretariat file in the General Department. The two telegrams from His Excellency the Governor of Bombay to the Secretary of State for India referred to in the Secretary of State’s telegram are not on the records of this office so I presume that they must have been sent by the Private Secretary. The orders issued by Sir George Curtis on the second telegram........

Chairman.—Who is Sir George Curtis?
A.—He was the Honourable Member in charge of the General Department.

He notes on the second telegram “Reply to telegram of July 17th may be, work may start from both ends”. "

Q.—Was that the actual telegram sent?
A.—No, that is the noting on the file.

Sir F. Hopkinson.—It says work may start. That is not ordering the work to be so started.
A.—Sir George Buchanan took it as an order to start the work at both ends.

Q.—In Sir George Buchanan’s report of February 1922 he stated that wall had begun on both ends simultaneously under the orders of the Government? Do you know if he made any protest? Did he say that it will result in a very large expenditure?
A.—I have nothing on record that he did. I have got a memorandum of the conference held between Sir George Buchanan, Mr. Lewis and myself in London in August 1920. It begins by saying the Government of Bombay have now directed that the work shall proceed from both ends simultaneously and in order to facilitate building of the wall from the Colaba end, we have changed the line of the wall so as to bring that portion ......... and so it goes on to discuss the matter of plant required.

Sir F. Hopkinson.—But he does not say there that he protested against what might be a very extravagant method.
A.—He apparently accepted it as wish of the Government.
Chairman.— On the 12th of August the Development Directorate had not been created and you were attending a conference in England on that date?

A.— I was in England on leave.

Q.— Were you officially instructed to attend such a conference?

A.— No. I got a letter from Sir George Buchanan in which he said "I wonder whether you have any news from Bombay regarding the new organisation about the Back Bay Reclamation, of which you are to be the head."

Q.— The document that we have got at present is a telegram dated 29th July 1920 from the Government of Bombay to the Secretary of State saying "Your telegram of 17th July, work may start from both ends." It was apparently based on Sir George Curtis having made a note "work may start from both ends."

Sir Frederick Hopkinson.— From these telegrams it appears that it was the instruction of the Government of Bombay to start work from both ends.

A.— Yes, I think so.

Sir Frederick Hopkinson.— That was in July 1922?

A.— At present I have no correct information that the scheme had been sanctioned. I have received a letter asking my opinion as to the possibility of beginning a wall at both ends simultaneously. That was on the 14th of July. I saw him in August. The date of this memorandum was the 15th of August, and there he says that the Government of Bombay had directed that the work should start from both ends.

Chairman.— Could you give the Secretary a record of your interviews?

A.— Yes. I have other papers here between February 1920 and October 1920. Some of them are copies of Sir George Buchanan's memorandum and D. O. letters to me before my appointment, of course. I can give copies of all these papers to the Secretary or let him have the file.

Mr. Ewbank.— The file would be more convenient.

Witness.— There is a memorandum here rather of an early date which mentions the names of the firms from which quotations were received for the dredger.

Sir Frederick Hopkinson.— Could you tell us anything about the firms from whom quotations were received?

A.— On the 27th of February 1920 Sir George Buchanan wrote to me and said "I enclose herewith copy of my note which I sent to Monie and I understand he is going to discuss it with His Excellency to-morrow." It is a long note showing what he proposes to do, and in the memorandum it is stated that under orders from His Excellency his firm took in tenders from three other dredger builders, namely, Messrs. Fergusson Bros., Fleming and Fergusson, and Messrs. Lobnitz. He notes "No. 1 declined to tender, No. 2 wished for a great deal of information which was not available and I received a cable yesterday from my firm which is as follows about No. 3, 'Lobnitz tender £840,000 for two complete dredgers of 2,000 cubic yards capacity and pipe line, one dredger being used for intermediate stations.' I have no details of Messrs. Lobnitz's tender nor is any time for delivery given. But I do not see the necessity for two dredgers." So Lobnitz did not give us what was actually bought, and the plant was bought from Simons.

Q.— They provided two dredgers and two boosters?

A.— No.

Chairman.— One dredger and one to do the boosting?

A.— It seems to me exactly the same.

Sir Frederick Hopkinson.— A booster is not a dredger?

A.— One dredger is being used for intermediate station. "In any case I do not see the necessity for two dredgers and I recommend that Messrs. Simons' tender be accepted."

Q.— From these telegrams it would be clear that it was the instructions of the Bombay Government to begin the wall at both ends?

A.— I think it was.

Q.— But nothing appears to have been done as regards warning the Government as to the increased cost of working in that manner?

A.— I do not think Government were warned. But if the wall was to be built from Marine Lines I do not think it could have been deferred until 1929 as, I think it was suggested yesterday, because if the pumping had come up to Sir George Buchanan's expectations by the end of the next season or in May 1927 we should have done 20 million cubic yards of pumping leaving only 5 millions and blocks 1 and 2 alone are 94, that is, by the next season we should have done everything except blocks 1 and 2.

Q.— What was the necessity for the "Kalu" to be put in Back Bay?

A.— The original scheme was to do with the "Sir George Lloyd" only. The "Kalu" was purchased in 1919, but the idea was to use it for the East Colaba Reclamation.
Chairman.—That is on the 24th of September, 1919 he recommended the purchase of the “Kalu” and ultimately she was purchased on the 21st November for £75,000?

A.—Yes.

Sir Frederick Hopkinson.—September 1919, that was when the original scheme was prepared.

Chairman.—And the official announcement of the intention to carry out the scheme was made on the 3rd August 1920.

Sir Frederick Hopkinson.—Was it not on the report of Sir George Buchanan that in August 1920 the scheme had not been sanctioned?

Chairman.—Sanctioned on the 3rd August 1920.

Sir Frederick Hopkinson.—The dredger had been ordered previous to that?

A.—The “Kalu” was ordered in 1919.

Chairman.—“Kalu” was recommended to be bought by Sir George Buchanan on the 24th September 1919 and actually bought on the 21st of November of that year for £75,000, Is that right?

A.—Yes, that is right.

Q.—The Director General of Stores was ordered to put the purchase of the dredger in hand in May 1920?

A.—Yes. It was in May 1920 that the scheme was sanctioned by the Secretary of State. On the 4th of May the Secretary of State wired his approval subject to a suitable scheme of finance being available.

Q.—And in June final sanction to the Taxation and amendment of the draft clauses of the bill?

A.—Yes.

Sir Frederick Hopkinson.—I gather from this volume of correspondence and notes regarding the termination of the agreement with Messrs. Meik and Buchanan (at the bottom of page 9) that Sir George Buchanan had really very little to do with the construction of the reclamation. They evidently got off the original designs and thereafter they practically did nothing?

A.—That has always been my view.

Q.—You really have been doing the Chief Engineer’s work on the spot, and indeed you go further and say that you can manage just as well without Sir George Buchanan?

A.—At that stage I thought I could.

Q.—This in 1925?

A.—Yes.

Q.—Was not that remark made on the results of the past?

A.—Yes, it was. I should not have cared to say that at the beginning.

Q.—Doesn’t that throw greater responsibility upon you and your engineers?

A.—What I had in my mind was that, the present position being what it is, our own engineers can in the future, do just as well, whatever is to be done, and can be done, by themselves as if they were being instructed by Sir George Buchanan.

Q.—I presume they had been doing that before December 1925 because Sir George Buchanan was not out?

A.—He was out in the cold weather of 1924-25; that was his last visit.

Q.—He did not give much help?

A.—No. It is rather difficult to give an idea of what portion of time he was in Bombay. Nearly every year he was away a portion of the time from Bombay.

Chairman.—In 1904 Sir George Buchanan arrived in Bombay on the 24th of October and he left on the 7th January 1925?

A.—Yes.

Sir Frederick Hopkinson.—Approximately 2 months?

A.—He was not in Bombay the whole of that time. He was in Dwarka in connection with some other work.

Q.—He did not give much help?

A.—No. It is rather difficult to give an idea of what portion of time he was in Bombay. Nearly every year he was away a portion of the time from Bombay.

Q.—Can you give us an idea where he was?

A.—I shall see if I have any papers in the office.

Q.—Mr. Elgee, could you give me a sample of the silt in a glass bottle, and I should like to have also a sample of the silt you have outside the reclamation?

Mr. Elgee.—In Back Bay or the Harbour?

Q.—I want both. I want a sample of the silt that you have been dredging in the harbour. I would rather have it taken from the harbour. Can you do that?

A.—Yes.
Q.—And I want a little of the silt that you say is being deposited outside the Back Bay Reclamation wall; also a sample of what you said would not travel over the wall you had built?
A.—Yes.

Q.—Did you ever take periodic samples? Don’t you preserve the samples as a matter of interest?
A.—We have a few but not worth producing.

Q.—I gather, Sir Lawless, that you are satisfied that the best results possible have been got out of the dredger “Sir George Lloyd”?  
A.—No, I think, we might do slightly better. I have suggested that we might be able to do 2 million cubic yards in a season, allowing 2,000 pumping hours. We did 1,905 pumping hours last year.

Q.—I notice that Mr. Neilson takes an average of 1,600?
A.—I think that rather low. Last year we lost 10 days owing to bad weather and we lost 17 working days on account of the stiffening of the “Colesa”. I think the 17 working days it brings us up to 2,000. Taking 2,000 pumping hours at about 1,000 cubic yards per hour gives 2 million cubic yards per season. That is about the outside.

Q.—That is 2 million yards?
A.—I do not think that we are likely to exceed that.

Q.—It is comparable with Sir George Buchanan’s estimate of 5 millions, what he designed the dredger to do, and doing that do you think you are getting the best possible results out of the dredger?
A.—I do not think we are likely to get any more in that material.

Q.—Do you think you are getting as much as your dredger can give?
A.—I think so, with the materials we get.

Q.—Which material do you mean?
A.—Both materials, mixed.

Q.—So under the most favourable conditions as the machinery developed the whole scheme would have taken 12½ years to pump?
A.—Yes, I think it would.

Q.—Of course, that is taking from your experience of the past, a rather favourable view of what you were going to do in the future. Do you think it might be done?
A.—We seemed to have done a little better every season.

Q.—That means that from the time that the dredger started work a period of something like 15 or 16 years would be required to finish the whole work?
A.—Yes, to finish the whole work if the whole scheme was completed by dredging.

Q.—That brings the completion to 1988 or 1989, that is 16 years?
A.—Yes.

Chairman.—Allowing for the fact being behind your schedule, allowing for a certain percentage for contingencies, doesn’t it really bring it up to 1989?

Sir M. Visserwan.—Do you get more material with the “Kalu”? Are you using the “Kalu”?
A.—Yes, we are using the “Kalu”.

Sir Frederick Hopkins.—Have you seen the statement of Mr. Neilson?
A.—I have.

Q.—Do you agree with it?
A.—I have only just glanced through it. There are several things about which I should like to consider further.

Q.—Perhaps we will see you again after Mr. Neilson has given evidence.

Q.—There are some things that I do not understand.
A.—The 1,600 hours he has taken I understand is the average of the number of hours that we have done each season?

Q.—There is something more in it—perhaps it is a typing error, for instance, that about 1 rupee a yard equals 4½ brass. Then 4 lines lower he says Rs. 1½ per cubic yard or 4½ brass?
A.—I think it is what it has actually done and what it is likely to do in future.

Q.—Some of these figures are very difficult to reconcile. (Reading from some typed matter.)

Q.—Can you give me an approximate idea what the cost is to run to the dredging plant per year?
A.—The cost of dredging for one season is about Rs. 14,40 lakhs.
Sir Frederick Hopkins.—I notice in Sir George Buchanan’s estimate of 1919 he puts in 75 lakhs for the drains, etc.?
A.—Yes.
Q.—Had he anything to go upon for putting that in or is it a mere guess?
A.—I think he says the figure was supplied by the Public Works Department. Item 12 of his estimate, on page 29, “as per Government Public Works Department estimate, lump sum 75 lakhs”.
Q.—You have increased it to 212 lakhs?
A.—Yes.
Q.—You tripled it?
A.—Yes.
Q.—Have you told the Public Works Department what you did?
A.—No. There was no plan. Nobody knew what area was going to be.............
Q.—The Public Works Department didn’t know?
A.—No.
Q.—Sir George Buchanan didn’t know?
A.—No.
Q.—It was then a guess?
A.—It was a guess.
Q.—Although it is dignified by the name of an estimate.
Q.—As regards the dredging of the silting area, that was very important. If it will go on silting as fast as you dredge it, it will go on getting material indefinitely?
A.—Yes.
Q.—Is it not possible to make some check soundings in the next week or two?
A.—It depends on the weather.
Q.—I ask you if it is not possible to take some soundings?
A.—There is only a narrow channel near the Malabar Hill into which the boats can get in. We will try and do it.
Q.—It is very important and I want it.
Q.—Have you any idea how much material is available to be pumped from Back Bay?
A.—We have the quantity from the borings.
Q.—You have made borings?
A.—Yes.
Q.—Can you give me an idea of the quantity roughly?
A.—The Chief Engineer will be able to give it. I think one of Sir George Buchanan’s reports gives the quantity.
Q.—How does he know?
A.—It was reported to him by Mr. Lewis, Chief Engineer.
Q.—Made so long ago as that?
Q.—If you turn to page 26, he says at present his intention is to take 19 million cubic yards from the harbour side (that is in February 1924) and 9 million cubic yards from Back Bay.
A.—Yes.
Q.—The question I asked you before was, can you tell me how much you have available in Back Bay?
A.—The figures arrived at are at page 36. The material available north of the cable is 7 million 845 thousand and the material south of the cable is 7 million 550 thousand cubic yards, making a total of 15 million cubic yards, although I understand from the Chief Engineer that that figure has since been revised on further borings Mr. Brims has made, and that figure is estimated at rather less than 15 millions.
Q.—I take it that that figure will give the quantity that you have approved, and that will be without the amount that silts up during monsoon.
A.—Yes, that is so.
Sir M. Viresaraya.—How far from the coast is that point where you dredge now with the Kalu?
A.—From three to four thousand feet from the line of the wall.
Q.—What would be the depth there at low tide?
A.—There will be only about 3 or 6 feet of water. That is why the dredger had to dredge its own flotation before it could remain there continuously.
Q.—I thought it was an advantage rather than otherwise?
A.—No, it was a great difficulty.
Mr. Billimoria.—Sir Lawless, I should very much like to know what you have to say with regard to the allegations made against your Department by Mr. K. F. Nariman. I take it that you deny the charges of fraud, jobbery, jugglery, levelled against your department by the Honourable Member of Council?

A.—I repudiate them absolutely.

Q.— Doubtless you are aware of the fact that the Government of India were very reluctant to embark on such an ambitious scheme?

A.—Yes, I have seen that in the previous papers.

Q.— Can you tell us, Sir Lawless, how and under what circumstances the Government of India and the Secretary of State were induced to sanction and approve the scheme?

A.—I have no further information beyond what is recorded in the correspondence, but I know that after the scheme had been sent up to the Government of India Sir George Buchanan was sent up to Delhi, I think, at the instance of the Bombay Government, and I understand he explained the details of his proposals to two representatives of the Public Works Department. What exactly took place, I do not know, but apparently the Government of India were satisfied that the scheme was a feasible one.

Q.—Do you know, Sir Lawless, that besides Sir George Buchanan, Mr. Monie, another official of the Bombay Government, met the Government of India and discussed the whole scheme before the same was approved or sanctioned?

A.—I knew that Sir George did, but I was not aware that Mr. Monie had gone.

Q.—The original estimate of Sir George Buchanan was 867-61 lakhs. Was that not so?

A.—Yes.

Q.—Based on that estimate the Government of India as well as the Secretary of State were induced to sanction the project?

A.—That is so.

Q.—At that figure it appealed to the Government of India as a practical scheme from an engineering point of view as well as from the financial point?

A.—Yes.

Q.—The scheme also appealed to the Bombay Government as having a reasonable prospect of being a productive one on those figures?

A.—It did.

Q.—In view of such belief I take it the Government of Bombay urged the Government of India to sanction the scheme?

A.—I think that is the inference.

Q.—Do you know from your personal knowledge if there was any urgent necessity for the immediate undertaking of the work?

A.—I do not.

Q.—In your evidence yesterday you stated that you had expressed your personal opinion and views in 1914 before the Bombay Development Committee that the development of the north of the island should take precedence over the Back Bay Reclamation. Do you still hold that opinion?

A.—I am still of that opinion.

Q.—When you were appointed Director of Development, I take it you very carefully studied Sir George Buchanan’s estimate of the project?

A.—After I had been appointed I carefully studied it.

Q.—Did you express any opinion on it to the Government?

A.—No.

Q.—The estimate was prepared in May 1920 and sanctioned soon thereafter?

A.—The estimate was submitted by Sir George Buchanan in September 1919. It was sanctioned on the 4th May 1920.

Q.—At page 8 of your Report on the Working of the Development Directorate for the year 1922, you have got the paragraph, “Estimated Cost of the Reclamation”. It reads thus:—”In July 1921, in reply to a representation by the Indian Merchants’ Chamber and Bureau (vide Press Note No. S.A.—9709, dated 20th September 1921) Government gave certain figures of the cost of the Back Bay Reclamation which showed that, assuming the adoption of Mr. Davidge’s preliminary layout plan, Plate I, the cost of the land available for building, including interest throughout at 7 per cent. could, in June 1922, have amounted to just under Rs. 38 per square yard.” That is your report?

A.—Yes.

Q.—On what data or materials or estimate was such cost worked out?

A.—It was worked out on the basis I think of Sir George Buchanan’s estimate, but with an addition of about 10 per cent. The sanctioned project estimate had not by that time been prepared, but we were anticipating an excess. And for the purposes of the
reply to the Indian Merchants' Chamber. Mr. Monie worked out certain figures based on Sir George Buchanan's estimate with what he thought would be a fair and safe addition to make. It did not come to 702 lakhs, but it was somewhere about that.

Q.—On the 18th July 1921 Mr. Monie wrote a letter to the Indian Merchants' Chamber in which he said Government did not expect to borrow from the public for any long period more than 4 crores for this particular scheme. And it was in September 1921 that Sir George Lloyd told the Indian Merchants' Chamber that the cost had been increased from 867 to 702 lakhs?

A.—Those are the dates. I do not think the reference to 4 crores being borrowed from the public was intended to mean the scheme was not going to cost more than that.

Q.—On the 14th March 1921 Sir Chimnallal Setalvad speaking on the scheme said in substance this: "The Government of Bombay put forward a scheme, but the Government of India turned it down, but after persistent efforts, the Government were able to induce the higher authorities to sanction the scheme which would cost 4 crores." This appears at page 10 of Mr. Manu Subedar's Report.

A.—Yes, I see.

Q.—Have you any opinion to offer on these remarks?

A.—Four crores was the round figure taken by the Bombay Government after allowing for an increase of about 10 per cent. on Sir George Buchanan's estimate. I think that in their letter of December 1919 the Government of Bombay told the Government of India that they were prepared to expect that there would be some increase owing to the increase of prices over Sir George Buchanan's estimate, and they would put it at about 4 crores. They said some words to that effect.

Q.—When you gave the information to the Indian Merchants' Chamber that the cost was not going to exceed Rs. 28 per square yard, was it based on the estimate of 4 crores or 7 crores?

A.—My idea is that it was based by Mr. Monie on intermediate figures. I cannot give it off-hand.

Q.—No material progress in respect of the scheme had been made before July 1921? The dredger had not arrived. No material progress was made as far as reclamation was concerned between May 1920 and July 1921.

A.—Yes, during the cold weather of 1920-21 a good deal of preliminary work was done in getting the quarry ready.

Q.—If the work actually started in January 1921 and the scheme sanctioned in 1920, what were the circumstances that led to the estimates being doubled in such a short space? How was the estimate practically doubled during the next few months?

A.—Sir George Buchanan's estimate was prepared in 1919 and he based it on the prices ruling at that time and the expectations on that date. The sanctioned project estimate was prepared in 1922.

Q.—When you gave the information to the Indian Merchants' Chamber in 1921 you have stated the figure of 7 crores?

(Chairman.)—In point of fact the history of this increase is this, that almost as soon as the Development Department was created questions arose as to whether the estimate 867 lakhs was any way near the mark, and almost immediately you and your staff began to look into the figures, and certainly by September 1921 Sir George Lloyd was in possession of the figure 702 lakhs, because he stated it at the meeting of the Indian Merchants' Chamber in September."

Q.—Will you kindly let us know what were the circumstances that led to the estimates being doubled within such a short space of a few months? Work had not practically commenced except the preliminaries?

A.—It happened because since Sir George Buchanan had prepared his estimate the prices of stores, plant and material of all kinds, wages, fuel, had gone up considerably and also on account of the exchange. Sir George Buchanan based it on Rs. 12 to the pound, and when plant was being imported exchange was in the neighbourhood of Rs. 15 to the pound. We found, estimating at the rate we would have to pay in the future, based on the rates prevailing on the date of the project estimate, that to do the work Sir George Buchanan proposed should be done would cost 702 lakhs. So practically there was an increase of 7.5 per cent.

Q.—Then your estimate of cost of Rs. 28 per square yard must be increased by Rs. 31.

A.—The estimate of Rs. 28 was made on the basis of 7 crores. It was not an estimate worked out by the Engineers or by ourselves. It was worked out by Mr. Monie as Secretary of the Development Department for the purpose of this announcement of Sir George Lloyd to the Indian Merchants' Chamber. I think I have got in my office details as to how he arrived at that figure.
Q.—Did you inform the Government of India and the Secretary of State of this vital increase in the estimate from 367 to 702 within the space of 7 or 8 months?
A.—I informed the Government of Bombay at once.

Q.—Do you know if the Government of Bombay communicated it to the Government of India. Have you any knowledge?
A.—No. But at that time the Government of Bombay were in a position to sanction the estimates themselves under the Reforms Scheme.

Q.—During this period up to 1921 the dredger had not arrived, nor had any operations been commenced, and still the estimates of the general cost had gone up by 75 per cent, irrespective of the failure of the dredger?
A.—The estimate simply provided for the scheme as set out in Sir George Buchanan’s estimate, and we took it that the output of the plant would be the same as he estimated. It was merely a revision of his estimate to bring it in accord with the prices which had altered. We only had the specification of the dredger at that time. The estimate had been accepted by the Government and the Government of India, and we took the same figures of output as Sir George Buchanan.

Mr. S. B. Billimoria.—Did you, as administrative head of the department, not think it necessary to bring to the notice of the Government of India, the changed conditions which would affect the estimate?
A.—I kept the Government of Bombay informed of everything.

Q.—The scheme was sanctioned by the Government of India with the approval of the Secretary of State?
A.—The second scheme of 702 lakhs was sanctioned by the Government of Bombay.

Q.—You informed the Government of Bombay and you thought you had done your duty?
A.—Yes, so far as it was a revision of Sir George Buchanan’s estimate.

Q.—How and under what circumstances was the estimate passed by the department in May 1922? There has been a change, isn’t it? There were various estimates prepared. Was not there one in May 1922?
A.—I have got it. May 1922, that was the detailed project estimate of 702 lakhs. It was submitted by the Chief Engineer in May 1922 and sanctioned by the Government of Bombay in October 1922.

Q.—So you were quite correct about the estimate of 1922, absolutely certain?
A.—Yes, so far as it was a revision of Sir George Buchanan’s estimate.

Q.—How did it immediately jump up to 11 crores soon thereafter? If you were so sure of your subsequent estimate of 7 crores. How did it jump up to 11 crores?
A.—I have tried to explain that in the statement submitted to the Committee. The estimate of 7 crores would not have been exceeded if the output of the dredger in terms of consolidated filling had been 5 million cubic yards, and if the whole of the material could have been obtained from the harbour. If those expectations of Sir George Buchanan had been fulfilled, I estimate roughly that we should have a saving of 30 lakhs on the sanctioned project estimate of 702 lakhs. It is on account mainly of the deficiency in the output of the dredger and partly also owing to the necessity of pumping in Back Bay that the estimate has been exceeded. But that estimate of 11 crores was based on the output in the year 1924-25. The figure will of course not be that when a fresh estimate is made (which has not yet been made) based on the experience of the last season.

Sir M. Vimeswaran.—Which would be more favourable?
A.—Yes.

Mr. Billimoria.—You have made some 6 or 7 estimates?
A.—We made 4 and Sir George Buchanan has made 2.

Q.—None of these estimates had come out true. They are all out of the mark?
A.—The only estimate that has been sanctioned is the official sanctioned project estimate. No action has been taken on others.

Chairman.—As regards the 702 estimate you kept close to the building of the wall. In fact, you did not spend as much on that as you anticipated?
A.—The saving was mainly due to the reduction in the amount of concrete. Even if that had not been done we should have worked very closely to the estimate, in respect of the wall.

Q.—The reasons why your figures did not prove to be true as regards the dredging are given at page 8, paragraph 5 of your statement before us?
A.—Yes.

Mr. Billimoria.—So you attribute the failure to dredging and the estimate going up from 7 to 11 owing to the failure in dredging?
A.—Solely to dredging and nothing else.
Q.—Beyond furnishing this information of the estimates having materially varied to the Advisory Committee, you did not think it advisable to take the public into your confidence?

A.—The information about the actual filling in the season 1924-25, which was the season Sir George Buchanan advised the Government to wait for before coming to a conclusion, was given by the Chief Engineer on the 17th of July 1925. It was immediately communicated to the Advisory Committee and to their Sub-committee and it was also immediately communicated to Government and to Messrs. Meik and Buchanan. It was considered by Government at a special conference that was held in Poona, and it was decided to write a letter at once to Sir George Buchanan—a copy of the letter is printed amongst these papers. It was also decided that no further action could very well be taken as the matter was under the consideration of the Advisory Committee and that their report should be awaited, and their report should be given to the public as soon as possible. Immediately Government received it. It was thought that it was not much good our trying to work out separate conclusions as the Advisory Committee were doing it themselves and had also got some way with it. In any case, if any information was to be conveyed to the public, the Director of Development could not take the responsibility himself. The Government of Bombay would give such information.

Q.—All that information that the public would get through the head of the Government of Bombay would be through the responsible head of the department?

A.—A press note is issued over the signature of the Secretary to Government or in the alternative the Honourable Member makes a statement in Council if it happens to be sitting.

Q.—In view of this did you not think it advisable to suspend the project until further investigation was made?

A.—We did arrange at once to suspend the work on the sea wall and all the storm-water drains; except those which were concerned with the completion of blocks 1, 2 and 8, everything else was stopped.

Q.—If you won’t take any affront on my remarks I will put to you a personal question, that you as the administrative head of such a large department were dealing with public finance, would it not amount to careless indifference, if not criminal negligence, to keep the public in the dark as to the true state of affairs?

A.—I don’t think that it has ever been my business as Director, as the head of the executive part of the Development Department, to communicate to the public on questions which involve matters of policy. I have always understood that this was a matter for Government. I would issue any information of Government wished me to. I was to keep Government fully supplied with information, and they would decide what to do in the way of publication themselves. My business has always been from the beginning to try and get the work done.

Q.—Yes, Sir Lawless, but you have issued, I take it, about 6 reports?

A.—These are reports that give information to public. They give information about the progress of the work as an engineering work only.

Supposing you were a managing director of a Joint Stock Company and kept back such material information from the knowledge of the shareholders of that company you know that you would run the risk of legal proceedings against you. Isn’t that so?

Chairman.—Are you sufficiently acquainted with the section of the Companies Acts?

A.—I am not.

Mr. Billimoria.—I suppose it is every day common knowledge that if a director misbehaves, does not give material information to the shareholders he is legally responsible for his action. That is I suppose common knowledge of every one?

A.—When Government were in possession of the full information about what was going on I could not take the responsibility myself of giving any information to the public.

Q.—So you want to throw the entire blame on the Government of Bombay as far as you are concerned?

A.—No. My point is that having given full information to the best of my ability, I do not think any information was withheld from the public on the grounds that I had failed to supply it.

Q.—Taking your reports on the working of the department from year end to year end we find the happy phrase “steady progress” noticeable in every report of yours. What do you mean by “steady progress”? Year after year you find statements made “steady progress”. 1921-22 has been marked by “steady progress”. In 1923 you say “During the year 1922-23 the work of the Directorate proceeded smoothly” and according to programme. Generally speaking, the policy adopted is to push the reclamation. This was March 1923?

A.—Yes.
Q.—You have the same in 1924. You say, the reclamation and housing schemes made satisfactory progress. In 1925, in your report you say "work on the Back Bay Reclamation Scheme and Housing Scheme made steady progress during the year"?

A.—Yes.

Q.—What do you mean by this "steady progress" when you knew that the work was very unsatisfactory; the dredgers had failed, your estimates had gone up almost double the amount estimated. What do you mean by informing the public that the progress was steady?

A.—What we knew was that the progress on the construction of the sea wall was going on satisfactorily and the dredgers were working, though we knew that in the first season the output had been very much lower than Sir George Buchanan estimated it to be. But he satisfied Government that the first year’s working should not be taken to be a criterion and that no conclusions should be based on it, and Government agreed that the results of the season 1923-24 should be awaited. The first season was treated more as experimental, a sort of trial one, and I do not think it would have been a sound proposal to go and issue alarmist reports about the state of affairs at that stage. If the directors of an industrial concern such as you referred to just now, when they were having a trial run of their machinery were to find that things were not working smoothly, I do not think they issue alarmist reports, I think they would prefer to await a further trial.

Chairman.—They have got to steer a middle course. There should be no suppression of material points. On the other hand, they must not create panic by making frightening statements?

A.—I am quite sure that I could have made statements in these reports, but I am quite sure that I should have been taken to task by the Government for doing so and certainly by Sir George Buchanan.

Q.—It was that fear that prompted you of getting blame from Sir George Buchanan?

A.—No question of fear at all, but I felt that the position was difficult and that Government had to decide between prematurely, if one may put it that way, causing a panic and perhaps unnecessarily doing it. There was no reason to believe that Sir George Buchanan’s expectations might not be fulfilled, and in the second or third year when the staff had got more into the way of the working of the dredgers that the results might have been very much better.

Q.—We shall accept that explanation of yours. But in the light of what has turned out the statements made in your reports are not absolutely accurate. Isn’t that so?

A.—I would not be prepared to agree with that. It is simply a record of the progress of the work.

Chairman.—Would you be prepared to agree that so far as your statements go they are accurate, but there are material omissions?

A.—Yes.

Mr. Balfour.—Would such omissions misled the public?

A.—It is just a question, that it is quite possible that if information had been given at that time it might have misled the public.

Q.—You mean the supplying of correct information?

A.—It would have misled the public to believe that the output would never be better than it was in the first year because my statements show that it has very materially improved. In the first year, the actual reclamation done was only 2 lakhs cubic yards. If the public were informed that that was all that was going to be done it would certainly have created a false impression.

Q.—May I take you through the 5 reports that you have published. The 6th one was handed to me in the morning. If you will kindly refer to the report of 91st March 1921, which we shall call the first report, you refer to the appointment of Mr. Lewis as the Chief Engineer?

A.—Yes.

Q.—I take it that he was a nominee of Sir George Buchanan. His salary was paid by your department, that is by Government. What was the responsibility of the nominee. If he was your employee, and a mere nominee of Sir George Buchanan, to whom were he responsible? Sir George Buchanan?

A.—He was to carry out the work under the instructions of Messrs. Meik and Buchanan, but he was an employee of the Bombay Government, he was to take instructions on technical matters from Messrs. Meik and Buchanan who had been appointed the Engineers by the Secretary of State for carrying out the scheme.

Q.—He was serving two masters, he did not know whom to please?

A.—He was under Government from the administrative point of view. On technical questions he was responsible to Messrs. Meik and Buchanan.

Chairman.—There was nobody in the Bombay Government or in the Development Directorate who had any knowledge of giving any single engineering order to Mr. Lewis?

A.—No.
Q.—Mr. Lewis was nominated by Sir George Buchanan as a fit and proper man to carry out this highly technical engineering work under Sir George Buchanan’s contract?

A.—Yes.

Mr. Billimoria.—If anything went wrong, it was Mr. Lewis who would be responsible and not you or the Government of Bombay?

A.—No, I take it to be Messrs. Meik and Buchanan.

Q.—Supposing Mr. Lewis did not carry out their orders or instructions?

A.—But he did. We had all the correspondence that passed between Mr. Lewis and Messrs. Meik and Buchanan. It all passed through my office. Copies of all correspondence were filed in my office simply that I might satisfy myself that the Chief Engineer was doing exactly what Messrs. Meik and Buchanan wished done.

Q.—So it is Sir George Buchanan who comes in for blame and not Government?

A.—The firm were appointed Engineers to the scheme. When you appoint Engineers to do a scheme and they have estimated and it does not work out according to the estimate, the Engineers are responsible. So it is Sir George Buchanan who comes in for blame and not Government.

Q.—If anything went wrong, it was Mr. Lewis who would be responsible and not you or the Government of Bombay?

A.—No, I take it to be Messrs. Meik and Buchanan.

Q.—Supposing Mr. Lewis did not carry out their orders or instructions?

A.—But he did. We had all the correspondence that passed between Mr. Lewis and Messrs. Meik and Buchanan. It all passed through my office. Copies of all correspondence were filed in my office simply that I might satisfy myself that the Chief Engineer was doing exactly what Messrs. Meik and Buchanan wished done.

Q.—It has gone hopelessly wrong?

A.—Suppose it goes hopelessly wrong, who is responsible?

Q.—I am asking you who is responsible?

A.—I think the Engineers.

Sir M. Visvesvaraya.—If you say that Messrs. Meik and Buchanan are responsible for the work, why did you change the estimate from 4 crores to 702 lakhs without their knowledge or consent?

A.—There was no alteration in the works. The estimate merely gives the cost of the work.

Q.—But you had smaller items?

A.—No, it was a question of altering rates.

Chairman.—On the 11th of February 1922 Sir George Buchanan assented to the alteration of rates and he put the total figure at 666 lakhs?

A.—The increase in prices had occurred in the interval.

Mr. Billimoria.—He recognised that there was an increase in the estimate?

A.—Yes.

Sir M. Visvesvaraya.—What is the extent of responsibility of a technical adviser? He is not responsible either for progress or for costs. You are responsible for both. He was not supervising the progress of work from week to week. The expenditure is all audited by Government?

A.—I think the agreement says the work is to be closely supervised by Messrs. Meik and Buchanan.

Mr. S. B. Billimoria.—You deal with expenditure. You deal with purchase of materials locally. They are only to advise you about the technical side of the work?

A.—Yes.

Q.—The detailed plans and estimates were supplied, but they won’t be responsible for the progress of the work or the cost of the work or the growth of the work?

A.—No. They are not consulting engineers.

Q.—They are making their reports to you and not the Government of Bombay?

A.—Their Reports are submitted to the Government of Bombay by me.

Chairman.—The fact is that the Government of Bombay presented Mr. Kidd’s scheme to Sir George Buchanan. One of the questions that was specifically asked was, what the cost of the work would be. Sir George Buchanan estimated it at 867 and subsequently by the 11th February 1922 had increased it to 666 lakhs and had given at page 10 of his report reasons as to why the original estimate of 867 had failed. So he did accept undoubtedly responsibility for the original sum of 867, and he was prepared to allow it to go without any dissent on his part to 666 lakhs.

Sir M. Visvesvaraya.—The Engineers give professional advice but they have no responsibility for the expenditure. The responsibility must rest either with the Director or with the Government of Bombay?

A.—The Government of Bombay sanctioned the estimate.

Q.—They work through you?

A.—Yes, but Meik and Buchanan are to carry out the work.

Chairman.—That depends on the construction of the document. When he was described as Consulting Engineer, Sir George Buchanan’s assertion was “I am nothing of the sort.” He wrote a letter to say there appears to be a misunderstanding. We are not consulting engineers. We are the actual responsible engineers.
Sir M. Visvesvaraya.—That is their assertion, but it has not been accepted by Government?
   A.—Of course.
   Chairman.—Of course, it was. They said they would put the scheme through.
   A.—We are the responsible officers.

Sir M. Visvesvaraya.—It is very unusual that you should throw the blame on Sir George Buchanan or the firm for the progress of the expenditure. You spent the money. The Chief Engineer is under your orders and you are responsible to Government. They are the technical advisers at every stage. They may have said they are responsible, but that means very little.
   Chairman.—It must depend on the true construction of the contract. There is the contract. There are the engagements that Sir George Buchanan entered into. They may be unusual agreements for an engineer to enter into, and the question is whether Sir Lawless was not right when he said that the actual execution of the work together with the estimate of cost were matters for which Sir George Buchanan was solely responsible.

Sir M. Visvesvaraya.—What guarantee is there for the fulfilment of his responsibility to Government?
   Chairman.—I suppose only the guarantee of his reputation and previous experience.
   A.—I have always understood that the contract had been made with Messrs. Meik and Buchanan, and when I saw the question was discussed of my becoming Director of Development I naturally said I knew nothing about dredgers or dredging. So far as reclamation was concerned that work was in charge and under the control of an expert firm of engineers who would take over and do this work as Engineers of Government.
   Q.—What hold have you on the firm if anything went wrong? What hold has Government on them? The firm has only a few years’ standing?
   A.—I do not want to throw responsibility on them but I think I am entitled to point to the agreement which is a fairly definite agreement stating exactly what the position of the firm of Messrs. Meik and Buchanan in relation to the Bombay Government.

(The Committee reassembled after lunch and the examination of Sir Lawless
Hepper continued.)

Mr. Billimoria.—In your evidence, Sir Lawless, you have stated to us that Mr. Lewis had some previous experience of reclamation work somewhere?
   A.—Sir George Buchanan told us so at the time.
   Q.—It was not your personal knowledge?
   A.—If only knew that Sir George Buchanan nominated him to this post. It was one of the recommendations when he put forward his name that he had been employed on the reclamation by dredging in Mesopotamia.
   Q.—Had he any knowledge or experience of local conditions?
   A.—He belonged to the Burma Public Works Department and I think he was employed in Burma for the most of his life but he was for some time on the Imperial City work at Delhi; I am not certain about it.
   Q.—Then he had no experience of reclamation?
   A.—Except that he has had in Mesopotamia and possibly in Rangoon.
   Q.—Do you think he had sufficient experience or capabilities for undertaking such a huge work particularly of reclamation in an open sea front?
   A.—I think he had.
   Q.—You have stated that he was not under your direction or guidance but was responsible to Sir George Buchanan. I take it, this was so?
   A.—In technical matters he was under Sir George Buchanan's instructions.
   Q.—Do you know if he was familiar with conditions of labour and the material required for the reclamation?
   A.—Yes, he was.
   Q.—Did you ever consider the question that this reclamation was responsible for washing off the foreshore of Bombay, at Chaupatti, the Mahim shore and Juhu? Did you ever consider this point?
   A.—I know that it has been suggested that a certain amount of erodens that took place in Chaupatti was due to it but during the monsoon of 1924 there was a very heavy storm which happened to synchronize with very high tides at the end of July and the temporary railway track on the sea wall of the reclamation was washed off and a certain amount of damage was done to the Municipal protection works on the Chaupatti shore and it was suggested then that that action of the sea had been accentuated on account
of the reclamation works but we did not think so. We find in previous years that there had often been damage and there was nothing that we can find to show that the construction of the sea wall had in any way aggravated that.

Q.—What about the washing off, of the foreshore of Juhu? Was that due to the reclamation works or due to natural conditions?
A.—It has been suggested that it was due to the Back Bay Reclamation but I cannot conceive it is.

Q.—Before this reclamation was undertaken, did you ever notice that the Mahim shore or Juhu shore was washed off to the extent it has been washed off at present?
A.—The Juhu foreshore was being eroded for the last 25 years and it is believed to be due to the selling of the sand on the foreshore. Thousands of cart loads of sand was taken away from the shore. It was pointed out that the sand was a natural protection of that shore and if the people were allowed to take away the sand, there were chances of their property being washed away. This has been stopped now but I think that was the main cause rather than the reclamation works.

Q.—Did you ever consider the question of the health of the citizens of Bombay? Whether that would be in any way endangered by this reclamation?
A.—It was considered, and in order to reassure public opinion, Government appointed a very strong Sanitary Committee at the very outset which, from the beginning, have been watching conditions in the reclamation area and on their recommendations, we have appointed an expert officer of the Medical Department who has specialised in anti-malarial work, and he has been extremely useful in preventing malaria. The figures of admission to the military hospital in Colaba show that since the reclamation works began, there has been a considerable reduction in the admissions on account of malaria.

Q.—Previous experience of reclaimed area at the Ballard Estate is different. When the Port Trust undertook the reclamation of the Ballard Estate, Bombay was infected with malaria for a number of years?
A.—I understand that that was due to the open excavation of the Alexandra Docks. There was a very large excavation and naturally there were large pools of water lying about and it was this excavation that the malaria came from and not from the reclamation works.

Q.—So there is no danger, in your opinion, with regard to the health of the City of Bombay if this reclamation work is carried on?
A.—In 1914 when this reclamation scheme was before the Government, Mr. Mackieson, who was the Chief Engineer of the Bombay Municipality, stated that he thought that the reclamation, if completed, will have a very beneficial effect on the climate of the fort in Bombay and on the health of the people on account of the foreshore, which breeds mosquitoes between spring and neap tides, being covered up with earth.

Q.—That is a very satisfactory explanation.
A.—The published reports of the Sanitary Committee, which are published every year with my report, show clearly that the incidence of malaria in Colaba has been reduced from the admission rate of about 900 per thousand since the work was started to something like 200 per thousand.

Q.—Now I shall turn to your Report for the year ending 31st March 1921. I am sorry I have to take you over the same ground which has been traversed by our worthy Chairman but I think it will lead to clearer understanding.

At page 8 at the end of paragraph 9, you say "The dredger is timed to arrive in Bombay after the monsoon of 1922 when it is expected to have a compartment of the reclamation area ready for filling". Did you realise this?
A.—We did not.
Q.—Any reasons for your not realising it?
A.—The reason was unexpected difficulties in completing railways from Marine Lines down to Colaba and in laying the sidings which had to be constructed there at the time before working could be started. There was also a very small strip of foreshore on which we could commence our operations. We had practically to reclaim the land we wanted to put our sidings on because the whole of the Colaba area belongs to the Military Department and we were not able to encroach on their land to any very great extent and in these circumstances it became necessary to reclaim the area from the sea that we wanted. As a result of these difficulties, which we did not foresee, we could not get a compartment ready until the beginning of the season in 1923-24.

Q.—You did not anticipate these difficulties when you submitted this report?
A.—The Chief Engineer did not think at that time that he anticipated any difficulty.
Q.—If you turn to page 8 of this report, some mention seems to have been made at paragraph 93 about Advisory Committees. How often do these committees meet?
A.—They met about once a month.
Q.—How often had you any occasion to consult the Committee? Did any matters arise where you had any reason to consult these Committees?

A.—There were numerous matters specially in the early years which were referred for their opinion but they were mostly questions connected with Housing Schemes and Suburban schemes.

Q.—The Advisory Committee complain that they were not consulted on very important and vital points. They were absolutely disregarded. Is that a fact?

A.—That complaint is absolutely unfounded. The Advisory Committees were appointed to advise Government on any points which Government might refer to them and also they were to discuss any question which any member of the Advisory Committee was to bring forward.

Q.—Did you ever discuss the financial position with any of the members of the Committee? They were all businessmen such as Representatives of the Municipal Corporation, the City Improvement Trust, the Chamber of Commerce, the Millowners’ Association and the Indian Merchants’ Chamber.

A.—I have not got the actual terms of the Government notification appointing Advisory Committees but the Advisory Committees were actually appointed to advise Government as to the progress of the work such as suburban schemes, for instance, to take over a small piece of land and develop it. The scheme was worked out and it was put before them and the possibility of the sale of land, which Government might expect, were discussed with them and sometimes the schemes were modified in accordance with their wishes and generally they were asked to give their opinion on them.

Q.—Did any member of this Committee ever complain to you or your Department that the information they wanted was not supplied?

A.—Not to my knowledge.

Q.—So all the facts were disclosed to them?

A.—There was a case in the Advisory Committee (afterwards it became a special committee later on). I do not know if you are referring to that. In the earlier stage, I have no recollection.

Q.—Did any member resign out of resentment?

A.—Mr. Manmohanandas Ramji resigned. He was the representative of the Indian Merchants’ Bureau. I have no information as to why he resigned.

Q.—Did you enquire why a representative of a public body resigned from the Advisory Committee?

A.—As a matter of fact, though it is not definite, I understood at the time that he resigned because the views that he held did not exactly correspond with those of the Chamber he was representing.

Q.—It was only because of the difference of opinion?

A.—That is what I understood at the time.

Q.—Not because of any treatment or because of suppression of facts on the part of Government?

A.—It was never stated.

Q.—Now I shall come to your Report for the year ending 31st March 1922. On page 1, as I have already said, there appears that happy phrase ‘steady progress’. You explained something this morning, but would not anyone reading this report infer that the progress referred to was in accordance with the estimate and that everything was all right as far as the works are concerned?

A.—The progress of the work was satisfactory at the time.

Q.—During the period covered by this report, the dredger and plant had not arrived in Bombay?

A.—It arrived on the very last day.

Q.—But it had not been worked?

A.—No.

Q.—Supposing you undertake a small contract which was designed to be completed within say a lakh of rupees and the period estimated for the completion was one year. After having spent most of this amount and having already run out half the amount that you require for the whole scheme, would you call that steady progress. The work may have progressed but not in proportion to the estimates.

A.—I think the question probably refers to the next report. In this report there has been no dredging progress. The dredger did not start working for 7 or 8 months after this.

Q.—What do you mean by suggesting here that the various schemes referred to in the last report have been successfully launched? Has that any reference to the reclamation scheme or to the Housing Schemes?

A.—It refers to all schemes which were referred to in the previous report.
Q.—You said this morning that detailed estimates having been completed at the rate of Rs. 28 per square yard, this rate is not likely to be exceeded. This is also referred to on page 3 of your report for the year 1922. Were you definite about it at the time?

A.—I said this morning that I would send the calculations on which this rate of Rs. 28 is based.

Mr. Billimoria.—If you read a few sentences further, you will find it stated “On the contrary, the probability is that the actual figure will be less, because the calculation by which Rs. 28 per square yard was arrived at took no account of the possible sales of land prior to 1923.” You expected the whole scheme to be completed by 1922?

A.—That was the date it was expected to be completed in the original scheme and the forecast on which this was based provided the sale of land will begin until the whole scheme was completed but it was not possible to have the whole of the reclamation done.

Q.—If a part of the reclamation had been done and the land sold before the completion of the whole scheme, it would have the effect of helping to reduce the cost of the land. If you had not started to build the wall on both ends and had confined your attention to completing one part, you would, by now, have been in a happy position to sell some part of the land.

A.—The building of the wall has not interfered with the progress of reclamation. The building of the wall at Colaba has been as rapid as possible. Preference was always given to the construction of that wall over the question of building the wall at Marine Lines. The construction of the wall at Marine Lines was treated as subsidiary.

Q.—If you will kindly read a sentence further, you say “it is expected, however, that land will be available for sale before that date……”. It meant before 1929?

A.—Yes.

Q.—We are practically at the end of the year 1926 and we see no signs of any block of land being ready?

A.—That is perfectly correct, but if the dredger had dredged 5 million cubic yards of material per season then by the end of 1929 it would have been ready.

Q.—The whole fault lies with the dredger?

A.—Yes, with the output of the dredger.

Q.—In your Report for the year ending 1921, paragraph 8, you say that 2,000 feet of the wall at Colaba will be ready before the next season, that is 1921-22. Further you say “At Colaba arrangements are not so far advanced, but it is hoped that a 2,000 feet length of wall of a special design will be completed.” If you refer to page 6 of your Report for year ending 1922, you repeat the same story; it is hoped that the progress of the work will not be seriously interrupted by the monsoon and that section of 2,000 feet will be completed before the commencement of the next working season. From year to year, it is mere hope and expectation.

A.—I have already explained that the work at Colaba was delayed owing to unforeseen difficulties in connection with the construction of the railways. At the time the first Report was written, it was hoped that 5,000 feet of the wall at Colaba would be constructed much earlier than has been the case. As a result of these difficulties in connection with the railway, the actual construction was postponed beyond the date that we hoped.

Q.—If you look back on page 6 of the Report, you talk of dredger and say that the dredger is capable of dredging 3,000 cubic yards of clay per hour from a depth of 70 feet below water level and delivering the same through 5,000 feet of pipe line.

A.—That is the specification. That is Sir George Buchanan’s report that the dredger will be capable of doing so much.

Q.—Your experience is to the contrary?

A.—We had no experience at the time.

Mr. S. B. Billimoria.—In your evidence here, you stated the clay was heavy. I do not quite clearly understand it. You stated that the clay was not what you expected it to be?

A.—If you send a man to dig in a garden and the earth is very light he would take a certain amount, but if you send him to dig earth from stiff, hard and heavy soil it is certain to be found that he will not produce the same output. It depends on the class of material in which the dredger is called upon to work.

Q.—You found that the material was not satisfactory?

A.—It is very satisfactory for purposes of reclamation, but it is not of a class which is conducive to high output or the specified output.

Q.—But the dredger was specially designed for a particular class of material and a particular output?

A.—It was designed for an output of 2,000 cubic yards per hour of soft clay. Our contention is that a great deal of it is which cannot be described as soft clay.
Sir Frederick Hopkinson.—I want to know what you call hard clay. You found hard clay?
A.—I have certainly seen hard clay.
Q.—Hard and soft are relative terms. What is the definition, where does soft begin and hard end? I think you will find it very difficult to give.
A.—I regard clay as hard when the clay is so hard that the dredger has difficulty in cutting it. I understand that the dredger had difficulty in cutting it.
Q.—Slowed up the cutter?
A.—Yes.
Q.—That may not be due to hardness? It may be due to cutter. If you put the cutter with too big a face that alone will slow it down.
A.—I made my statement on what my engineers reported and the engineers themselves would be able to give much better detail.

Sir M. Visvesvaraya.—Let us see the "Sir George Lloyd ".
A.—Certainly, any time.
Mr. Billimoria.—Did you bring this to the notice of anyone that the clay was different from what was anticipated?
A.—Messrs. Meik and Buchanan were informed.
Q.—Is East Colaba work now absolutely suspended?
A.—Yes.
Q.—We shall not trouble you about that as it does not concern the present enquiry?
Sir M. Visvesvaraya.—No expenditure has been incurred? That is all gone?
A.—It is not gone. Some of it is on land, etc.
Mr. Billimoria.—Have you reclaimed any land in East Colaba?
A.—We acquired some land and we can sell it.
Q.—At what rate did you acquire it?
A.—I cannot give the figures off hand, but I can give the total expenditure on the East Colaba with full details.
Q.—Do you hope to recoup all the expenditure, up to what percentage?
A.—I prefer to show the figures of expenditure and then it is just a question of what might reasonably be expected to be recouped by the sale of the land.
Sir M. Visvesvaraya.—Is this included in the 70 lakhs?
A.—No.
Mr. Billimoria.—We shall turn to your report for the year 1923. Same observation as in the previous year with regard to the progress of the work which you have now explained. But here you go further and say "for practical purposes according to the programme ". Would not that lead one to infer that that was within the estimate, if you say "according to programme "?
A.—I do not think so.
Q.—You don't think it is an incorrect statement?
A.—I should like to see the context. Where is it to be found?
Q.—The very first page "during the year 1922-23 the work proceeded smoothly....." This gives a very rosy picture to the public, at the end of the year 1923, third year completed?
A.—You realise that the dredgers did not begin dredging until December 1923.
Q.—What are the "practical purposes according to programme "?
A.—The works covered by this were the construction of the wall and the opening out of the quarry and the construction of railway and it also refers to housing schemes and all schemes of the Development Department.
Q.—Had you any definite programme, this in 1921, this in 1922, 1923?
A.—We had a programme which is attached to the sanctioned project estimate. There is a programme showing every year how much work is going to be done, also a programme for construction and for housing scheme. According to this, this programme was being worked to.
Chairman.—The Back Bay Reclamation was not worked according to this programme. Take one instance. You said that you hoped in October 1922 to have an enclosed area for the dredger to operate in?
A.—Yes.
Q.—In March 1923 you were writing that the work had gone "according to programme." There was no enclosed area for the dredger to work in. It was lying idle for month after month?
A.—Yes. So far it was wrong.
Mr. Billimoria.—When did you first entertain any doubts as to the success of the scheme?
A.—After the first year's dredging.
Q.—That is in 1924?
A.—Yes.

Q.—When did you first ascertain that it was not practicable to work within the estimate of Sir George Buchanan?
A.—I had misgivings about it in 1924. But it was agreed that the complete working season of 1924-25 should be awaited before any conclusions were formed, and as a result of that working season I naturally came to the conclusion that Sir George Buchanan's expectations could not be achieved.

Q.—That was in 1925?
A.—1925.

Q.—Did you entertain doubts earlier?
A.—I entertained doubts in 1924.

Q.—Did you take any steps to remedy the defect or bring it to the notice of Government?
A.—I brought it to the notice of Government at once and of Messrs. Meik and Buchanan, and they represented, as I have already said, that the work of the first season ought to be regarded as experimental and that it would not be right to base conclusions on the results of the first year. They said "give it another chance. Wait for the season of 1924-25 and you will see that you will do very much better because many things have occurred in the first season which will not occur again".

Q.—It may be giving as it were a long rope?
A.—Give it another chance to see if it could not do better under better conditions.

Q.—In your report for 1923, March, you talk of detailed project estimate amounting to Rs. 7,03,45,921 sanctioned by Government in October 1922, and say that it was the same as supplied to the Indian Merchants' Chamber. You go a little further and say the figure is exactly the same as that on which the information supplied to the Indian Merchants' Chamber in September 1921 was based. "There is therefore no further change in the previous forecast of cost per square yard. Much depends on the time required for the execution of the project, and as to this all that can be said at present is that the indications are that a somewhat shorter period will be needed than was at first estimated." What are the indications?
A.—The indications were that the wall was ahead of the programme, and in the absence of any practical experience of the working of the dredger it looked as if there were some chance of getting the work done possibly sooner.

Q.—Did you at any stage inform the Merchants' Chamber that the original estimate was 367 lakhs?
A.—I think that was published at the time the information was given to the Indian Merchants' Chamber.

Q.—You talk of 703 lakhs?
A.—That was the sanctioned project estimate.

Q.—You make no mention of the 367 lakhs or the 4 crores figure stated by His Excellency the Governor.
A.—No. I do not think there was any. Everybody, I think, knew that the previous estimate was 4 crores or 367 lakhs. I don't think there was any concealment about that.

Q.—We shall turn to your report for 1924. There you say, "Filling commenced in December 1923, and the reclamation made satisfactory progress. (The very first paragraph) "The reclamation and housing schemes made satisfactory progress." The dredger had been pumping in December 1923. Did you find the dredging working satisfactorily between December and March, a period of 4 months?
A.—The actual output of 9 lakhs odd in that season was known some time in July and this report was of course drafted before that, but still we had the weekly records and we knew at that time that the results were not so satisfactory.

Q.—You had known it at that time?
A.—We knew the figures for 1923-24.

Q.—That the results were not satisfactory?
A.—We had not the actual figures until July.

Q.—The report is said to be published "to 31st March"?
A.—It is generally issued in June.

Q.—There is no indication as to when it was issued?
A.—Yes.

Q.—You mean that when this report went out you had no knowledge. You knew about it later?
A.—We knew it was not anything like 5 million cubic yards.

Q.—For 4 months it was 9 lakhs. So for 12 months it would be 15 lakhs as against 50. That would only make 10 lakhs against 50 lakhs?
A.—Yes.
Q.—That would not be satisfactory at all from any point of view?
A.—No. I have explained that these reports have been very difficult to frame on that account. It would have been quite possible to put in this report that only about 5 lakhs of cubic yards had been pumped and that that rate reclamation would not be completed for fifty years and the life of the dredging plant being twenty years a second dredging plant would have to be bought and the life of the pipe lines being eight years, these would have to be renewed several times, and I would have had to make an alarming story about it.

Chairman.—Which would have been truer?
A.—I think the results of last year would have been more correct.

Q.—But at the date of the report which should have been the more correct, to set out all the disappointing features or to conceal them?
A.—To set them out undoubtedly. But I had to consider the policy of the matter.

Mr. Billima.—With regard to that policy, are you prepared to shoulder the sole responsibility and not shift it on to Government?
A.—I am quite prepared to accept the responsibility for not having issued information of that kind in my report.

Q.—The Honourable Member in charge of the Department had nothing to do with that report? He had the full report?
A.—No. He never saw it. The Government had the information about the results of the dredger. That was after full discussion between Government and Sir George Buchanan.

Q.—Government did not instruct you to issue any report of this nature. As it is in my hands at present, not indicating the true results?
A.—This is the form in which it has always been issued and Government never drew my attention that it was in any way deficient, and I think it was reasonable for me to assume that if Government considered it desirable to issue any information that was not in my report I should be instructed to do so, or Government would do it themselves.

Q.—Is it not always left to the head of the department to draft his own report? It is generally left to the administrative heads of departments. His Excellency does not go into the details of all the work of the presidency. Reports are submitted to him. He takes it for granted that the staff, the responsible officers, are properly carrying on their duties?
A.—My position is, I was in administrative charge of the work. Questions of policy of Government I do not think came within my scope at all.

Q.—Do you want to differentiate between the question of policy and the question of facts?
A.—I think it was a question of policy as to whether at that early stage after the very first season and before an opportunity had been given to Sir George Buchanan it was wise to express an opinion. It is a difficult question I admit.

Chairman.—In the report of 1924-25 there was a great deal that could have been said but was not said?
A.—There was, undoubtedly.

Q.—Have you any explanation?
A.—The explanation is that at that time the whole question of the Back Bay Reclamation had been submitted to an Advisory Committee, and they had appointed a Sub-Committee who were going into the whole thing. The results of the work in 1924-25 were received by me on the 17th of July 1925 and were communicated to Government immediately and to Sir George Buchanan. A meeting was held in Poona to consider what action should be taken. It was decided by Government that a letter should be addressed to Messrs. Meik and Buchanan, which is amongst these printed papers, and as regards the question of any further action in the way of publication it was decided that as the Advisory Committee or rather the Sub-Committee had been supplied with the figures and were engaged on their report, it would be better for that report to issue rather than for Government to issue a report themselves, because they would only be in a position to give the actual figures whereas the Advisory Committee and their Sub-Committees were working out forecasts which would show what the probable financial output would be likely to be.

Mr. Billima.—Do you agree with the conclusions of the Advisory Committee, what is your view about the report?
A.—I agree with them.

Q.—Agree with the majority or minority?
A.—With the one I have signed, the majority.

Q.—But after the minority report was also read have you had any occasion to change your views?
A.—I still adhere to them.
Q.—Just for a second, turn to page 2 of 1924 report with regard to dredging and filling. You say that the material proved to be of much better quality than anticipated being a hard clay with sand. Is that a fact?
A.—That is, it was a better material for reclamation purposes. It was on that account that Sir George Buchanan decided to do away with the cross walls that he proposed, and indicated a saving of 17 lakhs because this material was undoubtedly of a very good quality for reclamation purposes.

Q.—But you didn’t draw the other picture that the quantity required was insufficient?
A.—I have just explained why it was not done. The figures were supplied to the Government and the Government waited for the report of the Sub-Committee.

Q.—By the end of March 1924, the approximate total expenditure on the Back Bay Reclamation up to 31st March 1924 including interest charges was 4 crores and 6 lakhs, more than 60 per cent. of your estimated amount had been spent?
A.—The estimate does not include interest charges.

Q.—It does not include interest charges and still in the working out of the cost per square yard you ignore interest charges?
A.—I will give the figures on which that Rs. 28 is based. I am not quite sure whether interest is included in that Rs. 28.

Q.—Then the figure would be very much larger?
A.—If you include interest charges. The figure varies, as the cost of land varies from day to day.

Q.—You anticipated a profit of 30 crores and large sums of money. You would take into account the interest before considering the profits?
A.—I never anticipated a profit. It has never been discovered where that figure came from.

Chairman.—We hope to find it out in England.

Mr. Billimoria.—Was it merely imaginary?
A.—We prepared a forecast on the basis of the 702 lakhs, and assuming that the whole of the land could have been sold in eleven years which at that time did not seem to be optimistic, and assuming an average rate of Rs. 60 per square yard, the forecast showed a profit of over 3 crores. I think an extra figure has been added on to the 3.

Chairman.—Sir Chimanlal says 30 crores, so that there was a definite statement. He has gone to England and he must be asked to give evidence when we reach London.

Mr. Billimoria.—If you ignore the question of interest and if the scheme is not completed within thirty years, interest will go on piling up year by year, and the cost will be three times?
A.—Yes.

Q.—That fact was never taken into consideration? Time is the essence?
A.—It has always been taken into consideration in all forecasts which have been prepared by the Development Directorate.

Q.—In your last report for the period ending 31st March 1923, you repeat the same story that the scheme made satisfactory and steady progress. It is a very bold statement to make that end of the year 1925 after having known what the actual state of affairs was in the Department and with the knowledge first-hand that the head of the Department had no disposal at the time?
A.—I have already explained this point.

Chairman.—Sir Lawless has already said he could have written reports of a very different tenor, but for purposes of policy he thought it expedient not to do so. We must consider that among ourselves.

Chairman.—You agree with me you could have written reports of a very different tenor?
A.—I could have.

Chairman.—But as a matter of policy you thought it unwise to do so?
A.—I thought it was a responsibility which I could not undertake without consultation at any rate with Government. In a report that I was simply issuing myself and which Government were not going to see before issue, I do not think I could undertake the responsibility.

Q.—You remember Mr. Subedar at the time he drafted the Minority Report of the Advisory Committee complained certain information was kept back from him and he throws the blame at your door. It occurs at page 41 of the Report in his letter dated 6th June 1925. He says, “I regard this as an attempt to prevent relevant facts and figures being made available in order to enable members of the Committee to come to a proper judgment". Then he further goes on, “With regard to the papers containing the original loan and expenditure programme as fixed by the Government of Bombay and approved by the Government of Bombay, you were of opinion that it was all ancient history and would serve no useful purpose in the enquiry. You further thought that it was not relevant to the investigation which was in hand which referred to the future
rather than the past... Have you any explanation to offer about it, Sir Lawless, as to why Manu Subedar had occasion to complain?

A.—The terms of reference to the Advisory Committee were to advise Government how far their activities should be continued or curtailed, and the sort of report they wanted was a report by the majority of the Sub-Committee going into the facts and deciding whether blocks 1, 2, etc., should be gone on. Mr. Subedar took the view that he as representing the Indian Merchants' Chamber ought to make an inquiry himself into the inception and carrying out the whole scheme, and he began to ask for a large amount of information and various documents, and I first of all brought this up at a meeting of the Sub-Committee, and they decided that it was not within the terms of reference that he wanted, because it was not always very easily got at. It was obvious Mr. Subedar wished to go a long way outside the terms of reference, and it was again a question of policy. But once it was decided he should be provided with all the information, I took particular care to see that so far as we could we should supply him with everything.

Q.—If he alleged there was an attempt to suppress, the allegation is not true?

A.—It is not true, but it was necessary at that stage to consult Government whether as a matter of policy these documents should be supplied to a certain member though strictly speaking they did not come within the terms of reference.

Q.—Had you any information from Government. Did they ask you not to disclose?

A.—When I discussed the question with the Hon'ble Member he agreed that the information should be supplied.

Q.—The Hon'ble Member's attitude was more candid than trying to suppress or conceal anything?

A.—It was certainly. But I knew if I supplied this information, what was going to happen. A minority report would be presented which would go far beyond the terms of reference. I thought it would be advisable to let Government know this and ask them if there was any objection. There was a little delay in my getting the authority and after that I gave the information.

Q.—If Mr. Manu Subedar came forward now you would without hesitation place everything before him. There would be no reluctance on your part to give anything?

A.—The Committee has reported.

Chairman.—What did Manu Subedar want these documents for? The position seems perfectly clear. Mr. Manu Subedar took a rather extended view of the scope of the terms of reference with which the other members of the Committee did not agree. But eventually the documents he wished to have were given to him and he wrote a report which if compared with the terms of reference, may to some minds appear many ways outside the terms of reference.

Mr. Billimoria.—I quite agree with the view you have expressed, but if we look at the public mind, the public is misled by a sentimental view when one gentleman makes an allegation that he had not this, that and the other.

Chairman.—If Mr. Manu Subedar makes any allegation we will deal with it.

Mr. Billimoria.—I wanted to have from the witness, Sir, whether there was any attempt. He says there was not.

A.—I think he was perfectly satisfied afterwards. At the beginning he was not, but afterwards I do not think he had any cause for complaint.

Q.—Have you made any efforts to sell the land at Marine Lines, the Military having been now shifted to Colaba?

A.—That is being disposed of on behalf of the Government of India.

Q.—You find signboards there asking to apply to the Development Department?

A.—The Development Department are acting as agents of the Government of India.

Q.—Have you made any efforts to dispose of them?

A.—We have put up those notices. We have received a few tentative offers.

Q.—Are they tempting?

A.—No offers come forward which are what the Government of India expect.

Q.—May we know what offers you expect?

A.—I think the Government of India hope to get in the neighbourhood of Rs. 200 a square yard for that land.

Q.—Do you hope to get that in this depression of the property market?

A.—The Government of India are not anxious to sell. The land I understand cost them originally nothing. They are not paying interest on the value and I think they would prefer to wait a little rather than force the land on the market at its present state.
Q.—The original idea was, this property was to be sold and payment was to be made to the Development Department?

A.—I do not think it has been ever stated, but it is part of the whole transaction of the military land scheme that certain properties in Bombay are to be sold and land is to be bought from the Bombay Government, and also buildings are to be erected at Colaba. It was always part of the scheme, but I do not think that the proceeds of the sales of the Marine Lines land have been earmarked, for the purchase of land at Colaba.

Q.—Is it true that only two bungalows in that area have been let?

A.—I think more than two bungalows.

Q.—Are you realising from the rent what would give you the return in your capital cost of Rs. 200 a square yard?

A.—The bungalows are in very large compounds. You cannot get Rs. 200 a square yard unless those existing buildings were demolished and the ground was sold in much smaller plots. The area built over will have to be much greater.

Q.—I shall now take you, Sir Lawless, to a report which an expert on behalf of Sir Ratan Tata had drawn up before the Development Committee in 1914. I hope you know something about it. You were one of the witnesses that appeared before that Committee in 1913-14.

A.—I do not know anything about this report. I saw it only lately.

Q.—Do you think this Report must have been considered by Government? It was prepared under the orders of Government. Kindly turn to page 188 of that volume. You find in paragraph 8 the passage occurs, "While we consider the Government cost figures as impossible on such a scheme as we deem proper and sufficient". That is a report made by Messrs. Jacobs & Davies, Engineers. Do you know anything about Messrs. Jacobs & Davies, whether they are a reputable firm? You see they are expressing doubt about the cost of Mr. Kidd’s estimate?

A.—I do not think this Report was an estimate by Mr. Kidd. I do not think I have seen an estimate of Mr. Kidd.

Q.—In the report of Mr. Kidd there is a statement that land could be reclaimed at Rs. 5 a square yard. Is not it there?—Based on that estimate Sir George Buchanan also comes to the same conclusion.

A.—That was what he anticipated.

Q.—If you will kindly turn to page 189, the Engineers Messrs. Jacobs and Davies say, "It goes without saying we gave you the best possible advice, not only with regard to yourself, but presumably with regard to the investing public, and stated we believe that the pressure on the available area of Bombay did not warrant any such scheme of reclamation, the return from which would seem to be highly doubtful, to put the case mildly." I will take you a little further on. At page 191 top they say, "While we consider the Government cost figures impossible". Then I will refer you at page 193 to a most important paragraph to which I hope you will give some attention. (Then Mr. Billimoria read the passage commencing from "As to the way in which the reclamation would be used, etc., etc." occurring at page 193 of the Report of the Bombay Development Committee, 1914, and ending with, "there is need of warning against a common error. That is estimating the cost of construction too low" at page 194.)

Having read all this, have you any remarks to offer?

A.—I can only say that Mr. Hewett made a very good prophecy.

Q.—That was thirteen years ago?

A.—He was more or less right in the advice he gave to Mr. Tata.

(Chairman.—Sir Lawless Hepper came in November 1920 when it had been decided.)

Mr. Billimoria.—(I want to find out whether as administrative head of this Department he ever came to know of this document.) This is a Government document, and did you as an administrative head of the Government ever come to know of this Report?

A.—I knew of this Report.

Q.—What was your advice to Government?

A.—What advice could I give to Government? Government had Mr. Kidd to advise them. The Government had also this report and a subsequent report of Sir George Buchanan, and they had decided, knowing all this, to carry out the work, and the Government of India and the Secretary of State agreed. The thing was settled.

Q.—The point I want to get out is that there was a huge difference between the cost worked out by Mr. Hewett and the cost of Sir George Buchanan and Mr. Kidd. Mr. Kidd estimated as far back as 1913, when conditions were normal estimated it at Rs. 18 to 19 a square yard. Did not any one pay any attention to it? Did they not consider this, as a financial proposition, was a question requiring thorough consideration?

A.—I think I can only say that my instructions as Director were to carry out the sanctioned scheme.
Q.—You will admit that conditions in 1913 were different from what they were after the War?
A.—Yes.

Q.—Things were cheap?
A.—They were pre-War conditions.

Q.—Did you expect the boom after the War to last for a generation or ten years as to base your calculations on a boom period?
A.—I was not in Government service when the Government scheme was launched.

Q.—You still continue to be one of the Trustees of the Port of Bombay?
A.—Yes.

Q.—And a member of the Improvement Trust?
A.—Yes.

Q.—There is roughly 8 million square yards of land in and round Bombay and available for disposal?
A.—Yes. We took those figures were excluded from the figures with regard to the Trust lands during the last five years. The area disposed of according to the official statement in 1921 was 8,84,000 sq. yds.; in 1922 about 1 lakh of sq. yds.; in 1923, 1,64,000 sq. yds.; in 1924, 1,44,000 sq. yds. and in 1925, 82,000 sq. yds., making a total area in five years of about 10,37,000 sq. yds. all over the city of Bombay. Do you expect to dispose of 22 lakhs of square yards of land in the reclaimed area when the Improvement Trust felt difficulty in disposing of 10 lakhs in five years?

A.—The Improvement Trust and Port Trust figures given in the majority report of the Advisory Committee show that those two bodies disposed of 86 lakhs of square yards in 25 years, and any scheme of disposal of land in the Back Bay Reclamation would make it impossible to consider any period of much less than 25 years.

Q.—Do you expect after the whole thing is reclaimed it would take 25 years to sell?
A.—No, we have been prepared to begin the disposal of the land before the whole of the scheme is finished. We have provided for it in the forecast.

Q.—As one of the members of the Improvement Committee you know that a very large area has been given up by people who had got those plots on lease on account of various disabilities?
A.—Yes.

Q.—And that comes to five hundred thousand square yards of land given up by the people?
A.—Yes. We took care that those figures were excluded from our figures showing 36 lakhs of square yards of land disposed of.

Q.—After taking every fact into consideration do you think that within a period of 25 years you would be in a position to dispose of the land in the reclamation?
A.—I never said anything of the kind.

Q.—What do you contemplate as the continuance of those sales for perhaps a period of 25 years?
A.—Not less than 25 years.)

Mr. S. B. Billimoria.—A.—In table 3 we worked out a forecast showing the disposal at an average price of Rs. 50 a sq. yard, in 23 years, but didn't commit ourselves by saying that the land could be sold in that time.
Q.—Even assuming that you were able to sell within a space of 25 years at the rate of Rs. 50, do you think it would be a losing proposition if you take into account interest charges?

A.—We have tried to bring out the facts in these tables which of course include interest charges. We say in the report if the disposal could be realised as assumed it would reduce the debt at present value to 397 lakhs in the case of scheme 3, and 397 lakhs in the case of scheme 4. But as this may be considered an optimistic estimate, we have prepared a statement for comparison which shows the results in terms of debt of present value, if the average remained at Rs. 50, but if the period of disposal were extended to 55, 65, 45, or 50 years; and we give the price that we would have to realise for the land to recuperate the whole of the expenditure with interest; for 25 years it comes to Rs. 93; for 35, 121 and so on; and this is based on the assumption that the dredger will only give an actual output of 7 lakhs of cubic yards as it did in the season of 1924-25.

Q.—It might reduce the cost of Rs. 95 to something less, but would that be appreciable?

A.—I propose to revise the estimate.

Q.—Even assuming the figures as they stand, do you hope that you would ever expect purchasers to come forward and pay you the price that you have set in the table?

A.—I am quite unable to answer that question. I think there may be people of greater experience than I who have at the present moment, in the present depressed conditions of Bombay, would hesitate to make any forecast. I certainly would not.

Q.—Ordinarily what would you think without being definite about it?

A.—I am quite unable to give any opinion.

Q.—Do you hope that the chances are that the Development Department may be able to dispose of the land at prices stated in the table? Any possibility of it?

A.—We didn’t go beyond the recommendation that Government should complete blocks 1 and 2. We have given a figure and we have expressed the opinion that the Government might expect to realise for those areas but we did not express any opinion as to what would be recouped in the case of the completion of the whole scheme.

Chairman.—Mr. Billimoria is entitled to ask whether you have any opinion. Having regard to your experience and long association of Bombay, do you think it likely that the reclaimed land, if reclaimed in its entirety, could be sold in 25 years at Rs. 93 a square yard? You can give any answer you like. The question is admissible.

A.—I am not able to give a definite opinion, but I should like to refer to paragraph 23 of the majority report of the Sub-Committee referring to their statement and I agree with their statement, “in any case unless there is marked improvement in the output of the dredgers and unless the conditions are more favourable than we have thought it prudent to assume, we foresee a loss on the scheme”. That means to say, that unless the disposal is going to be in 25 years there is going to be a loss.

Mr. Billimoria.—You confirm that opinion that there is bound to be a loss?

A.—No, I support the statement in paragraph 23 that unless there is marked improvement in the output of the dredger and unless the conditions are more favourable than we have thought it prudent to assume, there is likely to be a loss on the scheme. That means to say that unless we dispose of the land in 25 years, we do not think we will get an average price of Rs. 93.

Q.—You have some experience of the Ballard Estate as a Trustee of the Port of Bombay?

A.—Yes.

Q.—You know that investors had burnt their fingers very badly by paying enormous prices for the land, because it is a business locality?

A.—I think it was speculation.

Q.—I suppose it is to your knowledge and you must have heard that property there which has cost 3 or 4 lakhs, the owners are willing to part with for Rs. 30,000 because of the heavy ground rent and other prohibitive charges?

A.—The ground rent is what the tenants themselves agree to pay.

Q.—You also notice that many of those blocks are absolutely vacant. They were intended to be for business purposes.

A.—They paid too much for the land. There is no doubt about that.

Q.—You know the Hornby-Ballard scheme the Municipality are undertaking now. They acquired a certain amount of land from Hornby Road to Ballard Estate, making roads and developing that property. A very large area will be available when that is done, is that so?

A.—I think so, by means of displacing a large residential area.

Q.—In Churchgate street new palatial houses are without tenants?

A.—I think there again too much was paid for the land.
Q.—I am only confining myself to the present conditions as they are. You also know a large number of commercial houses have shifted from Hornby Road and Esplanade Road to Ballard Estate for cheaper rents?

A.—I was not aware of that.

Q.—When you complete the block No. 2, don't you think all these factors will come in your way, firstly the vacancies in buildings. Is there any possibility then in view of these circumstances of people preferring to go to the other side of the Churchgate station near the sea for business purposes?

A.—I don't think it was anticipated by the Sub-Committee that the land in block 2 would be devoted to business purposes. Whatever the demand is, it may be for residential houses above.

Q.—As a rule people would pay a wrong price and there would be a tremendous amount of difference. A man would pay Rs. 70 per square yard for residential purposes, and the same man for the same place for another purpose would pay higher?

A.—They are paying Rs. 700.

Q.—If you are not letting out for business purposes, do you think that people would pay Rs. 93 per square yard for residential purposes?

A.—The Committee have not expressed any opinion as to for what purposes the land should be used.

Q.—I ask you as to whether there was any probability of any commercial house going beyond Churchgate station for business purposes, when there is a tremendous amount of buildings available at present. You don't expect people to shift their offices from Hornby Road and go to Churchgate station?

A.—I think it depends largely on the price of land. If a new firm has to start an office and if they go to Ballard Estate, Hornby Road or Ballard Pier Road and they have to pay Rs. 500 a square yard for land for their office, it is possible they will think it economical to pay to Government Rs. 80 to put up a residence or office.

Q.—How many firms do you expect will come forward to occupy such a position in the island of Bombay far distant from the vicinity of banks and business places?

A.—I have made no calculation of the number of buildings.

Q.—Do you believe people will go beyond Bori Bunder where most of the houses are within an area?

A.—As new roads are made like the Hornby Road, Ballard Pier Road, etc., old houses must be displaced. It even happens sometimes that old houses have fallen down.

Q.—Do you think people paying Rs. 20 can go and live in Colaba area?

Q.—Do you hope that the reclamation could in any way be used for Government purposes? There is congestion in the Secretariat and so on. The question did arise that Government did require some land for their own requirements. Do you think it suitable for them to transfer their buildings to this area?

A.—There are new Secretariat buildings shown as occupying block 2, but the Advisory Committee have represented to Government that it is essential that the reservation should be given up and the area sold to the public.

Q.—They incur the cost of reclamation and they pay it themselves?

A.—We suggested that it should be taken further south.

Q.—If huge buildings like these are put up on the new reclaimed area, don't you think it would shut out the breeze and interfere with the health of the city and spoil the amenities of the city rather than improve them?

A.—It depends on the lay-out of the area. In the provisional lay-out plan, 50 per cent. of the area is to be unreclaimed.

Q.—Can you afford to have large recreation grounds and open spaces in view of the heavy cost?

A.—That will have to be considered.

Q.—You don't know how much area is set apart for recreation grounds and open spaces?

A.—I think 435 acres and the building area about the same.

Q.—That is, taking the whole scheme?

A.—Taking the whole scheme excluding the military area.

Q.—If you confine yourself to blocks 1, 2 and 3, 8 goes out for military purposes and there remain 1 and 2. How much do you propose to reserve for recreation grounds and open spaces?

A.—In block 1 there is a recreation ground provided of 54 acres. In page 15 of the Report of the Special Advisory Committee it is stated: "a further suggestion the Special Committee desire to make is in regard to recreation grounds in block 1, without committing themselves to any definite recommendation, they would draw the attention of Government to the fact that if considered desirable the financial position might still further be retrieved if a part of this area is reduced."
Q.—That means you are going to curtail the open spaces and recreation grounds?

A.—That is the conclusion that Government have come to and the Consulting Surveyors to Government are now engaged on a lay-out plan for that area in which the open space will be reduced and more of the land will be made available for sale.

Sir Frederick Hopkinson.—Am I right in assuming that excluding the military area the quantity of land available for sale will be approximately 450 acres?

A.—It is 22 lakhs of square yards not building area.

Q.—That is the utmost you will have to sell?

A. No. It depends on the provisional lay-out, which provided very liberally for roads and open spaces.

Q.—I put you a sufficiently large number of questions on this point. I will put a very definite question now; whether it will be an attractive business proposition, leaving aside the question of beautifying the city, do you think it will be an attractive business proposition, irrespective of the question of the advantage of a minus drive?

A.—I think the city will secure much needed area of land for expansion. I do not know what the actual density of population is, but I think it will be agreed that the density of the population is very much more than in any modern city and that people, before very long, the standard of living rising as it is now, will demand to live under better conditions. They will not continue to live indefinitely to pile up in these houses that are falling down. I do not see how you are going to provide better housing conditions unless you have a new area.

Q.—I quite agree with you that the conditions are now altered, but how many do you expect will go and live in an area where the rents will not be anything under Rs. 45? How many do you think will come forward?

A.—It is quite impossible to give a definite calculation. But speaking in the Legislative Council in March I expressed the opinion that it was a mistake to assume that the reclamation was going to be covered with buildings such as those on the Ballard Estate in the near future. I think that time ever comes it will be a long way off. But I said that I did not see why Government should not lease the land on short term leases or allow cheap buildings to be put up where people could live in small cottages or bungalows in their own compounds. When I came to Bombay, people used to live in tents. It is only recently that they had started to put up enormously expensive flats with hot and cold water laid on. In the future the tendency may be to live in cheaper houses on the reclamation.

Q.—It is a very good outlook, no doubt, but how many people do you think can afford to go and live in bungalows with heavy rents?

A.—But I think the rents would be cheaper.

Q.—If you pay Rs. 93 sq. yd. alone for the land, and interest is to be put on it, what would be the rent?

A.—Rs. 93 is based on the output of 1924-25. We have assumed Rs. 50 for the whole reclamation, and have taken Rs. 80 for Churchgate and Rs. 20 in block 7. If somebody leased land on the basis of Rs. 93, say 500 sq. yds., the rent would not I think be very high.

Q.—If it had been Rs. 20 the scheme would be a big success and there would have been no enquiry?

A.—The land will vary in value on different parts of the reclamation. The Advisory Committee have suggested from Rs. 80 in the neighbourhood of Churchgate street to Rs. 20 down near the military area in block 7. That is an average of Rs. 80. But where you have an average, they must be naturally lower levels, and even if you take it that in block 7 though the average is Rs. 20 it will be less than that in back plots.

Q.—When you were appointed Director of Development what was the salary that you obtained?

A.—Rs. 6,000 a month.

Q.—What is it to-day?

A.—Rs. 4,000.

Q.—Is the increment on for some other reason that the salary has been cut down?

A.—No. When Sir George Lloyd asked me to take up this appointment I was rather good enough to say that he was very anxious that I should take it up and I finally said I would take it up if we could agree as to the terms. And at that time my total emoluments, including my military pension, were a little over Rs. 5,000. I said that I did not wish to leave the G. I. P. but if the Government were prepared to pay me 6,000 a month I would come. But if Government could not pay that amount I would not be at all sorry. So it was agreed to give me 6,000 for 9 years. But the Secretary of State in sanctioning that appointment sanctioned 6,000 as personal to me, but stipulated that my successor would be paid at the rate of 4,000. Then before Sir George Lloyd left India he asked me to agree that if Government wanted me to stay on after the 9 years I would remain, and sometime in the 5th year I wrote to Government and said that I had made this promise to Sir George Lloyd, and asked them if they wished me to stay on after that time. If so it was only for a short time, I was quite prepared to fulfill my promise.
Q.--I am sorry to ask this personal question. I put it to you because it was mentioned it was cut down, just because of bad work?
A.--We had large reductions in the way of retrenchment. I think a reply was given to the Legislative Council that there was retrenchment to the extent of Rs. 30,000. In the Poona Council Session we gave the reply that it was 34 officers and 300 subordinates. There have been very very large retrenchments.

Q.--What commission have you paid up to date to Sir George Buchanan?
A.--Yes.
Q.--That is over and above the Rs. 20,000 for consulting fee for drawing up the report?
A.--Yes.

Chairman.--Except that he would lose his reputation.
Mr. Billimoria.--There was no maximum fixed as far as the commission was concerned?
A.--No.
Q.--If the amount went up largely it did not matter to him. It would have been a profit to him.

Q.--Did he offer any advice or assistance to you, to the Chief Engineer and other officers?
A.--He spent an average of two months every working season and he went carefully over the work with the Engineer and he gave instructions where he thought it ought to be done in a different way. He left his opinions on record at the end of every visit as to how the work should be carried out.

Mr. Billimoria.--Did Sir George Buchanan, as responsible engineer, offer any advice or assistance to you, to the Chief Engineer or to other officers?
A.--He was out here at an average of two months per working season and he went carefully over the work with the engineers and gave instructions how the work should be done.

Q.--Did he exercise any supervision over the work?
A.--He was of course, at an average, two months out here every working season.
Q.--He knew what was going on here?
A.--He was receiving weekly reports from the Chief Engineer with very full details, figures, plans and every possible information was sent to him. He was at any time in a position to lay his finger on anything he liked.

Sir F. Hopkinson.--Did he lay his finger on the dredger?
A.--No.

Mr. Billimoria.--You are certainly aware of the reasons that lead to the termination of his agreement by the Government?
A.--Yes.
Q.--In your opinion you feel certain that Government were fully justified in taking the step they have taken?
A.--I think they were. I recommended it.
Q.--You still consider and hold that Government were absolutely justified?
A.--Undoubtedly.

Q.--Sir George Buchanan assured Government that the scheme would be a financial success. Had you any doubt yourself at the time the scheme was launched?
A.--I do not know if Mr. Kidd or Sir George Buchanan went into the question of recoupment. I think they only prepared works estimates.
Q.--You did not think that 70 lakhs would result in a financial loss?
A.--No, we did not think so.
Q.--In reply to Sir Frederick Hopkinson you said that you were building the sea wall at both ends. Which is the most expensive method of building the wall?
A.--We are doing it in two ways. The Marine Lines portion is more expensive.
Q.—And you still continue doing the expensive job?
A.—It depends on the difference in level. The Colaba wall is on rock at a comparatively high level. Now I shall refer to some of the allegations made.

Q.—Do you know if any discounts or commissions were allowed at the time of the purchase of the dredgers?
A.—I have never heard of any instance of that kind.

Q.—Who advised Government to enter into a long term contract for the purchase of cement?
A.—I did.

Q.—What price did you enter into contract?
A.—We agreed to pay 15 per cent. over the actual cost. At that time the price of cement was very high and we were going to use a very large amount of cement. The cement companies were going to charge us a very high price. So we called for tenders in India to supply cement for 10 years either at a fixed rate or on an actual cost plus percentage basis. Finally we made an agreement on the basis of actual cost plus percentage of profit.

Q.—What does the average cost work out to?
A.—The average works out to somewhere about Rs. 60. When the contract was first made, the price at which we got cement under the contract was much below the market price but then came a slump and the price of cement went down and down until at one time Indian cement was tendered to the Port Trust as low as about Rs. 35. Now I must add the companies have come to some arrangement under which they regulate the price and the prices have gone up again.

Q.—So if you had not entered into this long time contract, you would have paid according to the ruling price?
A.—The ruling price at that time was well over a hundred.

Q.—But did you expect the price to continue for a number of years?
A.—I do not think anybody was in a position to say what was going to happen. But you must remember that for a part of the time of contract we were getting cement below the market price and then for a few years we were getting it above the market price. Now the price has gone up again. I think on the whole for 10 years it would have worked out satisfactorily.

Q.—You had a very large amount of cement at hand for sale?
A.—We had only a small amount. We had ordered cement for continuing the Colaba wall, but we got the cement companies to cancel the order.

Q.—Did you pay any compensation?
A.—No.

Q.—What about that small amount of cement? Have you sold it?
A.—The Chief Engineer tells me that there was a surplus of 1,800 tons; that has been sold.

Q.—How was it sold; by private treaty or by inviting tenders?
A.—By inviting tenders.

Q.—But before the tenders were invited you sold a very large quantity?
A.—It is not true?

Q.—Is it true that you at one stage in the early stages of reclamation intended to float a debenture loan of 60 lakhs to help a cement company?
A.—That was a proposal which the company made themselves. They made it a condition of a certain offer but it was turned down by Government.

Q.—Do you know of the existence of the Indian Construction Company?
A.—Yes.

Q.—Were you in any way connected with that company, directly or indirectly?
A.—Not at all, directly or indirectly.

Q.—Do you know Colonel Grisewood who was the managing director?
A.—I have seen him. It was proposed at one time that Colonel Grisewood or rather his firm should do the contract on cost price plus profit for the first 8,000 feet of the Colaba wall. That was proposed in February 1920. A conference was held in the Secretariat which was asked to attend when the question of giving the contract was considered and I was able to prevent the contract being given because Colonel Grisewood was not a contractor as far as we knew and had not done any practical work of any kind as a contractor. I was anxious that no contract should be given until I took over charge as Director.

Q.—Is it to your knowledge, as it is alleged, that some highly placed official of Government actually promised to give Colonel Grisewood the contract of the reclamation area or some part of it?
A.—A D. O. letter was written to Colonel Grisewood which might have been read, I think, as practically offering to give the firm a contract of 8,000 feet.
Chairman.—Who was the writer of the letter?
A.—I think it was the late Mr. Mead, Secretary to the Government of Bombay, General Department.

The witness was asked to produce that letter which he promised to send.

Mr. Billimoria.—The Indian Construction Company was in fact started because of the alleged promise held out?
A.—I do not know.
Q.—Do you know that the company, when it was unable to get the contract, was eventually wound up?
A.—I do not know if that was the reason. I had an idea it changed into a limited company under some other name.

Q.—Do you know from whom this “Kalu” was purchased?
A.—It was purchased from the Government of India, that is, from the Disposals Board which succeeded the Indian Munitions Board.

Q.—Whose property was it?
A.—It was originally the property of the Bombay Port Trust and then the Government of India purchased it during the war and sent it up to Mesopotamia to do dredging work that Mr. Lewis was engaged on. Sir George Buchanan was also there.

Q.—Do you know that in the books of the Port Trust the value of “Kalu” was written off because she had done sufficient amount of work and with depreciation they had written off the total amount of “Kalu”?
A.—I do not know that. I only know that they charged the Government of India a fairly stiff price for it. The Government of Bombay paid £75,000 for the “Kalu”.

Q.—Did you make any enquiries before you took over its purchase?
A.—No. But I believe that it was about 18 months before I took up my appointment.

Q.—Do you know the circumstances in which Sir George Buchanan recommended its purchase?
A.—No. But I believe that it was reported on and examined by the Dockyard authorities on behalf of Government. Certain officials of the Royal Indian Marine reported on it before its purchase.

Q.—Did they know the Port Trust were not satisfied with its working?
A.—I cannot say.

Q.—Is it a fact that the quarries are practically exhausted? You have used up all the material that is likely to be used?
A.—Is it stone you mean?

Mr. Billimoria.—Yes.
A.—It is absolutely untrue. Two or three times the stone, that is likely to be required is still left.

Q.—In inviting tenders for filling up blocks, you have indirectly stated therein that Kandivli quarry is exhausted.
A.—I particularly asked if your question was about stone. That contract, tenders for which are being called for, is in connection with moorum filling. It is a fact that there is only sufficient moorum at the Kandivli Quarry to keep 3 trains a day working for about 8 months. After that the quantity will be exhausted. But there is a neighbouring hill close by which we are inspecting and if it is decided to continue to get our filling either through Government agency or through a contractor, the material is there.

Q.—Is it true that you are getting luxurious bungalows built somewhere near the quarry?
A.—There is a small bungalow for the officer and the foreman to live there but it is anything but luxurious.

Mr. Billimoria.—Is it a fact that you have got a tremendous amount of machinery lying about there which has never been used for the workshop and some of it absolutely unpacked and in cases?
A.—There is one steam shovel which has not been used; otherwise the plant has all been used.

Q.—Is it a very expensive part of the machinery?
A.—It costs £8,000. Barring that all the machinery has been used.

Q.—And that was required for reclamation works?
A.—Yes.

Q.—You could not have done without it?
A.—No; we could not. The steam shovel has proved too expensive to work and it does not pay to work.

Sir F. Hopkinson.—That is unusual?
A.—It is the experience of the Port Trust, the G. I. P. Railway and the Municipality that it does not pay to use the steam shovel in Salsette.
Sir F. Hopkinson.—I suppose it belongs to the same class of family as the dredger.

Mr. Billimoria.—I want to ask you one question more. It is No. 37 which has so ably been drafted by our worthy Chairman: Generally if the work has not been carried out in accordance with Sir George Buchanan's estimates, can it be said how and in what manner, the failure has arisen and to whom it is attributable? It is a very general question.

A.—I think it is perfectly clear that the failure has arisen owing to the deficiency in the output of the dredger. I have tried to show in my statement that apart from that deficiency of output there is no reason to suppose that in other parts of the work the estimates will be exceeded except of course in the case of plant for the Buck Bay which is also an item connected with dredger.

Mr. Billimoria.—That does not answer the question fully?

A.—It is in no opinion due to the fact that Sir George Buchanan overestimated the output of the dredger. But he has publicly stated that it is due to the mishandling of the dredger by the staff in India. These are the two views. My view is that the staff in India have done their best and could not possibly have done any better and that the fault lies either in the fact that the machine was not designed for that class of material, or that in framing the estimate the output of the machine was assumed for a particular type of material which does not exist in the harbour.

Sir F. Hopkinson.—Did it never occur to you to send a cable to Sir George Buchanan to come out by the next boat and show him how it was to be handled?

A.—He was out here when the dredger was working in the first season.

Q.—Did he show you how to handle the machine?

A.—No. On the contrary he was pleased with the working of the machine.

Chairman.—This question of mishandling was only raised by him since the Advisory Committee's report was out and the allegation of mishandling was made in the statement to the press which Sir George Buchanan issued?

Sir Lawless Hopper.—That is right.

Mr. Billimoria.—Did Sir George Buchanan ever complain to you when he was out here as to how you were to handle it?

A.—On the contrary he spoke rather in terms of appreciation of the work that was being done.

Q.—When disappointing results of the working of the first season were known, did he complain about it?

A.—What he said was that the dredger had not been given a fair trial, the staff were a little inexperienced and the work was of a difficult character. Give them a little more time and it will work well and up to the standard.

Q.—Did he ever in discussion complain that the dredger was being mishandled?

A.—Never; on the other hand he always spoke well of it.

Q.—And therefore he never told you how it ought to be handled?

A.—No.

Chairman.—In any of the reports which he has made is there any criticism on the way the dredger has been handled?

A.—No.

Sir M. Vissessuraya.—There is one question about the responsibility of yourself and that of Sir George Buchanan that I want to put. You said that Sir George Buchanan gave you technical advice. You as head of the Development Directorate were responsible to carry out the work; you controlled the work, you administered the work, its execution was carried out under your supervision. Instead of a contractor doing the work, you are doing it yourself departmentally. You are getting advice from the Engineers?

A.—No, Sir George Buchanan protested against being called Consulting Engineer. He was the Engineer in charge.

Q.—In what way did the contract differ from that of a consulting engineer?

A.—That is given in the contract.

Q.—His responsibility counts for nothing as regards expenditure and progress of the work. A Consulting Engineer is one who watches the work and gives technical advice when he thinks it is needed. I do not see why Sir George Buchanan did not think so himself. There is no difference between his and other agreements in similar cases.

Then he read out 1st clause of the agreement.

Sir George Buchanan stated that he was the responsible engineer, but are you going to accept such a statement? Many concerns like Port Trusts and Railways have Consulting Engineers who advise on administrative and technical questions. They give the work the benefit of their wider experience. They may be asked to order stores or material and paid a percentage on what they buy but they have no real responsibility either for the cost or the progress of the works.

A.—In this case they did.
Chairman.—We must decide this point in the contract, because Buchanan them-
selves agree to put themselves in a much more responsible position and say that "we
are the actual engineers responsible for the conduct of the work" and the question arises
whether they did exactly describe their functions in accordance with clause 1 of the
agreement.

Sir M. Viseraraya.—They may say what they like. The position of
Government is that of owners. Supposing the work was done by a contractor instead of
departmentally, the contractor would not throw the blame for his losses on the
technical engineer.

Chairman.—You have to look to the contract for that and see what were the
responsible that Buchanan undertook.

Sir M. Viseraraya.—If he was a consulting engineer, well and good; you are
responsible for the work and not he.

A.—They are the responsible engineers. It was on the understanding that this firm,
an experienced firm, were the responsible engineers that I agreed to take up this
appointment as Director otherwise I would not have accepted the responsibility
for carrying out this scheme.

Q.—As regards expenditure on a huge work of this magnitude, the responsibility
must be that of the Director.

A.—I am prepared to go as far as this. In connection with the work, it was
necessary, from time to time, to let out contracts for the supply of material or for
loading or for unloading stones. They were not large contracts, they were petty
contracts and strictly speaking, in the terms of that agreement, I think, all the tenders on
every occasion should have been sent to the engineers as an ordinary matter of working.

But having regard to the fact that Sir George Buchanan was sometimes in Australia and
sometimes in Africa and at other various places, it was not practicable to send all cases
of tenders for contracts that used to arise. But it may be said that in those cases I was
responsible for that expenditure on them, but having tacitly accepted the situation,
I think, it might be said that he was responsible.

Q.—The accounts were kept by you. He had no check on expenditure; he did
not receive any account sheets.

A.—I am quite prepared to agree that if the anticipated excess over the sanctioned
project estimate can be shown to be due to any act of commission or omission on my
part, the responsibility is mine.

Q.—Reading from the agreement it is clear that their position is that of consulting
engineers?

A.—They are responsible for the whole of the conduct of the works.

Q.—When you found that the dredger did not come up to expectation you
might have taken steps to have the question investigated by communicating direct with
the firm. Some action was necessary on your part if the Consulting Engineers
failed to take any themselves. You have stated that you were not responsible for the
expenditure or the progress of the work and you say that the responsibility must rest
with Sir George Buchanan. What does his responsibility amount to? What compen-
sation can you demand or obtain from him if he failed to do his part?

A.—I have stated that they are the engineers responsible under the contract
and as such they were the responsible engineers for carrying out the work and if the
work went wrong and did not come up to their expectations which they had led
Government to believe, then they should be held responsible for it. If it can be shown
that the anticipated excess is due to any action of mine or to any omission on
my part to do anything that ought to have been done, then so far as that goes, I am
prepared to accept responsibility.

Sir Frederick Hopkinson.—In one case of sealing the wall you departed from this
position?

A.—If it is held, as it may be held, that the material will not make good ground
as some authorities say it will not, and that it was a mistake to do that, I am prepared
to accept responsibility for it.

Chairman.—Do you know whether Sir George Lloyd consulted Engineers at all up
to August 1920 apart from Sir George Buchanan?

A.—I am afraid I cannot say.

Q.—Sir George Buchanan's report was received in October 1919. Sir George
Lloyd arrived in India on the 16th December 1918. He had succeeded Lord Willingdon.
This was a question of reclamation had arisen in Lord Willingdon's time?

A.—Yes.

Q.—And therefore Sir George Lloyd on his arrival found this question one of the
uppermost questions before him?

A.—Yes, I think that is so.

Q.—In 1918 the Government of Bombay wired to the India Office saying that
a re-examination of the Back Bay Scheme was a matter of great urgency and asked the
Government of India to choose and send out the best man available?

A.—Yes.
Q.—That was before Sir George Lloyd had arrived here at all. Therefore, when he came on December 16th, 1918, Sir George Lloyd found this matter one of the most prominent before the Government of Bombay?

A.—Yes.

Q.—What I want to know is, can you give me the name of any expert engineer, of any P. W. D. man, anybody in the whole world whom Sir George Lloyd might have consulted as regards the practicability of the scheme?

A.—No, I am not able to give the name of any Engineer.

Q.—I think what the Committee would like to know is whether the scheme was decided upon simply upon the report of Buchanan or whether when the report of Buchanan was received, Sir George Lloyd and other members of the Government of Bombay had consultations with other experts?

A.—I am unable to say whether they did or not.

Q.—You have been asked a number of questions about the report of the Development Directorate. Did you, before you issued any report in any one year, have any discussion with any member of the Government as to what you should say or omit from the report?

A.—Only in the case of the last report for the year ending March 1926.

Q.—That deals really only with the year 1925. I will frame my question definitely: from 1921 to March 1925 did you, before you issued the reports, have any discussion with any member of the Government as to what you should say or omit?

A.—No, I did not.

Q.—And therefore whether these reports are as full as they should be or not, you accept the responsibility for what you have done?

A.—I accept responsibility.

Q.—You pointed out to us that you were undoubtedly influenced by considerations of policy?

A.—Yes.

Q.—And that you had to be careful not to make statements which might create panic?

A.—There have been only two pumping seasons, and I do not think that any panic should have been started after the first season, it was started after the second one.
The Committee assembled at 11 a.m. on the 9th August 1926, all the Members being present.

4th Witness

Mr. C. R. Brims, Deputy Chief Engineer Dredging

Chairman.—I have asked Sir Frederick Hopkinson to examine you first.

Sir Frederick Hopkinson.—What is your Christian name?

A.—C. R. Brims.

Q.—You are engineer in charge of dredging?

A.—Yes. I am Deputy Chief Engineer Dredging.

Q.—You can only give information so far as dredging is concerned?

A.—Yes.

Q.—What is the date of your appointment?

A.—It is about the beginning of August 1923.

Q.—Dredging did not start until November 1923; so you have been here for the whole period of the dredging operations?

A.—Yes.

Q.—Therefore you know everything in connection with the working of the dredger?

A.—Yes.

(The witness produced a plan marked 'C. R. B. 1'. On being asked he showed on the plan the position of the dredging area.)

Q.—This is the place where dredging was done in the first season?

A.—Yes, dredging was done here in the first season and also during this last season when the 'Colaba' was being stiffened.

Q.—Have you got a map showing by cross-sections level of the dredging done?

A.—No such plan exists.

Q.—This plan shows the depth you went?

A.—This shows the depth of the material dredged.

Q.—What do these red ink figures show?

A.—They show the depth from the surface of the bed of sea.

Q.—Does not give depth at the high water?

A.—No.

Q.—Have you got that information?

A.—You can get that from Kidd's borings only.

Q.—Can you put in the other map the surface reached by Mr. Kidd?

A.—This map was given to me by Meares. Meik and Buchanan for my personal information and I cannot spare it.

(It was decided to get the map from the witness and return it as soon as done with.)

Q.—Can you explain to me what these red figures refer to?

A.—On the left hand end of the plan this information is given. The top figure in the circle denotes the surface of the sea bed, I mean the top figure inside the circle. Where there are three sets, the middle figure the top of the blue clay.

(The witness then showed the area denoting rock and hard moorum.)

Q.—Is there nothing to show how far the borings went into the clay?

A.—No. The upper figure indicates the top of the blue clay, the second figure the top of the hard bottom or bottom of the borings.

Q.—I can only assume that the bottom figure indicates the bottom of the clay. What I want to ask is whether these borings were actually taken to a certain distance into the clay.

A.—Yes. about 10 feet into the clay.

Q.—So that according to this, borings were actually made into the clay until they came to moorum or rock as the case may be?

A.—Yes.

Q.—Here we have got 47 feet from the sea bed and the bottom of the blue clay. How is it that the top level was the surface of the sea, and the second level was the surface of the top of the clay?

A.—Where there are three levels, the top indicates the level of the soft mud, and bottom level indicates the bottom of the borings.

Q.—It means that there is no record kept of the depth of soft mud? One of the objects was to find out the level of the clay?

A.—Yes.
Q.—What does this dotted blue line indicate?
A.—That shows the restricted area.

Q.—Do you know how these borings were made?
A.—I understand, but I have no official information, that they were taken by wash borings.

Q.—Is that how they were all done?
A.—I do not call it genuine clay.

Q.—Is there any means of proving that?
A.—I cannot say. The machines were all dismantled when I came here.

Q.—Why not?
A.—Because it is more consolidated silt.

Q.—The clay you showed me on the other day, was that good clay?
A.—Some of it.

Q.—What is this clay, hard; soft or unctuous?
A.—I do not call it genuine clay.

Q.—Why not?
A.—Because it is more consolidated silt.

Q.—The piece you showed me
A.—Not all of that. Some of it contained too much mud and silt.

Q.—You never put wash borings through clay such as that.
A.—I have not done any wash borings myself. I have not calculated that area. I have calculated that the amount of material available is sufficient to fill various areas in Back Bay and I have indicated that on the plan.

Q.—Is it sufficient to fill all areas?
A.—Yes.

Q.—Nos. 1 and 2 also?
A.—Yes.

Q.—Have you got a plan showing the position in which each block is to be taken and the position of the dredger in so working?
A.—Yes.

(Witness produced a plan marked "C. R. B. 3").

Q.—You produce a plan showing the area that would be used for filling the various reclamation areas. Can you say that block K, for instance, is going into block 7?
A.—I have numbered the areas.

Q.—Block 8 is now finished! You have not to pump anything more into it?
A.—No.

Q.—Area 7 is that corresponding to block 7?
A.—Yes.

Q.—Areas numbered on the dredging area correspond to the numbers of the blocks in the reclamation?
A.—Yes.

Q.—No provision is made for filling blocks 1 and 2 from the harbour?
A.—No.

Q.—Can you tell me the maximum distance dredging will have to be pumped?
A.—I cannot say. The machines were all dismantled when I came here.

Q.—Why did they get another dredge to work in Back Bay? Was it realised that "Sir George Lloyd" could not possibly do the work?
A.—I understand the other dredger was not intended for the Back Bay reclamation but for the east Colaba reclamation and as she was available for work in Back Bay, she was put to work there.
Sir M. Vivekananda.—By the other dredger you mean “ Kulu ”?
A.—Yes.
Q.—When it was taken to work in Back Bay, was any work at Colaba done?
A.—No.

Sir F. Hopkinson.—Do you know if Sir George Buchanan ever told you how he was going to fill blocks 1 and 2 from the harbour?
A.—He never said that to me.

Chairman.—Did Sir George Buchanan in any of his visits say how he was going to fill blocks 1 and 2?
A.—On his first visit after my appointment we discussed the Back Bay dredging, and decided to do it with the “ Kulu “.

Q.—That was an entire alteration from the original scheme?
A.—Yes.
Q.—It was not contemplated when the original 1919 scheme was drawn up?
A.—I believe not.

Q.—Did you see the letter of the 22nd June 1921 written to Mr. Lewis by Sir George Buchanan?
A.—Yes.
Q.—Do you say that he says there that they have always held that there is rock in Back Bay, in many cases near the surface, that it would be impracticable to use a suction cutter dredger on a large scale? To fill 1 and 2 you will have to pump in material on a large scale?
A.—I do not think that is a large scale.

Sir F. Hopkinson.—It is nearly 5 million cubic yards.
A.—I do not consider that a large quantity.

Sir F. Hopkinson.—It is a fifth of the total.
Q.—Later on in the letter, so firmly does he feel that a cutter dredger will not be efficient to use, that he says you may get a considerable quantity of material by means of a grab dredger loading into barges. Does that strike you as a practical engineering scheme to fill in 5 million cubic yards?
A.—It depends largely on the size of the grab dredger he had in mind and the size of the buckets.
Q.—Would you call it a practical scheme?
A.—I do not call it impractical.

Sir F. Hopkinson.—In dealing with 5 million yards in two years! A graber’s output is what?
A.—About 300 yards a day for a grab dredger.
(Sir F. Hopkinson.—That is 50,000 a year. Therefore it is one hundred years to do blocks 1 and 2.)

Q.—Is that calculation right?
A.—The calculation of course is right.

Q.—In a grab dredger you have to the material out of the barge and to put it into the reclamation. It can only be deposited out of the barges up to a very small level, and therefore it is not a practical scheme?
A.—Not by that means.

Sir F. Hopkinson.—What other means would you adopt?
A.—I have not given it a thought. I would not adopt the grab method at all.

Chairman.—Now Mr. Brims, give plenty of thought. Sir George Buchanan says you might get a considerable quantity of material in buckets by means of a grab dredger loading into barges, but that the cost would probably be very heavy. Are you going to suggest to this Committee the use of a grab dredger to fill blocks 1 and 2 as a reasonable engineering proposition?
A.—No, I do not consider it so.
Q.—Who selected that site in Back Bay for dredging?
A.—I selected that.
Q.—How did you select it?
A.—I took some prickings. I was there the first few days myself, and then my Assistant Engineer took the others working on the same line I showed him.

Sir F. Hopkinson.—Did you map out a certain area with buoys?
A.—Yes, where I wanted a pricking taken.
Q.—Did you map out an area and mark it by buoys?
A.—No.
Q.—What did you do then?
A.—I had a buoy put down at a given point. And I had that checked while I was there and I saw it checked myself.

Q.—That is to locate it!
A.—Yes. And I told them to take prickings from that point at the same points as the washborings had been taken.

Q.—So you had washborings taken before that?
A.—Yes, I thought you were aware of that.

Q.—No, why did you select that site?
A.—Washborings had been taken prior to my appointment by the Development Directorate under the Chief Engineer. That was at the end of 1922 and the beginning of 1923.

Q.—In his letter dated 1st May 1922 to Buchanan Lewis says, “We have got fairly good results, but I am afraid the plant we improvised is not powerful enough for anything at all hard.” Would you not call that clay? Why did you want anything too hard for the dredger to cut?

A.—I am rather under the impression he had moorum in his mind.

Chairman.—There is another letter dated 22nd June 1921 where he says “We hope there would be a great deal of hard clay that would require very little moorum topping.” He was wishing for hard clay?

A.—Yes.

Q.—And then he says, “It seems to me we might get better results by grabbing out instead of trying to make wash borings.” Does not that phrase of Mr. Lewis satisfy you that they never had at this date made any washborings worth reporting?

A.—I do not think, on that date, but I am not certain on that point.

Q.—In the letter dated 1st May 1922 he says, “Another alternative for boring would be etc., etc.” Is it not evident that on the 1st May when this letter was written they knew little or nothing about the sea bed of Back Bay?

A.—Yes.

Q.—On the 10th May 1922, Mr. Lewis is again writing to Meik & Buchanan, “Borings have been taken over that bed. These show there is a layer of sand and clay averaging about nine feet in depth over the whole area. We have not been able to penetrate this to fully investigate the possibilities of its being workable by the dredger.” Does it not appear to you that they knew very little about the nature of the sea bed in Back Bay and the feasibility of dredging from that sea bed?

A.—Yes.

Sir F. Hopkins.—Have you got dredging material in Back Bay, that is, material suitable for dredging over that area shown in red lines?

A.—Yes.

Q.—And this portion shown is the portion you have already done.

A.—Yes.

Q.—Is the quantity 4 million cubic yards?

A.—Yes.

Q.—What do you get there, rock, or moorum or what?

A.—Both.

Q.—Did you attempt to dredge either of them?

A.—Yes, we did attempt to dredge moorum, which is necessary to get flotation for the dredger.

Q.—That is very important?

A.—Yes.

Q.—Is there water enough for the dredger to float?

A.—No, there was only about two to three feet of water.

Q.—Is there not a risk proceeding to have a dredger worth about two lakhs of pounds taking ground in low water?

A.—I insured that we would have flotation for the dredger.

Q.—If you come on a point of hard material, you won’t be able to have initial flotation?

A.—We would try to dredge it away. If we could not, we would not have.

Q.—I should like to see all particulars of the borings you have there. You have got them?

A.—Yes.

Q.—Can you fix the date when it was decided to start dredging in Back Bay?

A.—I believe it was in the beginning of 1924.
Q.—Had you at that time a detailed survey of the borings and the material you were likely to get in that area?
A.—Yes, the washborings taken prior to my appointment.
Q.—That only deals with mud and light silt. They won’t go down into hard clay. Had you anything but these washborings?
A.—No.

(Chairman.—We must have those washborings that were handed to you.
A.—I can show you my personal copy, but I have got a lot of other correspondence on this file. That is a copy of the information I made out before I came out in 1923.)

Q.—What is the total depth? Is that below the surface?
A.—Yes.
Q.—Does this mean here that you went 16 feet through soft material, sand and soft clay and 16'-1" to 21'-6" in hard clay?
A.—Yes.
Q.—If you went through soft clay, it means you had a washboring?
A.—Yes, it was washboring.
Q.—Did you make the washboring?
A.—No, it was made before my appointment.
Q.—Again I should like to have the man who made those borings. Do you know who made these washborings?
A.—They were made in Mr. Lewis’ time. I presume Mr. Thomas, the Executive Engineer, Projects, made them.

Q.—Do you know his address?
A.—Yes, he is still in the office, Old Customs House.

Q.—According to this plan you should ‘approximately’ have 4 million yards in this rectangle shown in dotted lines, which is nearly enough to make up blocks 1 and 2. These quantities shown in blocks 1 and 2, are they the total quantities?
A.—Yes.
Q.—So there is enough material in the area, assuming you can dredge it?
A.—Yes.

Q.—Do you think you can?
A.—Yes, but I cannot guarantee it.

Sir M. Visvesvaraya.—Why don’t you take actual sections again so as to be able to guarantee it?
A.—I have. I have taken prickings. They vary. They give 7', 9', 18', 14'-9', 11'...

Q.—In one place here it is 14'-10".
A.—Yes.
Q.—That proves one thing definitely, that the material is soft?
A.—No. It was a two-inch pipe, and it was with the weight of a 30 cwt. pile driving monkey the pipe was pushed to a certain depth.

(Sir F. Hopkinson.—That is different.)

Q.—Can you tell me how much did the material in Back Bay cost per cubic yard to dredge during last season?
A.—Rs. 1-3. That is the actual working cost exclusive of office administration.
Q.—Does it include repairs to dredgers?
A.—We made certain repairs and paid for it during this season for damage incurred during the previous season. They were ordinary running repairs.

(Mr. Billimoria.—Anything for depreciation?
A.—No.)

Sir F. Hopkinson.—That was without a booster?
A.—Yes.
Q.—The booster would cost nearly thrice as much next season?
A.—No, I do not consider it will. I have got some approximate figure.
Q.—It cannot double itself?
A.—I anticipate the dredger will improve.
Q.—As a consequence of using the dredger?
A.—On account of my having found recently an area of suitable material.
Q.—Of course the booster would cost nearly as much as a dredger?
A.—Yes.
Q.—The cost of Rs. 1-3 is practically the cost of the dredge only. Do you not think dredging for the next year will cost you twice as much?

(Sir M. Visvesvaraya.—I understood him to say it will take 2 of this.)
A.—Yes, I hope to get it down to below a rupee per cubic yard.
Sir M. Visvesvaraya.—I want to see every detail in connection with that. Could you give details to show how you got that figure of 12 annas?
A.—Yes.
Q.—What do you hope to get it down to?
A.—To 12 or 13 annas.

Sir Frederick Hopkinson.—That is about a third of what it cost you last year allowing for the extra use of the booster. Do you think you are going to do the work at a third of the last year’s cost?
A.—I think I am going to considerably increase the output of the dredger.
Q.—What was the output last year?
A.—It was nearly 373,000 cubic yards.
Q.—How much per pumping hour?
A.—361 cubic yards.
Q.—Of course on the surface it is capable of improvement. But who has the details of those costs? You or the Accounts Department?
A.—I have in my office.
Q.—So that you can show me the entire cost for last season in detail?
A.—Yes.
Q.—And I should like at the same time to know what the cost of the administration is, the real actual cost, not a percentage.
A.—Yes.

Sir Frederick Hopkinson.—I have got some figures about the daily working cost of the dredger, but as I have not got the details I cannot understand it. I suggest that you and I have a meeting so that we may go into it in detail.
A.—Yes.

Sir M. Visvesvaraya.—The Development Director has given Re. 13 as cost.
Sir Frederick Hopkinson.—That is two shillings. It is much more expensive than the Beak Bay.

Sir M. Visvesvaraya.—Anyhow these figures should be checked and verified.
(On examination of the maps.)

Sir Frederick Hopkinson.—How many pipes have you got?
A.—We have two at present.
Q.—(Looking at the map) What about No. 3?
A.—It is at the south end of the Wodehouse bridge.
Q.—Is the cost reasonable?
A.—The only difficulty is it is over the causeway.
Chairman.—Is it not yet used?
A.—No.

Sir M. Visvesvaraya.—No. 1?
A.—Is in use.
Q.—No. 3?
A.—Has not been used.
Q.—No. 2?
A.—Has not been laid.
Q.—Three were intended originally?
A.—Yes.
Q.—Have you any idea as to cost?
A.—No.

Sir Frederick Hopkinson.—What is the length of pipe line No. 2?
A.—About two thousand and two hundred feet.
Sir M. Visvesvaraya.—How is it that No. 2 comes beyond No. 3?
A.—I cannot say.
Q.—Probably in order of construction?
A.—It may be.

Sir Frederick Hopkinson.—That is quite a considerable work!
A.—It has to go over the B. B. & C. I. Railway.
Q.—Have you got permission to take it over the railway?
A.—No. The only difficulty will be crossing the Colaba causeway and the B. B. &
C. I. Railway.
Q.—It is quite a considerable work. Have you any idea as to cost?
A.—No.
Q.—You had nothing to do with the ordering of any of the dredging plants?
A.—Nothing.

5
Q.—You have frequently seen the dredgers when at work. Has Sir George Buchanan
been frequently seen at the dredgers?
A.—Yes.
Q.—How much time did you spend there?
A.—On the occasions on which he went about an hour on the dredger, not counting the
time on the floating pipe line.
Q.—How frequently did he visit the dredger when he was out here?
A.—There has been no note, but I think it was about two or three times a week, or rather
twice a week would be a fair average.
Q.—Was he very disturbed about the output of the dredger “Lloyd”?
A.—He appeared to be very disturbed.
Q.—Did he suggest any means for improving the output?
A.—Yes.
Q.—In what way?
A.—He suggested that we were trying to dredge too hard material, and that we should
confine ourselves to soft material.
Q.—Silt or clay?
A.—He did not explain himself further.
Chairman.—Did you not ask him what he meant?
A.—He merely said soft material.
Q.—You could easily have asked him what the soft material was?
A.—I did not ask him. I thought it referred to soft clay and silt.
Q.—Is that all? Did he suggest that you should go and try to find out some soft material?
A.—I made no notes of them.
Q.—You should have been taking particular note of what he said.
Q.—Did he ever say to you “Now Mr. Brims, acting on my advice and the advice of
the naval architects and builders we have had supplied a dredger that we say and contend
is capable of delivering two thousand cubic yards an hour. Mr. Brims, why can’t you do that?” Did
he ever say that to you?

35
A.—Not in those words.
Chairman.—But substantially?
A.—I said that the material was too stiff.
Sir Frederick Hopkinson.—What did he say to that?
A.—I am afraid I cannot remember those words.
Q.—Did he ever say to you “I will do it myself; if you cannot do it, somebody else must
be found”?!
A.—No.
Q.—Was he satisfied with your explanation?
A.—Yes.
Q.—You should remember he had two seasons’ work, and of course you know, as well as
everyone else, that the success of the whole scheme depended upon this one matter. Do you
think it possible to get two thousand cubic yards an hour?
A.—Yes, but not for any length of period.
Q.—How long?
A.—You might get it for as long as a month.
Q.—Two thousand yards an hour working how many hours a day?
A.—Working for twenty-four hours a day.
Chairman.—Do you mean you could get forty-eight thousand cubic yards in twenty-
four hours?

55
A.—Yes, we can get on an average two thousand cubic yards per hour for a period of a
week or possibly a month.
Q.—Under what conditions?
A.—Working twenty-four hours.
Q.—Then you would get forty-eight thousand yards each working day?
Sir Frederick Hopkinson.— Probably it means the working capacity of the
machine?
A.—It was meant for two thousand yards an hour in soft clay.
Q.—You know the working amounted to sixty-four per cent. of the total. How could she do two thousand yards an hour when she stopped for more than a third of an hour?
A.—I am not going to actual results.

Sir M. Visvesvaraya.—Did you ever work continuously for twenty-four hours here?

Sir Frederick Hopkins.—Did he ask you to work twenty-four hours a day?
A.—Yes, before I came out here. I said that it was my intention to work twenty-four hours if possible.

Q.—Do you think it possible to work twenty-four hours a day?
A.—No, I do not think.

Q.—Did you ask any one to work twenty-four hours a day with what result?
A.—I do not think it comes under the Factories Act at all.

Mr. Billimoria.—How many shifts would you require if you work for twenty-four hours?
A.—I think it would be advisable to work twenty-four hours with two shifts.

Q.—With men working for twelve hours continuously?
A.—Yes.

Q.—Under the Factories Act, are people allowed to work for twelve hours continuously?
A.—I do not think it was impossible.

Q.—That is a detail. You could get men?
A.—At that time we had only one dredging master.

W.—You asked me about the possibility of working twenty-four hours. During last year we were working only eighteen hours a day and we did 1,821 cubic yards per pumping hour for one week.

Sir Frederick Hopkins.—Is it after making allowance for stoppages?
A.—This is the actual time the pump was run as distinct from working time.

Q.—According to what you say now, does it really come to 48,000 cubic yards in twenty-four hours? Your 1,821 cubic yards makes no allowance for the ordinary temporary stoppages?
A.—It does make an allowance; because it is the pumping time only.

Q.—If you are working twenty-four hours, you have only got twenty-four pumping hours minus thirty-six per cent.?
A.—Yes.

Q.—Thirty-six per cent. is approximately a third, therefore you have got only sixteen pumping hours of 1,800 cubic yards, i.e., less than 30,000 cubic yards a day?
A.—Yes.

Sir Frederick Hopkins.—But you are not working twenty-four hours. What are you prepared to do next?

Chairman.—Government will settle how many hours you should work. You have not got the power to say how many hours you are going to work, have you?
A.—I have not.

Chairman.—You have never approached 2,000 cubic yards an hour, have you?
A.—That I am not in a position to say.

Q.—Have you any record here to show that at any time you ever touched 2,000 cubic yards per pumping hour?
A.—There is no record showing that.

Q.—Have you any recollection of having done so?
A.—No.

Q.—What is your average of pumping result for the last year, in terms of filling?
A.—Filling has nothing to do with dredging work.

Q.—What is your record for the last season?
A.—960 yards per pumping hour is the average for the whole season.

Sir Frederick Hopkins.—That is the actual pumping hour setting aside necessary delays?
A.—Yes.

Q.—Why do you say that you can do 2,000 yards per hour?
A.—For a short period.

Q.—You say for a month?
A.—We have already done 1,800 cubic yards per pumping hour.
Q.—For how long?
A.—For a week.
Q.—Why cannot you do it for six months?
A.—Because the material is not uniform.
Q.—Does your record satisfy that you have done 1,800 cubic yards per pumping hour?

Sir Frederick Hopkinson.—You are doing only half on the average?
A.—Yes.
Q.—Is it because your dredging masters are inefficient or are neglecting their work that they can do only half of what you expect them to do?
A.—The dredging masters do not neglect their work.
Q.—How is it that they do only half?
A.—It is on account of the variations of material and also on account of the human element. One man will be able to get 2,000 of this material, while another man under the same conditions will possibly not even get half.

Q.—Did you ever explain that to Sir George Buchanan?
A.—I have explained it to so many people, but I am not prepared to say that I explained it to him.
Q.—Did he ever complain about your inefficiency?
A.—He was satisfied that we have done all that we could possibly do.

Sir M. Viney.—You have introduced the human element into the case, and you are of opinion that, whereas one man would get 960 cubic yards to the working hour another man might be able to do 2,000 cubic yards with the dredger. Did you ever represent that to Sir Lawless Hepper?
A.—I think I have.
Chairman.—If such a man could be got, he was worth any money. Did you ever make an attempt to get such a man?
A.—I have been trying to get, but I have not succeeded.
Q.—Have you ever written any note to Sir Lawless Hepper on that point?
A.—No.
Q.—Or to anybody?
A.—No.

Chairman.—You see the importance of this. If you knew that under the best conditions of last year you had an average of 960 cubic yards per working hour, if in your own mind, you thought that the human element entered into it, if you believed that with this dredger you could get a man who would produce 2,000 cubic yards, why did you not bring it home to the Director of the Development Directorate?
A.—I can only deal with my immediate Chief.
Q.—Who is your immediate Chief?
A.—Mr. Elgee.
Chairman.—Have you written any memorandum to Mr. Elgee about it?
A.—No.
Q.—Have you consulted with Mr. Elgee with regard to getting somebody to get more out of the dredger?
A.—No.
Q.—It is very highly important that you have got a man who will get the best possible results out of the machine. Do you agree?
A.—I agree.
Q.—What is the technical qualification of this man? Was he trained?
A.—He is an assistant dredging master.
Q.—Who is above the assistant dredging master?
A.—Dredging Master.
Q.—You say the type of man you want is a man to fill the post of assistant dredging master?
A.—Who is known generally as dredging master.

Sir Frederick Hopkinson.—You see the importance of it if you could double the output of the dredger?
A.—Yes.
Q.—Instead of costing £3 per cubic yard it would be £3 per cubic yard which would make all the difference between the scheme being a success or a dire failure; therefore you see the importance of the point?
A.—Yes, I see the importance of the point.
Q.—That is what I want you to bear in mind all the time. The dredging has nothing to do with the filling?

Mr. S. B. Billimoria.—Have you anybody who would do the work according to your expectation?

A.—I have not. Each man will have to be tried out.

Q.—Have you anybody in view?

A.—I have nobody in view without trying him.

Q.—It is a hypothetical proposition?

A.—Yes.

Chairman.—Take the cost per cubic yard, one man working a great deal more skilfully than another. There is the human element. One man will know exactly how the cutter should be adjusted so as to take the full bite. In that way, a man who knows just how to adjust the speeds in relation to the cutting will get a bigger output than a man who is unable to adjust in relation to face to the face to be dredged, that is what you mean?

A.—That is what I mean.

Sir Frederick Hopkinson.—The cutter has no difficulty in cutting the clay? Has it?

A.—You are referring to the harbour which is different from the back bay.

Q.—Is there any difference between the two?

A.—There is not the same quantity of hard clay.

Q.—That is, it is harder work in the back bay?

A.—Yes; it is harder work in back bay.

Q.—There is no difficulty with the cutter in the harbour?

A.—Not in the harbour.

Q.—It can cut quite readily in the back bay?

A.—Not quite readily.

Q.—If the dredger were run faster?

A.—No; I think it has got sufficient power and speed. I do not wish to make that statement as a statement made by an authority on machinery.

Q.—You ought to be an expert now; you have had three years’ experience.

A.—What is three years?

Q.—It is a great deal.

A.—It takes ten years to train a dredging master.

Q.—To know whether a cutter has power or not?

A.—I consider it requires much experience.

Sir Frederick Hopkinson.—There is no reason why she should not do the work for which she is designed, as far as cutting is concerned?

A.—She was not designed to cut 2,000 yards per hour in this clay.

Q.—What was she designed for?

A.—There is the statement of Sir George Buchanan in June 1921. He said he hoped to do with a great deal of hard clay in the harbour. So he knew that his dredger would deal with it quite readily.

Q.—Nevertheless, I understand that the dredger was designed to dredge 2,000 yds. per hour of soft clay.

Sir M. Viswanaya.—What makes you think so?

A.—From the correspondence I have seen.

Sir Frederick Hopkinson.—You have told me that you do not want to increase the power of the cutter, you do not want to increase the steam; therefore is it the machine for the purpose?

A.—Yes.

Q.—Why is it not doing it?

A.—I consider that with the dredger designed for 2,000 cubic yards, I have got to get perhaps three to four thousand cubic yards per hour, so that the average will be 2,000.

Q.—But your average is only 964 for the last season?

A.—Yes.

Q.—I do not know what you mean by ‘that the cutter has no less power, it has got a plenty of speed’; and yet you are not getting half of what it is designed to?

A.—It may be that I am wrong in saying that it has got the power and speed.

Q.—You are giving me your experience. Surely you could have come to a definite conclusion?

A.—I have come to a definite conclusion that this dredger is not capable of pumping 2,000 cubic yards per hour for six months in this material. We may be able to do it for a month.
Chairman.—You say for six months, in this material?
A.—Yes; in this material.
Q.—Is it because the material would give out or the dredger would give out, which?
A.—Neither; because the material is too stiff.

Sir Frederick Hopkinson.—Where is your office, Mr. Brims?
A.—Old Customs House.
Q.—That is near the dredger?
A.—That is midway between the Back Bay dredging and the Harbour dredging.
Q.—Have you ever been criticised unfavourably by Sir G. Buchanan about the methods of doing the dredging?
A.—Never.
Q.—Do you see from anything he said that he was dissatisfied with you or any of the staff?
A.—Never; but the opposite. He was quite pleased that we were doing everything that we possibly could.
Q.—That must be a very satisfactory view. What is your programme for the next season?
A.—To pump into No. 7 area through pipe line No. 1.
Q.—When will the dredger be ready for pumping?
A.—About the middle of October.
Q.—And the ‘Colaba’?
A.—About the same time.
Q.—You have not finished the necessary repairs to the ‘Colaba’, have you?
A.—No.
Q.—How long will they take?
A.—I am afraid I cannot say definitely; it may be in a few weeks we can have it finished.
Q.—Who is advising you as to the amount of the stiffening necessary for the ‘Colaba’?
A.—Captain Phillips, R. I. M.
Q.—What is he?
A.—He is Engineering Captain.
Q.—A sea-going captain?
A.—Yes, he has been in the dockyard as chief engineer.
Q.—Is he an architect?
A.—Yes; I think so. He and Mr. Williams, the constructor in the dockyard, advised us.
Q.—They have advised you?
A.—Yes; in addition to that, the Mazgaon dockyard advised us.
Q.—What did they advise?
A.—They have not come to any decision yet regarding the actual details.
Q.—You do not know yet what is necessary to be done?
A.—Not in detail.
Q.—Broadly?
A.—Broadly, yes.
Q.—What is it?
A.—To rivet the foundation of the pump where necessary and possibly some additional stiffening. That is a point which has to be decided yet.
Q.—Has the engine got a governor on it?
A.—Yes.
Q.—I presume you are a mechanical engineer and you would see to its working?
A.—The Chief Engineer would see to its practical working.
Q.—You say that the rivets might have become loose because the pumping plant could not be driven at a proper speed?
A.—I do not say that they have not, but that is a possible reason.
Q.—If the rivets come loose, is it not an indication that something is seriously wrong?
A.—Yes.
Q.—Well, how long has this been going on? Has it been going on for three seasons?
A.—She was not working in 1923-24. The “Colaba” has been working two seasons.
Q.—When did the vibration occur?
A.—First season.

Q.—What is done with it?
A.—Stiffening was put along on the top of the deck.

Q.—Who advised that?
A.—It was suggested by myself that “Colaba” did not have this on and the other dredger had that; it might be that is what is required to stop the vibration.

Q.—Did it not do it?
A.—It did not do it.

Q.—It stopped work in the first season for seventeen days?
A.—No; in the second season; we had practically no loss owing to vibration in the first season.

Q.—What is the condition of “Colaba” in the second season?
A.—It did not answer the purpose.

Q.—When did it vibrate again?
A.—During the second season.

Q.—Did it vibrate to any serious extent?
A.—To a very serious extent.

Q.—So serious that you had to stop working for seventeen days?
A.—Yes.

Q.—What was done to cure the defect?
A.—Plate girders were fixed to the bottom of the ship by experts.

Q.—Did that cure it?
A.—It did not cure it but it enabled us to control it.

Q.—What do you mean by ‘control it’?
A.—By increasing or decreasing the revolutions of the engine as may be required.

Q.—Did stiffening enable you to do that?
A.—Stiffening enabled us to do that.

Q.—How?
A.—I am not able to answer it; I cannot explain it; but it did enable us to do it. In some states it may be vibrating badly; by increasing the revolution it stopped.

Q.—Did it vibrate at low water or high water?
A.—To begin with, in the first season, it was from about half tide to high water and back to half tide that it vibrated most.

Q.—The vibrations showed first when it was doing less work? Have you any idea as to how that would be?
A.—It might be a small load on the engine; it may have been driven too fast.

Q.—I am not speaking of what might have caused it, I am speaking of what was the cause?
A.—I am not able to find out myself.

Q.—It is a mystery?
A.—It is more a mystery to myself; I am not a naval architect.

Q.—You know that pumping is harder in the low tide?
A.—I cannot say the reason for the vibration.

Q.—To continue the programme, when do you propose to put it to work?
A.—About the beginning of November.

Q.—When are you going to test it?
A.—As soon as possible.

Q.—Where have you kept the “Jinga”?
A.—It was on the spot from the commencement of the last season.

Q.—The “Jinga” will have a great deal to do?
A.—The “Jinga” will not be put in until the “Kalu” has re-dug the hole and gone further ahead.

Q.—So the “Kalu” will have very little to do?
A.—It will have a shorter line to discharge through.

Q.—Never more than a 1,000 feet?
A.—More than that; about 3,000 ft. she will have to pump through.

Q.—Is the “Jinga” ready to work?
A.—No.

Q.—When will she be ready?
A.—I hope to have her ready in about two months.
Q.-Are you making any extensive alterations to the Jiuga?
A.-No alterations, but re-conditioning.
Q.-What is re-conditioning?
A.-Putting in a new pump and plates.
Q.-That is an extensive alteration!
A.-Not so; I do not call it an alteration; we will keep the same design and arrangement of machinery.
Q.-You take the whole pump-body and put in a new pump-body.
A.-Yes. That is costing us about 1,000 £.
Q.-What is an extensive alteration!
A.-Not so; I do not call it an alteration; we will keep the same design and arrangement of machinery.
Q.-You take the whole pump-body and put in a new pump-body.
A.-Yes.
Q.-Will you have all the papers ready for me to go through regarding the detailed coat of the dredging. I have got some figures from you, but I do not understand the daily average cost. I want all the details to see how you have arrived at them!
A.-I do not know what you exactly want.
Q.-A practical business man wants certain results. I want to know how you got Re. 1 3 as. per cub. yd. I want every detail regarding it.
A.-Yes.
Q.-Have you made an estimate of what is going to cost to run the ship for the ensuing season.
A.-Not yet, because I am waiting to complete my figures for working 24 hours as against working 18 hours.
Q.-You have not been working it till now!
A.-I have been working 18.
Q.-How long?
A.-Last season.
Q.-The whole season?
A.-The whole season.
Q.-It has not been mentioned.
Chairman.-You say you have been working eighteen hours a day. But from the eighteen hours you make a reduction of 34 per cent., which strikes off six hours to make the necessary arrangements to get the machine ready to begin to pump!
A.-Not necessary to begin to pump.
Sir Frederick Hopkins.-Q.-You really have been working eighteen hours?
A.-Yes.
Q.-But the result is only twelve pumping hours?
A.-Yes; eleven hours twenty-four minutes.
Q.-I shall be very interested to know what you propose to do in the working for twenty-four hours, and what output you expect to get; you will let me have a copy of the figures in the next fortnight.
A.-Yes.
Q.-I understand that the Colaba has got two propelling engines and a separate engine for working the main pump!
A.-Yes.
Q.-Can you tell us what the propelling engines are for?
A.-For navigation.
Q.-It is usually for navigating away to the spot at the beginning of the season and back at the end of the season?
A.-Yes.
Q.-Why should you require two propelling engines for that particular purpose? Why would not the ordinary engine answer the purpose?
A.-It would.
Q.-Then the propelling engines were quite unnecessary except for getting round?
A.-Yes.
Q.-It has not got separate boilers, but only separate engines?
A.-Yes.
Q.-Have you any such thing on the Lloyd dredger?
A.-It is identical, with the exception of a cutter-gear and a hoist-gear.
Q.-Is it possible that one was intended to be a substitute for the other?
A.-No; it cannot be. The Colaba is shorter in length. She would have to be extended.
Q.-She could not take the place of the dredger?
A.-No.
Q.-The Colaba pumps as much as the George Lloyd?
A.-I think so.
Q.—Will you tell me whose original idea it was to put the Kalu into the Back Bay?
A.—I believe it was originally proposed by Mr. Lewis.

Sir Frederick Hopkinson.—Was Mr. Lewis anything in the way of a dredging expert?
A.—I am afraid I am not in possession of any information.

Sir M. Visvesvaraya.—I want you to repeat some of the statements you have made to Sir Frederick Hopkinson. What is the quantity you have dredged in the last season with the aid of George Lloyd?
A.—18,28,303 cubic yards were actually removed from the harbour.

Sir M. Visvesvaraya.—What is the quantity of dredging in the last year done by "Sir George Lloyd"?
A.—18,28,300.

Q.—And with the "Kalu", twenty-two lakhs?
A.—Yes.

Q.—What was the total expenditure of dredging during the year for twenty-two lakhs?
A.—The total expenditure was 14,50,000, that is for Back Bay and the Harbour combined.

Q.—You added twenty-two lakhs of cubic yards?
A.—Yes.

Q.—That is two-thirds of a rupee practically?
A.—I keep Back Bay and the Harbour separate.

Q.—At what rate did you do the Harbour excavation.
Chairman.—Taking them jointly seven-elevenths of a rupee.

Sir M. Visvesvaraya.—What other charges have to be added to this in order to get the total cost?
A.—Depreciation, interest charges on capital expenditure, office administration of my own office, Chief Engineer’s Office, Secretariat.

Q.—But these are not added to the cost you have given!
A.—No. It is the actual working cost.

Q.—Have you got any figure as to what percentage you have added to the fourteen lakhs?
A.—No.

Q.—What do you take as depreciation on the value of the machinery?
A.—I have not taken any depreciation.

Q.—As a professional man what would you take?
A.—I am not in a position to say. I don’t know the figures supplied by the Development Department.

Q.—What is the life of the plant?
A.—That is rather a difficult question to answer put in that way. The life of a plant depends on the amount of expenditure incurred each year on re-conditioning. If I am allowed to re-condition and keep a vessel like the "Sir George Lloyd" in first class order, there is no reason why that dredger should not last for ten, fifteen or twenty years.

Q.—That is rather indefinite?
A.—It depends entirely on re-conditioning each year.

Q.—At the end of ten years, what would you get if you sold the dredger?
A.—I am not in a position to say.

Q.—You did last year twenty-two lakhs of cubic yards. How much do you hope to do in the coming year with improved working?
A.—I hope to increase that by 25 or, if possible, 50 per cent. if I work twenty-four hours a day.

Q.—Why should you not work twenty-four hours a day? It is possible to work twenty-four hours in three shifts. Considering that the output is so small, it seems necessary to try?
A.—I do not consider it economical.

Q.—Economical in what respect?
A.—We are doing nothing for six months in the year. You have got to maintain a staff for doing nothing. You have got to pay for three shifts instead of two.

Q.—Can’t you discharge them in the months they are not doing anything?
A.—Discharge the best men! They would very soon go back to Karachi or somewhere else. We would have to train fresh men for the work.

Q.—How do you employ these men?
A.—We are employing them on a certain amount of re-conditioning and repairs to the dredging craft, and the men who are discharged are the crews.
Q. — So, you expect to do about three million cubic yards next year roughly?

Sir Frederick Hopkins.— Do you anticipate doing three millions next year?

A. — We did one million and odd.

Q. — You are speaking of one dredger only?

A. — One dredger.

Sir M. Viswanaraya.— He is now speaking of both. He hopes to do three millions next year roughly.

A. — The men are becoming more experienced every year.

Q. — That is important?

A. — And would be working twenty-four hours.

Q. — With these additional facilities you will be able to do three million cubic yards next year?

A. — Yes.

Q. — Kindly tell me based on your experience of the last year at what rates you expect to work the Harbour dredging and that of the Back Bay per cubic yard? May I remind you of the figures you gave us?

A. — I have not worked all these out. It is also dependent upon twenty-four hours working. There is no use in working out a mass of figures.

Q. — You must assume something, you cannot leave things indefinite?

A. — I am working it up now to put before Government.

Q. — Last year Harbour dredging was done at the rate of twelve annas a cubic yard. At what rate in the coming year are you going to do it? I want a general idea. You are not committing yourself.

A. — Might be for eight or nine annas, but I don't wish these figures to be taken as binding. I am speaking without figures now.

Q. — In the case of dredging from the Back Bay the rate last year was Rs. 1 3 per cubic yard. What do you, with your experience, expect to reduce it to?

A. — Somewhere in the neighbourhood of a rupee.

Sir Frederick Hopkins.— I forgot to ask you the cost of the Harbour dredging for the last year. Of course, again, I want all the details.

A. — I have got all the details of expenditure for each month. The cost of Harbour dredging was 8 7 annas a cubic yard.

Q. — What is the difference between 12 annas and 8 7 annas due to?

A. — Well, it may be due to material, different conditions, different men, etc.

Q. — Supposing you had your own way, what would be your programme for the coming year? You will start the work in October?

A. — We will start work in the middle of October, pumping into area 7. That would take us all the season.

Q. — You will fill in Block No. 7 in the Back Bay?

A. — We would begin pumping through pipe line 1.

Q. — That will be partly finished during the season?

A. — Yes.

Q. — What method of measurement do you adopt for gauging 2,000 feet of cubic yards or 900 cubic yards of pumping per hour.

A. — We take the position of the dredger each day at the same time or approximately at the same time and take soundings.

Q. — The depths?

A. — The depths and from observations we were able to calculate how much the dredger had moved, etc.

Q. — Have you got the quantities originally said to be available from the Harbour and the quantities now actually available by the refusal of the Port Trust and the Royal Indian Marine?

Chairman. — All those figures have been given.
Sir Frederick Hopkinson.—He told me he had ample material.
A.—I had no trouble about the material. ....
Sir M. Visvesvaraya.—You have sufficient material for all time?
A.—If I consider I have got sufficient material, I don't worry.
Q.—You have taken soundings. Are you depending on the original soundings or have you taken any soundings yourself?
A.—I depend on Mr. Kidd's soundings for information.
Q.—Don't you think it wise to take fresh soundings?
A.—I don't think it is necessary. Mr. Kidd's soundings are sufficiently accurate for the purpose.
Q.—Is it necessary to pump from the Back Bay, if you can get all the material you want from the Harbour?
A.—If we don't pump from Back Bay we can't fill in areas 1 and 2 without having possible shore boosting.
Sir Frederick Hopkinson.—He means by that that the plant as designed is not capable of filling in blocks 1 and 2 from the Harbour.
Sir M. Visvesvaraya.—Is the cross wall ready for No. 7?
A.—No.
Q.—When is it going to be made ready?
A.—I am afraid I do not know. But I presume before the middle of October.
Q.—It will take some time to do.
Sir Frederick Hopkinson.—About your dredging in the Harbour, what depths of mud....?
A.—That depends entirely on the class of material for dredging.
Q.—No cutter required?
A.—We did require it in silt. The sand would run, but mud won't run.
Q.—Will you kindly tell me who can tell me what the depth of cut in clay is?
A.—The Dredging Master. He is coming here.
Q.—What is his name?
A.—His name is Mr. Girdwood. He is more competent to say. I may give a wrong impression.
Sir M. Visvesvaraya.—Why were the three pipe lint's not laid as originally designed across the Peninsula?
A.—The pipe lines were laid as and when it was considered they were required.
Q.—Only one had been used, the other has been laid and the third has not been attempted?
A.—Yes.
Q.—You have not made any specific attempt to find out the quantities available in the Harbour and in the neighbourhood of the work in the Back Bay respectively?
A.—In the Harbour I accept the figures that have been furnished to me.
Q.—Accepting is one thing. You have not made any special surveys yourself?
A.—Not beyond what the dredger has done.
Q.—Will it cost you very much to make sure of this?
A.—In Back Bay I have done so because the information which I had didn't prove to be correct. When I attempted to put the dredger in, the dredging didn't prove to be correct. Therefore I took other observations.
Q.—But it won't cost very much to make quite sure whether you can get sufficient quantities in each case?
A.—It would not cost thousands of rupees, but why spend Rs. 50 unnecessarily.
Q.—But you are spending Rs. 3,000 in interest charges alone. which is nothing compared to this.
A.—I am satisfied that the information of Mr. Kidd is sufficiently accurate.
Q.—Do you happen to know why the Colaba reclamation was abandoned, and "Kalu" taken away from there?
A.—That is a point with which I am not concerned.
Q.—What is the capacity of the "Kalu"?
A.—The "Kalu" has been designed for 2,000 cubic yards per hour of pumping through 4,500 ft. of pipe.
Q.—Almost the same as "Sir George Lloyd", 1,600 feet with a 39' diameter pipe.
Sir Frederick Hopkinson.—Is it more difficult...!
A.—Because material was too hard. There was only one small area where we had sufficient soft material.

Sir M. Visvesvaraya.—Is the combined working of "Sir George Lloyd" and "Kalu" likely to give three million cubic yards in the next season?
A.—Yes.
Q.—You are fairly confident?
A.—I have every hope.
Q.—Do you think that with the improvement of working you will be able to get even better results after a year hence?
A.—There is a limit to improvement.
Q.—Can you give us statements giving in a brief form the cost of working of the dredgers and also the cost during working hours, the cost of repairs, special stores and all that? Can you give us all these details?
A.—I have a statement here of the cost showing the monthly expenditure under wages, stores, fuel, water-supply, repairs and renewals, and for sundry payments. I have taken out per cubic yard. (Witness handed in a statement.) It is in rupees.
Q.—Can you give us the cost month by month throughout the last season as well as the total output?
A.—It is quite possible to do that.
Q.—Have you taken sections at sites?
A.—Sections have been taken over the area.
Q.—Have you taken measurement of the pumping?
A.—Yes. The measurement was very much in excess of the quantity required from the Harbour.

Sir Frederick Hopkinson.—Have you considered that water is being mixed with silt?
A.—Yes, it is bulking.
Q.—Have you dried the stuff?
A.—We have measured and taken sections. There is a lot of water we know. But the amount....
Q.—It is still in the process of settlement?
A.—It is still.
Q.—You are going to adopt three shifts from next season?
A.—No. I do not wish to work three shifts.
Q.—And why not, considering that time is money?
A.—I am considering working two shifts for twenty-four hours.
Q.—Will the men possibly hold out?
A.—I think so. The great point is if the men will be willing to work it.

Mr. Bidinorri—Do you think it possible without break-down, working for twelve hours?
A.—It is not possible to work for any considerable period without a break-down.

Sir M. Visvesvaraya.—Speaking generally, you think that the plant is not up to expectations, because of the clay and clay only?
A.—That is the principal one.
Q.—Are there any other factors which contributed to it?
A.—Yes.
Q.—Will you kindly mention them?
A.—One is the human element. We have got men who are trying to do their best.
Q.—Are they efficient?
A.—The majority of the men have to be trained here.
Q.—What other defects?
A.—There is the question of weather during the working season.
Q.—You can't see any possibility of working in the Harbour during the monsoon?
A.—Impossible to work during the monsoon.
Q.—And what other factors have contributed to the failure?
A.—I have given : the material, the human element, the weather.
Q.—You say, with an estimated average of 2,000 cubic yards per hour at the rate of fifteen hours a day for 170 days, you don't get that output?
A.—No. I have mentioned the principal reasons.
Q.—They must have taken all that into consideration?
A.—They ought to have.
Q.-Then, is it not usual when a plant is not working satisfactorily to ask the manufacturers themselves to send out a man to demonstrate its capacity?

A.- I cannot say whether that is usual or not, because I have never hitherto had a plant which did not give satisfaction.

Q.- This is the first time that you have had that experience?

A.- The first time.

Q.- Do you hope to improve the results by more...?

A.- I hope to improve the results considerably as the men get more experienced.

Q.- If a plant is designed to work to a certain capacity, is it not usual for the owners to ask the manufacturers to send down a man to prove to the satisfaction of the owners that it is giving the proper output?

Chairman.- That is what the Government of Bombay did. They wrote to Buchanan and asked him to arrange for a representative of the firm who supplied the dredgers to come out here and show why the dredger was not giving its output. There was a letter to that effect sent to Buchanan.

Sir M. Visvesvaraya.- You know the form in which the results of the working of the dredgers is usually given?

A.- Yes.

Q.- Could you give us in that form the cost?

A.- Yes, I have got my cost.

5th Witness

Mr. W. H. Neilson, Chairman, Bombay Port Trust

Chairman.- In reply to a letter from Mr. Ewbank, you wrote to him on 30th July 1926:—

"With reference to your letter of the 28th instant, I shall be happy to give evidence before the Back Bay Committee as desired by them. With reference to the points on which the Committee desire my opinion:—

(1) the circumstances under which the Port Trust prohibited dredging operations in certain areas are explained in the preambles to the Trustees’ Resolution Nos. 712/1921 and 111/1911, copies of which are enclosed for information. The relative plans are doubtless available for inspection on the records of the Development Directorate;

(2) the only experience which the Port Trust has had of suction dredgers was the dredging carried out in the Harbour between the years 1909–13 by the suction dredgers "Jagd" and "Kalu" in connection with the Mazagon Sewri Reclamation. "Jagd" and "Kalu" in connection with the Mazagon Sewri Reclamation.

You have given the text of the letters which passed between the Port Trust and the Director of Development and the advice tendered by the Port Trust solicitors.

The actual position was that eventually for reasons which were good to the Port Trust they prohibited dredging over a certain area?

A.-Yes.

Q.- That area taken in conjunction with another area which the R. I. M. objected to, reduced the original proposed area by some 10½ millions cubic yards?

A.- I cannot verify that figure. I have not gone into it.

Q.- In his letter sent by the Chief Engineer (Mr. Lewis) to the Director of Development (Sir Lawless Hopper) he says "the reduction of material available due to exclusion of the area to the North of the Pencil Line on the chart sent by the Port Trust amounts to 8,280,450 cubic yards. The reduction of material, if dredging is limited within the naval anchorage, to 35 feet below low water ordinary spring tide amounts to 7,292,466 cubic feet or both together to 15,572,996 cubic yards."

Without your having any personal knowledge of these figures, is that approximately the area which you have in your mind as being the extent to which the dredging was prohibited?

A.- The area is given on the plan.

Q.- These are the figures of which the Development Directorate believe they were deprived?

A.- Yes.

Q.- Of course as regards the Port Trust property whatever you said the Development had to obey?

A.- Yes.

Q.- And as regards R. I. M. if they raised any doubts as to the safety of anchorage or anything of that kind, the Development Directorate had to obey their requirements?

A.- Yes.
Q.—When that portion was prohibited, was another portion allowed ?
A.—Yes, to the south.

Q.—It means the new area involved the use of a longer pipe line ?
A.—No. Not longer than they originally proposed working.

Q.—In point of fact they decided to work in Back Bay ?
A.—They decided to work into Back Bay because I think they found difficulties in filling block No. 1 from the harbour.

Sir Frederick Hopkinson.—You said you could not get below that area ?
A.—It was no use working on rock. It was all rock.

Q.—What is the datum.
A.—The datum is 100.

Q.—The datum being one hundred, low water spring is seventy-two.
A.—There is a difference in lowest ordinary spring and low water ordinary spring.

Q.—Seventy-two you say is the lowest ordinary spring tide ?
A.—Yes. The mean sea level is 0·5.

Q.—On page 1 of your report you say that ' the data on which the revised estimates were examined are necessarily scanty ' ?

Mr. Neilson.—You are referring to the report of Engineers.

Sir M. Visemarayaga.—The full report is not before us.
A.—So far as we are concerned, we sent all to Government. I think it is all there.

Chairman.—This document seems to be quite complete.

Sir F. Hopkinson.—Am I right in assuming that this is the report of the Committee of Engineers whom Government asked to revise the estimates ?

A.—Government appointed a committee of engineers for revising the estimates which are mentioned in the ad interim report of the Advisory Committee and to look into the estimates which were to be framed in the light of the working season which the Development Directorate would frame again.

Q.—What were your terms of reference ?
A.—They sent the terms of reference to us in April last and the estimates came only on 24th or 26th of June. When the Committee looked into them, they found that the Estimates referred to portions of work at blocks 1, 7 and 8 and then wrote back to Government and pointed out that this did not comply with the terms of reference. They were revised and refer to blocks 1 and 7 only.

Q.—So you were asked to verify only two estimates ?
A.—Yes, under the revised terms of reference.

Q.—It does not deal with block 8. How much material is required for it ?
A.—There is no estimate for it.

Q.—You say the data on which the revised estimates were examined are necessarily scanty. What do you base your estimates on ?
A.—On the figures given by the Development Directorate. They worked three seasons in one nothing was done. In the harbour dredging they worked three seasons. It is only in the last season, in both the harbour and back bay that we were able to base our estimates.

Q.—Did Government want your opinion on these costs to know whether they were reliable ?
A.—Yes.

Q.—These figures were reliable or actual costs?
A.—They were actual costs.

Q.—Did you go into the details then, I mean the cost of labour, oil, fuel, plant, etc.
A.—The Committee did not check the figures of Estimates supplied by the Development Directorate. They were supplied by the Accounts Officer.

Q.—Therefore there was nothing for you to do but to form an opinion as to whether succeeding works would be successful or cheaper ?
A.—They wanted us to check the Estimates.

Q.—Did you check them yourself ?
A.—We revised them.

Q.—So there was nothing original. I want to know exactly how it was done.
A.—We saw both the dredgers at work and examined blocks 1 and 7.

Q.—Do you think it possible to improve upon the output of the dredgers ? Did you inspect them closely ?
A.—We want to see how the dredgers worked.

Q.—Out of curiosity.
A.—We went in order to see whether the dredgers were working easily or not.
Q.—What conclusion did you come to?
A.—It was not working easily in the Back Bay.

Q.—Do you think it could be improved upon?
A.—That depends on the material it is dredging. I do not think it could be done.

Q.—Were you satisfied in which the dredger was working?
A.—I think it could not be better.

Q.—Were you satisfied with "Kalu"? Were she working all right?
A.—They were working all right and I do not think they can work the dredgers better. They had to work on a hard material.

Q.—Have you any experience of suction dredgers?
A.—Yes. I had six years at Karachi, eight years at Chittagong and then at Calcutta.

Q.—You are then an expert in dredging?
A.—I do not think I am. I have had about twenty years dredging experience in dredging in India.

Q.—Don’t you think that sufficient to make you expert?
A.—I do not think myself to be an expert.

Q.—In your position I would claim to be an expert.
A.—I have not specialised in it.

Chairman.—He says he has a good experience, examine him on that.

Sir F. Hopkinson.—We have been told by Sir George Buchanan that the dredgers have been mishandled. We want to verify it.

A.—I do not think so.

Q.—Do you think 36 per cent. an unreasonable amount for various things besides actual pumping time. I mean the time required for minor repairs, ordinary movements, etc.?
A.—You are taking that percentage on the actual working hours. There will be certain number of hours when the pumping is not done and again there are certain days when she is laid up.

Q.—Let us take a fixed period. Out of 100 per cent. she had to do 66 per cent. and 34 per cent. were occupied in getting her into order, floating the pipe line and in such small matters before she begins to pump.
A.—You want working of one season.

Q.—We want your opinion whether this proportion of working hours is reasonable, let it be in any season.

For instance I give you the results of the working of the dredger during 1924-25:—

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumping time</td>
<td>64.1</td>
</tr>
<tr>
<td>Adjusting pipe line</td>
<td>3.9</td>
</tr>
<tr>
<td>Adjusting pipe dredger</td>
<td>6.9</td>
</tr>
<tr>
<td>Extending floating pipe line</td>
<td>3.1</td>
</tr>
<tr>
<td>Engine room repairs (Sir George Lloyd)</td>
<td>1.4</td>
</tr>
<tr>
<td>Engine room repairs (Colaba)</td>
<td>3.0</td>
</tr>
<tr>
<td>Pumping water only (clearing water)</td>
<td>2.7</td>
</tr>
<tr>
<td>Minor repairs</td>
<td>8.5</td>
</tr>
<tr>
<td>Delayed by heavy swell</td>
<td>1.5</td>
</tr>
<tr>
<td>Repairs to floating pipe line</td>
<td>4.9</td>
</tr>
</tbody>
</table>

All that works up to 100 per cent.

A.—I think that is quite reasonable.

At Karachi the figure varied between 12 per cent. and 33 per cent. We had to work in heavy sand, oyster shell and very hard stuff.

Q.—Sand was the hard stuff?
A.—Yes.

Sir F. Hopkinson.—If you were told that some one has designed a dredger for you to pump 2,000 cubic yards an hour, and that it would work a certain number of days and a certain number of hours and give an output of five million yards a year, I presume you would take it that all these have been allowed for?

A.—I would.

Q.—In the original construction of the dredger it is supposed to work 170 days, and 15 hours a day at 2,000 yards an hour, which gave a total of five million one hundred thousand cubic yards per season. That is impracticable, is it not? No allowance seems to be made for this loss of 36 per cent. It seems to be assumed the dredger was not going to lose any time at all?

A.—Yes.
Q. — There is bound to be a loss of 36 per cent. over that total?
A. — That I should call a minimum loss.
Q. — That reduces the possible output of the dredger from five million to three millions a year?
A. — Yes.
Q. — Could you tell us what are your dredging costs?
A. — We were doing a double job in Karachi, which was satisfactory. We were dredging and reclaiming at the same time. The length of the pipe line was not very large. We had not a boosting station, and I do not think the length ever went up to 5,500.

Mr. Billimoria. — You carried some of the stuff in barges?
A. — No, not in the suction dredger. That was in the bucket dredger.

Mr. Vivekananda. — Could you put in perforated wells to draw off clear water and pump it?
A. — You could do it, but then you should have a fine sieve.

Mr. V. V. V. V. — What is the moroom filling in the Sewri-Mazagaon Reclamation?
A. — There in the Mazagaon-Sewri Reclamation it was not identical. There was a very deep bed of clay and silt underneath. There was a depth actually of over fifty feet. Here they are filling on rock.

Q. — Further on you say you take the moroom topping as twelve inches thick. Is it possible to put only twelve inches of moroom?
A. — If they let it dry sufficiently they can do it.

Q. — Therefore you are assuming here that they will let matters stand until the dredged material solidifies sufficiently?
A. — That is their estimate.

Q. — Was it enclosed?
A. — Yes, with a stone wall.

Q. — Would you be justified in taking only twelve inches of moroom here?
A. — It depends on how you want to do it.

Q. — As to this Sewri Reclamation I see you lost about 24 per cent. of your dredging material?
A. — It is more than that. The loss comes to about 33 to 53 per cent. I know the mistake you refer to. Arithmetically it comes to 35 per cent. These figures were taken after the
dredging was finished and before moorum was put on. We put in five feet instead of twelve inches of moorum. So we had another ten lakhs of brass filling in addition. If you allow for that you get the increased percentage.

Q.—Complaint was made that dredging material escaped through the wall. Did you see any of that?
A.—I did not go down to observe it. I do not know. Of course if the thing was not sealed, it might have run through.

Q.—The cost of moorum filling has been taken by the Development Department at so much per brass. You adopt that figure except you add 15 per cent. for shrinkage. You know how the prices were arrived at?
A.—They give details. There is no reason to suppose they were incorrect. I adopted those figures.

Mr. Billimora.—You assume the material comes from Kandivli quarry. Suppose there is no material left there. Would the cost remain the same?
A.—I should not think so unless they opened out a quarry of their own.

Q.—Otherwise it would cost much?
A.—It would not cost very much more if they took a large quantity.

Q.—You say the dredger went searching about. Why should she go searching about? Did they not select a place for her to work?
A.—Yes.

Q.—Then why did they have to search?
A.—She had to take a long time to find her flotation.

Q.—So it had not properly been surveyed in the first instance?
A.—It might have been. They took borings.

Q.—Without knowing where to find flotation you would not take a dredger costing a thousand pounds?
A.—I would not dredge in the Back Bay at all.

Chairman.—Would you speak a little more slowly? This is rather important. You have told us about the Kahu searching about for a suitable place to dredge, and you had her under daily observation?
A.—I was not personally in charge.

Q.—You were interested in it?
A.—Very, when she settled down to it. It is all in the Development records. It was in December.

Q.—If you were going to do a work like that, would you not first of all make a survey and take borings in the places where the dredger might work?
A.—The success of a scheme of this nature depends upon preliminary observation naturally.

Q.—Would you not make proper borings as preliminary observations in the Back Bay?
A.—I should in the first place have very great doubt whether I should take any borings at all. It is very shallow, and it is extremely doubtful if you will get any really definite good results.

Q.—And therefore all the more necessary to take borings and soundings?
A.—Yes, to take a considerable number. And also you are held up again by these cables...

Q.—You would make arrangements about these cables before you took the dredger there?
A.—Yes.

(Sir M. Visvesvaraya.—That was done.)

Q.—That was probably one of the reasons why the dredger was searching about? They could have been buoyed off.
A.—They were buoyed off.

Q.—Your cost of working the dredger you put at Rs. 1·33 per cubic yard, or Rs. 1·80 with 20 per cent. waste. But that did not include the cost of the “Jinga”?
A.—No, it does not. It is the cost of working. It includes the cost of repairs which are mentioned as running expenses.

Q.—There is something I do not understand on the last page. You say there Rs. 1 per cubic yard equals Rs. 4·14-0 per brass?
A.—It is a mistake. It ought to be Rs. 3·11-0 per brass. It is my mistake.

Q.—What does your moorum filling come to?
A.—It comes to Rs. 1·56 a cubic yard.

Sir M. Visvesvaraya.—What were the results of your investigation, and what was actually accomplished by your committee?
A.—It is fully explained in the report.

Q.—Is the report limited to these four pages? I was under the impression that a separate report was submitted. I may be wrong.
A.—They are all here.
Q.—You refer to the rate of lorries at Rs. 2.80 per brass at the last page. Where do you get your filling from?
A.—That is immaterial. The Development Directorate, I think, have arranged to get it from the Improvement Trust.

Q.—Is there any chance of getting a very large quantity from that source?
A.—No.

Q.—Have you gone into the rates for moroor filling?
A.—I have taken what they have given me as correct for their quarry.

Q.—I want this information to check the rates with those of the quarry.
A.—I do not think you will get it cheaper than that.

Q.—If the rate from the quarry is 1.53 and the rate by dredging is .75, would you wait for the filling being done entirely by the dredger or would you also mix up dry filling and carry on both side by side?
A.—The rates which you have given are not comparable. You have to add your depreciation and any rolling stock if you want to compare dry filling with dredged filling.

Q.—Suppose you take 25 per cent. for the plant as proceeds of sale at the end of the work?
A.—No, you must take what you can get.

Mr. Billimoria.—There is a small dredger at Mumba which cannot be sold. Do you think there will be any bids for the "Sir George Lloyd" in view of that?
A.—It all depends on whether there is anybody in the market. For that dredger, which is certainly a small one, there is probably no demand. I know they wanted one at Visagapatam. It is impossible to say whether there will or will not be a demand.

Q.—What would be a safer basis, to write off the value as depreciation?
A.—It would not be an over-estimate if we put its worth at 5 per cent. of its original value.

Q.—You write off 95 per cent.?
A.—If you work it to death, 5 per cent. would be its scrap value.

Sir M. Visvesvaraya.—The dredger will be used here only for seven or eight years, and so I have to take depreciation into account.

Q.—Witness.—Do you think it will be finished in seven or eight years?
A.—By Sir M. Visvesvaraya.—If we do not finish in that time, the interest charges will swallow up the whole thing. The interest charges alone come to about 6 or 7 thousand a day. It will not pay to keep it on for a longer period.

Sir M. Visvesvaraya.—Have you considered what the cost would be if filling were brought across the harbour in barges? Will the reclamion be faster if this were done?
A.—It is not practicable.

Q.—It may not be practicable. But what would be the rate per brass?
A.—You cannot get them on to the site.

Q.—You cannot get the barges there? It won't do to bring them from the other side of the harbour. It won't pay.
A.—No, no. There are limits to what you can do.

Q.—Have you any changes to suggest in the method or organisation of the work from your knowledge of the work? You must have thought of these questions very often. Also have you any suggestions to make about the dredger or about the methods of filling or any additions or improvements in the present system of working?
A.—That is a very wide question indeed.

Chairman.—Take it this way. Suppose the matter were put into your hands to-day. What would you do? Would you carry on on the same lines or is there any alteration which you would suggest?
A.—To take the situation as it is, you have spent about one and half crores in dredging plant, and if you do not go on with the dredging, you must drop most of it. The question is, what is the best thing to do. I certainly think that one should go on slowly block by block and see the result, and consider whether anything more can be done. I should proceed very slowly.

Q.—But what about interest charges?
A.—Well, you have spent the money, you have got to pay it back.

Q.—Would it not pay to complete the middle blocks sooner than you intend?
A.—It might not pay you, because as you are spending a lot at present, supposing you fail to sell after a time your interest charges will be considerably higher than they are to-day.

Q.—What would be the rate to be got per square yard at the Marine Lines end and the Colaba end, if put up for sale?
A.—That is a difficult thing—what rate we can get?
Chairman.—What rate would you anticipate to sell land per square yard in blocks Nos. 1 and 5?

Sir M. Visvesvaraya.—Assuming that the whole area will be completed within a reasonable time, what will it fetch? We want some rough estimate to go on with as business men.

A.—I will deal with the actual value of the land in Bombay, and see how it varies. It would not be the same value in every block. In Marine Lines it will be high. They want some two hundred rupees on this side of Queen’s Road. That will give you some idea.

Q.—What is your idea?

A.—It may vary between Rs. 50 and Rs. 250.

Q.—From your study and investigation of the quantities put in last season, what quantity do you think the dredgers would yield next year, working under favourable conditions?

A.—I have stated 44 lakhs at this end and 12 lakhs at the other end.

Q.—Seventeen lakhs, is that all?

A.—That is consolidated.

Q.—If the Engineer says that he expects to do 3 million next year, would you not trust his judgment?

Chairman.—Mr. Neilson’s opinion on the hopefulness of a witness will not help us much. We must talk among ourselves whether their hopeful figures are likely to be realised.

Sir M. Visvesvaraya.—You think it will not go above 20 lakhs next year?

A.—Of consolidated material? I have given the figures already.

Q.—You have no idea of the rates for the remaining blocks?

A.—Where the pipe line dredger is put in the Back Bay is a different proposition to the harbour.

Chairman.—Have you gone into the question of numbers 2, 3, 4, 5 and 6?

A.—No, I have not.

Q.—You would give a rough average for the two ends. Supposing your advice was sought, what are your general recommendations for the future about the scheme?

Q.—Are you going to go by the opinion of witnesses?

Sir M. Visvesvaraya.—You are a gentleman on the spot having knowledge of the details and you know the local conditions?

A.—As I said before, I would go cautiously. I would finish No. 1 and think about it before the end of the next season.

Q.—Several other witnesses have been saying that the whole thing should be completed at once. Do you agree?

A.—No, I do not agree.

Chairman.—We shall decide in our own minds which we prefer.

Sir M. Visvesvaraya.—You have no advice to give about any changes in the organisation or administration of the works or the working of the plant?

A.—No.

Mr. Billimoria.—Do you think that the restricted area did not materially hamper the Development Department?

A.—No, certainly not.

Q.—I believe, Mr. Neilson, that you have seen Sir Alexander Gibb’s report. Do you differ from him when he discards the dredging and gives preference to dry filling in blocks numbers 1 and 2?

A.—His report was made out before the results were known of last year’s dredging season. He would probably change his opinion when he has got the figures of the last season.

Q.—You do not entirely agree with his conclusion that it would be more economical to have adopted dry filling in the case of certain blocks?

A.—No.
Q.—When the scheme was embarked upon were you at all consulted by the Development Department or by Government?
A.—No, I was not consulted. Of course this matter has been going on for some time in fact from 1903.

Q.—It was very well known all over that you had considerable experience of reclamation, and in spite of that no authority ever cared to consult you or have the benefit of your experience?
Sir George Buchanan never approached you about it?
A.—No.
Q.—Do you know on what basis he prepared his estimates?
A.—No.

Chairman.—If you want the date, the estimate was finished by September 1919. He was employed on it during the summer of 1919 and he gave it to the Government in October 1919.
A.—That is the 367 lakh estimate.

Sir M. Visvesvaraya.—Do you know that Mr. Kidd was making borings in the Port Trust area about 1912?
A.—Yes.
Q.—Did you then object to that?
A.—The Port Trust raised no objection.
Q.—Why was objection raised at a later stage?
A.—The taking of borings and the preparation of schemes are two different things. When your schemes affect the harbour we have to say no.
Q.—Do you still hold that if dredging was allowed, it would have endangered the property of the Port Trust or the harbour?
A.—Oh, yes.
Q.—You asked Government to indemnify those losses before they could start any operation within that restricted area?
A.—No, no. We asked Government to indemnify us against any result which might be effected by dredging the harbour.

Sir Frederick Hopkinson.—Was it a very wide indemnity?
A.—Yes.

Sir M. Visvesvaraya.—In what way?
A.—They were in very wide terms intended to cover all anticipated loss. That indemnity was drafted and was accepted by the Development Department.

Mr. Billimoria.—I now wish to ask about the Kalu, the Port Trust property which was sold to the Munitions Board. Before you sold it, at what price did you hold it in your books?
A.—I cannot give you the book value, but I can give you the price we sold it for. (Mr. Billimoria said: “we know she was sold for £75,000.”)
Q.—Have you got any other figures?
A.—The capital cost of the Jinga and Kalu was 281 lakhs and the sale proceeds were 8 lakhs.
Q.—Government paid £75,000 for the Kalu alone?
A.—We sold ours before the boom in prices.
Q.—You sold 7 or 8 lakhs for the Kalu and the Jinga. You got a bargain price. Is it a fact that the value in your books was very much lower and that you were very pleased to get this amount?
A.—I cannot tell you that, Mr. Billimoria, I am not quite certain.
Mr. S. B. Billimoria.—You were not displeased with the figure 8 lakhs?
A.—You take what you can get. If you have not got any work in view.
Q.—Did anyone make enquiries from your department before purchasing this “Kalu” particularly?
A.—She was examined by a mechanic.
Q.—By the Munitions Board?
A.—by the Development Department. I think so. She went up to Basra; as she did nothing she came back here, and it was then that the Development Department purchased it. Of course they had it examined mechanically.
Q.—So it was reported upon that it was quite a good bargain at £75,000?
A.—I cannot tell you that.
Q.—Did she yield satisfactory results when she was being worked by you?
A.—I think so.

Sir Frederick Hopkinson.—The dredging was extremely inadequate for the price paid for it.
A.—Yes; it varies from one job to another. Conditions are different in Back Bay.
Mr. S. B. Billimoria.—I shall now ask you a general question, if you do not mind. If a project is placed before you for consideration, would you not exhaustively go through the estimates and, after making allowances for contingencies, say whether it is productive or not?
A.—I certainly would, Mr. Billimoria. I certainly would take steps to see that it is properly scrutinised.
Q.—Would you only look at that proposition from an engineering point of view or would you also consider the financial aspect of it?
A.—I would look at it from every point of view.
Q.—In your own opinion, if the scheme was estimated to cost 367 lakhs and the revised estimate gave a figure of 702 lakhs, which was subsequently increased to 1,100 lakhs, would you consider the scheme as financially sound?
A.—I should have very grave doubts about its financially being sound.
Q.—If you are at the head of the Finance Department, what line of action would you suggest to the Government to take in view of the estimates having materially gone up by 200 per cent.
A.—These are all general questions.
Q.—You have had such a vast experience, and you have seen the project working for five years?
A.—I have not had any similar experience of such excesses.
Sir M. Visvesvaraya.—You take a sort of professional interest in the scheme?
A.—Undoubtedly.
Q.—You must have some definite views also?
A.—I never thought it was a dredging proposition at all.
Sir M. Visvesvaraya.—You are coming somewhat nearer.
A.—I heard it was a dredging proposition at Karachi, and I never thought it was not a promising proposition. I did not know sufficiently about the details but it was a sort of instinct.
Q.—That belief of yours has been more than confirmed after looking at the results as we see them today?
A.—To a certain extent. The scheme is not a new one, and the question of sea wall was started many years ago.
The Chairman.—It was in 1863, and ended by failure of Asiatic Banking Corporation.
A.—Yes.
Mr. Billimoria.—It is something like history repeating itself, and the Chairman now draws attention to the history of the sixties. People had burnt their fingers before; and now Bombay had gone into it.
Now, to our purpose. You have had occasion to purchase cement for various works?
A.—We purchase cement regularly.
Q.—Could you give the highest price paid between 1920 and 1925? English or Indian cement?
A.—Delivered at site?
Q.—Yes.
A.—I could let you know. But I cannot tell now.
Q.—As a prudent business man would you enter into long term contracts at high prices, when prices are soaring high, or buy just enough for your requirements and wait and watch the market?
A.—You are referring to the times when the prices are fluctuating. I should certainly not make a long term contract.
Q.—What is your experience of the Ballard estate? You know that people have burnt their fingers there. The blocks are still vacant; that is a fact that cannot be denied by anybody.
A.—I think I can deny it. It is a general statement. My impression is that some people have been wrong there. There was one gentleman who leased two properties at extremely low figures; he was ruined, but he was not ruined by the Ballard estate; he was ruined by other means. On the other hand there were speculators who took advantage of people wanting ready money and selling buildings for very low prices on the Ballard estate and they have not made as much as they hoped to get. Generally the prices are not high. You would not get them now, they would be higher.
Q.—Because it is a business locality?
A.—Yes; it has become the centre of gravity of the shipping business.
Q.—As a rule, all business localities realise much better prices.
A.—For the net building area.
Q.—Not the open spaces.
A.—No; that does not count. I say generalities are so incorrect; nobody has been ruined through getting a building on the Ballard estate.

Q.—You know that the foundations are giving way in some of these places. There are rumours that there are cracks in the Ballard estate buildings, and foundations are sinking. Has that come to your notice as Chairman of the Port Trust? Has anybody complained about it?
A.—They cannot well complain, because it would be on the wrong path; they cannot complain because they own the buildings; I know instances where in one particular building the corner has gone down; that was on a raft; there are cracks in some others; that is due more to bad building than anything else.

Q.—In all the buildings that were built on the Ballard estate, which was a reclaimed area, pile driving was almost necessary.
A.—Yes.

Q.—Pile driving was a costly business?
A.—Yes.

Q.—It makes a tremendous difference to the public or the contractor; if he is to drive piles on loose foundation it becomes more costly?
A.—Yes; it depends on the size of the building.

Q.—How long would it take for actual land to settle down in a reclaimed area, for instance Mazgaon reclamation? We find in some instances, even to-day, the land is going down. At Cotton Green the land going down. Has not that been complained of?
A.—No. It is not sinking.

Q.—Other parts of it?
A.—Surely yes; in the Mazgaon reclaimed area........

Q.—How long will it take for land to settle down in a reclaimed area? How long will it take between a building being built and the site being got ready?
A.—You are talking of dry filling or dredged filling?

Q.—Dredged filling. How long will it take for land to settle down?
A.—I really do not know. I do not think once you get moorum that it will settle very much more except you put a heavy weight on it. If you build over a large area it will burst some time. That is our experience. But you cannot build on dredged filling, except a very light building.

Q.—What I want is how long will it take for the land to settle down and what time you allow between the land being ready for building purposes and the date of commencing building operations?
A.—Not very long; one monsoon may do it.
Q.—What would be the moorum top filling? 12 inches.
A.—I do not think so. It will be something more.

Q.—5 feet.
A.—I should think 6 feet, except where the dredged filling is not very deep, it may be less than 5 feet. In Mazgaon Reclamation the depth is very great.

Q.—From your experience, can you tell us if the owner of a property will accept a net return of 6 per cent. in these days when he can get that interest on Government securities?
A.—I think so.

Q.—That would mean a gross return of 9 per cent., with municipal taxes, depreciation, etc.?
A.—I should think so.

Q.—Do you think there would be hundreds of people flocking in to take up this 22 lakhs square yards of reclaimed area expecting to get 9 per cent. return?
A.—The application for land is not like the case of a gold reef. It is slow to start with. If there is demand for land, it increases of its own accord. People are attracted by the very fact that other people have gone there. It will be a slow start.

Q.—It will take years for all the 22 lakhs to be sold?
A.—Yes.

Q.—Is it likely that you will find many tenants coming forward paying a monthly rental of Rs. 450 for a flat in that area? Will there be 300 new tenants coming forward. Is Bombay so prosperous as that?
A.—I have not been here long.

Q.—Do you think the estimates that Sir Alexander Gibbs has adopted in his report are more or less accurate? Even there your figures materially differ from Gibbs?
A.—I cannot say whether the estimates are accurate or not.

Q.—In the figures you have given, you have not taken into consideration depreciation of the plant, interest on the loan, etc.?
A.—No.
Q.—The longer it takes for the scheme to reach completion the higher would be the cost, because of the interest that would accrue?
A.—Naturally.

Q.—What may appear to be a profit on paper may eventually turn out to be a huge loss if time is allowed to elapse?
A.—Yes.

Q.—How do you arrive at the actual cost of a square yard of land? You take into consideration the money already spent and to be spent hereafter; and add interest charges, depreciation, etc. Is it not so?
A.—We have checked the quantities.

Q.—Any verification of the figures?
A.—There are two sets of figures, one for quantities and the other for prices.

Q.—In preparing your estimates have you depended on the figures that were submitted by the engineers of the Development Department or worked them out independently?
A.—We checked the quantity of filling required; and as regards the prices, we took the ordinary accounts, i.e., cash outlay on the work done so far.

Sir M. Visvesvaraya.—You had sections and levels taken?
A.—We checked to a certain extent; we have got all the sections checked.

Mr. Billimoria.—Supposing it is decided to complete the whole of this area, how many years do you think it will take to do it?
A.—I cannot say, Mr. Billimoria.

Q.—In spite of your very vast experience spreading over 20 years?
A.—Vast experience does not enable one to say off-hand; you have to look into the feasibility of it, the lay out of the thing, how you arrange it, etc. It requires some thinking. I could give you an estimate, but I cannot do off-hand.

Q.—Roughly, how many years, 20 or 30 years.
A.—I cannot say; a great many things may happen. Anything between 10 and 50 years.

Q.—You have some experience of quarrying stones. What would it cost for 100 cft. after allowing for plant, everything? I suppose you pay royalties as well in some cases?
A.—No; we have bought the land.

Q.—As regards the stones that the Development Department is using for the reclaimed area, what is your experience?
A.—There are several kinds of stones. One is a large stone which they have been using for the stone rubble bund, and the other stone is broken.

Sir M. Visvesvaraya.—Can you give the different rates, within the last ten years?
A.—I do not know whether the Development Department requires any kankan.

Q.—Can you give us an estimate what it works out for 100 cft.?
A.—I shall give you the price.

Mr. Billimoria.—I understand that the Port Trust has got several reports made to them as regards the borings taken off and on; do you get them even now?
A.—No; I am not doing any boring now; recently we were doing some in the harbour.

Q.—Can you give us some report, if any, with regard to these borings within the last five years?
A.—Yes.

Sir M. Visvesvaraya.—Have you any experience of what they call wash borings?
A.—Oh yes. We do a considerable number of wash borings for preliminary work.

Q.—How is that done?
A.—It is done by means of a pump.

Sir Frederick Hopkinson.—Wash borings do not enter the clay?
A.—I do not think it can go through the hard clay; it probably goes through the soft clay.

Q.—An ordinary pump working for about 30 or 40 feet head would not affect any clay?
A.—That gives you about 20 lbs. pressure if it goes through a tube.

Q.—Through a special pump?
A.—Yes.

Q.—Not through an ordinary pump?
A.—Not a hand pump.
It is an unusual pressure to get a 300 feet head.
A. It is not unusual for a steam pump.
Q.- The ordinary pump we have on the works could not do more than 50ft or a very little more?
A.—No.

(Mr. Neilson, Chairman of Bombay Port Trust, continued his evidence at 5 p.m. on the 9th August 1926.)

Sir M. Visvesvaraya.—When the whole area is reclaimed there will be 1,145 acres of land. From your experience of Bombay, how would you utilise that land? It is nearly two square miles?
A.—It depends on where it would be in Bombay. You mean on the reclamation? I certainly would make some recreation ground, and the rest business and residential premises.
Q.—Can you not give a rough idea of what you would do. How much will be set apart for recreation purposes?
A.—I cannot tell you even roughly.
Q.—Do you think 50 lakhs would be a sufficient figure for 2 sq. miles of land, for roads, lighting and drainage?
A.—I shouldn't say so off-hand. It depends on the plan. If you have got roads 200 feet apart it will cost much. If you have 400 feet it will cost less.
Q.—The reason why I put this question is — they have put down 212 lakhs. Isn't that excessive?
A.—I cannot tell you unless the plan is put before me and I work it out.
Q.—You cannot give me any rough figure?
A.—No. I would not.

Sir Frederick Hopkinson.—Do you know the "Colaba"? If it had been non-propelling, there would be a very considerable saving?
A.—Yes.
Q.—It has cost £270,000?
A.—May be.
Q.—What about the advisibility of propelling engines?
A.—They are quite unnecessary.

(The examination of Mr. Neilson finished.)

(Mr. Brims, Deputy Chief Engineer, was called in and examined again at 5-10 a.m. on the 9th August 1926.)

Sir M. Visvesvaraya.—Will you kindly make a note of the information required?

Mr. Brims.—That I have already submitted.

Sir M. Visvesvaraya.—Also the percentage of time utilised for actual dredging.

Sir Frederick Hopkinson.—We want at a future date to go into all the details. We want you to be prepared to give all the information as soon as we are ready. You know the kind of information we want. No point is too small for us to go into. I want it done in some sort of intelligible form.

Sir M. Visvesvaraya.—In a statement form?

Mr. Brims.—I have given you a statement which is detailed: wages, stores......

Sir M. Visvesvaraya.—And the time also during the working season; how many hours the dredger was actually working, how many hours under repairs and how many hours shifting its position. You can give us also the capital cost, the cost of bringing into India and other similar data.

Sir Frederick Hopkinson.—We have got the actual cost?

Mr. Brims.—There is one point. The cost for the working season; is it only for the period we were working leaving out of account non-working season?

Sir Frederick Hopkinson.—We want it as well, but separately, because it is a cost.
Mr. Billimoria.—Have you seen Sir Alexander Gibb’s report?
A.—I have seen it to read through, but not to study it.
Q.—You know that Sir Alexander is an Engineer of great repute?
A.—Yes.
Q.—He recommends dry filling?
A.—Yes.
Q.—He says here in page 2, paragraph (q), that the results of the dredging up to the present are most unsatisfactory, and although they may at time show some improvement I am of opinion that even though the restrictions by the Royal Indian Marine and Port Trust authorities were removed they are not ever likely to be economical. Then he goes on to say, the reason is the unsuitability of the dredging plant for dealing with the material as it exists both in the Harbour and in the Back Bay. Have you any comments to make with regard to the unsuitability of the dredging plant?
A.—I do not consider it unsuitable.

Sir Frederick Hopkinson.—At that time, did he know it was 8 annas?
A.—I think not.
Q.—How could you say unsatisfactory from the point of view of economy, he says so, is it ever likely to be economical? Did he know you were doing for about 8 annas?
A.—I do not think he did, but that is a point I do not know, I am not certain about.
Q.—He was here for very short time?
A.—Yes.

Mr. Billimoria.—As you pump out clay, about 40 per cent. of water comes out of it?
A.—The percentage of water varies considerably.
Q.—How much is the percentage?
A.—There is no fixed percentage: 90 per cent. of water at one time, at another time I may have 50, 60 or 75 per cent. of material.

Sir Frederick Hopkinson.—75 per cent. of material?
A.—For a short period of time and not for any length of time.

Mr. Billimoria.—On an average you have about 40 per cent.?
A.—On an average I should think we have got,—yes, rather more than 40 per cent.
Q.—At most you retain 60 per cent. of the material pumped out?
A.—Well, I hardly think we will get 60 per cent. taking it for the season.
Q.—How much will it be?
A.—It will be rather less than that.
Q.—If the dredging plant was designed to pump 2,000 cubic yards, about 1,000 will be retained?
A.—If there was 50 per cent. of water and 50 per cent. of material.
Q.—In this report I find that Sir George Buchanan estimated the number of pumping hours to 2,500, the quantity of material dredged 2,000 per pumping hour and actual filling as measured in Back Bay also 2,000. Do you think that that estimate is correct?
A.—Oh yes, the actual filling might be 2,000 cubic yards.
Q.—How do you allow for the water?
A.—If we are pumping 3,000 cubic yards of material you may get 2,000 cubic yards of material retained in the pumping.

Sir Frederick Hopkinson.—The pumping itself is capable of throwing 12,000 cubic yards per hour of water. The question is about the percentage of material in the pumping.

Mr. Billimoria.—You, as an Engineer, must know that when the clay is pumped into the area before it settles down, some water must evaporate. It takes time for the water to evaporate and make the clay harder there on the surface. How long does it take for the entire quantity of water to evaporate from the clay and make it hard enough?
A.—The clay which has been pumped out of the Harbour comes through in two forms: one is in big lumps that settle down immediately when they come out of the pipe. You can walk on it in a few minutes. There is another form in the form of a fine powder in suspension in water.
Q.—How long does it take to settle down?
A.—I am not in a position to say that.
Q.—At such a reclaimed area do you think large quantity of moorum would be required to form a hard land ready for building operations? Small layer of moorum would be sufficient. Has that been your experience?
A.—That has been our experience on this reclamation.
Q.—There is no area ready?
A.—There is an area covered with moorum in part of block No. 8 area.
Q.—It does not sink?
A.—It does not sink, all over the portion of the southern most layer of block where it has been covered with morum.

Sir F. Hopkins.—What is the speed of the floating material through the pump?
A.—That varies considerably. We have found it to be 10 to 12 feet per second.

Q.—What percentage of dredged material is going through the pipe and put into the reclamation, of silt?
A.—We have been pumping about 20 per cent.

Q.—Have you tested any specific material? We have taken what the velocity and percentage of material were at different times. But it is impossible for us to take tests when it is in silt only or in clay only.
A.—When you were pumping silt only, because that is the uniform material, but the clay is a different material?

Q.—You say you have not been able to find out the percentage of silt in pumping. That is one of the elements of a Dredging Master’s duties and he should know what percentage he is getting. What did your tests show on the way of percentage of silt?
A.—We have not taken any specific test in silt only or in clay only. We have taken tests at given times.

Q.—With what results?
A.—I do not remember off-hand.

Q.—Can you get that information for me?
A.—Some were taken during the last season.

Q.—Don’t you take that every day?
A.—No.

Q.—You said just now something about getting 75 per cent. of material.
A.—Of solid clay. I have seen it.

Q.—It must be in consequence of a block of clay?
A.—Well, it may have been a block. But we have got the solid clay coming through the pipe.

Q.—But that is only as a consequence of some temporary stoppage. Did you get 70 per cent.?
A.—I think I said at the same time “for a short period”.

Q.—It is not as a consequence of pumping speed. What percentage of solid clay did you expect the pump to do?
A.—That again depends on the nature of the material.

Q.—Give me the different kinds of materials?
A.—I am afraid I cannot give the difference between the various materials.

Q.—That means you can’t tell me the definition?
A.—I can give you some general idea.

Q.—You cannot tell me what percentage?
A.—We might get 15, 20 or 30 per cent.

Q.—I want to know what you did, and how you found out that you were getting 15, 20 or 30 per cent.?
A.—We have had observations taken with a pipe held at the end of the pipes outside.

Q.—You cannot tell me what percentage of clay you dredged?
A.—It is impossible.

Q.—You ought to tell what percentage of silt you got, by way of experiments if any held?
A.—Experiments were held but I do not know the results. They were taken during the last season during the season 1925-26 and the particulars were taken away by Sir George Buchanan’s representative, who held the experiments.

Q.—That was how long ago, two years ago?
A.—No, that was last season.

Q.—Who was the representative who took those tests?
A.—Mr. Settle.

Q.—Have you got a copy of the results?
A.—No. They were taken away by him.

Q.—If I were in charge of this work, I would see what the dredger began at 9 o’clock say, on Tuesday morning and say to the Dredging Master or to you, “What percentage are you getting this morning? You got 10 per cent. yesterday, are you going to do better to-day?” You say the gentleman took observations eight months ago, and that you are noting them to judge what the position is?

Q.—You cannot tell the percentage you had out of tests. May I tell a little story? During the war I was looking after a department of Government, and I had occasion...
to say that a certain factory was not doing well. The man in charge of the factory took me and showed me round the work, and he thought it was working splendidly. Unfortunately, I got the actual output and found only 40 per cent efficiency. When I looked round the factory, it looked as if it was doing splendidly, but the actual output was only 40 per cent. Therefore you ought to know every day what the percentage is?

A. I knew very well the percentage of material was not satisfactory. We were not getting the percentage which the dredger was built for, that is, 2,000 cubic yards per hour.

Q. You should know well that silt does not require cutting?

A. I do not mean that you could get more silt by cutting.

Q. You were talking about 20, 30 or 70 per cent?

A. It is spread over a length of period.

Q. It is only 17 per cent?

A. We didn't get the same amount of material. I cannot express any opinion on the silt. I have not taken any tests.

Chairman.—Who has been the actual responsible Engineer for the works since January?

A.—Responsible for, what works?

Q.—“The actual responsible Engineer for the works.” I am using the phrase Sir George Buchanan used. “Sir George Buchanan’s association with this Scheme was up to the end of December 1925, was it not?

A.—Somewhere about that date.

Q.—In January, February and March, who was the Engineering expert at the head of all this?

A.—Mr. Elgee. He was the man I had to deal with.

Q.—Were you the expert dredger, the engineering dredger?

A.—Yes.

Q.—What previous experience did you have on reclamation on an open sea front?

A.—I had some experience in South Africa on the Cape Naval Base.

Q.—When did you get that experience, in what year?

A.—March 1902.

Q.—When did it close?

A.—About the end of 1911, November or December.

Q.—Were you continuously on dredging at the Cape for those nine years?

A.—Not dredging only.

Q.—How much of the nine years was occupied in dredging?

A.—It is going back rather long time. I forget the exact year. It might have been five or six years, I was occupied in dredging work.

Q.—What was your exact position on the dredger?

A.—I had not been on the dredger. I was a junior engineer of the works at that time.

Q.—Did you have any practical experience of rotary cutter machine?

A.—Not before coming here.

Q.—Well, that is the delicate part of the whole thing, isn’t it, the getting the cutter to work at its maximum speed, taking the best cut which the material will allow?

A.—It is not my duty.

Q.—I am only asking you about your experience. So, you would not be able to tell me with regard to this particular work, at all events, at the outset whether you were doing the cutting properly or impropably?

A.—I considered I was.

Q.—Did you know as soon as you came whether the output was all right?

A.—As soon as I saw the dredging, I could see I would be able to tell if the men were getting a fair percentage of material or a poor percentage.

Q.—And to what conclusion did you come?

A.—That they were getting a poor percentage.

Q.—All the while you have been in charge, you were getting a poor percentage?

A.—I have never been satisfied with the percentage.

Q.—Apart from your experience, as mentioned above, have you had any other experience on reclamation on an open sea front?

A.—No.

Q.—Were you nominated by Sir George Buchanan?

A.—Yes.

Q.—I don’t know whether we have got any letter, say, a letter written by Sir George Buchanan to the Development Directorate in relation to your employment?

A.—There was.
Sir F. Hopkison.—How old are you?
A.—46 years.

Q.—So then in 1903 you were only 23 when you were on the dredger?
A.—Yes. All the marine work was under my supervision.

Chairman.—On the 23rd July 1925, Messrs. Meik and Buchanan say: "We have had long conversations with Mr. Brims and have formed an opinion that the main cause of low output is the lack of incentive to the men in the form of bonus on output and also there would appear to be too much time spent on obtaining hard material at the expense of output which we consider of greater importance". Did you try the bonus system?
A.—The bonus system was tried.
Q.—Did any man ever get to the point of earning the bonus?
A.—There was a very little bonus paid to some men.

Q.—In one of the papers it is stated that no bonus was ever paid?
A.—Bonus was paid for two or three months.
Q.—To about how many men?
A.—To all the officers on the "Sir George Lloyd" and "Colaba".
The Committee assembled at 11 a.m. on the 10th August 1926, all the members being present

6th Witness

Mr. A. C. Girdwood, Deputy Dredging Master

Sir Frederick Hopkinson.—What is your full name, Mr. Girdwood?
A.—Alexander Chapman Girdwood.
Q.—What is your position in connection with dredging?
A.—I am Deputy Dredging Master.
Q.—Who is Mr. Spiers?
A.—He is my immediate superior.
Q.—And in his absence you are in charge?
A.—Yes.
Q.—Have you got an extended experience of dredging?
A.—I had 7 years in West Africa and about 2½ years in Sudan. That is the extent of my experience.
Q.—What was the kind of material that you had to deal with in West Africa?
A.—Mud and clay. This was a bucket dredger.
Q.—Had you any experience of suction dredger?
A.—No.
Q.—And in Sudan; was that a suction dredger?
A.—Yes, 24 inches dredger.
Q.—What sort of material you had to deal with?
A.—Soft clay.
Q.—Anything like that you have here?
A.—A part about the same.
Q.—Was mud of the same sort?
A.—Deep silt was rather similar to this.
Q.—Was there any sand below?
A.—Yes, just about the same.
Q.—What output did you get there in the 24" dredger?
A.—We used to get 9 per cent. solid matter.
Q.—Did you test that daily?
A.—No, the engineer tested it 6 to 8 times in a month.
Q.—That is about every 4th day?
A.—Yes, about that.
Q.—Did they tell you about it?
A.—They did not tell us what the figures.
Q.—They did not wish to encourage you?
A.—Perhaps, I do not know.
Q.—Was your 10 per cent. an effective percentage of dredged material?
A.—It all depends on the pipe line.
Q.—How long was your pipe line?
A.—About 2,000 feet.
Q.—About 2/5th of what you have here?
A.—Yes.
Q.—What percentage would you expect to get here?
A.—I think 12 or 14 per cent.
Q.—And that would be a very good percentage?
A.—Yes, I think so.
Chairman.—By percentage you mean proportion solid matter carried out by water through the pipe line?
A.—Yes.
Q.—Now in Sudan you were getting 9 to 10 per cent. That means the percentage deposited at the end of the pipe line?
A.—Yes.
Q.—Here you think 12 per cent. of solid material should go through that pipe line and should be deposited at the other end?
A.—Yes.
Sir F. Hopkinson.—Do you expect 2,000 cubic yards per hour from "Sir George Lloyd"?
A.—Perhaps more.
Q.—How much is it?
A.—I cannot tell off-hand.
Q.—Is it much more or less? Say, 15,000 feet?
A.—About that.

5 Q.—But you should be getting 2,000 yards an hour. Can you tell me why you did not get that?
A.—I am afraid, I cannot.
Q.—Is that an insoluble problem?
A.—For a man of my experience. A very clever engineer will be able to solve that problem.

Q.—You do not know why you have not got that?
A.—No. I do not know any reason.
Q.—All you know is that you did not get it?
A.—Yes.

15 Q.—As regards your dredging in Egypt, was it dredging from the sea?
A.—No. That was dredging from Nile only.
Q.—Can you tell me what your percentage of delays was?—About 40 per cent.
Q.—You used to have about 40 per cent. delays?
A.—Yes.

Q.—Is that not unusual?
A.—No.
Q.—Having got 36 per cent. delays here in open sea, would you not think 40 per cent unreasonable time for delays?
A.—I do not think so.
Q.—Actually it is only 36 per cent. Therefore the percentage, in your opinion, is low here?
A.—Yes.

Q.—Is the cutter working efficiently?
A.—Yes.
Q.—Has it any real trouble in cutting the clay?
A.—Sometimes. It depends on the soil you are cutting.
Q.—Is the clay too hard for the cutter?
A.—Yes, at the bottom. The bottom strata is very hard.
Q.—At what depth?
A.—The bottom varies.
Q.—What thickness you think is the clay too hard for the dredger?
A.—The last cut we got was 18 inches. We could not get below that.

Q.—The last depth you reached was 37 feet?
A.—Yes; that was "Sir George Lloyd".
Q.—18 inches is about 5 per cent. of 37 feet and only to this extent, that is 5 per cent., it is difficult for the dredger to dredge material?
A.—Just for that class of cut.

Q.—Was the 24 inches dredger in Egypt much quicker than this?
A.—Yes. It was running at 290 revolutions while this is doing 145.
Q.—Generally speaking are you satisfied how the dredger is dredging?
A.—Yes.
Q.—You think it is quite good?
A.—It is one of the best machines I have come across.
Q.—What vacuum are you getting in your suction pipe?
A.—About 10, 12 or 14 inches.
Q.—Is that very high?
A.—I do not think so.

Q.—You actually get 14" at a given load?
A.—Yes.
Q.—What is your discharge pressure?
A.—It is about 35 lbs. per square inch.
Q.—I want you to tell us exactly how you work the dredger? What length of cut you take?
A.—About 200 to 300 feet.
Q.—Do you work side ways or end ways?
A.—We have got to go ahead also.
Q.—What depth of cut you take in the silt?
A.—It depends on the cutter.
Q. — In a fresh cut you get 5 feet below the bottom of the silt?
A. — Yes. But sometimes it is less.

Q. — In the first case you take a 5 feet depth cut in the silt?
A. — It is about 13 feet.

Q. — Having done the silt, what depth of cut you take in the clay?
A. — About 5 feet.

Q. — Then you go ahead 5 feet?
A. — Yes.

The witness explained the process of working the dredger.

Q. — Can you make any suggestions to improve the output?
A. — I cannot.

Q. — Is it positive?
A. — Yes.

Q. — How many hours were you working in the last season? I mean the men.
A. — They work 68 hours.

Q. — Did you get 16½ hours dredging including delays?
A. — Yes, lately.

Q. — Are you in charge of the dredger when she is working?
A. — No, Mr. Spiers.

Q. — Does he superintend the whole thing constantly?
A. — No. He has to attend to the other dredger also in which case I follow him as in charge of the dredger.

Q. — You go over one shift?
A. — I take no actual part until the man is ill. I only supervise.

Q. — How many Dredging Masters have you?
A. — I have got two assistant Dredging Masters.

Q. — They are on watches?
A. — Yes, they do 6½ hours watch.

Q. — So that you are actually in real control of the whole dredging?
A. — Yes.

Q. — If anything goes wrong, that is your responsibility?
A. — Yes.

Sir M. Visvesvaraya. — How many months in the year is the dredger at work?
A. — About 6½ months, from start of October till about end of May.

Q. — What is the normal working time during a day of 24 hours?
A. — 16½ hours a day.

Q. — On an average how many of these are effective?
A. — 16 hours.

Q. — In the 6½ months that you are working during a year, what portion of this time is effective? You do not work 16 hours and you cannot get the same output regularly every day. How many hours do repairs, etc., take during a working season?
A. — No. We should have none.

Q. — Is the dredger working all the 16 hours during the six months?
A. — With the exception of Sundays and other holidays and Saturday afternoons when the dredger closes down.

Q. — What is the percentage of working time during the working season?
A. — You will get those figures in the office. I have not got them.

Q. — Do you look at these figures or did you ever call for them?
A. — No. I only send a copy of the daily report.

Q. — Have you got a copy of the daily report?
A. — No.

Q. — What does the daily report show?
A. — That gives the actual hours of dredging and the reasons for any stoppages, etc.

Q. — Does that give daily expenditure?
A. — No.

Q. — Can you work longer hours: I mean more than 16½ hours?
A. — Yes.

Q. — Will you get more work?
A. — Yes.

Q. — Is it possible to work 3 shifts in order to increase the output?
A. — It is quite possible.

Q. — You will do it if you are ordered?
A. — Yes.
Q.—How much, you think, the output will be increased. Supposing if you are doing 100 cubic yards now how much it will be increased to?
A.—I do not like to answer that.

Q.—What percentage of increase on an average would you get?
A.—I would not answer that. I am not sufficiently versed in that.
Q.—You agree that 3 shifts are possible?
A.—Yes.
Q.—And you will get increased output by working 3 shifts?
A.—Naturally.

Sir F. Hopkinson.—Do you think it is desirable?
A.—No.

Chairman.—Why?
A.—Because you will not get the same advantage as you get by working during the day.
Q.—You would have to be put on duty for 24 hours?
A.—I do not mind about myself.

Sir M. Viswanaraya.—Did you go into the calculations about cost? Do you think that the dredger can be made more effective by increasing the engine power or by substituting more powerful cutters?
A.—No.
Q.—Or by altering the design of cutter?
A.—No.

Mr. Billimoria.—Who recommended you for this job?
A.—No one. I saw an advertisement and I went before the selection committee.
Q.—And you were one of the candidates selected?
A.—Yes.
Q.—In reply to Sir Frederick Hopkinson’s question you said that you had some previous experience of reclamation work on an open sea?
A.—No.
Q.—In reply to another question you said that “Sir George Lloyd” is one of the best machines you have ever seen. Do you think it is suitable for the material in the Back Bay?
A.—The material was suitable harbour and delivering into Back Bay.
Q.—What do you attribute the failure to?
A.—I think it is due to the length of the pipe line.
Q.—Does the length of the pipe line actually interfere with the actual quantity that is to be pumped? Does it interfere with the output of the material?
A.—Yes.
Q.—In what proportion?
A.—I cannot say that.
Q.—Do you know what is the extra length of pipe line than it was originally estimated?
A.—I do not know.
Q.—Your conclusions are not based on actual facts but on surmise?
A.—Yes.
Q.—No data to go upon?
A.—No.
Q.—In 1923-24 the number was 842......
A.—Excuse me I was not here. I have only been during one dredging season, that is the last dredging season. I arrived in September 1925.
Q.—What are the results since you took over charge? Have they improved?
A.—I should think so.
Q.—Have you got the figures?
A.—No, they are in the office.
Q.—You concern yourself about the work only?
A.—Yes. Even we may concern ourselves with figures, we do not get them.
Q.—Have you not asked for them? Did you make any enquiries about it?
A.—I cannot say.
Q.—Your job is to dredge as much material as you can from the sea bed and transport it through the pipe line. You are not concerned with anything else except that one duty and the general supervision?
A.—Yes.

Chairman.—You mentioned Mr. Spiers name. Where is he?
A.—He is in England on leave at the moment.
Q.—Do you know when he is coming back?
A.—He is due back on the 26th of October.
Q.—When will he leave?
A.—He will leave Renfrew, Scotland, about 14th October, but it depends whether he goes round by sea or not.
Q.—Do you know his address?
A.—I have not got it here but I can give you.

Sir Frederick Hopkinson.—Have you ever had monetary inducements for increased working?
A.—Yes.
Q.—.......
A.—...,...For about 6 weeks.
Q.—What amount?
A.—I got about Rs. 260 in all for two months.
Q.—It is not much of bonus?
A.—Anyhow it was very acceptable.

(The evidence of Mr. Girdwood was concluded.)

7th Witness.

Mr. G. M. O'Rorke, Resident Engineer, Kandivli Quarries.

Examined by Sir F. Hopkinson.—What is your full name?
A.—George Mackenzie O'Rorke.
Q.—When were you appointed?
A.—I joined on the 4th September 1920.
Q.—So you have been here for the whole period of the work?
A.—Yes.
Q.—What is your particular office?
A.—Senior Deputy Chief Engineer.
Q.—I do not care about the title. What is your job?
A.—Mainly to run the quarry at Kandivli, and I have also got to supervise the works in the Marine Lines and Colaba.
Q.—Are you in sole charge of the quarry?
A.—Yes.
Q.—Have you so been in sole charge since its commencement?
A.—Yes, under the Chief Engineer of course.
Q.—Sole charge at the quarry?
A.—Yes.
Q.—What staff have you there?
A.—I have got a Sub-Engineer, a Mechanical Foreman, one Accountant and two clerks, an Assistant Store-keeper, a Time-keeper, a Doctor and a Jamedar in charge of the camp.
Q.—How often do you come down here to see to the unloading of the material?
A.—Once or twice a week.
Q.—Do you not think that ought to be in the hands of some down here?
A.—It is in the hands of Mr. Thomas. I supervise Mr. Thomas.
Q.—Can you tell me the approximate amount of moorum you have available for filling in your present quarry?
A.—We have got another 4 months' supply at the rate of two trains per day.
Q.—That is 200,000 tons. I thought you told me it was 400,000 when I was at the quarry the other day. What are you going to do when you have exhausted that?
A.—I have put an application to take in more land, which has already been notified. I have put in for about 31 acres. I think we ought to get a year's supply from that.
Q.—Supposing you are called upon to supply five or ten times as much. Is there any place near there where you can get material?
A.—I think there are possibilities of it. That is well worthwhile investigation. We want to have trial borings done. I can only tell by walking over and merely guessing the possibility. My opinion is it is well worth investigation.

Q.—Of course it would be a great advantage to get it near where you are, because you have roads, sidings, houses, offices, etc., there?
A.—Yes. But as we shall probably have to take over a long length of land, possibly 8 miles, it may not be economical to bring all the earth through Randivili, but to make sidings from the Railway at other points.

Q.—It is not physically impossible?
A.—I do not think so.

Q.—All it would mean would be the cost of another connection of long Railway tracks?

A.—Yes.

Q.—Is the material dug and loaded by piece work?
A.—On contract.

Q.—You get the weight delivered into the trucks weighed over a weigh-bridge?
A.—Yes.

Q.—What is the price?
A.—Rs. 0-10-8 a ton including freight.

Q.—What is your price that you pay the Sub-Contractor for putting the material into the truck?
A.—We pay the Sub-Contractor Rs. 0-10-8 per ton of murum loaded into the wagons. This rate includes freight at the rate of Rs. 350 per rake of 60 wagons or Rs. 7 per wagon. This freight is deducted from the contractor's bill as actual payment of freight to the Railway is made by the Development Directorate.

Q.—That works out to about 5 annas per ton?
A.—Yes.

Q.—Has he got a good contract?
A.—He has done the work pretty well.

Q.—Do you think he has made a reasonable profit?
A.—I think he has.

Q.—What is your railway freight?
A.—If we send two rakes we send at 275 per rake. If we send 1 rake, we pay 300.

Q.—You consider 5 annas a ton a low price?
A.—I do. It was the most favourable tender received among 70 tenders.

Q.—You pay Rs. 275 per 1,000 tons if you send 2 rakes a day. If on the contrary you send only one you pay Rs. 300 a rake. Suppose you send 10 trains a day. Do you think you get a descending ratio of charges?
A.—We have got quotations from the Railway. It was six rakes a day, and the lowest quotation was Rs. 250.

Q.—So that with six rakes a day you can get a price from the Railway of Rs. 250 a rake?
A.—Yes.

Q.—How does a ton of this material compare with the cubic yard?
A.—Equally in the wagon. A cubic yard in the wagon weighs a ton.

Q.—You have not used any of the excavating machines up there, have you?
A.—No, Sir. We have got 3 Wilson shovels, and one Bacyrus—4 in all.

Q.—None of them has worked there as shovels?
A.—No.

Q.—Were they all new?
A.—The Wilson shovels were new, but the other was second-hand. It cost £9,000.

Q.—So that for the purpose of digging those machines have been absolutely useless?
A.—Quite.

Q.—You have however used the Wilson machines as crane?
A.—Yes.

Q.—That is only I presume, because you had them?
A.—No, Sir, it was the other way. In 1923 I think it was we wanted more heavy crane in the quarry, and the Chief Engineer called for quotations. And he found he could get those which could be used as cranes for very little more than the price of a crane, that is why they were bought; they were really required as cranes.

Q.—Was not the primary object of buying them that they should be worked as navvies?
A.—No, Sir. It was that they should work them as cranes.
Q.—Surely there is considerable difference in prices between a navvy and a crane?
A.—No, I think it was £240 or something like that. I am talking from recollection.

Q.—As it is you were filling the trucks by cranes and skips. What would be the difference of price between filling it in skips and filling it in wagons direct?
A.—I have not worked that out, but I think it is possibly half an anna a ton.

When our men worked in the quarry they had not to do any lifting at all.

Q.—That is not so to-day.
A.—No.

Q.—Your price to-day is based on lifting it up?
A.—Yes.

Q.—Is the 5 feet on which extra payment is made measured from below the level of the rail or the top of the truck?
A.—Below the level of the rails.

Q.—That puts nearly an anna into the?
A.—Yes, but the proportion loaded from that depth is small.

Q.—Who made the contract for unloading this material?
A.—The Chief Engineer.

Q.—What is the price you pay for that?
A.—Two annas a cubic yard.

Q.—I was told 2½ annas the other day?
A.—You asked me what I had calculated. I said 2½.

Q.—I was told the price being paid was 2½ annas?
A.—No, that is wrong. It is a mistake.

Q.—Mr. Thomas told me you were actually paying 2½ annas.
A.—Unless my memory is very bad, it is not so.

Q.—Let me see the actual vouchers on which you pay for the loading material in the quarry?
A.—Yes, Sir.

Q.—Is that two annas for unloading the same behind the wall where you are unloading to-day as on the side where it has been carried 100 feet?
A.—Yes.

Q.—Why did you do that?
A.—That was the way the contract was given.

Q.—But suppose you are tipping ten times as much behind the wall, the price would be very unfair as against Government?
A.—It would. But the quantity of earth which can be tipped direct from the wall is only a small portion of the whole contract.

Q.—Should you not have a contract that is elastic for different works? Would not the proper price for tipping that material from behind the wall where they are tipping it to-day be about half an anna?
A.—Yes, it would be so if it was a contract by itself.

Q.—What overhead charges have you at the present time at the quarry to put on to this filling? There is superintendence you have told us.
A.—We have got the Power House to repair the wagons, and maintenance generally.

Q.—Can you tell me why it is done 23 miles away?
A.—We had a better workshop there and more machinery in the quarry to look after.

Q.—Coming to these overhead charges, you had cranes, one or two locomotives and a drilling plant. How many locomotives have you?
A.—We have got three. One is working. It costs Rs. 50 or 60 a day, coal, stores, wages and everything.

Q.—It seems to me a very very high price. What does coal cost here?
A.—Rs. 18/4 per ton.

Q.—How do you get Rs. 50 or 60 a day?
A.—Coal is about 1½ tons. Then there is the driving crew.

Q.—How many?
A.—I work in two shifts. The locomotive works from 5 o'clock in the morning till 10 o'clock in the night. That accounts for the high prices.

Q.—What are your overhead charges?
A.—Repairs to the wagons, pumps for supplying water to the camp and the works generally.

Q.—Within the next day or two can you give us a statement of what your daily overhead charges are over the actual cost of filling? We have got it that you pay five annas a ton for filling.
A.—I have got a statement here that will perhaps answer you.
(Mr. O'Bores puts a statement showing the actual cost of the filling of the earth at the quarry.)

The establishment comes to Rs. 5,135 per month.

Chairman.—That document is complete with that addition?

A.—Yes.

Q.—Can you tell me why you are repairing the dredging plant of the quarry?

A.—We are doing so at a less cost than would be charged by the commercial houses in Bombay.

Q.—You have got there extensive and elaborate workshops?

A.—I think very good workshops.

Q.—I did not say "good". Don't you make those concrete blocks for storm water drains?

A.—Yes.

Q.—Did you have a programme given to you as to the number to make in one year yourself?

A.—Yes.

Q.—Can you tell me why the blocks made in 1923 are still unused?

A.—Partly because they did not use the blocks as quickly as anticipated. Also because the works were suddenly shut down about a year ago.

Q.—Even then, that was in 1925. Even then those blocks were made two years before they could possibly be wanted.

A.—If they worked out their programme they could have been used.

Q.—The programme could be varied.

A.—It was not varied.

Q.—You were given a programme which was never altered?

A.—Yes.

Q.—Why should not those blocks be made down here at the site?

A.—We had the stone, the ballast of the quarry ready.

Q.—Did you have the cement there?

A.—No.

Q.—Did you have the water supply there?

A.—We had water. In the dry weather water was always difficult with us.

Q.—Where did the cement come from?

A.—All Indian cement. It was Dwarka cement which is somewhere in the north here. It was taken from Bombay to Kandivali and then brought back. I think it must be. It was sent by the Materials Division. I think they supplied every thing from Bombay.

Sir Frederick Hopkinson.—Have you tried any of the navvies for filling material?

A.—I tried with the Wilson navvy with a driver who had never done it before. I could not get anybody else.

Q.—You would not call it a fair trial?

A.—No; there was no fair trial.

Q.—A navvy requires a man of considerable skill and considerable judgment?

A.—Yes, but I have not got such a man.

Sir M. Visvesvaraya.—In the statement given by you you have given the cost of earth per ton at 15 as. 10 pies. What other charges have to be added to this in order to get the final rate for filling?

A.—All the charges of the Bombay end of the work such as shunting and unloading.

Q.—Do you happen to know the rates?

A.—I think it will be about four annas.

Chairman.—What is four annas for?

A.—For shunting and unloading.

Sir M. Visvesvaraya.—You have got Rs. 1 here roughly and you want to add 4 annas. That will be Rs. 1-4?

A.—Yes.

Q.—What other charges have to be added in order to get the final rate in the estimate?

A.—Establishment has got to be put in there, and you will have to allow for settlement.

Q.—Dry filling has cost 1:56 rupees per cubic yard. This figure was given by the Development Director. Do you agree that that rate represents the correct cost now?

A.—No, it is less now.

Q.—By how much roughly?

A.—20 per cent.
Q.—It is Re. 1 for delivery, 4 annas for emptying and filling and 15 per cent. to be added for shrinkage and the rest I suppose would be for overhead charges?
A.—Yes.

Q.—So there will be a saving of about 20 per cent. on the estimate put for last year?
A.—There will be a saving of about 20 per cent.

Q.—So it will cost you 1'25 per cubic yard consolidated at the site?
A.—No, Sir, I said the actual cost per ton in Bombay. The quarry charge plus rate of 4 annas for Marine Line charges. Now you have to add 15 per cent. to that.

Chairman.—If you add 15 per cent. to 1'4 it comes to 1'7.

Sir M. Visvesvaraya.—1'7 is the correct rate now. You have no idea of overhead charges for supervision.
A.—I do not know.

Q.—If instead of having two rakes a day you had ten rakes as Sir Frederick said just now, by how much could you bring down the cost on account of the quantity being large?
A.—I think 25 per cent.

Q.—You can bring down the cost by 6 annas roughly?
A.—Yes.

Q.—What is the advantage of filling from the Back Bay if you can get dry filling at Re. 1'1 per cubic yard? Now dredging costs 1'3 rupees? Did you add for shrinkage and the rest I suppose would be for the quarry?
A.—1'3 was taken on the results of the dredging experience of last season. This season has given very much better results.

Q.—From the Development Director's statement it is 1'3, and it is the latest figure, per cubic yard?
A.—I do not know about that.

Q.—What is the output at present delivered here per day?
A.—2,000 tons.

Q.—How much for a month?
A.—I think 365 working days in the year.

Q.—It would be per annum 5,70,000. Can you increase the daily supply about 5 or 6 times if necessary, if Government asks for it?
A.—I think there is a possibility of it, but it must be thoroughly investigated.

Chairman.—You mean that the material has to be found?
A.—The material has to be found and then you have to make arrangements with the railway, a railway running its own passenger traffic and its own goods traffic.

Sir M. Visvesvaraya.—They could take six rakes a day and they may go further than that?
A.—I do not know.

Q.—They have recently doubled the line?
A.—Only as far as Grant Road Station. They have still to run over the old track between Grant Road Station and the works.

Q.—What is the amount you have spent on permanent way and rolling stock, roughly?
A.—I am afraid I cannot give you that figure.

Q.—You have spent about 30 lakhs on both?
A.—I do not think so much as that.

Q.—That is the estimate for the permanent way and the rolling stock together?
A.—I do not know. I have not got the figure.

Q.—How much more rolling stock would you need to deliver six times?
A.—If it can be arranged that each rake shall do one round trip for a day, it would mean about 350 waggons.

Q.—How many waggons have you got?
A.—238.

Q.—How many are sick?
A.—Six at the quarry at present. I do not know what we have got in Bombay.

Q.—You have never calculated what additional rolling stock is required?
A.—The cost of the wagon out here is estimated at Rs. 7,000 each.

Q.—The Railway only lent you the use of their permanent way?
A.—They supply the locomotive, the brake vans and the guards. We do not use our own locomotives.

Q.—Supposing more earth is required, where would you look out for additional soil or material?
A.—I have tried to find it out at places near Kandivli?

Q.—You do not think there is any other place nearer the works on the Bombay side?
A.—Not to my knowledge.
Q.—Could you not get the stock from any of the railway stations on the road?
A.—Nearly all the land alongside the line is too low.

Q.—If you have a bed of clayey soil, you might use it for storing water?
A.—It could be so used if required.

Q.—You are the Superintending Engineer of the works?
A.—Yes, and Mr. Elgee is the Chief Engineer.

Q.—Your position is that of a Superintending Engineer, Public Works Department? and you have two Executive Engineers under you?
A.—I have one Executive Engineer in Bombay.

Q.—You have got two separate sections?
A.—Yes, Kandivili and the works in Bombay.

Q.—Does any Executive Engineer submit his papers to you for orders?
A.—No, they are all submitted to the Chief Engineer.

Q.—You are not concerned either with the dredging or the filling in each block?
A.—I am not concerned with the dredging and have no means of ascertaining the quantity dredged.

Q.—What accounts do you submit monthly?
A.—All the accounts called for by the Public Works Department Code.

Q.—The Executive Engineer’s accounts come to you?
A.—No.

Q.—Do you take out quantities and rates once a month?
A.—They are done at the quarry certainly.

Q.—You are not concerned either with the dredging or the filling in each block?
A.—I am not concerned with the dredging and have no means of ascertaining the quantity dredged.

Q.—What is the measurement system adopted for measuring works now at the quarry? You have nothing to do with the dredged filling or with moorum filling?
A.—With dry filling, yes.

Q.—How are the measurements taken?
A.—These are taken over the weighbridge at Kandivili which are periodically checked and are accepted for all calculations.

Q.—Is there a separate store-keeper? Where do you get your stores?
A.—I have got one assistant store-keeper here at Marine Lines and one at Kandivili.

Q.—Are any of your works placed under objection by the Accounts Department, because the estimates have been exceeded?
A.—Yes, unless we have got previous sanction for an excess. But we have none at present.

Q.—When do you check the actual output of moorum. At what intervals do you check the actual quantities?
A.—We do not check. As I said, we work entirely on the weighbridge.

Q.—You do not know what material is deposited. That you leave to the end of the year?
A.—Yes.

Mr. Billinoria.—Under whose orders do you work?
A.—The Chief Engineer.

Q.—Your designation is Superintending Engineer?
A.—No. Deputy Chief Engineer.

Q.—Your duties are those of the Superintending Engineer. You have under you a Sub-Engineer?
A.—I have got one Executive Engineer under me in Bombay. For the quarry I have a Sub-Engineer.

Q.—What is your salary?
A.—Rs. 2,200 a month.

Q.—And the Executive Engineer’s?
A.—I think about 1,500, I am not quite sure of that.

Q.—Do you really want a Sub-Engineer and mechanical foremen? Is there work for them both?
A.—Yes.

Q.—Are they kept fully busy the whole day?
A.—Yes.
Q.—You have said that you have four months supply at the quarry now for mororum and you intend acquiring adjoining lands? Do you know what it will cost you to acquire?

Chairman.—Do you intend to acquire the adjoining land?

A.—I have put up a proposal before Government for acquisition of land immediately adjoining the Kandivli quarry.

Mr. Billimoria.—Do you know what it is going to cost you for acquiring that land?

A.—No.

Q.—What area are you going to acquire?

A.—About 30 acres.

Q.—How long do you think it will serve your purpose for dry filling?

A.—At present rate I think for about one year.

Q.—How deep will you have to dig?

A.—Nine or ten feet.

Sir Frederick Hopkinson.—On that point can you give me an estimate of what amount the purchase of land will put on the cost of a cubic yard?

A.—I do not know the value of the land. I know the railway had to pay 4 annas per brass a little more than an anna per ton as royalty.

Q.—Do you think we should not get cheaper than an anna per cubic yard? It is likely to cost more there?

A.—I do not think it is likely to cost less. We may have to dig over a very large area to get the same amount.

Q.—One more question. Are you prepared to stand by that statement which you put in this morning?

A.—Yes.

Mr. Billimoria.—You have got some special concession from the Railway company to carry your stuff from the quarry to the Marine Lines?

A.—I do not know about concession. We have now Rs. 300 for one rake a day, Rs. 250 for two rakes a day and I think Rs. 150 for six rakes for a day.

Q.—Would that charge be the same thing for an ordinary contractor?

A.—Our present rates work out lower than ordinary freight rates.

Q.—Because of the quantity of the material supplied?

A.—It may be.

Q.—This is a special concession which is not ordinarily to be obtained elsewhere for an ordinary contractor?

A.—The contractor will have to make his own arrangements with the railway.

Q.—What is your actual cost for stone extraction per hundred cubic feet?

A.—Rs. 10.

Q.—Have you actually worked it out? Is it Rs. 10?

A.—No.

Q.—Do you think it extravagant or moderate?

A.—Moderate.

Q.—The stuff can be had very easily. Do you think Rs. 10 is moderate?

A.—I think it is a reasonable cost.

Sir Frederick Hopkinson.—Does that cover everything?

A.—Yes, that covers all charges.

Q.—What is the cost of the plant at Kandivli?

A.—The actual purchase price of the plant was 22 lakhs. This is a rough figure which does not include the cost of the waggons.

Q.—Could you tell me what is the actual expenditure at your quarries up to now?

A.—About 45 lakhs.

Q.—In the cost statement that you have given you have taken into account depreciation and interest charges? If you take that into consideration, what would your cost work up to?

A.—I cannot tell that.

Q.—It will be very much more than Rs. 10?

A.—I cannot say without working it out.

Q.—If you had given the work on contract to an ordinary contractor, it would be much below Rs. 10?

A.—I do not think so.

Q.—What is the Salsette railway doing?

A.—I have nothing to do with them. Our plant consists of light railways, sentinel wagons, elevators, etc.

Q.—Is that plant necessary?

A.—We are not using them at all now.
Q.—It was all ordered out?
A.—Yes.
Q.—What for?
A.—They have been used.

Q.—What does it cost, about 22 lakhs all told?
A.—Yes.
Q.—You mean the 43 lakhs covers everything?
A.—Yes.
Q.—You have not taken into account depreciation?
A.—No.
Q.—What is the correct basis of working out whether a scheme is going to be profitable or otherwise, if you do not take into account depreciation and interest?
A.—The cost of the plant is shown in the project estimate. Running costs are shown separately.

Q.—What do you expect to realise out of the 43 lakhs spent on the quarries if the quarries are exhausted?
A.—I have not estimated yet. Approximately 5 lakhs. But it is only a guess.
Chairman.—Now about the acquisition of land, at the present moment you have a certain area of land at Kandivli which as regards murrum is more or less worked out?
A.—Yes.
Q.—If you are going to transfer more murrum to the reclamation site you will have to find some more land?
A.—Yes.

Q.—And it will have to be land that will give you the necessary murrum and within reasonable working distance of a railway?
A.—Yes.
Q.—The first step would be to have a certain sum of money to acquire that land out and out or to acquire the right to take away murrum on a royalty basis?
A.—Yes.
Q.—That would be the first expense?
A.—No, Sir, I think the first expense would be the prospecting of the earth to be found.
Q.—Assuming that you have made careful borings and are satisfied that, the stuff is there, that is the first essential, is it not?
A.—Yes.
Q.—In the same way if you are going to dredge the sea bay the first essential is to satisfy yourself that you have got the material fit for dredging and in sufficient quantity?
A.—Yes.
Q.—And equally essential is to ascertain whether you can get dry filling?
A.—Yes.
Q.—The problem is the same both on sea and land?
A.—Yes.
Q.—Now if you are going to increase your rolling stock to make ten journeys a day that would require 350 extra wagons?
A.—Yes.
Q.—And that alone would amount to 24½ lakhs at Rs. 7,000 each?
A.—Yes.
Q.—Re. 24½ lakhs, or £170,000. It is rather a big undertaking, is it not?
A.—A lot of money.
Q.—At the end of the time what would the £170,000 worth of wagons be worth?
A.—One-third to half of the original cost.
Q.—Where are you going to sell them?
A.—The railways may find them useful; very good wagons they are.
Q.—Would you have a reasonable prospect of selling them in India at a third of their original cost?
A.—I should think so.
Q.—You think you can get back the 8 lakhs?
A.—Yes.
Q.—At all events it is a very big undertaking?
A.—Very.
Q.—To begin to prospect for a new site for murrum excavation and to get all the necessary plant and to bring it down rapidly to the spot?
A.—Yes.
Q.—Now, as regards the dredger “Kain”, she was bought as we know for £75,000 and taken over in May 1922. There had been complaints from Sir George Buchanan
saying that he had been kept in the dark about a variety of matters since he had left Bombay?
A.—Yes.
Q.—You wrote to him on the 30th June 1922 saying "I think the reason for the lack of information which should have been sent you regarding the work here since February last may be entirely put down to Mr. Lewis's indisposition since that date"?
A.—Yes.
Q.—Then you write "As I have already informed Sir George Buchanan I took over on the 20th May and shall see that you are now kept fully informed of the progress of the work"?
A.—Yes.
Q.—Did he make a complaint to you or the Director that during the period you were in charge any information was withheld?
A.—Not to my knowledge.
Q.—I notice that one of the things you wanted done was Government's sanction for a costing assistant. At the end of your letter of 14th July 1922 to Sir George Buchanan you say "Government have refused to sanction the appointment of the cost assistant as asked for in Lewis's note on costs, but this I think can be got over." Did you get over it?
A.—Yes.
Q.—That is good. Now going back to "Kalu", did you estimate, on the 25th of August 1922, that the "Kalu" would require overhauling to the extent of 4 lakhs?
A.—I do not remember it.
Q.—Here is your letter of 25th August 1922 to Messrs. Meik & Buchanan: "I have also allowed Rs. 4 lakhs for the overhaul of the 'Kalu'. We had her surveyed by Mr. McMurray of the Port Trust and he estimates this sum will be required to put her in proper working order. I send you a copy of his report herewith." Now does the passage which I have read recall to your recollection the acting taken upon this. You allowed 4 lakhs for overhauling?
A.—I think we must have.
Q.—And was that figure subsequently reduced by a letter of the 20th of February 1923 to Rs. 3,65,000?
A.—No; she had done no work since her purchase.
Q.—The Development Department are debited with £75,000 for her purchase, and before she does any work at all, Rs. 3,65,000 have to be spent to put her into working order?
A.—That is it.
Q.—Can you as a businessman imagine how she could be given any certificate of fitness which would persuade the authorities to buy her?
A.—I take it, it is much the same as buying a second-hand motor car or other machine. You may buy the car from a garage where it has been thoroughly overhauled, or you may buy it from its owner knowing that it requires overhaul.
Q.—We must look into the facts in each case. But if it was reported as fit and ready for work and £75,000 was paid for her, somebody must have made a mistake?
A.—Yes.
Q.—We must ascertain the particulars under which the Development Directorate bought her for £75,000. We must see the correspondence relating to it and if there is anybody in Bombay who acted as a principal in that transaction he ought to come and give evidence?
Mr. Billimoria.—Mr. Neilson mentioned that both "Kalu" and "Jinga" were disposed of by the Port Trust for Rs. 8 lakha. Was it not for the Development Department?
Chairman.—As I understand the position, Mr. Neilson said that these two dredgers were sold out and out for 8 lakha to the Imperial Government and thereafter they had no further concern with them. The next thing we know is the Government of Bombay agreed to pay £75,000 for the "Kalu". What we want to know is—we know that Sir George Buchanan advised the purchase—what we want to know is whom did the Government of Bombay employ to ascertain that for £75,000 they were getting good value?
Mr. Billimoria.—What was the interval between the Port Trust selling it to the Government of India and resale by the Government of India to the Development Department? Did it undergo exhaustive repairs before it was handed over?

A.—I think they were going for about six years. I know that “Kalu” was in Bases in 1916 when I went up there. I think it must have been working for six years previously. But she was not worked at all in the meantime.

Q.—If she has worked for six years, there would be depreciation in value?

A.—The costs had gone up enormously in six years. The costs of 1914 and 1919 are entirely different.

Chairman.—We must find out somebody in India who can tell us anything about this transaction and specially whether any certificate was given as to her condition at the time that she was sold for £75,000?

Coming to another matter, Sir Frederick asked you about cement blocks which were designed to carry the storm water drain. Is it not a fact that the use of these was either abandoned or greatly curtailed, because it was found that the bed of the sea was not suitable for them?

A.—No; I had no trouble about it here.

Q.—We were definitely told that, that they were unsuitable for the bed of the sea when they came on rock?

A.—Yes; I apologise; it is so; they found that to be so in certain sections.

Q.—So that when they had carefully explored the bed of the sea or when they were actually doing the work they found that these blocks were in parts of the work unsuitable for the bed?

A.—They were unsuitable for the sea in certain places.

Q.—About how many blocks do you estimate are lying at Kandivlee?

A.—1,400.

Q.—How much are they worth each?

A.—Rs. 189.

Q.—Are they ever going to be used?

A.—Yes; when the reclamation is completed.

Q.—So that there are at present £31,000 worth of blocks lying at Kandivlee? And as Sir Frederick has pointed out, some of them have been there since 1923? (There is the date stamp on each one of them.)

A.—Yes.

Q.—Now as regards the 20-ton crane which we saw on the sea wall, was that ever in fact employed to lift 20 tons?

A.—Not to my knowledge.

Q.—The crane was ordered because it was believed that she would swing out 20-ton blocks pell mell into the sea?

A.—Yes.

Q.—In point of fact 8 tons is the biggest load that she really ever takes?

A.—Yes.

Q.—And is that a very unusual load?

A.—It is the maximum.

Q.—Usually the utmost is 5 tons?

A.—About that.

Q.—Therefore to that extent the money has been thrown away?

A.—Yes.

Q.—Now, with regard to the three navvies that we saw, they cost £9,000 each, don’t they?

A.—I have not the figures.

Q.—I think you may take that as correct. And the big one cost £99,000. Now, the object of the navvy is to shovel up?

A.—Yes.

Q.—If you can get a sufficiently big face and get an expert man to drive the navvy you get extremely good results? It was no doubt with the object of getting good results that the £18,000 was spent?

A.—What was first required was crane...

Q.—I shall come to that later. I think there is a great deal to be said for the way in which you are putting it. At all events, one of the objects for which they were bought was for their ordinary use as navvies. On the 17th March 1929 Mr. Lewis wrote a letter to Messrs. Meik & Buchanan enclosing a very long list of articles that were required. Would you look at that and tell me if you ever saw a copy of that letter, or have any communication with Mr. Lewis about it?

A.—Mr. Lewis spoke to me about four wheeled locomotives and about the navvies. But not, to my recollection, about the rest of the gear.

x 105—17
Q.—You will find it is substantially correct in a few minutes?
A.—The other items I do not recollect.

Q.—And those were supplementary machinery required partly for quarry work and partly for the sea-wall?
A.—Yes.

Q.—Do you remember whether you ever saw the letter of the 11th April which Sir George Buchanan wrote in reply?
A.—I do.

Q.—The point of this letter is that the firm of Messrs. Meik & Buchanan said that a great deal of this was unnecessary and they were advising the Development Directorate to cut down their demands?
A.—Yes.

Q.—It is only fair to state that, because it has been said that Meik & Buchanan were getting a percentage upon the amount spent, and therefore he would unnecessarily indulge in extravagant expenses and encourage such extravagance. This letter, at all events, of the 11th April 1922 shows that the firm were trying to prevent the Development Directorate spending money on some portion of the suggested requirements and that was followed by the letter of the 12th April 1922, suggesting that the large type of engine which had been specified for in the letter of the 17th March should not be bought and that the train should be run in two parts, the engine to be of the size of the Moss Bay type?
A.—That is right.

Q.—In the letter of the 17th March, No. 20 crane navy was asked for and it is introduced in this way: "We require more lifting power at the quarry to deal with the heavy protection stone. We shall also require to deal at a later period with large quantities of moor-rock."

And that machinery in fact was not supplied?
A.—Not supplied.

Q.—There was a telegram on the 3rd May 1922 from the Chief Engineer to Meik & Buchanan which begins "Referring to your letter of the 11th ultimo, discussed with Sir Lawless Hepper") (that is the letter in which Meik & Buchanan were questioning the necessity for all this plant). "Additional lifting power is wanted to handle increased quarry output and 3 Ruston navvies should be supplied."

Chairman.—On the 3rd May, the Chief Engineer writing says, "Sir Lawless Hepper agrees with me that it is best to get the cranes at present. The craneage at the Quarry was originally allowed on the basis of 1,000 tons in a day. I have since re-allocated two 7-ton cranes, one each to Colaba and Marine Lines, and something more has to be got for the Quarry. We have to handle large blocks as these have to be stored as they are obtained in the course of quarrying operations, and in order to do this we must have adequate crane power. These three navvies will also enable us to get out the morum which will ultimately be required and it seems to me that as they will work as 20-ton cranes at a radius of 23'-6", they would be of more use than ordinary plain cranes. In the telegram I am asking you to proceed with the purchase of all the three cranes."

So that as a result of instructions of the Development Directorate three 20-ton navvies were purchased?
A.—Yes.

Q.—Have they lifted any stone?
A.—Occasionally they have.

Q.—You said just now 7 tons was the maximum.
A.—I forgot. It may have gone up to 8 or 9.

Sir Frederick Hopkinson.—That is exceptional?
A.—Yes, exceptional.

Chairman.—Have they ever done anything more than a 7-ton crane could do?
A.—No.

Q.—You might want three ordinary 10-ton cranes there?
A.—Yes.

Q.—You had work for three?
A.—Yes.

Q.—In fact, you have also got there the navy costing £9,000. What power has it?
A.—I forgot at the moment.

Q.—Has it ever lifted anything?
A.—No.

Q.—It represents £9,000 and is lying idle?
A.—Yes.

Q.—Has it done any work as a navy?
A.—No.

Q.—The only ones that have done work are the three Wilson navvies?
A.—Yes.
Q.—As regards the 10-ton cranes, would three 10-ton cranes have cost considerably less than three 20-ton navvies?
A.—They would cost less, but I cannot possibly say how much.

Q.—You said an attempt was made to work upon the face of the murum by means of steam shovels?
A.—Yes, it was not a fair attempt.

Q.—One of the reasons was that you had not got a sufficiently good face?
A.—We had a good face for a very short area.

Q.—You have not been able to work the three Wilson Steam Shovels at Kandivlies?
A.—No.

Mr. Billinoria.—A crane which cost you about £9,000 is lying idle and getting rusty?
A.—We take care of it. We keep it as well as we can. We clean it and keep it oiled.

Q.—You do not expect to use it?
A.—I do not see any prospect.
Q.—Is there any possibility of disposing of it?
A.—I don’t think anybody would buy it.
Q.—So, this money is gone?
A.—We might get something. I do not know what they might get; I have no idea. I am really not in a position to give any idea.

Sir M. Visvesvaraya.—You acted as Chief Engineer for some time?
A.—Yes.

Q.—Supposing you accelerated the moorum filling to about six times the present output, that will bring about 12,000 cubic yards per day?
A.—Yes.
Q.—And taking about 300 days in the year, it will be nearly six million cubic yards?
A.—Yes.
Q.—You know the rate for dredging, and that for moorum filling...?
A.—I don’t know this year’s rate for dredging.
Q.—Can you do about 1½ million cubic yards per annum by dredging and 6 million cubic yards by moorum filling?
A.—It might be possible to do so.
Q.—You have had experience as Chief Engineer. (This is a broader question.)
A.—Six million cubic yards by dry filling. It is a possibility, that is all I can say.
Q.—Six million cubic yards of dry filling and a million and a half of cubic yards by dredging?
A.—Six million cubic yards of dry filling will mean a bigger proposition than twelve trains a day. It will take about twenty trains a day, with 285 working days in the year.

Q.—Couldn’t you work on the 300 days basis?
A.—We do not work on Sundays, then there are holidays and rains knock out some days.
Q.—Supposing you made a special effort?
Sir Frederick Hopkins.—Do you think it possible to work 340 days? You have done for 340 days in the year?
A.—On other works, in Burma I have worked 285 days.
Chairman.—What in fact have you averaged here?
A.—I should think it is about 285.
Q.—Take 285 as your limit.

Sir M. Visvesvaraya.—That is, about half a million cubic yards per annum you are doing now?
A.—Yes.
Q.—Supposing you are asked to do 6 million cubic yards?
A.—It means 18 times as much.

Q.—Is it an impossible proposition?
A.—It is very very big. We have to make a great deal of investigation.
Q.—Assuming that it is possible, you will have 7½ million cubic yards per annum.
Chairman.—I do not think the witness is prepared to assume it is possible.
Mr. O’Booke.—6 million is very big.

Sir M. Visvesvaraya.—Supposing you bring up material also in lorries?
A.—Only very small quantities could be so obtained.
Q.—Both combined, you would not be able to collect 6 million cubic yards?
A.—No, I don’t think so. I think that it is too high.
Q.—Then what is the maximum you could provide daily or yearly?
A.—We might do 3 million per annum.
Chairman.—Have you ever succeeded in finding a site just within a reasonable distance of a railway having the same gauge as your present track? That is essential?
A.—Quite essential.
Sir M. Vissessaraya.—If you could provide 6 millions for mookum filling and a million and a half by dredging, it means 7½ million cubic yards per annum total, that is, in three years you will be able to complete the project?
A.—Yes.
Q.—Then 6 million cubic yards at Rs. 3½ would cost about Rs. 75 lakhs?
A.—Yes, about half a million pounds.
Q.—Rs. 75 lakhs will be the value of work done in one year and in three years about 215 lakhs. About 240 lakhs will be required to complete the whole work?
A.—Might be.
Chairman.—You have to add the cost of the acquisition of the land and the cost of the rolling stock.
Sir M. Vissessaraya.—Supposing you spent about 240 lakhs and reclaimed 40 lakhs of square yards, even at Rs. 20 per square yard of land, it will mean 8 crores of rupees worth of land reclaimed. You have a possible income of 8 crores as against an expenditure of 240 lakhs. Do you think that that proposition would appeal to you as Chief Engineer?
A.—No.
Q.—What are your reasons?
A.—I don’t believe you will sell the land.
Q.—It will appreciate Rs. 50 per acre if you sell slowly, but you may assume Rs. 20 to spread the sale over a long period?
A.—I think the main difficulty is selling land. If you are dead certain about it, it will be a nice proposition.
Mr. Billimoria.—Supposing you brought out 3 millions, would it not interfere with the railway traffic?
A.—All I can say in connection with that matter is that it is doubtful whether they could run those rakes. We have never asked the Railways to handle more than six rakes.
Sir Frederick Hopkins.—Did you have anything to do with the original requisition for the plant?
A.—Yes. I was in Messrs. Meik and Buchanan’s office for about 3½ months.
Q.—In connection with the preparation of the plan?
A.—From the 4th September to the next two months.
Q.—Can you tell me if the wagon was supposed to be 20-ton or 30 cubic yard wagons?
A.—I think 20 tons.
Q.—Not 20 cubic yard?
A.—No, 30 tons of stone.
Q.—Because I notice that you have increased the size. Otherwise you could not have got 20 tons.
Chairman.—With regard to the suggestion that it might be possible to bring down 6 million cubic yards of mookum a year roughly, do many unknown factors enter into it? Would you prefer to say whether it is possible or not? As regards price, is it impossible to say at what price it would be done?
A.—Yes.
Q.—First of all you have got to find the locality that will give the 6 million cubic yards a year; then you have got to make arrangements to be allowed to excavate them?
A.—Yes.
Q.—You have got to make railway lines connected with the nearest station and the railway has to be of the same gauge as the connection?
A.—Yes.
Q.—You have got at least to spend £300,000 on new rolling stock?
A.—Yes.
Q.—You have got to have additional labour and if you are going to get out that quantity, you will have to have a face on which you can use the steam shovels?
A.—It might be done by coolie labour if you have a big enough area.
Q.—Would there not be almost an army of coolie labour?
A.—Yes.
Q.—Then you have to provide places for the housing of your people?
A.—Yes.
Q.—Altogether is it possible to say whether your 6 million will cost you one rupee or three rupees per cubic yard?
A.—I don’t think it goes as high as Rs. 3.
Q.—Before you can go into the matter you have got to find your land and ascertain the price that you can acquire it for?

Sir Frederick Hopkins.—When you were in Buchanan’s office, did you have a general scheme mapped out as to how the work was to be done in all its details?

A.—Only rough.

Q.—The whole thing calculated exactly of what quantities and what plant would be required?

A.—I think the quantity as given in Sir George Buchanan’s report of 1919.

Q.—Are they the only quantities you have?

A.—We had no surveys, levels.

Q.—Had you designs of the quarry at Kandivlee?

A.—No.

Q.—Or how the stones are going to be tapped?

A.—No.

Q.—Or how the quarry is going to be worked?

A.—Had not even a survey.

Q.—Did you have a design showing how the Colaba end of the reclamation wall is to be built?

A.—No.

Q.—Did you in fact know, did you have any idea how it was going to be worked?

A.—No.

Q.—Dr how the quarry is going to be worked?

A.—Had not even a survey.

Q.—Did you have a design showing how the Colaba end of the reclamation wall is to be built?

A.—No.

Q.—Have you had any experience of carrying on works of this kind?

A.—I was in Rangoon Port Trust.

Q.—Do you have a design showing how the Colaba end of the reclamation wall is to be built?

A.—No.

Q.—Before that?

A.—I was in charge of the quarry and was in Rangoon River Training Works.

Q.—Were thought it was a similar job as Mr. Lewis had done in Burma, and we went on that basis. I didn’t have much to do with that.

Q.—Have you any experience of carrying on works of this kind?

A.—I was in Rangoon Port Trust.

Q.—Doing anything of this kind?

A.—I was in charge of the quarry and was in Rangoon River Training Works.

Q.—Before that?

A.—I was in Burma Railways.

Q.—That is construction?

A.—Construction.

Q.—A very different thing from this?

A.—Very different.

Q.—Did you have to buy a large plant?

A.—I was only Assistant Engineer.

Q.—Would you agree with me now that the preparation of a full scheme showing in all its details how every part of the work is to be worked was absolutely essential before a proper plant could be purchased?

A.—It was, but the dredger was already purchased. We had to get on with work. We knew that the dredger would be lying idle for at least 12 months.

Q.—Now, if you were a contractor carrying out this work, it would be absolutely essential for you to know exactly how much plant you want?

A.—Yes.

Q.—Otherwise, if you did not buy enough money for your plant, you would lose thereby, lose heavily. On the other hand, if you ordered twice as much plant, you would not be successful in getting the work done profitably?

A.—Yes.

Q.—Now, supposing this work had been carried out by a contractor who understood his business, would it not be absolutely essential for him to know exactly, not approximately but exactly, how much of every kind of plant he would require?

A.—Yes.

Q.—Also the total cost of that plant?

A.—Yes.

Q.—Do you think any contractor would have given a price for doing the work upon the materials available in 1919?

A.—No.

Q.—Quite impossible?

A.—Quite.

Q.—Take the case of drains, there was no design for them?

A.—No.

Q.—In Sir George Buchanan’s estimate he put the cost down as 75 lakhs?

A.—Yes.

Q.—Then subsequently it has been raised to 211 lakhs, about three times as much?

A.—Yes.
Q.— If the contractor had undertaken the work for 75 lakhs, where do you think he would have been?
A.— Bankrupt, of course.

Q.— Would not the contractor know exactly what supervision it required before he started the work? He would calculate the number of Engineers, clerks, accountants, and everybody required?
A.— Yes.

Q.— Would not he design also how the crushing of stone should be done for concrete walls, and in fact every detail? I understand from you not one of these has been done?
A.— Not until I arrived here.

Q.— By which time the whole of the plant was purchased?
A.— Yes.

(\textit{The Committee re-assembled at 3 p.m. on 10th August 1926, all the Members being present, and continued the examination of Mr. O'Rorke})

Sir Frederick Hopkinson.— You told us this morning that you spent two and a half months in England?
A.— Yes.

Q.— What date was that?

Q.— Had you anything to do with the scheme before that date?
A.— No.

Q.— Were you appointed on the staff of this project before that date?
A.— No.

Q.— What did you go to England for?
A.— I saw Sir George Buchanan in his office in London. It must be in July 1920. He told me that he had recommended me for this appointment. Later on (I cannot remember when), I got a letter from Mr. Lewis saying he had arrived in London and had started work on the scheme at Messrs. Molk and Buchanan's office.

Q.— When Mr. Lewis told you that, was he Chief Engineer for construction purposes?
A.— Yes.

Q.— What did you do on September 4th?
A.— I went to his office and saw Mr. Lewis and found him busy on the plan of the Marine Line railway lay-out. He told me to come every day and help him in getting out specifications and inviting tenders for the plant we wanted.

Q.— I believe that that plant was subsequently ordered about the middle of October?
A.— Yes, I think so.

Q.— Therefore you had five weeks to prepare the list of plant and get in prices?
A.— Yes.

Q.— Did Mr. Lewis give you any general indication of the scheme for executing the work?
A.— Sir George Buchanan's report of 1919 was the basis of our work.

Q.— So that was all the information available at that time?
A.— I cannot think of any other.

Q.— Were any detailed plans prepared for, for instance, the storm water drains?
A.— None at all.

Q.— Were there detailed plans of the gantry?
A.— I think Mr. Lewis got one out in the office.

Q.— In other works there was none?
A.— Mr. Lewis got out a plan of the Marine Lines Yard.

Q.— Was that plan sent out to you to work with?
A.— I had never any.

Q.— Have you got any figures or any particulars showing how you arrived at the quantity of plant likely to be required?
A.— I have got none.

Q.— Did you do any of that work or Mr. Lewis did all?
A.— I think he did.

Q.— It was rather difficult because there were no plans?
A.— Yes, it was difficult.
Q.—You did not know whether storm water drains were going to be made in mass concrete or in blocks? Had you any information?
A.—None whatever.

Q.—Had you longitudinal section on the line of the reclamation wall?
A.—I do not remember seeing it.

Q.—Nothing showing how far it would be feasible to drive poles for the gantry?
A.—Nothing at all.

Q.—You spent two and a half months in making these preparations and then you came out here?
A.—Yes, I arrived in Bombay on the Xmas day.

Q.—I notice in the list of plant that subsequent to the first order, 103 trucks were purchased extra? They cost about £600 each?
A.—Yes, they were required. They cost something like £500 each.

Q.—When was that extra lot ordered?
A.—I do not remember. I think it was a year after our coming out.

Q.—Do you know why they were ordered?
A.—Because they told me they were going to require 2,000 tons of stone from the quarry?

Q.—Originally what did they want?
A.—I think 1,000.

Q.—So that in this interval their idea of progress had been multiplied by two?
A.—Yes.

Q.—I see that the first lot of wagons, 132 were ordered on the 25th October 1920, and the second lot 100 were ordered on the 10th of May 1929. That is about 18 months after.
A.—Yes, that is it.

Q.—So it points to the fact that either they did not give proper attention for doing the work or they found it necessary to practically double their requirements within a year?
A.—Yes.

Q.—The same thing applies to a lot of extra plant?
A.—Yes.

Q.—The whole of the plant seems to have been ordered in October and November 1920?
A.—Yes.

Q.—If these storm water drains had not been built in blocks, it would require a totally different plant than they had obtained for building in mass concrete?
A.—In most cases the plant could be adapted.

Q.—I say you would require quite different plant if you had build mass concrete?
A.—Yes, 10 tons but at Marine Lines we did not use 10 tons. It was gantry.

Q.—Then they would not have been required if you had built mass concrete?
A.—No.

Q.—If a contractor had been making an estimate for carrying out this work, do you think it possible that he could have made a proper and reasonable estimate upon the information available to you in September 1920?
A.—No, I do not think so.

Q.—Was there any specification, etc., for instance, the amount of cement required in the storm water drains?
A.—I do not think so.

Q.—Had you any knowledge of the total amount of work to be done?
A.—I think we knew approximately the length of the sea wall and the average cross section?

Q.—Did that give you the average between the wall at the Colaba end built of concrete on the rock and the same wall built on rubble mound at Marine Lines?
A.—It was decided to build the first 2,000 feet of the Kolaba Wall in mass concrete only after we arrived out here.

Q.—At that time in September 1920 you knew that it was going to be built on rubble mound?
A.—I think so.

Q.—I believe actually 8,000 feet was built of concrete with rubble mound?
A.—It was only 2,000 feet.

Q.—The other 6,000 feet on rubble mound?
A.—Yes.

Q.—Of course in doing that they would require a totally different plant?
A.—I think they used the same mixing plant and timber shutters.
Q.—Of course, if you suddenly increase your quantity from 1,000 to 2,000 tons of stones a day, the quantity of plant for the quarry would have been doubled?
A.—Not all of it; for instance we had one air compressor of 1,830 cub. ft. free air capacity and for the increased output required one to give an additional 500 cub. ft. only.
Q.—So that the first provision of air compressing plant was very liberal?
A.—Yes.
Q.—At that time Sir George Buchanan's estimate had been finished, the one amounting to 367 lakhs. Do you know anything about it?
A.—I had nothing to do with it.
Q.—Did you see any papers giving the details?
A.—No.
Q.—Who would know that, Mr. Lewis?
A.—I do not think so. I think Sir George Buchanan himself.
Q.—There must have been detailed estimate because he worked it out to 367.71 lakhs.
A.—Yes.
Q.—In this estimate of Sir George Buchanan is there any allowance made for cross walls to retain the material?
A.—I do not know how he worked them out.
Q.—If he were imagining figures he would not have got 367.71. That was with the addition of details?
A.—I do not know how he worked them out.
Q.—At that time, in September 1920, when was it expected the dredger would start?
A.—It was expected at the beginning of the season 1923.
Q.—So that you had a year in order to make preparations to enclose the material you were going to dredge?
A.—Yes.
Q.—How would you hold the material?
A.—I think they are necessary. I was not responsible for that.
Q.—You think they were absolutely essential? It was impossible to carry out the work without them?
A.—I say they were necessary to carry out the work properly.
Q.—And no allowance had been made for them in Sir George Buchanan's estimate?
A.—I think not. I am only speaking from recollection.
Q.—Who actually decided on the quantity of plant?
A.—I think Mr. Lewis. He was there in Mr. Meik's office and everything went up through Mr. Lewis to Mr. Meik.
Q.—Had Mr. Lewis anything to do with the decision about the plant?
A.—Everything was done by him. Mr. Lewis put up all such things to Mr. Meik who ordered the plant from the India Office Stores Department.
Q.—Then Mr. Lewis is the man who knows everything about the plant?
A.—Yes.
Q.—Do you think the estimate of 367 lakhs is anywhere near without going into all the details?
A.—I do not think so. At the time I did not consider this point but now from practical knowledge I think it was not.
Q.—Supposing you came out here as Sir George Buchanan came out, do you think you could possibly ask the Government to accept such an estimate as that?
A.—No.
Q.—Would a month here entirely put different ideas in your head?
A.—That is quite possible.
Q.—I suppose almost since you got here you thought the estimate was incapable of being realised?
A.—Yes, I think Mr. Lewis started a revised estimate immediately.
Q.—Did he finish it?
A.—Yes.
Q.—You know what amount he arrived at?
A.—No.
Q.—Was Mr. Lewis in Sir George Buchanan's office when he first started making the estimate?
A.—No. He was Superintending Engineer, F. W. D., Delhi, and was sent by the Government of India to take over this job. He had nothing to do with the original estimate.

Sir M. Vasanadasa.—Was he not employed in Rangoon?
A.—I think he left Rangoon in 1912.

Q.—Was he employed there under Sir George Buchanan?
A.—Yes, as Executive Engineer, River Training work.

Sir F. Hopkinson.—Can Mr. Lewis give us any information of the 367 lakhs estimate?
A.—Yes. After he came out he practically doubled them.

Q.—Did he say anything else?
A.—No.

Q.—What do you consider a reasonable variation should be between the estimates between September of one year and middle of next year? Do you think it ought to vary more than 10 per cent.?
A.—I think it should not vary more than 20 per cent. It depends on the circumstances.

Q.—In the circumstances here?
A.—I do not think it should vary more than 20 per cent.
Q.—I mean putting in the same position in which Sir George Buchanan was?
A.—Yes. If I had all the information.
Q.—In fact all the information was not available?
A.—I do not think, it was.

Q.—Was it possible for any person to make a reasonable and reliable estimate in 1919?
A.—In the circumstances I think it was.
Q.—Was it a wise thing for an engineer in the position of Sir George Buchanan to advise a non-technical body like the Government of Bombay to embark on a huge undertaking of this kind upon such an estimate what would you have done in such a case?
A.—I would have advised Government that the scheme was worth further investigation.

Q.—Do you think an engineer's reputation would suffer if he gave an estimate to work like that which was doubled in a year?
A.—Surely it would.
Q.—Very gravely?
A.—Yes.

Q.—One can understand if in such a case an engineer says, my approximate estimate is 367 lakhs but the details are not yet out but in all probability if you allow 10 or 15 per cent. margin you will be safe. In this case that margin would have been useless but no suggestion of margin was ever made by Sir George Buchanan. It stated definitely that the cost of the work would be 367.71 lakhs.
A.—Yes.

Chairman.—You told Sir Frederick Hopkinson that an estimate ought to be correct within 10 to 20 per cent., that is, with materials, labour, etc., at normal prices?
A.—Yes.

Q.—Were not prices very fluctuating?
A.—Very much indeed.
Q.—Your answer meant that in normal circumstances within 10 to 20 per cent. variation, the estimate should be correct?
A.—Yes.

Q.—But as regards the description of the plant, it did not matter whether you carried out the project in 1919, 1920 or in 1925? The plans would remain constant?
A.—Yes.

Q.—The prices in September 1919 to November 1920 and onwards were changing?
A.—Yes.

Chairman.—There are two words in the Indian language with which everybody is familiar. One is pucca and another is katcha. You know them?
A.—Yes.

Q.—These are used in many different senses. Katcha means incomplete, hasty, bad, ill-considered and is used in all these senses. Pucca means complete, good, careful,
well considered, well done, reliable. Was the estimate of plant as decided at Messrs. Meik and Buchanan's office, katcha or pucca?

A.—I would call it pucca.

Q.—The estimate of the plant required? Would you call it pucca?

A.—Yes. It was as good in the circumstances as we could prepare.

Q.—You already said that as regards the description of plant you ought to know exactly what you wanted?

A.—Yes.

Q.—What was the difficulty in Sir George Buchanan's office in estimating exactly the plant if you had got a proper specifications?

A.—There would have been.

Q.—Was the estimate of plant prepared in Messrs. Meik and Buchanan's office katcha or pucca?

A.—At that time we considered it pucca.

Q.—You consider it katcha now?

A.—Yes.

(This concluded the evidence of Mr. O'Rorke.)

8th Witness

Mr. W. H. Thomas, Executive Engineer, Projects

Sir F. Hopkinson.—What is your full name?

A.—William Henry Thomas.

Q.—What is your position?

A.—Executive Engineer, Projects.

Q.—What does that mean?

A.—When the scheme first started there were a number of subsidiary works and minor parts of the job which required investigation, and it was considered that an engineer who would devote the greater part of his time to such investigations should be employed. There are not only works connected with the Back Bay Reclamation, but connected with the Development Directorate as a whole.

Q.—So that really part of your time has been devoted to Back Bay and part to Development? In other words, what you mean is, so far as Back Bay is concerned, you are partly employed in designing new works that had not been already designed. Amongst those would be storm water drains and any variations considered necessary during the progress of the works. These you would do under instructions from Mr. Lewis?

A.—Yes.

Q.—Have you been in that position from the commencement?

A.—From March 1921.

Q.—So that you are connected with this long before the works started?

A.—Yes. When I came in March 1921 we were just commencing the preliminary works such as the laying-out of the sidings, putting up workshops and that sort of thing.

Q.—When did you actually begin the wall at the Colaba end?

A.—I cannot say when the first piece of concrete was put in, but the work on that wall started in October 1921.

Q.—After you had been here six months?

A.—Yes.

Q.—During the six months you were making preparatory arrangements and you started the wall in October?

A.—Yes.

Q.—Have you got a longitudinal section of the reclamation wall showing the level of the rock throughout?

A.—I have got one here. That would not be quite up-to-date. There is a separate plan showing progress month by month—the plan I showed you the other day.

Q.—Where is that plan?

A.—In the Chief Engineer's office.

Q.—When can we have it?

A.—Within ten minutes.

Q.—Will you send for the progress plan and the plan showing longitudinal section on which the sea-wall was built?

A.—Yes.
Q.—Wore you in charge of the construction of the sea-wall?
A.—Not of any construction. Not in the early days, but I am to-day. I am in charge of the whole work that is going on in the reclamation area apart from the actual dredging.

Q.—Which are the storm water drains that are in progress now?
A.—Two, one at the southern end of No. 2 block and one at the north end of No. 2 block on the lines which divide Nos. 1 and 2 and Nos. 3 and 4. Storm water drain No. 6 is just started. That is between No. 2 and 3 block.

Q.—There is nothing to prevent block one going on?
A.—Nothing.

Q.—You cannot build block 2 until storm water drain is finished?
A.—Not until the storm water drain is finished and a cross band constructed.

Q.—What would the cross band be built of?
A.—Moorum protected by rubble pitching on the sea side where it is subject to the monsoon sea coming through the gap in the wall.

Q.—Have you got plans to show us the borings taken in Back Bay?
A.—Yes.

Q.—These are the borings taken in Back Bay. At what time?
A.—In 1922. We made washborings in 1922 and in the following year further borings with a drill were made.

Q.—What is the number made there, 69?
A.—One boring should have been made at the spot where the number is.

Q.—Here you have got an area divided into a certain number of squares, and at certain points in those squares you have got numbers from 1 to 69. Does that mean there were 69 borings made for that area?
A.—No, Sir. It means we proposed to make 69 borings.

Q.—And how many did you make with the water jet in 1922?
A.—We went as far as 63. On each point where there is a number it was proposed to put down one boring. And in 1922 we went from 1 to 63.

Chairman.—Did you make 63 separate borings then?
A.—No. I have not the actual number. We only took borings on alternate points towards the end of the season.

Q.—Can you tell me how many borings were actually made? If you did alternate points you approximately did 31. How many in fact did you do? And of how many you have got a record?
A.—40.

Q.—Have you got particulars of those borings?
A.—Yes, they are given in the statement handed in.

Q.—Where are the measurements made from?
A.—The first measurement in the plan is from the sea bed. The sea bed is zero in each case.

Q.—Did you put washborings through, in this particular case 8' 6" of hard clay? (Referring to a particular case in the plan.) You have given a description. You call it hard clay. Did your washborings penetrate 8' 6" of hard clay? No amount of washing would disturb that. I cannot believe you could ever make washborings with material of that kind (referring to a core of hard clay which witness produced).

Chairman.—Sir Frederick says no washboring could ever penetrate into this and bring it to the surface. What do you say?
A.—No, it would not bring it to the surface, but a strong jet would wash and wear that away and enable the pipe to come down.

Sir F. Hopkins.—In what time? Water will wear away anything if you give time enough. Do you really suggest that you made a washboring through 8' 6" of that material and did the tube go down? Did you actually see these borings made yourself?
A.—During some part of everyday I saw some.

Q.—Did you actually see these washborings go through from 3' to 8' 6" of hard clay? I never did. I do not think anybody else did. When were these borings made?
A.—They were made between January and April 1923.

Q.—And the other borings?
A.—Between December 1922 and May 1923.

Q.—Why did you make borings out there?
A.—The Chief Engineer was rather concerned about the possibility of filling in blocks 1 and 2 from the harbour. It would require an extremely long pipe line and an expensive lay out to cross the island from the harbour. I believe also that he had
been told by officers of the Port Trust that a large amount of the soft material in the harbour was useless for reclamation purposes.

Q.—And so he thought it desirable to find out if it was possible to supplement the filling from Back Bay?
A.—Yes.

Q.—Was not the "Kalu" purchased 3 years before this, in 1919?
A.—Yes.

Q.—What for was it purchased?
A.—The particular purpose was that it could work independently on the east Colaba reclamation.

Q.—And that work was not carried out?
A.—No.

Q.—Do you know why?
A.—I think it was in view of the doubts which Government entertained about the disposal of the land on this side, and so they decided that before they carried on the east reclamation they should complete at any rate a portion of the western reclamation and judge of the necessity of carrying out the East Colaba scheme.

Q.—But in a letter from Mr. Lewis dated 20th February 1923 he says it was previously understood that the "Kalu" would work in the same area as the "Sir George Lloyd" and would utilise the same auxiliary. This is not possible with a dredger working at opposite sides of the Peninsula. According to that it was intended that the "Kalu" should pump into block 8.
A.—I do not think it was quite the intention in that letter. When the scheme was originally put forward the intention was to have 5 pipe lines across the island. Then that was reduced to 3, which still left them with a very long lead from the 3rd pipe line down to the end of the reclamation, and it was for the long lead that it was proposed to utilise the dredger "Kalu" with the "Sir George Lloyd".

Q.—Why did they abandon the two pipe lines?
A.—On the ground of expense and the inconvenience that would be caused by attempting to lay pipes of that description through the city.

Q.—Do you think that had been considered in 1919?
A.—I do not think it had been given the amount of thought that should have been given.

Q.—Do you think the estimate included the carrying of the pipe lines through the heart of Bombay?
A.—I cannot say.

Q.—The Colaba reclamation would have been quite a simple one. Pumping was quite close?
A.—Yes.

Q.—And then you might have realised the dream of pumping 2,000 cubic yards an hour?
A.—Yes.

Q.—Those figures which you handed in today, do they give the boring of the core drilling as well?
A.—No, Sir, only the wash drill.

(Figures with regard to core drillings in Back Bay were handed in by witness)

Q.—In this case you apparently drilled right down to the rock?
A.—Yes.

Q.—And you got depths from in one case 7 feet, and generally from about 12 feet to 24 feet?
A.—Yes.

Q.—What quantity would that give you in the area selected?
A.—I cannot speak from memory. It is given on the front page of the Report.

Q.—It gives 25 million cubic yards.
A.—Yes, something like the whole filling required.

Q.—I understood there was only a couple of million yards available in Back Bay. There is enough material to finish the whole scheme?
A.—That is only from the point of view of quantity. But I fear a large proportion of that area was ruled out on account of the shallow depth.

Q.—But you were going to make your own flotation?
A.—The depth of soft material in some place does not give sufficient depth for the dredger.

Q.—What does the "Kalu" draw?
A.—The "Kalu" draws 9' 6".

Q.—Is the surface exposed to low water?
A.—I think not.
Q.—You have always got 12 feet at high water and several feet at low water. And if you dredge away 12 feet you have got plenty of water for floating? Are you satisfied that you could get 25 million yards from this area shown on the plan?
A.—I am satisfied that there are so many yards of material other than rock.

Q.—Are you satisfied you could get that quantity? Is it possible to dredge it economically?
A.—In view of our experience of dredging I think not. Because the dredger does not seem to be capable of doing anything in the nature of hard clay.

Sir Frederick Hopkinson.—Is not the “Kalu” of the same type as “Sir George Lloyd”?

A.—Yes.
Q.—I should agree with you, but when that clay is in water for centuries, it is softer. It is not like that in the sea-bed?
A.—When it came up it was very very stiff.

Q.—But not hard?
A.—No.
Q.—How much did the “Kalu” do per pumping hour last season?
A.—I do not know the figure.

Q.—This is a longitudinal section of the sea-wall, but this only shows the surface of the ground. Does it not show whether it is rock or whether it is soft material, does it?
A.—No, Sir.
Q.—No provision at this time had been made for the storm water drains? So that, although you got the dredger there and although you got the wall built you could not begin the dredging, because the storm water drain had not been built. Why not have built the storm water drains first of all? You knew it had to be done?
A.—It had been overlooked.

Q.—It is an expensive overlooked. That accounts for the tying up of the dredger for 16 months.
A.—I think it one reason why the dredger could not have started in October 1923 or December 1922.

Q.—Did Sir George Buchanan overlook this?
A.—I think he did overlook it.
Q.—How long is the storm water drain at Block No. 8?
A.—The whole length of the bund from shore line to wall is 4,320 ft.
Q.—How long is the drain itself?
A.—2,920 feet.
Q.—What is the diameter?
A.—It is from 5 feet to 8 feet.
Q.—Do you mean all the storm water drain had been overlooked?
A.—I think the necessity for storm water drains or rather of constructing them before the filling in was done was overlooked. There is a letter in the correspondence with Mrk and Buchanan referring to this.

Chairman.—Your recollection appears to be right about this matter, as it is confirmed by the Chief Engineer’s letter of the 25th August 1923. Is that the letter which you had in your mind?
A.—No, not that letter alone. There is another from Sir George Buchanan.
Q.—The mere effect of filling it in would prevent the then existing storm water drains from working and Bombay would be flooded?
A.—We had realised that.

Q.—When did you realise that?
A.—We realised it in March 1921. Then we started to design the storm water drain.
Q.—The fact remains that the dredging could not commence before the end of 1923 because there was no room available to put in the dredgers?
A.—Yes.

Sir Frederick Hopkinson.—You are in charge of the unloading of the morum?
A.—Yes.
Q.—That is all done by contract?
A.—Yes.

Q.—What price do you pay for it?
A.—The actual price for unloading paid to the contractor is two annas a ton, including truck shifting, and the shunting price 2 annas 9 pies per ton.
Q.—That is the total cost of the material when it reaches you?
A.—That is the bare cost plus the supervision.

Q.—You are also laying the pipe for the delivery of the pump?
A.—No. I am building a bund for the delivery pipe to be laid on.
Sir M. Viswanatha.—What exactly are your duties now in the department?
A.—My duties are the charge of all works apart from dredging in the reclamation area and that is mostly confined to dry filling and the construction of storm water drains and the maintenance of the works.

Q.—You have an Executive Engineer in charge?
A.—No.

Q.—You said that you were in charge of the projects division.
A.—That was formerly, yes.

Q.—What material do you use to bring the bunds to a higher level?
A.—Moorum.

Q.—You said that out of five pipe lines two were abandoned?
A.—Because they were very expensive and secondly they would have to be taken through the busiest parts of the city.

Q.—Of the remaining three pipes how many are now in use?
A.—One.

Q.—Do you hope to use the other two?
A.—We propose to use one more. The third one has been practically abandoned.

Q.—Can you tell me whether the "Sir George Lloyd" and the "Colaba" can together pump into block 2?
A.—I do not think so.

Q.—Why?
A.—Because the distance between "Colaba" and block 2 would be too great.

Q.—How much less can it pump into block No. 1?
A.—Yes.

Q.—Then the "Kalu" and the "Jinga" are intended for blocks 1 and 2?
A.—Yes.

Q.—By what means do you hope to fill block No. 3?
A.—The intention is from the Back Bay, I believe.

Q.—What about No. 4?
A.—I think the possibility of filling No. 4 by dredging is getting more and more remote.

Q.—Were you connected with the original estimate, namely of 702 lakhs?
A.—Yes.

Q.—You know the present rate of dredging from the Back Bay is Rs. 1-3 per cubic yard?
A.—Yes.

Q.—And from the harbour it is now Re. 1 or less?
A.—It is 10 annas.

Q.—Moorum filling costs you now Rs. 1-8?
A.—Rs. 1-5.

Q.—You want in all 98 million cubic yards?
A.—Yes.

Q.—And at Rs. 1-5 it will be less than 400 lakhs?
A.—Yes.

Q.—The dredger and the cost of dredging in the 702 lakhs estimate come to about 472 lakhs or nearly 5 crores in the estimate given in the Development Director's note?
A.—The estimated total is about 11 crores.

Q.—It is 925 lakhs excluding interest charges. If you had resorted to filling in the ordinary way by using the railway, you might have completed it cheaper than by using dredgers?
A.—If it had been resorted to in the first instance. Yes.

Q.—Would you suggest that dry filling could be found?
A.—It is a difficult thing to answer that question. I think the hills of Salsette would yield the required quantity.

Q.—You have 1,100 acres here. There are many times this area in Salsette and if Salsette will not satisfy, you will have to go to Thana side via Dadar. But I think the Salsette site would produce all you require. If a scheme had been originally made and an estimate prepared for bringing moorum from Salsette, do you think you could have completed it for about 400 lakhs?
A.—Yes.

Q.—You should have approached the work originally and you should have gone into the figures?
A.—We did not go into the figures for dry filling because we relied on dredge filling. All is due to the failure of the dredging estimate.

Q.—Is not dredging with the "Kalu" costing practically as much as bringing moorum or earth?
A.—Yes.
Q.—What was the necessity for going in for dredging?
A.—The chief reason is, I think, in order to expedite the completion of the first blocks.

Q.—But the quantity you are getting is very small. From the "Kalu" you get about 4 lakhs of cubic yards a year?
A.—Yes. But that all helps towards completing the blocks at an early date.

Q.—Now that the "Kalu" has been purchased you want to make some use of it?
A.—Yes, if it can be economically done?

Q.—How do you check the quantities that are completed whether for dry filling or dredged filling?—The only method of checking, whether dry filling or dredged filling, is by taking sections at the beginning and end of a given working time?
A.—It is practically impossible to check dry filling mainly by that.

Q.—Much of it may be wasted?
A.—Not now, because the whole area is bunded up.

Q.—Can anything go through the cross wall?
A.—No.

Q.—Even when you take cross sections and measure the quantities, much of the stuff is liquid mud. What allowance do you make for shrinkage?
A.—That is a matter of experience and the Chief Engineer has suggested that 15 per cent. is ample provision for that.

Q.—You can only get that at the end of the year and again you can total the quantity when the whole work is completed?
A.—Yes.

Q.—You will not have quite accurate quantities delivered until then?
A.—No.

Mr. Billimoria.—Who recommended you for this job?
A.—The appointment was advertised, and I think out of 40 or 50 applicants I was selected for the appointment.

Q.—Had you any previous experience before you came to this job of reclamation work?
A.—On reclamation work, no.

Q.—What was your experience as an Engineer?
A.—I was started as an Engineer after five years' apprenticeship. After this I attended a technical course in London, three years after which I joined a firm in London as Chief Assistant when the war broke out. I was in war service as a Royal Engineer.

Q.—What has been your practical experience?
A.—My real practical experience was during the war when I was in charge of the construction of piers, quays and wharves with the army in Salonika. After the war I came here.

Q.—Were you directly under the Superintending Engineer receiving orders from him or were you independent of him working here?
A.—I was directly under the Chief Engineer's orders.

Q.—You had nothing to do with the last witness?
A.—No.

Q.—Were the storm water drains mentioned just now taken into consideration when the estimates were prepared by Sir George Buchanan, I mean his estimate of 367 lakhs?
A.—I believe he allowed a lump sum for roads, lights and drains.

Q.—Did you see his estimates?
A.—Yes, I have seen them.

Q.—Did you see any item pertaining to storm water drains?
A.—I believe there was an item for roads and sewers.

Chairman.—Does this include storm water drains passing out into the sea?
A.—It does not.

Q.—It could not have been in the original estimate, because when the budget was prepared for 1923-24 this item was put in.

A.—It was included in the first estimate which the Engineer Mr. Lewis made during 1921 which was sanctioned I think in May 1922. That was in the project estimate of 700 lakhs.

Q.—I am talking of the first estimate of 367 lakhs made by Sir George Buchanan and on which this scheme was launched?
A.—I do not think there was any separate mention of storm drains.

Q.—You just now told us there was?
A.—I believe there was a lump sum estimate for drains and sewers.

Mr. Billimoria.—What do you think would be the cost of these storm water drains?
A.—They are of varying sizes and lengths. But the nine drains costed about 20 lakhs.
The Chairman.—About £180,000.

Mr. Billimoria.—Is that included in 211 lakhs you showed in the present estimates for roads, lighting and drains?

A.—Yes.

Sir M. Visvesvaraya.—A provision of 27-67 lakhs for drains we have got in the new estimate. Are these for the cross drains?

A.—No. 27-67 lakhs are for sewers.

Mr. Billimoria.—You said that the cost of these would be 26 lakhs. How many drains do you require in each block?

A.—One main drain for each block.

Q.—If such an important item as storm water drains was not included or provided for in Sir George’s estimate, that estimate would be defective and inaccurate—I mean the estimate of 307 lakhs?

A.—Yes, if that has not been provided for.

Q.—Why was such an important item overlooked?

A.—I cannot say.

Q.—Did it strike any of the Engineers working on the scheme?

A.—Yes.

Q.—When did it strike them and why was it overlooked so long?

A.—As far as I can remember it was discovered about July 1921 when work on the designs of storm drains was commenced.

Q.—You know very well that an important project had been sanctioned, that orders had been placed for the dredger which was to commence operation immediately. Why was not precaution taken?

A.—No work on the storm drains had been commenced.

Q.—Were no actual plans prepared and left by Sir George as to how and what work was to be carried out?

Mr. Billimoria.—If he was the actual responsible Engineer in charge of the entire scheme, did he leave any plans or programme of work?

A.—Not to my knowledge. The general programme was that 3,000 feet of wall should be constructed at each end each season. That was the general scheme. There was no detail.

Mr. Billimoria.—Was it a slipshod method of work or was a programme ready and work carried out according to it?

A.—As far as we are concerned, there was a definite programme for each year prepared by the Chief Engineer.

Q.—Who drew up your programme?

A.—The Chief Engineer, Mr. Lewis.

Q.—Did that under Sir George Buchanan’s instructions?

A.—That I do not know.

Q.—That programme provide for storm water drains?

A.—Yes. After 1921, when the question of constructions was thoroughly gone into.

Q.—Till then, the Department was sleeping and never thought of it?

A.—Yes. After 1921, the work on the designs of the storm water drains was commenced. Work was always going on on the storm water drains after 1921.

Q.—Before 1921 ?

A.—In July 1921 we started work, but it was quite possible that it might be in the mind of the Chief Engineer before that. He had more work than he could deal with, and he could not start till July 1921.

Q.—You have practical experience about dry filling. Would it be a financially sound proposition to start dry filling over such a large area as 1,145 acres of land on an open sea front?

A.—It would depend on the rate at which dry filling is carried on.

Q.—How long would it have taken? Fifty years or one hundred years?

A.—I should give it as ten to fifteen years in the present case.

Q.—I suppose from your practical experience you know that wet filling is always cheaper than dry filling and is more expeditions?

A.—That has not been proved to be so in the present case.

Q.—Not in the present case, but in actual experience?

A.—It depends entirely on circumstances.

Q.—Upon a large area?

A.—Yes. It depends on circumstances.

Q.—You would not commit yourself to the statement that wet filling is cheaper than dry filling?

A.—No; as I said it entirely depends on circumstances.
Q.—Do you think that the present area is capable of being filled by dry filling and the reclamation completed?
A.—Yes.
Q.—Are there any circumstances which warrant the belief that the present area of 1,145 acres could be reclaimed by dry filling?
A.—I think they can be reclaimed.
Q.—Have you got material sufficient enough to do that?
A.—We have not been able to go into a detailed reconnaissance.
Q.—You think it is feasible?
A.—I do.
Q.—Where do you get the material from?
A.—From Salsette.
Q.—How much would you bring every day?
A.—At least six train loads; probably double.
Q.—How long is it going to take to complete this 1,145 acres?
A.—About fifteen years.
Q.—When do you expect the block to be ready for building purposes?
A.—Within twelve months from the time of completion of the filling.
Q.—Can you give us any estimate as to what the cost of that would be?
A.—No; but you can take the unit rate at 1 rupee 8 annas per cubic yard as being the price.
Q.—That would not take interest into account. If you calculate interest at 6% per cent. for fifteen years, do you think it will be a paying proposition?
A.—It depends entirely on land valuation at the end of fifteen years.
Q.—You have no experience of land values?
A.—No.

Sir Frederick Hopkins.—Has the bund of No. 7 block been already made?
A.—Not made.
Q.—When is it going to be made?
A.—The question of filling in block No. 7 has not yet been sanctioned; the bund will be taken up after that.
Q.—You cannot do any dredging until the bund is finished?
A.—No.
Q.—How long will it take to finish the bund?
A.—I think we estimated it at three months.
Q.—You do not begin lining the rubble mound. You can do that at the same time?
A.—We have a limited amount of rolling stock working; it will take six weeks in addition.
Q.—Will the dredging be finished in the first two weeks?
A.—The very first day.
Q.—Right across?
A.—Yes.
Q.—Why do you put so much murum on the rubble bund; you have got an enormous bund about 8 feet wide?
A.—Yes at Colaba, at Marine Lines no; but circumstances are different here. At Colaba the bank is wide because additional dry filling has been tipped from the wall.
Q.—At Colaba where No. 7 block is, you have got to blind the reclamation bank. Now why do you not make it 8 feet as originally suggested by Mr. Lewis?
A.—It will wash away.
Q.—You can fill No. 7 block in a very few days; if you get your bund made right across and with 3 feet of filling behind the reclamation bank you can fill the whole block in a few days?
A.—Yes.
Q.—The water will support the murum.
A.—It is a question of the two things working together; if these operations go on simultaneously it will be all right.
Q.—How much would be required in No. 7 block for blinding the mound?
A.—I think 10,000 tons.
Q.—That is fifty days' work?
A.—Yes.
Q. How long will it take to construct the cross bund?
A. About three months.

Q. How are you going to do it?
A. It is proposed to do it by end tipping.

Q. You cannot do more than 1,000 tons a day?
A. With all the wagons we can do 2,000 tons a day.

Q. But you can tip only one wagon at a time.
A. We can empty one hundred wagons in a day.

Q. What do they carry?
A. They carry 7½ tons; they are 7½ cubic yard wagons.

Q. Have you got a cross section right across the land up to the reclamation wall, a cross section showing the surveys?
A. I think one does exist.

Q. What is the level of the reclamation site horizontal, across or higher up the sea at the sea end?
A. It is 91 at the shore end, and 94 at the sea end.

Q. The sea end is 3 feet higher than the shore end?
A. Yes.

Q. If it had been lower?
A. There was the alternative; if the ground level were 3 feet lower and the parapet wall was only 3 feet, then there would be trouble in monsoon time; water would go over the top of the wall.

Q. Why should not the higher parapet be adopted?
A. If the higher parapet be adopted, then people behind the parapet would be within a sort of prison wall.

The witness withdrew, and the Committee rose for the day.
Written statement of the attitude of the Bombay Chamber of Commerce towards the Back Bay scheme.

Shortly after his arrival here on the 16th December 1918, Sir George Lloyd's attention was very strongly attracted to the crowded and insanitary condition of the dwelling places of the labouring classes in Bombay and on many occasions he expressed his desire to have matters improved. At that time the Mill industry of Bombay was flourishing exceedingly as were other local industries and as a consequence there was a great influx of labour into Bombay and the living conditions of these people were certainly very bad, so much so that mills which wanted to work on double shifts were prevented from doing so because of the housing shortage. It must be remembered that at that time the boom of prosperity was nearing its peak and prospects for the coming years bore no sign of the subsequent collapse and of the depression in all branches of trade which still continues.

As a result of the Governor's efforts the development of the north of the Island and the Reclamation of Back Bay were decided upon. Information was obtained from the Secretary of State for the latter project and the schemes were proceeded with with great vigour. The former project was mainly to provide accommodation for the accumulated mass of labour and of the clerical classes away from the ill-built, ill-designed and insanitary precincts in which these people were crowded. The Reclamation was to provide building and breathing space for the occupants of the crowded spaces in the Fort area at a price which would put a stop to the soaring land values in that area where at that time it was extremely difficult to obtain Office or living accommodation.

Contrary to the usual practice no reference of any sort was made by Government to the Chamber of Commerce for their opinions on the scheme at this or any subsequent time. The Back Bay Reclamation scheme was prepared in silence over a period of 18 months without, so far as the Committee are aware, public opinion having been once consulted. It was launched in the Legislative Council together with the industrial housing and Salsette development schemes by means of a Bill further to amend the City of Bombay Improvement Act, 1896, and the City of Bombay Municipal Act, 1888 (Bill No. VII of 1920), the object of which was to secure funds to carry out these various schemes. The Bill was introduced by His Excellency the Governor himself on August 3rd, 1930, read a first time and referred to a Select Committee on the same day. On September 29th, it was read a second and third time and passed into law. It is apparent that the Bill was passed through Council with the minimum of delay and that little opportunity was given for public discussion.

It must be admitted that on Sir George Buchanan's original estimate of Rs. 867 lakhs, published in September 1919, the scheme appeared an attractive one with land values standing at the level they did at that time. Nor had the Chamber which had not been furnished with details, any reason to doubt the soundness of the figures in the estimate. Subsequently the Development Directorate was constituted and revised this estimate, the figure being raised to 702 lakhs. The Advisory Committee was then formed and the Chamber was given a seat on it. In view of the large increase in the estimates and the serious decline in land values which had occurred in the meantime, the Committee in 1921 were anxious to obtain more detailed information and endeavoured to do so through their representative on the Advisory Committee. They were informed, however, that questions relating to the general policy of Government could not suitably be discussed by a body whose functions were purely advisory, and the matter dropped. The Annual Administration reports issued by the Development Directorate were couched in reassuring terms and serious doubts as to the success of the scheme were not entertained until last year when sinister rumours became current and were speedily confirmed by the publication of the report of the Advisory Committee. In regard to the past history of the Back Bay Reclamation the points which the Committee desire to emphasise are:

1. The wholesome practice of consulting commercial opinion was departed from.
2. The scheme was matured and carried out behind a veil of official secrecy.
3. This Chamber has always been opposed to State control of works which can more properly be entrusted to private enterprise. The Committee think the Reclamation could have been done better by private contractors than departmentally.

In regard to the future the Committee adhere to the views expressed by their representative in Council in March last, viz., that the work should be continued on Blocks 1 and 8 and probably 2 in accordance with the recommendations of the Ad interim report of...
the majority of the Advisory Committee. When these blocks have been completed the position can be reviewed in the light of the experience which will by then have been gained. The Committee are of the opinion that eventually the whole of the Reclamation will be completed but whether this will be a matter of 15 or 50 years they are unable to say. In any event they would recommend that the work should be proceeded with cautiously, so far as possible according to the result of each season's work and the rate at which land can be disposed of for building purposes both in order to obtain early some return on the capital outlay and to avoid undue disturbance of land values by throwing large areas on the market at one time. The Committee are also of the opinion that the possibility of winding up the Development Department and handing the work over to private enterprise should be gone into although they realise that this may be commercially unwise in view of the large amount of capital which has been locked up in plant, tools, railway materials, etc.

There is one more point to which the Committee attach importance. In a city so congested as Bombay the provision of open public places and play-grounds is essential to its health and well-being and the Committee are of opinion that Government are justified in spending a limited amount of public money for this purpose provided, of course, that land can be reclaimed and thrown open to the public at reasonably low rates.

Chairman.—Sir Leslie Hudson, are you submitting to the Committee a statement of the Chamber's attitude towards the Back Bay Scheme?

A.—Yes.

Q.—We have all had the opportunity of reading it, and I have only a few questions to ask you about it. How long have you been associated with Bombay?

A.—Of late years, the last 11 years.

Q.—And for how long have you been a member of the Chamber of Commerce?

A.—As a member of the Committee, I think for the last 4 or 5 years.

Q.—Who at the moment is the President or Chairman?

A.—Mr. Kay.

Q.—Your statement commences by saying, ’’ Shortly after his arrival here on the 16th December 1918, Sir George Lloyd's attention was very strongly attracted to the crowded and insanitary condition of the dwelling places of the labouring classes in Bombay and on many occasions he expressed his desire to have matters improved.’’ In 1918 was there very considerable pressure as regards housing accommodation?

A.—Very.

Q.—And was the position such that if any reasonable scheme could have been found to relieve the congestion, that scheme, in the opinion of the Chamber of Commerce, should have been undertaken?

A.—Yes, Sir.

Q.—Had there been for some few years prior to 1918 a very large influx of people into Bombay?

A.—I should say the great influx started in 1918.

Q.—Can you give an approximate figure?

A.—I am afraid I cannot give anything like an accurate figure, Sir.

Q.—Could you give a percentage?

A.—I am afraid it will only be a guess. I should say, possibly as much as 20 per cent.

Q.—20 per cent.?

A.—Yes.

Q.—What approximately was the population in 1917?

A.—I am taking it as about 850,000. That again is a guess, Sir.

Q.—And even with a population of 850,000 in 1917, was there considerable hardship as regards housing conditions of the poorer classes?

A.—In 1917, yes.

Q.—I will repeat my question, as regards the housing conditions of the poorer classes, were the conditions of living very bad?

A.—The cost of living was already rising very considerably, and there was overcrowding amongst the labouring classes, and the conditions in 1917 were probably not very much worse than in the years immediately previous. It is subsequent to 1917 that the pressure came.

Q.—And did that in your opinion provide the main reason for the necessity of finding some accommodation if it could be found?

A.—That, in my opinion, was the main reason.

Q.—Your statement says, ’’ As a result of the Governor's efforts, the development of the North of the Island and of the Reclamation of the Back Bay were decided upon.’’ In fact, the question of the reclamation of the Back Bay had become prominent in December 1917. Had it not?

A.—I am afraid I was not aware of it at that time.
Q.—Will you take it from me, we have had proof that in December 1917 a Syndicate asked for a concession, and on the 19th December Messrs. Tatas also wanted an option in the Reclamation of the Back Bay? You may also take it from me that Sir George Carmichael had interviews with both the Syndicate and the firm of Tatas, who agreed to work together, and Sir George Carmichael wrote an official note summarising the position, and I will read to you an extract from that note and ask whether in your opinion that fairly expressed the position then. The note is a very long one, and I will read only the part which is important, and that is this: "There are men of sound judgment in Bombay who think that it would be a profitable scheme for Government to take up soon after the War is over." Sir George Carmichael is writing the note on the 26th April 1919, at which date there was no indication that the War was coming to a conclusion in that year. "But there would be a strong body of opinion the other way and there is no doubt in my opinion that if we wish to avoid delay we should leave the project to private enterprise. Government will after the war have many more urgent claimants on their revenues." I take that step by step. Do you think Sir George Carmichael was right in saying that there were men of sound judgment in Bombay who thought that it would be a profitable scheme to take up soon after the War was over?

A.—I think that is so.

Q.—On the figures as subsequently given by Sir George Buchanan, the scheme appeared to be most suitable?

A.—Yes.

Q.—Then Sir George Carmichael continues, "but there would be a strong body of opinion the other way." Is he right in thinking in 1918 there was a strong body of opinion?

A.—I think so, the vested interests.

Q.—By vested interests, are you referring to people who would not wish to find a large area of building land suddenly open to the residents of Bombay?

A.—Yes, for the reason it would depreciate their property.

Q.—And then Sir George Carmichael says that "if we wish to avoid delay, we should leave the matter to private enterprise." Do you think that was a sound recommendation?

A.—My Committee are in favour of private enterprise as opposed to State.

Q.—Very well, all the matters I have been speaking of in relation to the Syndicate and the firm happened before Sir George Lloyd came out, and on the 16th October 1918, the Government of Bombay wired to the Secretary of State saying that the re-examination of the Back Bay Scheme was a matter of special urgency and asking the Secretary of State to choose the best qualified man available to come out and advise on the matter. That again was before Sir George Lloyd came out here. He arrived on 16th December 1918?

A.—Yes.

Q.—And so the passage in your statement that "as a result of the Governor's efforts the development of the North of the Island and the Reclamation of Back Bay were decided on" is correct in so far as the decision was taken by Sir George Lloyd's Government, but the wish to investigate the scheme was commenced by Lord Willingdon's Government?

A.—Yes.

Q.—Now we come to an important passage. "Contrary to the usual practice, no reference of any sort was made by Government to the Chamber of Commerce for their opinions on the Scheme at this or any subsequent time." Is the Chamber of Commerce a large and representative body?

A.—Yes, Sir.

Q.—Has it very big interests in the City of Bombay?

A.—Yes.

Q.—And has it the prosperity of Bombay deeply at heart?

A.—Certainly, it has.

Q.—Was the proposed Reclamation of Bombay a Scheme to which your Chamber would have given great assistance?

A.—Certainly.

Q.—Would your Chamber have studied all the details and endeavoured to come to an opinion as to whether it was a good scheme or a bad scheme?

A.—They would have been unable to go into all the details, Sir, but from the financial side they would certainly have formed a judgment as to whether it would be a successful project.

Q.—They would look into the matter from a business point of view?

A.—Yes.

Q.—And would have studied all the materials that might have been put before them?

A.—Everything that would be put before them.
Q.—Would it have been a feasible plan to invite representatives from the Chamber of Commerce and from other representative bodies including the Port Trust and the Indian Marine and obtain their opinions?

A.—The usual methods of obtaining the opinions of such bodies is for Government to circulate a notification or a communique and ask for their opinions thereon. As to forming a Committee of the persons who were mentioned I do not think that that would be a better way of getting the opinion of every body than the usual method of sending a communique.

Q.—If they had sent a communique to the Chamber of Commerce, they would have got the opinions of a body of business men?

A.—Yes.

Q.—If they had sent a communique to the Port Trust they would have got the opinions of Marine Experts and similarly those of the Royal Indian Marine?

A.—Yes.

Q.—And the Port Trust and the Royal Indian Marine could hardly have failed to have told the Government that they would have to limit the area of dredging?

A.—With the details before them they could not have failed to do so.

Q.—You say with the details before them the Port Trust and the Royal Indian Marine could not have failed to tell the Government that they would have to limit the area of dredging?

A.—Yes, Sir.

Q.—Moreover with all the details before them, the Port Trust could hardly have failed to have given their experiences of dredging in the years 1909—13?

A.—I should imagine so, Sir.

Q.—If they wished to assist the Government with all the information in their power, that would have been an essential thing to set out;

A.—Yes.

Q.—From 1909—18, they had been using a Suction Dredger in the Harbour, and the details, if communicated to them, would have disclosed that the scheme was to use a Suction Dredger in the Harbour?

A.—Yes.

Q.—And in giving to the Government their experience of the workings of the "Kalu" and the "Jinga", presumably they should have included the cost. A business man will include the cost?

A.—A business man will include the cost, Sir.

Q.—Now the Chamber in the statement which lies before us have laid some stress on the quietness with which this matter went through?

A.—That is so, Sir.

Q.—And on the 15th July 1921, Sir George Curtis, speaking at the Royal Society of Arts on the Scheme, explained to some extent why that was done. One of the reasons for secrecy was given that, had the proposal become generally known, there would have been considerable speculation in land—but I don’t know whether you can tell me, Sir Leslie—did the Government require to take up much land for this particular scheme of Reclamation?

A.—To take up land?

Q.—Yes, to acquire much land?

A.—No, I think not very much. Possibly Sir George Curtis had in mind question of speculation in the new land when reclaimed, Sir.

Q.—But speculation in the new land when reclaimed would not hurt Government at all if the Government had got the price that they wanted?

A.—Exactly.

Sir M. Viswanatha.—Did they propose to locate the future Government House there?

A.—I don’t think so. I have only seen a map of the proposed area, and I don’t think that included a Government House.

Chairman.—Sir George Curtis explained that the whole scheme had to be carried out departmentally as, owing to fluctuations in the price of machinery, materials and labour, it was impossible to get a contract on satisfactory conditions. If the details had been submitted to the Chamber of Commerce, would not the Chamber of Commerce have taken into consideration the very fluctuating price of materials as one of the circumstances to be considered?

A.—I think so.

Q.—A scheme which may be quite financially sound in normal times may in conditions that prevailed in 1919 have a certain element of risk?

A.—Yes.
Q.—In 1919 the Chamber would have had to balance the urgency of the situation as regards getting more land for the scheme as against the risks of fluctuating prices which prevailed at the time?
A.—Yes.

Q.—Now, we know that it was necessary to have an amendment to the statutes, the City of Bombay Improvement Act and the City of Bombay Municipal Act, and on August 3rd, 1920, the bill was introduced by Sir George Lloyd. Are you able to say whether his announcement came as a considerable surprise?
A.—I should say not altogether as a surprise. There had been talk of this scheme being put through, but only talk.

Q.—Had there ever been, as far as you know, any official summary of the scheme published before August 1923?
A.—Not to my knowledge.

Q.—The bill was read for the first time and then referred to a Select Committee?
A.—Yes.

Q.—Am I right in saying that the Select Committee passed the bill without any dissentients?
A.—I believe so, Sir.

Q.—And on the 29th September, it was read a second and a third time, and became law?
A.—Yes.

Q.—Thank you. In fact, whilst the estimate was dated by Sir George Buchanan as September 1919, it appears to have been submitted to Government in October. That is a small point. What we should like to know is, what are the facts which made the Chamber say "published in September 1919"?
A.—I think the wrong word must have been used, but I shall have to look that up.

Chairman.—The Development Directorate having come into being in November of 1920 following on the announcement of Sir George Lloyd on August 3rd, we know one of the first steps they took was to revise the estimate of 867 lakhs, which was, in fact, brought up to 702 lakhs. Was an Advisory Committee formed and was the Chamber given a seat upon it?
A.—Yes.

Q.—On that date when the Advisory Committee was formed, had land increased in value or decreased?
A.—I think there had been a fall in land values.

Q.—Can you tell us in those circumstances what was the attitude of the Chamber of Commerce?
A.—The Committee of that time was anxious to get more information. Even the increased estimates might not have disturbed their equanimity to a great extent but they were desirous of obtaining more information regarding the scheme.

Q.—Speaking of the Committee you mean the Advisory Committee?
A.—I am speaking of the Committee of the Chamber.

Q.—Did your representative on the Advisory Committee endeavour to obtain more information?
A.—Yes, he did.

Q.—Do you know if he succeeded?
A.—No, he did not succeed.

Q.—Was any reason given as to why he should not be supplied with the information that the Chamber of Commerce wanted?
A.—He was informed that questions of policy could not be dealt with by the Advisory Committee.

Q.—But up till now all you have told me is that he wanted, on behalf of the Chamber of Commerce, more information?
A.—More information on the question of policy.

Q.—On the question as to whether the scheme should be undertaken or abandoned?
A.—As to the carrying out of the scheme under the estimate of 702 lakhs.
Q.—Is it the view of the Chamber of Commerce that the Government assumed that their method of carrying out the work and the cost, that they were going to incur, were matters of policy?
A.—I think the Committee at that time assumed that Government took that view.

Q.—Was Dr. Sukhia the representative of the Bombay Municipality on the Advisory Committee?
A.—I think he was.

Q.—Do you happen to remember as to whether on the 20th of June 1921 he suggested at a meeting of the Advisory Committee the following questions for consideration?
A.—I am afraid I do not remember. I was not in Bombay at that time.

Q.—Who was the member of the Advisory Committee sent by the Chamber of Commerce?
A.—The member representing the Chamber at that time was Mr. East.

Q.—Are you aware that on the 25th June, Sir Lawless Hepper explained that Dr. Sukhia’s proposal was not a matter which could be discussed by the Advisory Committee?
A.—I have read that in the proceedings.

Q.—That rather pointed to the position, as you say the Government took with regard to your representative, that matters of policy were not before the Advisory Committee?
A.—Yes.

Chairman.—“(2) The scheme was launched and carried out behind a veil of official secrecy.” Can you just give the Committee one or two facts upon which the Chamber of Commerce came to that conclusion?
A.—One fact is that our representative on the Advisory Committee was not able to obtain information.

Chairman.—And the other thing already referred to by yourself is Sir George Curtis’ lecture before the Royal Society of Arts in which he gave reasons for this secrecy. There are two other things which you have mentioned, one is that as far as you know, there was no official communiqué made as to the intention to carry out the scheme.
A.—Yes of course that is the main point of our complaint of official secrecy. As far as I know not only was the Chamber of Commerce not consulted but none of the other bodies of Bombay were consulted.

Q.—Have you ever known in your experience of Bombay any public schemes that have not been submitted to the various representative bodies?
A.—I cannot call any to my mind.

Q.—The third ground is that the Chamber has always been opposed to State control of works which can very properly be entrusted to private enterprise and the Committee of the Chamber thinks the reclamation could have been done better by private contractor than departmentally. Did your Committee, in coming to that conclusion, take into account the state of the world trade in 1919 and 1920, the fluctuation of prices, the rise in material, labour, transport, etc.?
A.—I think the Committee realise that but they also think that it would have been possible to obtain some reputable firm of contractors who could have carried out this scheme.

Q.—And if there was no firm of contractors who would tender for the scheme, might not that have been an indication to Government that it was dangerous to proceed with the scheme at that moment?
A.—One would think that it would be a warning post.

Q.—On the same date, that is 15th of July 1921, Sir George Curtis in his speech at the Royal Society of Arts said that the whole scheme had to be carried out departmentally owing to great fluctuations in prices of machinery, materials and labour, it was impossible to let out a contract on satisfactory conditions. If that statement of Sir George Curtis is correct, you think that that should have been a warning post to Government to consider the position?
A.—I think so.
Q.—Dealing with the future, your Committee are of opinion that the work should be continued on blocks 1 and 8 and probably 2?
A.—Yes.

Q.—And as regards block 8, as soon as that is completed, the military are going to take it over?
A.—Yes.

Q.—Therefore money will be available immediately?
A.—Yes, a book entry.

Q.—A book entry but that represents the cost of work of 239 lakhs. Has not the land however been acquired by the Government of India?
A.—Yes.

Q.—The Government of India’s acquiring the land will credit the Government of Bombay with whatever may be ultimately agreed upon as its price?
A.—Yes.

Q.—The Committee make no recommendation with regard to block 7. Was there any information before the Committee with regard to the depth of No. 7 and the depth of No. 2? Was not the possibility of leaving block No. 2 and commencing on block No. 7 considered by the Committee?
A.—I think not.

Q.—That may be because the reports have hitherto dealt with blocks 8, 1 and 2?
A.—Yes.

Q.—The reason for your recommendation that work should be continued on blocks 1 and 2 is that first of all you want to ascertain the cost of filling in blocks 1 and 2 and you will know where you stand as regards cost?
A.—Yes.

Q.—Subsequently when that land is reclaimed you will know where you stand as regards the sale of land?
A.—Yes of that land.

Q.—These two matters will be a guide as to whether the rest of the scheme should be completed either wholly or in part?
A.—Yes and when.

Q.—As regards block 2 as compared with block 7, it is in more readily saleable area?
A.—At the present time.

Q.—And is believed that it will produce a much higher price per square yard than block 7 will produce?
A.—I think it ought to.

Q.—Then the recommendation of your Committee is that the work should be proceeded with cautiously and that the experience of the previous season should guide the work of the subsequent seasons even to the extent of abandoning it?
A.—Yes, abandoning a part, if necessary.

Q.—Even to the extent of abandoning the incompletely executed parts?
A.—Yes, a temporary abandonment because I do not think Bombay would agree to see an unfinished project for ever at their doors.

Q.—A temporary total abandonment of the scheme as regards dredging would involve the disposal of the dredging plant?
A.—Yes, otherwise it would depreciate very greatly in value.

Q.—And therefore a temporary total abandonment might result in the filling of the remaining blocks having to be done by moorum?
A.—Yes.

Q.—As regards the necessity for open public places, play grounds, is it in the opinion of the Committee very desirable that provision should be made for more open spaces even if that puts upon the rates a certain additional burden?
A.—Yes, it is.

Sir M. Viswanatha.—The Chairman has already traversed most of the questions I wanted to ask. I only want a few more details.

You said that the scheme was considered by Lord Willingdon’s Government. Have you any personal knowledge of such a fact?
A.—I did not say that.

Chairman.—In October Lord Willingdon telegraphed that the re-examination of the Bombay Black Day Scheme was a matter of special urgency and asked the Government of India to choose and send out the best qualified man available. It was only re-examination.
Sir M. Visvesvaraya.—I only wanted to bring to notice the fact that the scheme is very old. It was being developed from the beginning of this century by the Public Works Department.

A.—Yes, I think so.

Sir M. Visvesvaraya.—An estimate was prepared by Messrs. Lowther and Kidd in 1912 and the scheme was launched in 1920. The conditions were fluctuating at the time and we now take a different view point because the value of land has fallen, the boom has disappeared and the scheme has been disappointing so far as its execution is concerned. You have stated that the scheme was launched in secrecy and that little opportunity was given for public discussion?

A.—Yes, that is true.

Q.—There was also actual opposition from the Indian Chamber?
A.—I am afraid I am not aware of that.

Q.—We want your opinion as a prominent businessman whether the Government had not adopted an unusual course in sanctioning the project under the conditions they did. Are you aware that the reformed Council was not consulted? The work was rushed through in spite of public opposition.

Chairman.—Was the work being rushed in spite of public opposition?

A.—I think there was none.

Q.—Can you mention any public opinion in favour of the scheme at that time?

A.—I do not remember any unofficial opposition.

Chairman.—It went through the select committee without opposition.

Sir M. Visvesvaraya.—It is a well known fact that the Port Trust was not consulted and the Royal Indian Marine was also not consulted. The dredger was ordered before the detailed estimate was sanctioned. I am only enumerating the points on record. Then again after the sanction of the Government of India and the Secretary of State was obtained for 4 crores, an estimate of 702 lakhs was put into action without consulting the Government of India or the Secretary of State. The original estimate of 4 crores which they sent up to the Secretary of State was not a detailed estimate and they did not specifically say so when they submitted that estimate.

A.—I am afraid I do not know that.

Sir M. Visvesvaraya.—These are the facts. You agree, as a prominent businessman, that the course taken was unusual?

A.—Yes, it was unusual?

Q.—What do you think was the reason for such an unusual course?

A.—I think the public was informed at the time that it was going to be a very good thing financially for the public.

Q.—You have stated that private contractors might have taken up the work?

A.—Yes.

Q.—The sea-wall might have been taken up by a private contractor. Would any firm of contractors take up the filling? You have to throw in material and wait for the measurements for a whole year.

A.—I am afraid you are getting rather out of my depths, Sir.

Q.—The Committee think that the reclamation should have been done better by private contractors than departmentally?

A.—That is the general opinion of the Committee, provided of course a reputable firm of contractors could have been obtained to carry out the work.

Q.—You say for the future that the Development Department might be wound up and the reclamation handed over to private enterprise?

A.—I think we merely say the Committee are of opinion that the possibility should be gone into. We are not of opinion that it should be done.

Q.—Have you considered that the usual course is to get the work done by the Public Works Department? Why should there be a departure from the usual course?

A.—I do not think we discussed that.

I may tell you that the scheme has been under consideration for about a quarter of a century in the Public Works Department before it was sanctioned by Government. Then Government took it up, ignored the Department and transferred it to a new Department which they created.

(Chairman.—Have the Public Works Department made any borings? If so, let us know by what method and where is the record and where the gentlemen are who made the borings?)

Q.—You say in one place Government are justified in spending a limited amount of public money on public places and play grounds?

A.—Yes.
Q.—That would not be a proper charge against the estimate? That will have to be defrayed from Municipal funds?
A.—Yes. I do not think the question of payment for the playgrounds was intended by that paragraph.

Q.—There will be no comparison between the costs incurred and the rents received?
A.—No.
Q.—It must be a charge on the Municipal funds?
A.—Probably yes.
Q.—I suppose you have read the correspondence about the Engineers and the relations of the Engineers with the Development Directorate?
A.—I have read some of the evidence that you have had before you.
Q.—If a dredger was ordered, is it not usual for the specifications to state clearly the capacity of the dredger?
A.—I should imagine so, Sir.
Q.—And you would also insist on conditions in the agreement for testing that capacity before taking over?
A.—That is the usual thing.
Q.—And also it is usual to make the final payment after the plant has worked for some time at site?
A.—That I cannot tell you. If I take over a vessel I pay after trial.
Q.—If the contract does not provide for such trials at site is it not an unusual procedure?
A.—I am afraid I have never carried out contracts for dredgers.
Q.—But a ship is similar to a dredger?
A.—But a ship is at site when she is in the water.

Q.—Have you any idea of the value of land in this neighbourhood now and potentially, between Marine Lines and the Colaba end? I understand rates vary between the places.
A.—I can give you only hearsay. I understand the Government are asking Rs. 200 per square yard at Queen's Road, that they have been offered Rs. 90, and I understand that the values in Colaba, such as the Cotton Green are somewhere between Rs. 40 or Rs. 60 per square yard. That is only hearsay.
Q.—There is a provision in the estimate of about 147 lakhs for roads, lighting and drainage for the whole area. Do you not think it is desirable to carry out those roads and drains as buildings spring up, and not to have the whole thing done at once?
A.—I am not an engineer, Sir, but I understand it is cheaper to put drains down when you are constructing an area than to do so afterwards.
Q.—Storm water drains are being put in now, but underground drains may be postponed till buildings begin to spring up?
A.—I am afraid I am not sufficiently an engineer to tell you.
Q.—What public bodies are likely to require land in that area in future? St. George's Hospital may require a new site I understand.
A.—No doubt there are a number of institutions, Government and otherwise that require extensions now, hospitals, schools, etc.

Q.—So there is demand for a certain amount of accommodation immediately?
A.—Oh yes.
Q.—You are aware that there are 8 blocks to be filled and Nos. 1 and 8 have to be done in any case.
A.—We think so.
Q.—Probably they have practically decided about it. When these two are completed, they will be 4 crores to the bad, that is what the Development Director told us. Now taking that as the starting point, if they proceed with Nos. 2 and 7, the cost of reclaiming may come to 70 lakhs and the area reclaimed to 10 lakhs of square yards. At what rate would you put it for the purpose of an estimate?
A.—We should not take more than Rs. 25 per square yard.
Q.—That would make 250 lakhs. If you spend 70 lakhs and are likely to get 250 lakhs, would you not go on with the project?
A.—I think it would be a reasonable proposition.
Q.—And supposing thereafter you have 27 lakhs of square yards to reclaim and it would cost 214 lakhs to do it would you proceed with the work or not?
A.—If I could sell it at Rs. 20 per square yard, I would.
Q.—Could you sell it?
A.—I am afraid it is looking forward so far into the future, Sir, I am not prepared to prophesy.

Q.—Taking the condition of Bombay generally, supposing you have to come to a decision as to whether it is desirable to acquire land at Rs. 7 per square yard with the prospect of getting Rs. 35 for it, would you go in for such a scheme or not? Would you approve of such a scheme or would you leave things incomplete?
A.—If I could reclaim at Rs. 7 per square yard with the prospect of selling at Rs. 20 or 25 I would undertake it.

Sir Frederick Hopkinson.—Prosecution of this scheme should largely be based upon commercial considerations inasmuch, if it is estimated to cost 567 lakhs and is done for that sum and can be sold for 367 lakhs, the Government is getting that area of land for nothing and therefore it would be a wise thing to do?
A.—Yes.

Q.—Before you realise whether it is wise to prosecute the scheme if it is going to cost 702 lakhs, and if you find it would cost 11 crores, the mere mention of such a sum might have stopped the scheme in its inception?
A.—Yes.

Q.—A wise scheme at 307 lakhs would be a ruinous one if it were going to cost 11 crores?
A.—Probably.

Q.—Do you mean in this paragraph 3 of your conclusions that the construction of the work should be done by private contractors? Had the Government in 1919 tried to get tenders from private contractors the price quoted might have been so high as to put the scheme out of action?
A.—Yes.

Q.—Can you give us any particular reason why the Government should not have asked for tenders?
A.—To the best of my recollection I think there was difficulty in getting contractors to quote at that time, for what reason I cannot say.

Q.—Did they actually try?
A.—I cannot say how hard Government tried.

Q.—Did they actually try at all?
A.—I do not know.

Q.—Generally speaking your Committee thinks that the Government should only carry out departmentally as a last resort?
A.—Yes.

Q.—After having done their best to find out if any contractor would carry out the work?
A.—Yes.

Q.—You have been here the whole time the works have been going on. Can you give me any idea as to whether you think the carrying on of this work departmentally is being better done than if a capable contractor had been employed?
A.—It is my own opinion that a capable contractor would have carried out the work quicker and better than it has been done.

Q.—That is your considered opinion after having seen the work in progress for 3 or 4 years?
A.—Yes.

Q.—If block 7 were completed within the next two years, is there much likelihood of being able to sell that land for building purposes?
A.—It would be a very good area for building purposes for residential quarters.

Q.—So that if that block 7 can be economically constructed, you think it will soon produce results in the way of sales?
A.—I think it ought to, Sir.

Q.—Would it sell as readily as block 1 for residential purposes?
A.—I think so, because you would not expect so much return from block 7 as you would from block 1, I mean per square yard.

Q.—It would be less valuable per square yard?
A.—Yes.

Q.—In all the plans I have seen block 1 appears to be mainly occupied by pleasure grounds, and therefore when that is completed it would produce no tangible results in the way of revenue.
A.—If the original scheme is carried out, that is so. It would be a very large area to give up to recreation grounds altogether.
Q.—Do you think a portion of it at any rate could be sold for residential or office purposes?
A.—Yes.
Q.—I take it the office purposes would be the more remunerative of the two. You will get higher prices.
A.—That is a little difficult to say.
Q.—Supposing this Committee advises the Government to stop all works and abandon the whole scheme, can you give me any indication of what the population of Bombay would think about it?
A.—I think those of the public that have any ideas on the subject at all would be very disgusted, and for years it would be an eye-sore, which I do not think the inhabitants of Bombay would intend should continue to exist.
Q.—It would be a reproach to Bombay?
Q.—The public of Bombay would resent that very much indeed? Almost as much as the cost which they have to bear, but not quite so much.
A.—Not quite so much.
Q.—You think the public of Bombay would prefer to finish the scheme and bear the cost rather than abandon it in the present state?
A.—I am not prepared to go so far. There is very considerable public opinion against completing the scheme in its entirety at once.
Q.—There is strong public opinion in favour of completing it at some time?
A.—I think there is public opinion that it should be completed.
Q.—Not within the next few years?
A.—No, it would run into many years.

Mr. Billimoria.—Sir Leslie, you have told us that you have been in Bombay for several years. As the head of a very large shipping interest in India and connected with the Bombay Chamber of Commerce you must have come in contact with several business men?
A.—Yes.
Q.—In your note you have recommended a private agency undertaking such a huge work?
A.—Yes.
Q.—Are you aware of the fact that a powerful syndicate had approached Government for some concessions before the scheme was launched in December 1917?
A.—Except the common knowledge that we going round, I have no details at all. I have no knowledge concerning the syndicate or who they consisted of or anything like that. I had not considered that. We merely considered, generally that private agency was preferable to State agency.

Q.—Do you know the reasons why the then Government of Bombay refused to grant such concessions? I may tell you the reasons were the Government would have no control over a private syndicate or a private company, that the prices of land would be inflated and that the people of Bombay would never get the benefits it was proposed and intended to give. Don’t you think there was something in this argument as advanced by Government then?
A.—I do, Sir.
Q.—This is in answer to the question that you have raised in the note that you could have preferred a private firm undertaking this huge business rather than the State.
A.—I think my statement is intended to convey that we preferred that the work should be undertaken by a contractor rather than by Government. We might not object to a contractor working for Government, provided the terms were reasonable. Do you think there was something in this argument as advanced by Government then?
Q.—Would you give the contract to different contractors for different jobs? Is that the idea you want to convey?
A.—I had not considered that. We merely considered generally that private agency was preferable to State agency.

Q.—If Government had given contracts to some private individuals, as they will, as a whole or in parts, would not Government have been accused of favouring, of patronising a particular contractor?
A.—It has been done. Such accusations have been made.
Q.—Could one firm of contractors have undertaken such a huge contract?
A.—I think there are contractors to be found who would undertake the whole thing.
Q.—You mean here in India or out of India?
A.—I should say out of India.
Q.—If you say out of India, may I remind you of the advertisement that appeared at the time of the flotation of the loan in connection with the Back Bay Scheme when the
4 crores was wanted by Government it was said every rupees thereof would be utilised in Bombay for Bombay and by Bombay, and if these contracts were given over to an outside agency, that would have invited very rigorous criticisms from the public press?
A.—Yes, probably there would have been criticism on that point, but if the dredger had been purchased through a Bombay firm, money would have been spent in Bombay, would it not?

Q.—Supposing this business had been handed over to some responsible firm of contractors, what would have been the position of that contractor or syndicate to-day? He would have found himself in bankruptcy?

(Chairman.—You must not assume that a contractor would have carried out this work in any way in which it has been carried by Government.)

Q.—Do you think any contractor in his senses would have taken on this work with the information before him on 867 lakhs?
A.—Certainly not.
Mr. Billimoria.—Do you think Government were wise in launching on a scheme like this based on a calculation of 867 lakhs without careful enquiry? If a contractor could have been found, was it wise for Government to have undertaken it?
A.—Probably not. Government had estimates to go on, and that is where the contractor would have come in: the one estimate would check the other.

Q.—With regard to the first paragraph of your statement, Sir Leslie, you have referred to the crowded insanitary condition of the dwelling places of the labouring classes in Bombay. By the improvement in the north of the island, the development of which was undertaken by Government, are not conditions improved there?
A.—They have, certainly.

Q.—Do you think then that there was an urgent necessity for an immediate undertaking of the reclamation?
A.—Not for that class of persons.
Q.—Are there any other classes for whom there is an urgent and immediate necessity?
A.—There is an urgent and immediate necessity for middle class dwellings.
Q.—Provided they could be got cheaper?
A.—Exactly.
Q.—Not at the price of Rs. 90 a square yard? You do not expect the middle classes to go and live in such places?
A.—No.

Q.—As to the latter part of the statement where you say that the reclamation was to provide open spaces for buildings, residences and offices the accommodation for which was to be considered and so on, do you think that such a large area, as 1,145 acres was required to be reclaimed for this purpose?
A.—It is more a question of the configuration of the coast line than the amount of land required.

Q.—Do you then mean that there was a necessity of taking into account the recreation ground and the building site that was necessary so that such a large area was required as 1,145 acres of land?
A.—Probably so large an area of land was not required at that time. But at that time, looking to the future, it might have been considered probable that that area would in a certain term of years be required, taking a long view.

Q.—You will agree with me that, if this object was achieved at a cost of Rs. 6 or 7 per square yard as was estimated, that would have been a blessing to Bombay?
A.—Yes, that would.

Q.—Don’t you think then that if the Government in embarking on the scheme based all its calculations on such estimates and figures before them, and if these estimates have gone hopelessly wrong, whom would you consider responsible?
A.—In it not for the Committee to decide, Sir (addressing the Chairman)?

The Chairman.—That is a question which we have to decide. You will perhaps not put that question (addressing Mr. Billimoria). It is one of the things which we have to decide and it involves a very very long consideration and one ought not to ask a witness a question which we have got to settle—we have got to get the facts and we have to decide it.

Mr. Billimoria.—Turning to page 2 of your notes at the end you say that "The Chamber wanted detailed information and it was denied on grounds of policy". Can you tell us who refused to give you this information? Government is a very wide term to use. By Government do you mean the Secretary or the Director of Development or any responsible officer of Government?
A.—The Advisory Committee was presided over, I understand, by the Director.
Q.—Did he decline to give you the information?
A.—Our representative informed us that he was unable to obtain the information at the meeting of the Committee.

Q.—Do you concede that it was the proper attitude to take in view of the fact that the original estimate of 367 lakhs had risen to 702 lakhs by then?
A.—I think the attitude of the Chamber of Commerce is represented in my statement.

Q.—In your speech in the Legislative Council you have expressed that, if there was greater candour, it would have inspired greater confidence?
A.—Yes, I said that in the Council.

Q.—What impression did the annual Administration Reports give you? Were you led to believe that all was well?
A.—The impression was that it was going on reasonably well.

Q.—It was last year that the Advisory Committee’s report was out and it was then for the first time that true facts came to light. Is it what you mean?
A.—Yes.

Q.—You refer in your notes to some sinister rumours. What were they?
A.—That was prior to the circulation of the report of the Advisory Committee. There were sinister rumours as to the output of the dredger.

Q.—Do you seriously condemn the policy of the Government in not consulting commercial opinion before the scheme was launched? This is one of the grievances that you have raised in those three paragraphs 1, 2 and 3 of the statement? I want your opinion as a representative of the Chamber.
A.—I cannot take those words into my mouth exactly, Mr. Billimoria, but the Chamber’s opinions are represented by those particular headings here.

Q.—Do you object to the veil of official secrecy, even if Government had reasons for such secrecy?
A.—In spite of that I think that Government should have been considerably more candid than they were. I have expressed that already in the Council.

Q.—You still strongly feel that the reclamation could have been better done by private contractors than departmentally?
A.—The Committee are of that opinion.

Q.—What special reasons have you for this conclusion?
A.—The Committee are of the opinion that in all big works of this sort contractors who have years of experience behind them and who have the staff at their disposal who have done works of a similar nature in other quarters of the globe would naturally be better able to carry out a work of this sort, than having to create your own staff as was the case in this instance.

Q.—Does that not mean that the department is inefficient or negligent?
A.—I do not want to make any accusation against anybody.

Q.—Now for the future programme do you recommend that blocks 1, 2 and 8 should be completed? There is nothing regarding block 8. Would you complete block 2 now or await the result of block 1. As a prudent business man, would you go headlong or would you wait?
A.—My Committee would like to know the result of the dredging for last year. We should then be better able to come to a conclusion.

Q.—Do you think that if it be placed in the market there would be an immediate demand for it?
A.—There cannot be an immediate demand for the whole of it.

Q.—My friend, Sir M. Visvesvarayya referred you to the point that some of the land is required for public purposes, and you stated that they were for schools, hospitals, Government buildings and so on. Apart from that, do you think it would be taken up for public purposes and the rest would go for private residences or offices?
A.—Yes.

Q.—I take it that you know the land now known as the military area. Do you think that that land, when put in the market, is likely to compete with the reclamation area? We are just completing block No. 1, would not that directly compete with this land, if placed on the market?
A.—I have not seen any amended programme of Government as to how they are going to deal with this reclaimed land. Presumably they have some other plans than those originally formulated.

Q.—You would not hazard an opinion before knowing all the details?
A.—I must know all the details first.
Q.—Do you think that it is likely that Government might realise Rs. 200 a square yard for the military area between the Marine Lines and Church Gate?
A.—Not at the present time.

Q.—How long do you think until the conditions of Bombay are healthy and prosperous?
A.—If you can tell me when trade will improve.

Q.—You ought to know better, you are acquainted more with the condition of the commerce of Bombay?
A.—But you examine the balance sheets.

Q.—Do you not think in the present depression of the market conditions that there would be a demand approaching Rs. 200 per square yard?
A.—I do not think at the present moment.

Q.—If on the reclaimed area the site is sold to the public and buildings three and four stories high are put up, do you not think it would ruin the new Marine Lines just behind the military area where some new bungalows have been built? Don’t you think those properties would be ruined being deprived of the open sea breeze?
A.—You are putting me questions that you ought to ask an architect.

Q.—Suppose you put up four-storied buildings in the military area and the reclaimed land. And the property on the new Marine Lines will naturally become of much less value?
A.—They would reduce in value, certainly.

Q.—I take it that you are not in favour of completing the whole reclamation immediately. Would you advise to go slowly and carefully after watching the results of blocks 1 and 2?
A.—Certainly.

Q.—You were also asked something by Sir Frederic Hopkinson about block No. 7. Suppose that is taken simultaneously in hand now. Then if that area were thrown on the market and if people with moderate means were prepared to pay Rs. 20 per square yard to buy that land, they would in a measure reduce the price of the blocks. Has your Committee considered that?
A.—I do not think that the Committee has considered that.

Q.—Do you concede that the site of block No. 1 is suitable for business purposes?
A.—In No. 1—No.

Sir Frederic Hopkinson.—It would be valuable for private houses?
A.—Private houses, hotels or residential buildings.

Mr. Billimoria.—There was a question asked you with regard to the winding up of the Development Department. Would you prefer the department’s activities being transferred to the Public Works Department, or the department being abolished altogether?
A.—The Committee stated that they are of the opinion that the possibility of handing the work over to private enterprise should be gone into. They are not prepared to give any definite opinion on that. It is merely a suggestion.

Q.—Would you do that before blocks 1 and 8 are completed or immediately?
A.—I think you must carry on blocks 1 and 8 forthwith.

Q.—In the concluding paragraphs you have referred to public places and playgrounds. How much area would you reserve for open spaces and playgrounds in blocks 1 and 2?
A.—You are asking my private opinion? As such I fear it would not be worth putting on paper.

Q.—I may point out that the cost of reclamation has gone so high that to provide a very large area for recreation grounds would in a very great measure curtail the resources of Government. We have to make this land as productive as possible and to cut down the losses. We have to face losses no doubt, but we want to curtail it as far as possible. With this view if that area is curtailed, do you think there will be public clamour over it? I mean the area for the recreation ground?
A.—I think that in laying out any large reclamation scheme of this sort you must have your lungs for the people who are going to live in it.

Q.—You remember, Sir Leslie, that the Legislative Council wanted an enquiry. Have you anything in particular to bring to the notice of this Committee or direct the Committee’s attention to any matter of enquiry?
A.—The Council was very keen that the matter should be enquired into. I have nothing formulated to put before this Committee.

Q.—Have you anything more to add to your speech in the Council made in last March?
A.—I think I have nothing else, Mr. Billimoria.
Q.—I have to ask you one or two questions arising out of the examination by my friends here. I think it was in answer to the Chairman that you said something about big interest. The tax-payer is concerned in it so far as relates to the saving of his tax. Don't you think it is usual to take the item of interest into consideration? You save your interest by the transfer of this area, do you not?
A.—Yes.

Q.—Don't you think in every commercial enterprise interest forms a principal basis of calculation?
A.—Certainly.

Q.—And the longer the period before which your scheme proves productive or profitable the more you lose because the interest goes piling up?
A.—Yes.

Q.—Have you any idea as to how long it would take to complete block No. 7?
A.—They have not.

Chairman.—You have been questioned about the information that your representative on the Advisory Committee furnished to the Chamber of Commerce. The Committee were informed by the Director that questions relating to the general policy of Government could not suitably be discussed. Is there any record on the minutes of any meeting or any statement made by Mr. East to the Chamber?
A.—There is nothing to be found on the minutes of any meeting of the Chamber, Sir.

Q.—On what facts is the information in the statement based?
A.—Our representative reported to us in writing.

Q.—Have you got that document?
A.—I am afraid I have not got that with me.

Q.—Can you let us have the report of Mr. East in which he complained that he was not given the information for which he was asking?
A.—Yes, that can be given.

Q.—Some time to-day?
A.—Yes.

Q.—Will you send it to Mr. Ewbank?
A.—Yes.

Chairman.—You have also been asked about the question of the possibility of winding up the Development Department. That is not a matter within the terms of our reference, but the possibility of advising Government to hand over this particular work to private enterprise no doubt is. The Development Department have many activities besides reclamation, and when you use the phrase “the possibility of winding up the Development Department”, I think you are merely referring to the reclamation?

A.—That was the intention.

Q.—It would hardly be the winding up of the Development Department. They have got so many other things to do.
A.—Yes.

Q.—You put forward the suggestion that at some time or other it is essential that this scheme must be carried out in its entirety and your view is that those people in Bombay who think about it at all would be of that opinion?
A.—Yes.

Q.—But the actual cost must be paid by people who live in an area much wider than the Bombay city?
A.—Yes.

Q.—What do you think would be the opinion of the people in the mofussil about it?
A.—They would probably not be so enthusiastic about the completion as the Bombay residents themselves. They might indeed take the view that if the Bombay city wants the removal of the eye sore, the Bombay city should pay for it.

Q.—Would there be any difficulty if the Government of Bombay should publish Mr. Kidd's report and Sir George Buchanan's report to the world?
A.—I imagine no difficulty at all.

Chairman.—And could they have invited contractors to tender on the basis of those two documents?
A.—I think they possibly could.

Q.—It would then have been for the contractors to consider whether any prudent contractor would tender on such documents?
A.—Yes.
Q.—And whether it was worth while to come to Bombay to spend money in order to give their prices for the work?
A.—Yes.

Q.—And the contractor will spend 5 or even 15 thousand pounds in preliminary investigations, will be not?
A.—I think so at least.

Q.—The risk is on him to give the price at which he will complete the contract?
A.—Yes.

Q.—Usually under a bond?
A.—Yes.

Q.—And therefore the contractor, as part of his necessary business expenditure, has frequently to incur large sums in investigating the work which is offered to the world?
A.—He must do if he is a wise man.

Q.—He must, if he carries on his business properly?
A.—Yes.

Q.—Now if the information conveyed in Kidd’s report and Buchanan’s report had been sent out to the world with an invitation to contractors to tender, and if nobody had come forward ought that not to have made the Government of Bombay pause?
A.—Yes, they should have realised there must be some very good reasons for contractors not quoting.

Q.—And if one, two or three contractors had come forward and had given the price, then it would be the duty of the Government to consider whether any one of these should have been accepted?
A.—Yes.

Q.—And if they came to the conclusion that there were reasons for preferring one particular contract, they could have made those reasons public?
A.—Yes.

Q.—Whether they would be accused, as my friend Mr. Billimoria said, of favouring one particular contractor or not, if the Government had duly put all the facts before the public, that criticism should not matter in the slightest degree?
A.—No.

Mr. Billimoria.—What I said was that if we had invited criticism of such a nature, Government would not be accused of patronising particular contractors?
A.—Yes.

Q.—If Government set out the tenders put forward by all the contractors and gave reasons for accepting a particular contract, probably it should not matter to the Government whether they were criticised or not?
A.—It should not matter to them at all.

Q.—And that was the type of procedure which the Committee had in their minds when they were suggesting that it was work which might have been undertaken by private agency?
A.—That it should have been put out to tenders.

Q.—My friend Sir Visvesvaraya spoke about the contract: As regards the dredger, you know the terms of that contract well, but the point he is making—it is an important point—is that the contract stipulated for the delivery of the dredger on the Clyde?
A.—Yes.

Q.—Your point (addressing Sir Visvesvaraya) is that if it was carefully drawn up it would have stipulated for delivery at Bombay. Would a stipulation to that effect, not that the delivery should be made on the Clyde, but that the delivery should be made at Bombay and the trials carried out at Bombay, make a material difference to the view of a dredger builder on the Clyde?
A.—I think it would be very difficult to get a builder to quote you on those terms.

Sir Frederick Hopkins.—Government would have put in the contract that they should be ready to make those trials when it arrived.

Sir M. Visvesvaraya.—A certain time is usually allowed; they might expect the final payment six months after the dredger had arrived in the harbour. That is the practice. If that is so, then the Government should have stipulated for such a condition even if it had cost more to do it?
A.—Yes.
The Chairman.—The question is if Messrs. Symons or any other dredger builder had given the price for a dredger which had to be brought out to India and passed through tests in India, if he had given the price, would it be a reasonable proposition?

A.—They would not give any prices at all at that time or any other time. The Port Trust have purchased a number of dredgers on various occasions and the terms of their contract may be easily obtained for verification.

Q.—By looking at the report of Sir George Buchanan at page 17, what Symons and Company offered to do was to deliver the dredger on the Clyde, which would satisfy certain tests and nothing else?

A.—Yes.

Q.—And the record of those trials are contained in the correspondence with Messrs. Meik and Buchanan regarding the execution of the works, on pages 90 to 98.

Sir M. Visvesvaraya.—My point is whether it is sufficiently safe for the Government to enter into such a contract that the tests should be made on the Clyde and the Government should take the chances after the dredger arrives in Bombay.

Sir Frederick Hopkinson.—What would happen is this. If you stipulate for a fancy dredger six thousand miles away from Bombay, the dredger owners would have given you a fancy price for making that dredger.

Sir M. Visvesvaraya.—It is a gamble to a certain extent, as it has proved actually.

A.—I think we have to conform to the usual custom, Sir Visvesvaraya.

Sir M. Visvesvaraya.—But we get out engines, and payment is made after trial. We test them before paying the final instalment, in a contract. Is not that the usual practice?

A.—I believe that is the practice in some cases. The case of an engine is rather a different thing from that of a large dredger. Pumps can be returned, but dredgers could not.

Q.—Anyhow Government was taking a great risk by not stipulating for a trial here?

A.—I am afraid I cannot give you an answer on that point.

The witness withdrew, and the Committee rose for lunch.

(The Committee re-assembled at 3 p.m. on the 12th August 1926.)

10th Witness

Captain F. B. Phillips (R.I.M.)

Chairman.—Captain Phillips, what is your full name?

A.—Engineer-Captain Frederick Brown Phillips.

Q.—How long have you been in association with the "Colas"?

A.—From November 1925.

Q.—What condition did you find her in in November 1925?

A.—I have a copy of my report. May I read it? — "The vessel was seen under normal working conditions. Vibration is particularly noticeable when approaching the vessel, the forward funnel showing extensive movement Fore and Aft. There are four Boilers in Pairs, at Fore end and Aft end of Boiler room on which there is considerable Fore and Aft movement, the Fore pair moving in opposite direction to the after pair. The arrangement of steam piping provides for considerable expansion. Although there is no immediate danger it must be recognised that the contraction and expansion of the steam pipes due to the movements of the boilers is becoming excessive and a risk of fractured steam pipes exists. The Machinery consists of one set of triple expansion engines coupled up to, and driving the centrifugal pump. There is considerable movement on the engine especially at the Fore end (H. P. Cylinder)."

Examination of the engine seating and bed plate showed that a number of rivets securing angle brackets have worked loose which permits considerable vertical movement of the engines. This is, I consider, a serious defect which can develop to a dangerous extent, due to the excessive vibration which is set up.

The holding down bolts of the engine bed plate cannot be kept secure under present conditions and are liable to fracture.

There is no immediate danger, providing a strict watch is maintained to ensure that the defects reported do not extend. I further recommend that should the ship's staff find that the movement of the H. P. engine is increasing under working condition—the fact should be reported and the engine stopped.

The vibration of this vessel is not entirely due to structural weakness and there is no doubt that it is aggravated by the defects of the Main Engine seating. Although it is not possible to eliminate vibration in a vessel of this type it is possible to reduce it.
The boilers and their steam pipes and connections are being severely tested and it is only due to the arrangement of steam pipes which permit of considerable movement that an accident has not already taken place."

Q.—What is the date of that report?
A.—7th November 1925.
Q.—Did you afterwards have a consultation with Mr. Brims, the Deputy Chief Engineer?
A.—Yes.
Q.—Can you tell me when? It may have been on the 6th of November.
A.—We decided to proceed with the stiffening Fore and Aft between the boilers.
Q.—When did she go into dock for that work to be done?
A.—I cannot give the exact date, but I can give the date when we completed the work. It was supposed to have been completed on the March 18th, 1926.
Sir Frederick Hopkinson.—How long was she in dock?
A.—I think she was in dock for about a month. I am sorry I cannot give the date, roughly about a month.
Q.—About a month? Therefore she lost part of the ordinary working season by going into dock?
A.—She lost the time that she was in dock. I don’t know on what date the engine of the "Colaba" was stopped.
Q.—At all events she was in dock from about February. She was losing the whole of February to March, March to April, and April to May. Therefore, she was losing some 90 days.
A.—I cannot speak of 8 months. I can only speak of the time she was in dockyard.
Q.—You say, she was not under ordinary working conditions until at least May 16th?
A.—Exactly so.
Q.—If she went into dock on February 16th, she lost one month from February to March, and two months from March to May. Do you know what happened to her after she came out?
A.—No, Sir. I cannot answer that. After she leaves the dockyard, we have no concern with it.
Q.—Do you know what was the cost of the stiffening?
A.—No, Sir. I can give these figures, but I have not got them here.
Q.—Would you send them to Secretary, Mr. Ewbank?
A.—Yes.
Chairman.—The total cost of the work including, of course, dockyard charges for the work of repairs done in February and onwards.
Q.—When did you see her again?
A.—On the 12th of May 1926.
Q.—What condition was she in then?
A.—May I read a report on that, Sir?
Q.—What work did she do?
A.—I cannot tell you that.
Q.—When did she finish other repairs?
A.—11th of May. I wrote a report in conjunction with the Chief Constructor of the Dockyard. The report is as follows. Captain Phillips read the report from a file he had with him.

Q.—When was it dated?
A.—That was dated 18th of May 1926.
Q.—We have not got that.
A.—I will send you a copy.
Chairman.—With regard to the cost of the "Colaba" it appears that the cost was Rs. 25,000. It is on page 52 of "Correspondence and Notes regarding the Responsibility of Messrs. Wm. Simons & Co., Messrs. Sir John Biles & Co., and Sir George Buchanan in connection with the stiffening of the Intermediate Pumping Station, "Colaba". The cost stiffening the intermediate pumping station "Colaba" has amounted to Rs. 25,000.
A.—I cannot tell you whether it is our dockyard estimate. Possibly the "Colaba" was stiffened before.
Q.—It looks as if that is the dockyard figure?
A.—I am not certain about it. She may have had some stiffening before she came into dockyard hands.
Q.: Was that the running of 2 girders along the upper structure?
A.: I think cross girders.

Q.: We were told yesterday that all that material had been supplied by the makers and that all the cost that was incurred in relation to it was labour?
A.: It was, labour.

Q.: Then the stiffening that was done in the dockyard was not altogether of different character?
A.: Labour and material.

Q.: Having got in some time in February, we find this note on the 10th April 1926 that the cost has amounted to Rs. 25,000. Will you however send us the exact estimate that the dockyard made?
A.: Yes, Sir.

Q.: You now read to us your report of the 12th of May?
A.: No, 18th of May.

Q.: What was done with regard to the "Colaba", then?
A.: As far as I know, the "Colaba" stopped working and we received a letter—I don’t know whether I have the letter here, we must have it in my office file—asking the Dockyard to carry out repairs. It was somewhere in the middle of July.

Q.: Last month?
A.: Yes, last month.

Sir Frederick Hopkinson.—Was that at the same time when the "Sir George Lloyd" was said to be working well?
A.: That I cannot say. I think they shortened up the pipe lines, as far as I remember.

Chairman.—Have the Dockyard authorities undertaken the repairs?
A.: No, unfortunately we are too busy.

Q.: Where is she now being repaired?
A.: Mazgaon Dock—I am not certain about that.

Q.: Is there any other matter in which you can assist us?
A.: I don’t think there is anything else that I can say about the "Colaba".

She is a well-built ship. There is no question of its being lightly built. You cannot always legislate for vibration or anything that is going to happen under working conditions.

Sir Frederick Hopkinson.—The Suction Dredger is well known?
A.: It is well known.

Q.: It is larger?
A.: I have never had any experience of a Suction Dredger.

Q.: You say, she is well-built?
A.: Certainly, it is only under working conditions that you can find out the defects.

Chairman.—But surely, a maker of experience who is designing a vessel like the "Colaba" which was only a booster ought to know exactly the stresses for which that vessel would be built. It has got to include the stress that will be required to deal with pipes 42" in diameter and the energy required to propel the material between those pipes 5,000 feet. That is the only problem?
A.: Yes. That is the only problem.

Q.: It was to receive from the pump of the "Sir George Lloyd" 5,000 feet of material which it had to boost to another 5,000 feet, and the strain to which that vessel should be subject ought to be known to a maker of repute and experience?
A.: The strain is due to vibration and nothing else. It is not due to structural weakness.

Q.: But the vibration is due to the output of power of the engines?
A.: Exactly.

Q.: Are those the factors which a firm like Messrs. Simons & Co. ought to know thoroughly?
A.: Yes, Sir.

Q.: What is your exact position, Captain Phillips?
A.: I am Engineer-Captain and Engineer-Manager of the Government Dockyard.

Q.: What is your training?
A.: I had been trained in the Government Dockyard in England. I belong to the Royal Indian Marine. I commenced my career in the Royal Indian Marine in 1902 and since then I had been in the Government Dockyard. I am a qualified Engineer and Ship Surveyor. During 1912/1925 I was principal Engineer and Ship Surveyor to the Government of Bombay.

Q.: That movement about which you spoke in the main pump, do you look upon it as a serious matter?
A.: Yes.
Q.— Unless cured it would have very serious consequences?
A.— Yes, Sir.
Q.— What do you think that vibration is caused by?
A.— My personal opinion is that the pumping engine should have been amidships in the centre of fore and aft displacement.
Q.— You say that the movements of the funnels could be seen a hundred yards off inclining 6 or 7 inches and there was a movement between the boilers of an inch or so?
A.— That is in my report, Sir.
Sir Frederick Hopkinson.— You have not given dimensions?
A.— No.
Chairman.— You indicated on the plan the stiffening as shown in red and you say that the movements of the engines after that stiffening was up and down. There is a movement of the engine seating and its fastenings?
A.— Yes, we cannot get out of that.
Sir M. Visvesvaraya.— Is that a plan showing the outlet pipe?
A.— Yes.
Sir Frederick Hopkinson.— There is weakness in the hull?
A.— I cannot say it is weakness.
Q.— The hull should be strong enough?
A.— It ought to be.
Q.— There was no damage to the hull and therefore it is not due to weakness?
A.— Yes. There was no damage to the hull.
Q.— I think you said you were not doing the present work and you cannot give any idea of the cost?
A.— I can give you an idea of the estimated cost. That was communicated to the Deputy Chief Engineer, Dredging Section.
Q.— This is a seagoing craft with, I think, twin screw engines. Don’t you think a strong floating square pontoon would be a more suitable means of carrying on with pumping?
A.— Equally suitable.
Q.— What are the propellers required for? Do you think it necessary in the sea-going boat to have twin screw engines with square strong pontoon? Would it answer as well or better?
A.— I think it would answer as well if not better
Sir Frederick Hopkinson.— Do you think it necessary to have a sea-going boat with twin screw engines for the purpose of carrying a pump only?
A.— It is certainly not essential.
Q.— Would a secured strong pontoon be sufficient?
A.— Yes.
Q.— There is no point really in having a sea-going boat because it is only for the purpose of getting it there, i.e., to its pumping site?
A.— Yes.
Q.— Had the pontoon not been put together but sent out in parts; could it have been erected here?
A.— Yes.
Q.— There is no difficulty in erecting such pontoons here?
A.— No. We would have done it readily.
Q.— Do the engines of “Sir George Lloyd” vibrate in the same way?
A.— I have no experience, I have not seen it.
Q.— You have not been asked to consider that?
A.— No.
Q.— Do you know when the vibrations were first noticed?
A.— We had first information about it when we went on board on the 7th November, 1925.
Q.— The “Colaba” had been working 2 seasons then and this was the third?
A.— I believe it had been noticed before that and a certain amount of stiffening had been taken in hand.
Q.— On the second of November 1925, the Chief Engineer reports that the longitudinal bracing and stiffening supplied by Messrs. Simons & Co. was fixed during the monsoon season but has not been effective in stopping the vibration. That would have been fixed after the second season of working?
A.— Yes.
Q.:—This was the first repair which you had in your mind when you said that she had some stiffening before?
A.:—Yes.

Q.:—Have you seen the "Colaba" working?
A.:—Yes, on two occasions.

Q.:—The Chief Engineer states 'that the vibration was at its worst when the engines were running at about half speed before picking up load.' What do you think about it?
A.:—It is quite possible.

Q.:—It is rather like sea-going engines racing?
A.:—Yes.

Q.:—But of course we know that vibration is pretty bad?
A.:—Yes.

Q.:—Was that to be expected?
A.:—You can never tell when an engine will stop vibration. When it comes to a certain point vibration stops altogether and probably starts when it reaches higher revolutions.

Q.:—Then he goes on to say "since that bracing has been fixed there has been so far very little vibration until the engines reach their full speed at or about high water". Surely they are running at full speed?
A.:—They are expected to run fast or slow. I do not know the standard revolutions.

Q.:—And about high water "when the engines reach their full speed their vibration is excessive the two ends and centre of the ship moving up and down to a very appreciable extent and nothing more so than last season ". They had done very small repairs before this, but this is referring to what you have done now.
A.:—Yes, this refers to the first repairs.

Q.:—He goes on to say "at low water when the vessel has a heavier load to contend with there is very little vibration ".
A.:—That is true.

Q.:—Can you explain this?
A.:—I cannot explain why it should be with any load at all if the engine is properly balanced and governed. There should be no vibration any more than it would be when there is full load on it.

Q.:—I presume that as a consequence of this report on the 2nd November 1925 suggesting that an experienced and qualified naval architect or constructor should be called in, you were asked to inspect the ship with the Chief Constructor of the Dockyard so that, at any rate, the vessel had the best consideration given to it that could be found in Bombay?
A.:—Yes.

Q.:—And if this vibration continues you think it is due to some constructional weakness somewhere?
A.:—I do not think it will continue.

Q.:—I still do not understand why, if you are just going to take the engines out and tighten up a few rivets in the frame, how that is going to stop the 'up and down' movement?
A.:—That was noticed when we did our work before. The object was to get the vessel out as soon as possible to continue the work. It has developed since. This up and down movement necessitates the engine being properly balanced and when that is done I do not think there will be any more trouble.

Q.:—Have you had the engine indicated?
A.:—I think they have.

Q.:—I think there it was a difference of power indicated in the cylinders?
A.:—I do not think that will cause up and down movement.

Q.:—Now that the engine is taken out, you will be able to go right down into it?
A.:—Yes.

Q.:—And probably improve the whole engine?
A.:—I hope so.

Q.:—I hope you will press upon the absolute importance of seeing that it is done satisfactorily.
A.:—Yes.

Q.:—Have you seen "Sir George Lloyd ".
A.:—No.

Q.:—You cannot tell anything about it?
A.:—No.

Q.:—Have you been doing the repairs to the "Jinga "?
A.:—No. That is done by a private firm.
Sir M. Visvesvaraya.—You stated that the vibration is caused by constructional defects and by the heavy load on the engines. How that has happened?
A.—It means that the engines at one time have full load from "Sir George Lloyd" and at other time it has not.
Q.—They are not properly adjusted?
A.—I cannot say how they can be. One is dependent on the other.
Q.—The quantity received in "Colaba" is less than it should be?
A.—The quantity received in the "Colaba" is put through from "Sir George Lloyd".
Q.—It is less than "Colaba" can deal with?
A.—Yes.
Q.—Is there going to be any more trouble?
A.—No, I do not think so. It will be put right this time.
Q.—How long each time has it been out of commission?
A.—About a month in the first instance, I do not know how long in the second.
Q.—I hope "Sir George Lloyd" was on commission even when "Colaba" was under repairs?
A.—Yes.
Q.—You do not know anything about expenditure?
A.—No.
Q.—The remedy then lies in making "Sir George Lloyd" pump full quantity?
A.—Yes that would be the remedy.
Q.—And you do not know anything about "Sir George Lloyd"?
A.—I do not know anything about "Sir George Lloyd".
Q.—The solution is incomplete then?
A.—Apparently it must be.
Mr. Billimoria.—It has been suggested that the defects are due to mishandling.
Is that true?
A.—I do not think that is the cause.
Q.—Was there any improper handling to your knowledge?
A.—No.
Q.—The defect in the engines was not due to mishandling?
A.—There is no defect in the engine. The engine is working at 150 revolutions and is doing very well.
Q.—What about "that this is considered a serious defect which can develop to a dangerous extent?"
A.—That is the seating below the main engine on which the engine is secured. It is a table on which the engine is fastened and it is the seating which is defective.
Q.—Is that defect due to the builders’ design or due to the mishandling of the ship?
A.—No.
Q.—Due to the builders?
A.—No, I cannot say it is the builders mistake because the seating is well made and well built.
Q.—Is that due to the working of the vessel?
A.—Perhaps working together.
Sir Frederick Hopkinson.—If you see one part slide part another that is "working".
Mr. Billimoria.—Do you think it was caused by over-working?
A.—It is not over-working, that is actual working.
Q.—Then what it is due to?
A.—It is due to vibration, nothing more or less.
Q.—Do you find such defects in all the vessels?
A.—You find vibration in any vessel and in very large vessels vibration is allowed for.
Q.—You cannot say who is responsible in that connection?
A.—No.
Q.—Has pipe line anything to do with it?
A.—Pipe line has no effect on the vibration of the ship. That is not a part of the ship but is only joined to the ship at the forward and afterend.
Sir M. Visvesvaraya.—The pipe line is fastened to the ship?
A.—No. It is held in suspension.
Q.—Anyhow the conditions appear to be complex?
A.—No, the conditions are perfectly simple. You can see the pipe on that drawing.
The witness explained the position on the map. (This concluded the evidence of Captain Phillips.)

11th Witness
Mr. S. M. L. Bean, Account Officer of Development Department

Mr. S. M. L. Bean, Accounts and Audit Officer of the Development Department, was then examined.

In describing the method of accounting it is perhaps necessary to mention that the fundamental principle requires an estimate for the work to be done with an allotment of funds, or a specific authority from Government to incur any expenditure.

The estimate sanctioned gives the details of expenditure by the several main heads. Against these main heads detailed working estimates are sanctioned by the Executive officers, and against them the expenditure is booked.

As work is done or materials purchased, the Engineer-in-charge prepares a bill, enters the same in his register of works by sub-heads of estimates where necessary, then submits the bill to the Audit Officer. On receipt of this bill in the Audit Office, it is audited and passed for payment, and the amount thereof as allocated by the Engineer, is recorded in the Register of Works.

The bills passed in this way during the day are then booked against the Project Heads concerned. Adjustments, if any, are similarly received duly allocated by the Engineer and recorded against the working estimate of the Project Heads. In this way the posting goes on to the end of the month, when the totals are struck and the monthly accounts prepared.

This account shows the expenditure on works, establishment, tools and plant, etc.

The account is then submitted to the Accountant General for incorporation in the Provincial Account, and to the Director for information. The Chief Engineer is also furnished each month with the details of the expenditure by Project Heads during the month and up-to-date.

The Work expenditure is the actual total of the vouchers as posted above.

With regard to the establishment charges the expenditure on establishment in the Reclamation branch is wholly debited to the Reclamation schemes and the other establishment, viz., Secretariat, Directorate and Audit is charged Pro-rata, i.e., in proportion to the total expenditure on works and acquisition to the total expenditure on this establishment.

Interest is charged at the rate prescribed by Government (6½ per cent. at present). Receipts, if any, are treated as receipts on capital account and deducted from the total expenditure. These are of the nature of rents of buildings, the sale of surplus materials, etc.

At the close of each month the registers maintained by the Engineers are verified with the registers maintained in my office. Any wrong allocation, etc., noticed is corrected by adjustment in subsequent months.

In this way the compilation goes on from month to month till the end of the year when the annual Capital and Revenue accounts are prepared.

The progressive expenditure is then struck and compared with the provision made under the major heads of the sanctioned project estimates and any probable excess brought to the notice of Government.

Chairman.—What is your full name?
A.—S. M. L. Bean.
Q.—Are you the Audit and Accounts Officer to the Bombay Development Directorate?
A.—Yes, Sir.
Q.—How long have you been in that position?
A.—Since February 1922.
Q.—Do you happen to know the passage in Sir George Buchanan’s report in which he criticised, before you were appointed, the way in which accounts were kept in the Development Directorate?
A.—Yes.
Q.—The report is actually dated 11th February 1922 and says (Sir George Buchanan) “My excuse for writing at length on this subject, apart from its general importance (that is on the question of accounts) is that the accounts of the Back Bay Scheme do not appear to be kept one way or the other of the systems described above. Although works estimates have been made…………………………”
Q.—Were you aware when you came in February 1922 that Sir George Buchanan had criticised the accounts of the Development Directorate in that way? (Referring to his report dated 11th February 1922.)

A.—No, Sir.

Q.—When you arrived did you find that the accounts were up-to-date?

A.—Yes, Sir.

Q.—Sir George Buchanan asked for the figures and the figures of the completed accounts up to the end of October were furnished, but he could have at any time got the figures up-to-date. It was simply a question of totalling.

Q.—You see the form of his complaints. He says he asked for the figures up-to-date on the 7th January and on the 18th January was provided with figures which were correct only to the previous October. If that is so it would point to some disorganisation of the Accounts Department. Would it not?

A.—For the accounts maintained in the Development Office we have to rely on figures received from the Accountant General for adjustments and these adjustments come in perhaps a month or two later. If however any figures are required they can be given at any time.

Q.—Did you know that Sir George Buchanan was pressing Mr. Lewis for monthly accounts?

A.—No, Sir.

Q.—Have you altered the system now since you came in?

A.—Yes, Sir.

Q.—Would you just tell me, suppose after February 1922 it was necessary to buy £10,000 worth of plant. What happens? The Engineer explains to the Director that the plant is necessary?

A.—Yes, Sir.

Q.—Does the Director then apply to Government for sanction?

A.—Yes.

Q.—And if that sanction is given the order is given to the manufacturer?

A.—Yes, Sir.

Q.—And the manufacturer sends the bill to whom?

A.—To the Engineer.

Q.—And to whom does he pass the bill on?

A.—To me.

Q.—And then from whom do you get payment?

A.—I pay it myself. I pay and then enter that payment as a charge against the project.

Q.—Now with regard to weekly expenditure on wages for instance, do you know to-day what has been the expenditure up to last Saturday?

A.—No, Sir.

Q.—Do you know what was the expenditure up to 51st July of this year?

A.—Yes, Sir.

Q.—Could Sir George Buchanan, if he were still the Engineer to-day August 1926, make against the Development Directorate the charge that he made in February 1922?

A.—No, Sir.

Mr. Billimoria.—Will you be in your office at 10-30 on Saturday? If I came round could I have a look at all your books, and see how you are maintaining accounts?

A.—Yes.

Q.—Do you maintain any accounts on the costing system?

A.—No. I have nothing to do with the detailed working of the costing system.

Q.—Who prepares the estimates for works?

A.—The Engineer.

Q.—What is the procedure adopted with regard to the allotment of funds and who sanctions it?

A.—The funds are first placed at the disposal of the Department by the Legislative Council under the head "59, Bombay Development Scheme". The Development Department then distributes the amounts to the various project heads.

Q.—What are the main heads of capital expenditure against which expenses proposed to be incurred during the course of the year are debited?

A.—There are 23 heads in the project estimate.

Q.—Have you got any form here?

A.—I have got forms of the accounts for the month ending June. (A form was handed in by witness.)

Sir Vazerramjee.—Have you not got anything beyond these giving more sub-heads, more details?

A.—I do audit against detailed estimates.
Q.—You have got detailed abstract estimates for each of these separately?
A.—No.
Q.—Have you not got a detailed estimate for the dredging plant?
A.—In the original estimate that was framed there are certain details. I insist on those items being adhered to.
Q.—If the Engineer spends any amount up to 134 lakhs you will pass it?
A.—Yes. Otherwise I will hold it under objection and report the matter.
Q.—Whom do you report the matter to?
A.—To Government.
Q.—What is the result?
A.—The Government takes the necessary action. They issue orders to the Engineer to stop the work or ask him for an explanation.

Sir Vivekarnaya.—For all details the Chief Engineer is responsible?
A.—Yes.
Q.—Is there any accountant under the Chief Engineer?
A.—There is an accountant attached to the Deputy Chief Engineer’s office. He keeps an account in detail in his office. The accounts are agreed once a month. I inspect the offices either personally or through my assistant once a year.
Q.—You take into account the amounts you actually pay. You do not take into consideration any outstanding bills?
A.—No.
Q.—So if the estimates have already been exceeded and even if there are large outstanding bills, they are not brought to your notice?
A.—No.
Q.—You do not know the liabilities of the Department at any time?
A.—No.
Q.—It is entirely the responsibility of the Chief Engineer?
A.—Yes.
Q.—At what stage do you come to know liabilities?
A.—When the bills come.
Q.—If there is an excess over project what happens?
A.—If it is a small excess over the project Government will pass it. If it is big Government will ask the Engineer why there was this excess.
Q.—To whom will you report the excess? To the Accountant General?
A.—Yes, who eventually reports it to the Auditor-General. And I also report, to the Local Government.
Q.—Have you any instances in which such estimates have been exceeded?
A.—Yes, I made a report on the accounts for the year ending 1925, and I pointed out that several heads under the project estimate had been exceeded, especially Head 12 where the work done was something like 4 per cent, and the expenditure 20 per cent. and that it looked as if there was going to be a very considerable excess under this particular head and that some drastic measures were necessary.
Q.—What happened to that?
A.—Government have taken action. They are looking into the whole question.
Q.—When was this report made?
A.—About December last year.
Q.—Between December last year and August this year no action has been taken?
A.—They have been taking action all along. The Engineers have been asked why there is this excess and why dredging costs so much more.
Q.—You do not know the results?
A.—No.
Q.—Do these estimates show separately the portions expended on capital and revenue?
A.—No, they cannot. So far as the Back Bay scheme is concerned it is all capital expenditure.
Q.—And you only maintain these heads?
A.—Yes.
Q.—What is the total amount of estimates in this connection that you are sanctioning or passing bills for?
A.—702 lakhs. That is the total estimate.
Q.—How much have you spent so far up to the 31st July?
A.—The expenditure without interest is 4,74,61,372.

Q.—How will you add interest?
A.—Every month interest is added to the expenditure. The rate is already fixed by the Government for the year. The rate at present is 6½ per cent.

Q.—When the actual loan is for 6½ per cent., why is it so? It was stated in the previous reports that interest taken into account was 7 per cent. The estimates were made on that basis. Has there been any special reason for reducing interest?
A.—The average of the actual interest paid by the Bombay Government works out at 6½ per cent., and this rate is subject to change every year.

Sir M. Viveswaraya.—What according to your accounts is the sum at charge including interest?
A.—Up to 31st July it is 59,767,140. To start with, interest was taken at 7 per cent., and it was gradually reduced, and if we are able to borrow money cheaper the rate of interest will be reduced.

Q.—What is the record with regard to employment of labour?
A.—Muster rolls.
Q.—Who checks them?
A.—The Engineer. They are sent on to him by his subordinates for check.
Q.—Is there no check maintained in your office?
A.—I get a muster roll prepared by the Executive Engineer with the names of the labourers on it, and I audit that muster roll and then make the payment.

Q.—What about materials and stores? Are the original bills submitted to your office for payment?
A.—Yes.
Q.—Do the Engineers retain any copies of those bills?
A.—Yes.
Q.—Is there any record kept for the purchase of stores such as coal, etc.?
A.—In the Executive Engineer’s Office.

Sir M. Viveswaraya.—Do they render you materials at site account every month?
A.—In most cases they have not had such an account because they use materials as soon as they purchase them.

Q.—Is the account kept in the subordinate offices by the accountant?
A.—Yes.
Q.—If you make a payment for an item such as coal, do you distribute it under several heads?
A.—The bill is allocated by the Engineer and I post it according to the allocation given by him.
Q.—Do you maintain any allocation registers?
A.—The Deputy Chief Engineer allocates the bills and sends them to me, and I post them to the heads to which they have been allocated.

Q.—Does the audit register show the total amount of payments during the course of the month under the particular head?
A.—Yes.
Q.—What are the subsidiary heads?
A.—I have got no subsidiary heads.
Q.—Do the subordinate offices keep them?
A.—Yes, with all details.
Q.—To which heads of accounts are the salaries of employees and officers in the works debited?
A.—There is a head, “Establishment” in the Project Estimate. I take the whole amount to “Establishment”.
Q.—None of these items include interest?
A.—Not in the estimated amount. But interest is added to the total expenditure each month.
Q.—Is it separately shown?
A.—By project heads, no. Interest is added to the total expenditure for the whole of the scheme every month.

Q.—In your note you refer to some Capital Receipts. What is the nature of those receipts?
A.—Surplus stores and articles that are of no further use are sold. These are credited and treated as a reduction of capital expenditure. We credit it to the same head of expenditure to which the original item was debited.
Q.—What do you mean by some "rents"?
A.—Those are rents we receive for the bungalows that are occupied by the Chief Engineer and the Deputy Chief Engineers. Those are credited to the capital account.

Q.—If there is any wrong adjustment, do you get it subsequently adjusted?
A.—Yes, next month.

Q.—When passing these vouchers under those various heads you have now mentioned, do you do so against the 4 crores estimate or the 7 crores one?
A.—On the 7 crores 2 lakhs estimate.

Sir M. Visvesvaraya.—Can you give us the actual expenditure by sub-heads of this estimate. For example we have 134 lakhs under dredging plant. We want a similar statement under sub-heads. This is the abstract estimate of the whole project. Can you give us an abstract for each main head? We want the details of the expenditure under the more important heads.
A.—Yes.

Q.—Do they maintain cost sheets daily on the works?
A.—I cannot tell you. I have nothing to do with it.

Q.—Don't you probe into the primary accounts also?
A.—Nothing in connection with cost accounts.

Q.—Particularly about what the dredging is costing, you do not know?
A.—At the end of each month the Deputy Chief Engineer sends me a statement of his costs, and all I do with it is, I take the expenditure he has shown there, and compare it with the actual expenditure booked in my office, and if the total agrees, I have nothing further to say.

Q.—With regard to quantities?
A.—I cannot say anything as to the correctness of the quantities.

Q.—As to what the work is costing, and how the expenditure compares with the quantity of work done you have nothing to do?
A.—I do at the end of each year review exactly what the expenditure is, and I get a percentage of the amount of work done under each head, and then I work it out. If very large expenditure has been incurred and very little done, I bring that to notice.

Q.—Do you prepare any statement about the financial position once a year?
A.—Yes, that is the review showing the percentage of the work done, and the percentage of expenditure.

Q.—Do you keep establishment charges separate?
A.—Yes.

There is a head "Establishment" under the project head. You will find it on the page I have handed in.

Q.—That is practically a copy of the sanctioned estimate. Have you made any alterations or broken it up?
A.—Yes. There was a talk of revising the project estimate of 702 lakhs. They revised it and distributed the expenditure under several other heads. But the estimate has not been sanctioned yet.

Q.—There must have been excesses under several main heads?
A.—Yes.

Q.—Do you hold the expenditure under objection?
A.—Yes.

Q.—Is there any review of the commercial results once a year regarding interest charges, how the capital has been spent and so on? Do you make any remarks on the results as productive work?
A.—Yes. I understand that the scheme was to be finished by the year 1929-30, but owing to dredging operations having failed to the extent that they think it unlikely that it will be completed in that year.

Q.—You do not go into the profit and loss account?
A.—No.

Q.—Could you give us an estimate of what the loss would be if the work stops after building blocks 1 and 8?
A.—I cannot say.

Q.—You could help the engineering officers?
A.—To a certain extent.
Q.—Supposing we give you figures, could you calculate what the financial results would be, assuming that the expenditure is distributed over three years, four years, six years and so on?
A.—Yes.

Q.—I suppose you have a current account of expenditure?
A.—It is all capital account.

Q.—By current expenditure I mean expenditure on the detailed working of the pumps, etc., the expenditure from month to month?
A.—That is maintained by the Engineer.

Q.—You say the Chief Engineer is also furnished with particulars each month. Which Engineer?
A.—The Chief Engineer of the Back Bay Reclamation Scheme.

Q.—You say with regard to establishment charges the expenditure under establishment in the reclamation branch, is wholly debited to the reclamation scheme and that for the establishment of the Secretariat you charge pro rata. What does that represent in percentage?
A.—It depends entirely on the total amount of expenditure incurred.

Q.—The Development Directorate, for example, have got several other schemes besides the Back Bay Scheme. What percentage of the works expenditure does it come to so far as the Back Bay is concerned?
A.—For the present Back Bay comes in practically for the whole of the expenditure.

Q.—What does that come to roughly per month?
A.—Roughly about 16,000 a month. I cannot give a fixed figure.

Chairman.—Will you kindly give it to Mr. Billimoria?
A.—I will give it to Mr. Billimoria.

Q.—What does the audit expenditure come to?
A.—About ½ lakh a year. The expenditure is purely a book transaction. It is not charged against the Government of India and charged under the head 28-Audit. It is not paid, but to arrive at what the cost would be, the Audit expenses are added.

Q.—Do you deduct that from the total expenditure?
A.—Yes.

Q.—Is it charged to the Government of India?
A.—Yes. The Government of India pays the audit charges.

Q.—What is the designation of your appointment?
A.—Deputy Accountant General.

Q.—What is the test usually applied to these works to find out whether they are productive or not in the end?
A.—Yes.

Q.—What monthly returns you send to the Chief Engineer, if any?
A.—A statement of the whole account showing expenditure under the different Project heads by month usually by the 20th of the month.

Q.—Are those accounts complete?
A.—Yes.

Q.—Do they give any certificate that they have incurred no further liabilities?
A.—They may have incurred some liabilities which they have not paid for.

Q.—Do you consider the present account control sufficient and satisfactory?
A.—Yes.

Q.—Who keeps a complete statement of the establishment employed on the works?
A.—The Deputy Chief Engineer.

Q.—I mean the official staff?
A.—They are kept in my office.

Q.—How often do you audit the stores account?
A.—Once a year. In some cases it is done half yearly.

Q.—Do you make an inventory of the entire property of the Back Bay project once in six months or a year?
A.—Each division has got its own property and they keep a list of each property.

Q.—And they do not send them to you for audit?
A.—Yes.

Q.—Do you compare what additions are made during the half year, etc.?
A.—Yes.

Sir Frederick Hopkinson.—Am I to understand by the 20th of the month the total payments up to the end of the last month?
A.—Yes.
Q.—Therefore he knows exactly the total cost of the work up to the end of the preceding month?
A.—Yes.
Q.—I have seen one of these reports and I found somewhere that somebody connected with the audit department said that he did not think costing clerks necessary. Do you know where it appears?
A.—I think there is a statement to that effect.
Q.—You do not remember who it was that said so?
A.—I do not know.
Q.—No costing accounts were necessary?
A.—No.
Q.—Do you know it is absolutely impossible to carry on properly such works as these without costing accounts from a business point of view?
A.—Yes.
Q.—That an engineer does not know whether he is gaining or losing unless he knows the cost, do you agree?
A.—Yes.
Q.—And you will agree that the costing clerk is one of the most important functionaries of the works?
A.—Yes.
Q.—How do you allocate different kinds of expenditure to different heads?
A.—The bills sent are already allocated by the Engineer.
Q.—I mean more particularly the muster roll.
A.—They are also allocated by the Engineer when they are sent for payment.
Q.—Take the locomotive. In the afternoon it is taking building material to the storm drains. How is it kept by the Chief Engineer?
A.—How, I do not know.
Q.—Does the Engineer keep cost statements?
A.—Yes.
Q.—And are these clerks under you?
A.—I asked that the costing clerks should be placed under; De and Government decided that they should be directly under the Engineer.
Q.—I understood you to say just now that all expenditure was charged to capital account?
A.—Yes.
Q.—Is it not different from what used to be done? For instance, "Sir George Lloyd" is on the capital account, but the oil burnt is a working charge. Should not that be kept separate?
A.—The whole expenditure is charged to one account.
Q.—This is an audit point of view?
A.—I do not look at it in that way.
Q.—How are you to get out the cost of the dredging unless you keep separate the working costs?
A.—They are kept by the Deputy Chief Engineer. So far as costs are concerned with any process, that is all kept in detail by the engineers.
Q.—Yours is a very minor part?
A.—Yes, so far as technical points are concerned.
Q.—In a letter dated the 3rd June 1922, Messrs. Meik and Buchanan wrote—"We beg to remind you that before leaving Bombay at the end of February Sir George Buchanan writing on our behalf, as per copy enclosed, requested that we should be furnished with a monthly report and expenditure statement, and on the 12th April we wrote from this office sending forms of progress report to be filled up. To neither of these letters have we received an acknowledgment". Could not the engineers have given them a monthly report and expenditure statement?
A.—Yes.
Q.—Was the monthly statement from the commencement of the work?
A.—I cannot tell you.
Q.—It is very important that the engineer should know about this from the business side?
A.—He has got the detailed accounts.
Q.—You do not pay the amount until he certifies it?
A.—No.
Q.—Again yours is a very minor part?
A.—Yes, so far as technicalities are concerned.
Q.—The only thing you can check is the arithmetic of the accounts?
A.—Yes.
Q.—How often does the Engineer send you the accounts—once a month?
A.—It depends on when the bill comes in.
Q.—It does not come to you periodically?
A.—No.
Q.—What does your audit consist of?
A.—I cannot check the quantities but I can check the rates.
Q.—But the Engineer himself does it once, and yours is an additional check?
A.—Yes.
Q.—Beyond this your checking is of no value whatever?
A.—I also look into the bill to see that the charges that are included in it are legitimate for that particular work.

Q.—I see another letter from the Acting Chief Engineer of June 1922 on the subject of cost staffs. There he says:—"I had a conference with the Director and Audit Officer a few days ago and the Director has agreed to ask Government sanction for a Cost Assistant for Kandivlee as recommended, the appointment of the Cost Assistants for Marine Lines and Colaba to be postponed till a later date. Government sanction to the Cost Assistant for Kandivlee has not yet been received.' Suppose an Engineer decides to do a certain work in a certain way. If he has experience, he knows or ought to know how much a cubic yard would cost?
A.—He knows his project estimate included so much in the total for labour, which is so much per cubic yard.
Q.—If he cannot know the costs how can he comply with his own estimates?
A.—No.
Q.—You said you have a muster roll. Who makes it—the Engineer in charge?
A.—He makes the muster roll and he signs it.
Q.—What do you do? You do the arithmetical checking?
A.—Yes.
Q.—How do you do that? Do you separate the labour costs?
A.—They are all allocated.
Q.—A man may be doing half a dozen things a day.
A.—All allocation is done by the Engineer. The Bill he sends to me has the allocation given.
Q.—With regard to the muster roll, what do you do with it in the way of checking?
A.—I look into the arithmetical calculation.
Q.—That is all?
A.—Yes.

Sir Frederick Hopkinson.—The point I wish to make is this, that it is the engineer who is responsible for practically everything?
A.—Yes.
Q.—And that what you do is to take his figures?
A.—Yes.
Q.—And if he is wrong the whole work is wrong?
A.—Yes.
Q.—And you can do nothing?
A.—No.
Q.—You require a big staff for your accountancy?
A.—I have got to accept the engineer’s figures.
Q.—No getting away from it?
A.—No.

Sir M. Visvesvaraya.—You keep a money record of the transactions?
A.—Yes.
Q.—You have no means of checking his figures?
A.—No.
Q.—Do you get the muster rolls checked?
A.—You mean the actual labour on the spot? No, that is done by the engineer.

Sir Frederick Hopkinson.—On 14th July 1922, Mr. O'Rorke writing to Sir George Buchanan, says "Government have refused to sanction the appointment of the Cost Assistant as asked for in Lewis’s note on Costs; but this I think can be got over." To that extent the work was heavier?
A.—That is so.
Q.—He could not do all that he had to do?
A.—No.
Q.—You agree with him that such a decision ought not to be made by any business
man who understood his job?
A.—Quite so.
Q.—Who keeps the lists of costs purchases?
A.—The Engineer.
Q.—So I really gather from what you told me that the Engineer has got his own
proper office staff for accountancy; he ought to have given there every thing necessary;
A.—Yes.
Q.—You were not concerned in these affairs; it does not matter to you whether it
is 100 or 200 because it does not interest you at all. You are only dealing with lump
sums?
A.—Yes.
Q.—Therefore you cannot help him at all about that.
(The witness was asked to file a copy of the statement of figures in his hand, to
which he agreed.)
Q.—Do you know the estimate of 367 lakhs included no interest?
A.—Yes.
Q.—Therefore it in no sense represents the total cost of the works?
A.—No.
Q.—The same thing applies to the 702 lakhs?
A.—Yes.
Q.—And also to the 11 crores?
A.—I have not seen that.
Q.—And if it is made without interest it is only a portion of the total cost?
A.—Yes.
Q.—If you are building a ship which is going to take 2 years, you pay in monthly
instalments, you begin paying 3 months after the ship was started, in six months it has
got on to a further stage, and if you were asked at the end of the time what the ship would
cost, you would include interest?
A.—Yes.
Q.—Therefore it follows that the total cost of this work will never be known until it is
all disposed of.
A.—Yes.
The witness withdrew.

12th Witness.
Mr. J. G. Rutherford, Chief Engineer, “Sir George Lloyd.”

Chairman.—Mr. Rutherford, what is your full name?
A.—John Grieanie Rutherford.
Q.—What is your office?
A.—Chief Engineer of the “Sir George Lloyd”.
Q.—Have you any knowledge of the character of the trials which were made of her?
A.—I came after the trials were finished.
Q.—She arrived here in March 1922?
A.—Yes.
Q.—When did she leave the Clyde, do you remember?
A.—No; I could not say that exactly.
Q.—How long did it take on the voyage?
A.—About 7 weeks.
Q.—You know that she was designed to do 8 knots, was not she?
A.—In calm weather.
Q.—Did she make good or bad passage out?
A.—Good passage out; nothing was broken.
Q.—Now tell us all about the “Sir George Lloyd”? 
A.—As far as machinery goes?
Q.—Is she a good vessel or bad vessel?
A.—She is the most perfect machine I have ever had to do with.
Q.—Now, as regards the machinery, has she given any trouble?
A.—None whatever.
Q.—And you as Chief Engineer have no fault to find with the working of the machinery from the time she left England till to-day?
A.—None whatever.

Q.—Will the ship be perfectly ready in October next to take up her station and do the work?
A.—As far as the machinery goes, yes.

Q.—We had a great many figures about her output. I need not take you into those. But what I want to ask you is this. Would it be possible to work the “Sir George Lloyd” 24 hours a day on 3 shifts?
A.—There is no reason why she should not.

Q.—Let me see if I understand you; if you have three shifts, you will still have to cut off a certain amount of time.
A.—Not necessary.

Sir Frederick Hopkinson.—In all pumping operations you lose a certain percentage of time, in getting the various things, anchors, pipelines into position?
A.—That depends on the sort of stuff we have to deal with.

Q.—Every day you have certain minor stoppages and all sorts of difficulties. Up to the present you have had 36 per cent. of time of stoppages, in shifting anchors, taking ladder on board and all those operations?
A.—We did not stop for water; there was one shift for 6 hours.

The Chairman.—Last season, if she was working 24 hours on 3 shifts, there would have been 8 hours every day in which no pumping was being done; there must be a certain loss of time necessarily?
A.—Yes.

Q.—What I want you to tell us is this: If you have three shifts, you will still have to cut off a certain amount of time?
A.—Not necessary.

Q.—They had been getting some 15 pumping hours a day, do you think on an average you can get 18 pumping hours?
A.—I think so.

Q.—Now then, it is no good having the best dredger in the world if you have not got something underneath her keel which you can dredge?
A.—Yes.

Q.—And you think that three shifts would not have very much effect on pumping material?
A.—Yes.

Q.—Now the “Sir George Lloyd” has always been pumping in the harbour, has not she?
A.—Yes.

Q.—And she could not be used in Back Bay?
A.—I do not know, I have no information.

Q.—Now, what sort of material have you been getting from the very commencement?
A.—First 10 feet of soft silt, the next few clay and sand, and then rock.

Q.—Can you dredge down to 70 feet below water level?
A.—Yes.

Q.—She is designed to cut down into the various grades of material?
A.—Yes.

Q.—And in your opinion, it is one of the reasons for the trouble that has arisen that there was not enough material in depth for the work?
A.—That is correct.

Q.—What do you say about quality? Can she cut through clay?
A.—Yes.

Q.—We saw her cutter yesterday, and that cutter is driven by 400 h. p. engines, which is worked in fact for about 150 horse power?
A.—150 horse-power.

Q.—And have you got quite sufficient power to operate a rotary cutter?
A.—It is quite sufficient.

Q.—I think you told us you have no fault to find in any respect with the “Sir George Lloyd” yourself?
A.—No fault whatever.
Sir M. Visvesvaraya.—Except that she does not give the required output you have no fault to find with her?
A.—She does not give the required output.
Q.—Cannot the output be improved by changing the blades of the cutter?

The Chairman.—She does not give the output because there is no material.

Sir Frederick Hopkinson.—There is never more than 20 feet of space, 10 of which is soft and 10 is hard. According to Buchanani they are going to dredge down 70 feet. In that case you begin at the top, and go straight through until you go 70 feet.

The Chairman.—He (witness) says that "Sir George Lloyd" is a perfectly good machine, but he has not the stuff to work on.

Sir M. Visvesvaraya.—If you have got a certain depth why can you not advance faster?
A.—There are a great many difficulties?
Q.—How many hours do you work every day? On an average you work 16½ hours?
A.—Yes; the utmost we can work.
Q.—How much time is wasted without pumping?
A.—Two hours every day.
Q.—That means you actually work for about 14½ hours?
A.—Yes.

Sir Frederick Hopkinson.—Do you not keep any record?
A.—No.

(Sir Frederick Hopkinson to Sir M. Visvesvaraya.—What you get is the final result for the whole period. He has nothing to do with the actual dredging. He has only to see to the working of the engines.)

Sir M. Visvesvaraya.—If you increase the number of shifts to three, then you say you can keep up pumping for 4 hours more?
A.—There is no reason, if there is plenty of stuff, why she should not run for 24 hours.

Q.—You are losing 2 hours every day now and, more than that, 96 per cent. on an average?
A.—Yes.

Q.—In a month what is the average? There are many days on which there are repairs.
A.—No; all repairs are done on Sundays.
Q.—The addition of a turn shift will make a material change in the output? You accept that?
A.—Yes.
Q.—You said just now in answer to the Chairman’s question that you would have four hours more of effective work if you had three shifts; why can you not work 22 hours out of 24? If you work for 24 hours on an average you lose 2 hours a day for shifting; you will get 22 hours effective work hereafter if you have three shifts?
A.—I mean two hours for two shifts ........ (?)
Q.—Then there will be losses due to stoppages?
A.—I had no stoppages.
Q.—Then how many months in all do you work?
A.—Six and a half months.
Q.—For 6½ months you work about 15 hours a day; and in future if you have a third shift, it would be 18 hours?
A.—Yes.

Sir M. Visvesvaraya.—The " Colaba " complains that you do not give her enough material, enough water and clay, and that is the reason why there are vibrations in the ship. Do you know anything about that?
A.—There is a certain percentage of leakage through the pipes.
Q.—And the vibration is due to your not being able to pump enough quantity?
A.—I do not know anything about it.

Sir Frederick Hopkinson.—Were there any vibrations due to unequal dredging?
A.—Conditions are different there. Cutters are different.
Q.—Do you have vibrations due to unequal load?
A.—No.

Sir M. Visvesvaraya.—Have you seen other dredgers having cutters?
A.—Yes.
Q.—Are the blades of this cutter different from others? Are there no variations in design?
A.—I do not think all are of one design. There may be difference in the engines.

Mr. Billimoria.—Will you tell us if you are getting the engine spare parts?
A.—Yes; we have a number of spare parts.

Q.—Can you give us any idea of the value?
A.—We have the spare piston rings, spare bolts, spare brass.

Q.—Can you give us any idea of the value?
A.—I could not give you that.

Q.—If it is suggested by any one that the output is smaller because she is not properly handled or is being mishandled, is there any proof for such an allegation?
A.—I think she is handled properly.

Q.—And the defect of the output is due to want of material?
A.—Unsuitable ground.

The Chairman.—Is unsuitable ground want of material?
A.—Yes.

Sir Frederick Hopkinson.—Unsuitable inasmuch as it is shallow?
A.—Yes.

Q.—You do not suggest that just because of the longer pipe line the output is shorter?
A.—It may be, but not to that extent.

Q.—So the main fault lies with the water?
A.—With the material.

Q.—Otherwise you say it is one of the best machines you have ever seen?
A.—Yes: I have nothing to complain about.

Sir M. Visvesvaraya.—Where were you employed before joining this?
A.—I was dredging in Malaya.

Q.—How did you get in here?
A.—They required a chief engineer for the dredger; guarantees were signed.

Q.—You sent up an application?
A.—Mr. Simons sent for me.

Q.—You have got experience of working dredgers?
A.—Yes.

Mr. Billimoria.—If she was originally intended for 15 hours and to pump a certain quantity of material would it mean any material difference in cost?
A.—The cost of fuel and lubricating oil.

Q.—Can you compare the 15 hours output with the 18 hours output and give me the extra cost that would be entailed?

Sir Frederick Hopkinson.—The working cost would be approximately the same; it is the overhead charges that will be reduced.

The witness withdrew.

13th Witness

Mr. J. K. Wallace, Assistant Dredging Master

Sir Frederick Hopkinson.—What is your full name?
A.—John Kirkpatrick Wallace.

Q.—You are the dredging master of the 'Kalu'?
A.—Assistant Dredging Master.

Q.—Who is the dredging master?
A.—Mr. Speirs.

Q.—He was for all purposes dredging master?
A.—Yes.

Q.—You are fixed there all day long; you are really the dredging master of the 'Kalu'?
A.—Yes.

Q.—Can you tell us why the output of the 'Kalu' was so low last season?
A.—Every day, we had to go in and dredge flotation, coming in to site from anchor, connect up to pipe line, and dredge from 2½ hours to 3 hours, then let go moorings and proceed to anchor.

Q.—Don't you think it would have been better to use a grab dredger?
A.—It was too hard for the grab dredger they tried on the job.

Q.—Have you any experience of the London blue clay?
A.—I have had no experience, Sir.
Q. — The "Kalu" went into Back Bay and Back Bay is shallow?
A. — Yes.
Q. — So she had to make flotation. How long did she take?
A. — From November to February.
Q. — What time in November?
A. — About the 29th.
Q. — That is really two and a half months, taking the average, to get ready to work; tell us then what happened? How long did she work after that?
A. — She worked up to 30th April.
Q. — That is about 2½ months?
A. — After flotation she worked right on in two shifts to the 30th April.
Q. — After that?
A. — The dredger left the Back Bay.
Q. — Your dredging time this time was only two and a half months?
A. — Yes.
Q. — You remember what the output was in those two and a half months? Was it not 388,000 cubic yards?
A. — I think about that.
Q. — The output might have been quite a good one if you had gone on for seven months?
A. — Yes.
Q. — Why is dredging the berth necessary? Was it coupled with pipe line?
A. — We coupled up every time we came to our berth.
Q. — So the material was not wasted; it was all used?
A. — Yes.
Q. — You worked 15 hours a day; do you know what percentage of material you got there?
A. — She would be doing between 10 and 12 per cent.
Q. — How do you know?
A. — I judged by the vacuum gauge.
Q. — The vacuum changes when you get a fair amount of material?
A. — Yes.
Q. — Is the berth ready for you now?
A. — It will have to go through the same procedure.
Q. — You think that the berth dredged last season is all filled up?
A. — That occurred in the previous year.
Q. — So that you can only count on getting three months real dredging time?
A. — It depends on the sort of stuff.
Q. — It is nice clean sand? Good building sand?
A. — Yes.
Q. — It will take some two or three months to get your floating berth made?
A. — Two months.
Q. — You think you will do it much quicker?
A. — Yes.
Q. — Therefore you could not apply the 24 hours shift for the two or two and a half months?
A. — No; two hours' flotation, four hours a day.
Q. — Supposing you are required to work 24 hours a day; do you see any objection or difficulty?
A. — I can do it all right.
Q. — I suppose you would be glad to do it if it is worth your while?
A. — Yes.
Q. — Are your boilers for coal or oil?
A. — Coal.
Q. — How do you get the coal?
A. — By loading on the wall and taking it on when we go on the shifts.
Q. — What sort of surface have you got there?
A. — Twelve feet at low water to 18 feet.
Q. — What is the thickness of material?
A. — Nine feet.
Q. — That is your maximum?
A. — Yes.
Q.: You cannot expect to do much there, can you?
A.: No.

Sir Frederick Hopkinson.: What you need would be a little extra crew?
A.: We need a third shift.

Q.: Are your boilers fed by oil fuel?
A.: No, coal.

Q.: What is the depth of face you have got there?
A.: Twelve feet at low water.

Q.: What is the thickness of material?
A.: Nine feet.

Q.: That is your maximum face?
A.: No.

Q.: If you were pumping 24 hours a day .......... Do you advance straight up or sweep across?
A.: We sweep across.

Q.: You take a sweep of, how much?
A.: About 240 feet of a sweep.

Q.: Two feet across and lower your cutter? You go across and then go back again and cut both ways?
A.: Yes, cut both ways.

Q.: You go along and come back and thus you dig four cuts?
A.: Yes.

Q.: You are going pretty fast side-ways?
A.: Yes, working all the time.

Q.: Have you got a bigger face than 6-foot face? What is the diameter of your cutter?
A.: Ten feet.

Q.: You will try and get a deeper cut?
A.: Yes, we are doing that already in soft material.

Q.: That material is not softer......?
A.: No, after 5 feet it gets harder.

Q.: It ends up in rock?
A.: Moorum.

Q.: Moorum has rock in it?
A.: Yes.

Q.: Do you anticipate that if you get another shift next year you will be able to do better.
A.: I can.

Q.: How much better? Is it a matter of speculation?
A.: Yes.

Q.: Why do you think so?
A.: We anticipate that after dredging up the soft material we will get sand instead of clay.

Q.: If your berth does not fill up, your anticipation will be valueless. Have they taken soundings?
A.: I don’t know.

Q.: It is possible in a tug. I think it is a matter so important that they should send a tug at high water?
A.: Pretty dangerous.

Q.: Not if you have plenty of water. You can do the whole thing in an hour. Don’t you think that it is wise to take them? What is the size of the hole you have made?
A.: The first cut was 240 feet by 1,000 feet long. The dredger was turned and took three similar cuts of 1,000 feet.

Q.: Altogether, in your cuts you had 4,000 feet by 960 feet. Last year you were pumping right ashore.
A.: Yes.

Q.: Where do you propose to put the “Jinga”?
A.: The “Jinga” in the first hole.
Q. — You were going how far away from the "Jinga"?
A. — We can go about 4,000 feet.
Q. — How far were you from the wall when you were pumping last season?
A. — 5,000 feet.
Q. — So that if that hole is filled up with sand this year, you won't work the "Jinga"? Supposing that the hole is filled up with sand, she has a material you don't want? Is it not necessary to go 5,000 feet further away from the wall?
A. — We will require the "Jinga" just enough for 5 feet pumping.
Q. — You had done it last year, and you can do it next year. Are you putting the "Kalu" further out to sea and what stuff do you anticipate?
A. — We anticipate better stuff.
Q. — And will it be sufficient for you to go further without digging a hole?
A. — We will dredge our way out from the present position.
Q. — So that at present it will be two boats doing the work of one.
Sir M. Visvesvaraya.— Do you measure the output in any manner?
A. — No.
Q. — Would how much output be increased if the "Kalu" worked in the Harbour instead of in the Back Bay?
A. — She could only go down to 40 feet.
Q. — What is the depth to which the "Kalu" works?
A. — Forty feet.
Q. — And in the Harbour she will have to go deeper?
A. — Yes.
Q. — Have you done that?
A. — No.
Q. — Have you worked in conjunction with the "Jinga" hitherto?
A. — No.
Q. — This is the first time?
A. — This will be the first time.
Mr. S. B. Billimoria.— Have you had any experience.
A. — Yes, in Mexico and Para in Brazil.
Q. — Now you cannot get a better output?
A. — It all depends on the material.
Sir Frederick Hopkinson.— Were you on the suction dredger at Para?
A. — Yes, I have been there.
Q. — Did you satisfy Mr. Thompson?
A. — Yes.
The examination of Mr. J. K. Wallace concluded at 5:40 p.m.
The Committee assembled at 11 a.m. on the 18th August 1926, all the Members being present

14th Witness
Mr. H. A. Elgee, Chief Engineer

Chairman.—What are your Christian names Mr. Elgee?
A.—Herbert Alcock Elgee.

Q.—In April of 1921 did you see an advertisement in the Times asking for applications from Contractor’s Engineers?
A.—Yes, I did.

Q.—Did you reply to that advertisement in the following terms on the 8th April:—
“... In response to your advertisement in the Times, ............” (The Chairman read the application on page 3 of the printed pamphlet “Correspondence with Messrs. Meik and Buchanan regarding the execution of works in connection with the Back Bay Scheme”.)
A.—Yes.

Q.—Sir George Buchanan having got that letter, wrote on the 14th of April 1921 to Mr. Lewis who was then in Bombay, “We advertised in the Times and Engineering papers and Mr. H. A. Elgee’s application stood out far ahead of all the others. I enclose a copy of his letter with a record of his experience ............ ” (The Chairman read the whole letter on page 1 of the pamphlet.)

Q.—On what date did you arrive in India?
A.—On the 23rd of July 1921.

Q.—Was Mr. Lewis in charge then?
A.—Yes.

Q.—On the 28th of July, that is, five days after your arrival, Mr. Lewis in answering a letter to Messrs. Meik and Buchanan said, “with regard to the material to be dredged from the harbour, the quantity to be used for moorum topping, I have noted your remarks and do not propose to go further into the subject until we find by experience what is the character of the material we have to deal with.” Did you see that letter?
A.—Not until I took over from Mr. Lewis.

Q.—Did Mr. Lewis tell you within a few days of your arrival that he did not know what was the character of the material he had to deal with?
A.—I do not think Mr. Lewis would have mentioned that to me because I was only in charge of the Marine Line section and had nothing to do with dredging.

Q.—But you were all engaged on common enterprise?
A.—Yes.

Q.—And you were meeting every day?
A.—I do not say that.

Q.—You were meeting frequently?
A.—Fairly often.

Q.—The principal subject of discussion must have been the progress of the Back Bay Reclamation Scheme?
A.—Yes.

Q.—Did he never tell you that he had no experience and no knowledge of the character of the material that he was going to dredge?
A.—No, he did not tell me.

Q.—Would it startle you a good deal?
A.—I think it would.

Q.—The dredger “Kalu” was bought for £75,000 and more than half million put into “Sir George Lloyd” and her pipe line, and on the 28th of July Mr. Lewis, the Chief Engineer, is saying that he cannot make any decision about the material to be dredged from the harbour and the quantity to be used for moorum topping until we find by experience what is the character of the material we have to deal with. From first to last about a million pounds have been put into the dredging plant?
A.—Yes, about that.

Q.—In the Singapore harbour works you were employed upon reclamation of site and dredging?
A.—Yes.

Q.—What is the first essential, to obtain a dredger or to satisfy yourself whether the sea bed is fit for dredging?
A.—I should ascertain what the material composing the sea bed is.

Q.—That it is suitable in quality and sufficient in quantity for your reclamation?
A.—Certainly.
Q.—When you arrived what was the work that you had to do?
A.—I was responsible for the Marine Lines section, that was for the northern half of the wall. It was originally intended for my section to continue from zero point to 10,000 feet from the north end. That was the part that I was responsible and also for the laying out of the yards at the Marine Lines end where it had connection with the B. B. & C. I. Railway.

Q.—It was to that point that all the stuff from the quarries came?
A.—Yes. It came to that point to serve both the Marine Lines end and Colaba section.

Q.—How long did you remain in that position, i.e., in charge of the building of that section of the wall?
A.—Until the 12th of July 1924.

Q.—When you arrived, had any part of the wall been begun at the Marine Lines end?
A.—There was a small portion of the wall completed by the P. W. D. That was the point from which we had to start.

Q.—As regards block one, the intention was to shut it in by means of the sea wall which would form one boundary and a cross bund which would form another?
A.—Yes.

Q.—And so you got a completely enclosed space?
A.—Yes.

Q.—Did you study the specifications as to the manner in which the sea wall was to be built?
A.—There were no specifications.

Q.—If there were no specifications, how did you proceed?
A.—I was given a cross section of the wall at the rubble mound and also a plan of the gantry which had already been got out by Mr. Lewis and a longitudinal section of sea bed.

Q.—But there were no specifications of the sea wall provided in any of the papers that came from Sir George Buchanan?
A.—None.

Q.—You say, you were provided with a cross section?
A.—Yes.

Q.—Was that sufficient for you as a practical man to enable you to commence the work?
A.—Yes.

Q.—A very essential part of the scheme was the provision of storm water drains. Was it not?
A.—Certainly.

Q.—That is to say, the storm water is carried from Bombay and deposited in the sea?
A.—Yes.

Q.—Were there any specifications given to you of the nature of the storm water drains?
A.—Not until the wall was under construction. Before we came to the point where the storm water drains were required, I was given particulars then.

Q.—Did you see any original estimate in which there was any provision for storm water drains?
A.—I saw no estimate at all at that time.

Q.—Can you give us now a reference to any document prepared by Sir George Buchanan before the acceptance of the scheme in which there is any mention of storm water drains?
A.—There is no mention in his original estimate of storm water drains.

Q.—What is the date of the document you are referring to?
A.—It is page 29 of the report of September 1919.

Q.—On the 11th of February 1922, it was some seven or eight months after that date, Sir George Buchanan made a revised estimate and I am referring to item 9 in that. Do you see there that Sir George Buchanan has largely increased the September 1919 estimate and has added the words "storm water drains". Is not that the corresponding item to the September 1919 item to which you refer me?
A.—Yes, it is the same except that Sir George Buchanan has enlarged the first item by the addition of storm water drains.

Q.—The original idea was to use a storm water drain as one of the cross walls?
A.—Partially.

Q.—Was it highly essential to shut in No. 1 as quickly as it could be shut in?
A.—No.

Q.—Why not?
A.—They were not ready for dredging.
Q.—Was "Sir George Lloyd" going to pump into No. 8 first or 1?
A.—Into block No. 8.

Q.—The Report of the working of the Development Directorate for the period ending the 31st March 1921 says: "The dredger is timed to arrive in Bombay after the monsoon of 1922 when it is expected to have a compartment of the reclamation area ready for filling". That means a compartment, be it No. 8 or No. 1, was hoped to be ready for filling in October 1922? Is that not?
A.—Yes.
Q.—That of course was never done?
A.—No.

Q.—How long did it take to build a storm water drain, the cross bund in No. 1?
A.—There are two storm water drains in No. 1 but the one near the boundary is storm water drain for No. 7 and before we started that we put in a cross bund of rubble some 100 feet to the north side of the site of the drain.

Q.—By the time that cross bund No. 7 was put in, was the area No. 1 ready to be filled?
A.—It would have been. We did not complete the bund entirely; we left a gap until it was necessary to complete it so as to allow the free circulation of water inside the block.

Q.—When was it completely enclosed and ready for filling?
A.—I believe it was some time (I cannot say exactly) in 1923, except for the 100 feet gap.
Q.—There was some correspondence about the cement blocks which were put as protection to the storm water pipe?
A.—That was not the object. The blocks actually formed the drain.

Q.—We saw a large number of cement blocks, two of which would form a circle?
A.—They form one section. The blocks alone form the drain.
Q.—The drain is wholly constructed of cement?
A.—Yes.

Q.—Do you know if there was any investigation of the sea bed at the various points the storm water drains were to occupy before they were attempted to be put in position?
A.—I can only speak of the Marine Lines and over which I had section taken myself. On drains 6, 7 and 8 I had sections taken specially to ascertain the material in the sea bed and how far down we met the rock.

Q.—That was no doubt both prudent and necessary?
A.—It was.
Q.—Ought it not to have been done when one was considering the original inception of the plan?
A.—In ordinary circumstances one would expect it to be done.

Q.—How many storm water drains were there to be?
A.—There is 1 and I (a) storm water drains, and there are seven others. There were one storm water drains that run across through the wall direct. There is also a 10th one which picks up the drainage by the Marine Lines over-bridge.

Q.—Will you take a moment or two to tell me how much in material and labour the cost of those ten storm water drains was?
A.—I think I have got them. This is Mr. Lewis' estimate. It gives Rs. 64,25,000.

Q.—That is for the whole of the storm water drains. That includes the secondary drains and the cross drains?
A.—Yes.

Q.—It is roughly £500,000?
A.—Yes, it is roughly £500,000.
Q.—So that for one of the necessary works of construction that has cost £500,000 there had been, as far as you know, no preliminary investigation of the nature of the sea bed over which those storm water drains had to pass?
A.—Not to my knowledge.
Q.—But had there been such a plan were you not bound to have been told that?
A.—I think so.
Q.—You would not have been allowed to go making your own investigations. Some one would have said, "We have gone all over that. We know all about it. Here are the documents":
A.—They had already taken levels in one or two cases. They had already started.
Q.—Were you given any record of the nature of the sea bed which will in any way be of help to you in your laying of those storm water drains?
A.—No, Sir. I was given a plan and a section showing the surface.
Q.—That was not much use as regards telling you what was underneath the surface?
A.—None at all.
Q.—And did you naturally experience considerable difficulty in the laying of these storm water drains?
A.—We had considerable difficulty.

Q.—It has been suggested, you know, that Sir George Buchanan by a mistake omitted all consideration of the necessity for storm water drains. Can you tell us of any document which suggests the contrary, a document which suggests that in fact he did recognise the necessity for storm drain?
A.—I have no knowledge of such documents.

Q.—You took over on the 12th July 1924, did you not?
A.—Yes, Sir.

Q.—And became Chief Engineer?
A.—Yes.

Q.—What were the alterations in your duty then when you became Chief Engineer?
A.—I then had control over the whole of the work instead of one single section.

Q.—You had control over the building of the whole wall?
A.—Certainly.

Q.—Had you control over the dredgers, “Sir George Lloyd” and “Kalu”?
A.—Yes.

Q.—Had you anything to do with the quarry at Kandiví?
A.—Yes.

Q.—Then you were in fact in charge of the whole work?
A.—Yes.

Q.—The question of the blocks over the storm water drains was occasioning a good deal of correspondence in 1923. Was it not? If you look at page 81 of the correspondence you find there is a letter dated 18th April 1923 from Messrs. Meik & Buchanan to the Chief Engineer, where they say, “We have examined the proposed arrangement of the storm water drains as shown on plans handed to Mr. Halcrow at the request of Sir George Buchanan”. 18th April 1923 is rather a late date to be examining the proposed arrangement of storm water drains, was it not?
A.—It was.

Q.—Then Mr. Lewis writing on the 6th June 1923 says, “Unfortunately owing to the size of the blocks, the method proposed in your letter will require the carriage of one block only at a time in some cases which will slow up work.” The fact was that before you received any specifications from Messrs. Meik & Buchanan as regards the storm water drains many hundreds of these cement blocks had been made?
A.—That is so, Sir.

Q.—And when Messrs. Meik & Buchanan suggested a certain method of construction it was pointed out by Mr. Lewis that that method of construction would involve considerable delay. Mr. Lewis was taking the position that if they carried out the work according to the suggestion of Messrs. Meik & Buchanan it would cause considerable delay, because the blocks were so large that the crane would take a long time to travel out and back in setting the blocks.
A.—Yes.

Q.—The matter appears to have come to the attention of the Director, and Messrs. Meik & Buchanan are writing and saying on the 28th June 1923, “We have received your letter No. 2983, dated 6th June, replying to ours of 10th April 1923. From this we observe that the construction of the forms for the concrete blocks and other preparations have now proceeded so far that you have decided with the Director’s approval to make no change in your original plans”.
A.—Yes.

Q.—Does that point to the fact, the phrase, “in your original plan” that the Development Directorate got out plans because Messrs. Meik & Buchanan had not furnished any?
A.—Mr. Lewis got out the plans I believe without Messrs. Meik & Buchanan being informed.

Q.—But was it not, can you tell us as an Engineer, the duty of Messrs. Meik & Buchanan to give you plans for a construction of this nature costing £500,000?
A.—I think there was some question at the time as to whether storm water drains came under Sir George Buchanan’s province. I believe it was a question about whether he would be entitled to his Commission upon the cost of the drains, but I think that was afterwards waived.

Q.—Before the reclamación scheme began Bombay had a method by which storm water passed into the sea?
A.—Yes.

Q.—Can you begin a reclamación scheme and interfere with that water without making provision for storm water drains?
A.—I cannot.
Q.—Would any contractor working on his own leave out so essential a matter?
A.—No.

Q.—Quite early in your examination I referred you to a statement of Mr. Lewis made five days after your arrival as to his lack of knowledge of the character of the material he had to deal with. I now refer you to a letter of some two years later, 21st November 1923 at page 103 of the correspondence. Is that a letter or a report, the document at page 103?
A.—It appears to be a report, Sir.

Q.—It is a document signed by Mr. Lewis, No. 5193 dated the 21st November 1923?
A.—Yes.

Q.—Look at the last paragraph. “I would point out that we are by no means sure that the filling from the harbour is going to be of use as a means of reclaiming the area”. Does not that strike you as a very extraordinary statement on the 21st November 1923 that Mr. Lewis is still in doubt that the great essential of the scheme, the nature of the bed of the sea is going to be of use as a method of reclaiming the area? Did you see that letter?
A.—I have seen it here since I took over from Mr. Lewis.

Q.—You have had a very difficult task since July 1924?
A.—Yes, Sir.

Q.—When you saw it did it not cause you a great deal of uneasiness?
A.—It did.

Q.—And then Mr. Lewis continues, “If it proves unsuitable the fact will become common property about the time the work at Marine Lines are stopped.” Is it not evident that down to 21st November 1923, Mr. Lewis, the Engineer in charge, did not know at all what depth of material, what quantity of material, the “Sir George Lloyd” would work on from day to day?
A.—It appears to be so.

Q.—There has been a suggestion that the works at Marine Lines should stop?
A.—Yes, Sir.

Q.—And one objection to the stopping of that work was the public, would become uneasy?
A.—I suppose so.

Chairman.—I think we may almost guess it from the next two lines. “What inference is the man in the street going to draw—that the whole show has twisted.”

Q.—Now again on the 10th December 1923, Mr. Lewis writes another report. “Messrs. C. S. Meik and Buchanan have reduced their estimate of the yearly output by 20 per cent. although the same machine is to work the length of time; 7 months in one case and 170 days in the other and it has not yet been put to work. I consider that if material suitable for the filling is met with in the harbour there is no reason to doubt the capacity of the dredger to do its guaranteed output of 2,000 cubic yards per hour or 170 x 30,000 — 5,100,000 cubic yards per annum. Certainty would soon be arrived at on this point and estimates worth having will be possible”. So that Mr. Lewis is still in doubt as to material suitable for filling in the harbour. He casts no doubt upon the capacity of the dredger. Now you have been, I suppose, very closely associated with the “Sir George Lloyd” the dredger since you took over in July 1924?
A.—Yes.

Q.—Now Mr. Elggeo, just tell me, considered as a dredger, and given a sufficient quantity of material down to 70 feet, what sort of work would she turn out?
A.—It depends entirely on the material.

Q.—We must take it in a more abstract manner. Consider her as a dredger. Is she a well made boat?
A.—Certainly I should say she was very well built.

Q.—Apart from the low output, has she given you any mechanical trouble of any seriousness?
A.—No.

Q.—Have you any reason to believe that Mr. Lewis was wrong in his statement, “If material suitable for the filling is met with in the harbour there is no reason to doubt the capacity of the dredger to do its guaranteed output”. Do you agree with Mr. Lewis in that or not?
A.—Not now, Sir.

Q.—Do follow the question please. For the moment I am now on the capacity of the dredger. I shall come to the material later. Have you any reason to believe that Mr. Lewis was wrong in his statement, “If material suitable for the filling is met with in the harbour there is no reason to doubt the capacity of the dredger to do its guaranteed output”?
A.—No, Sir.
Q.—Now, the “Sir George Lloyd” has that rotary cutter that we saw, which is rotated by a shaft, and that shaft in its turn is rotated by a 400 H. P. engine?
A.—Yes.
Q.—The cutter works at about 12 revolutions to the minute?
A.—9 to 12 revolutions a minute.
Q.—And is designed to dredge at a depth of 70 feet below the surface of the sea?
A.—Yes.
Q.—The “Sir George Lloyd” is a powerful machine?
A.—She is.
Q.—Has she at any time shown a failure of necessary power?
A.—Not to my knowledge.
Q.—I am speaking since the time you became Chief Engineer. Has she given any failure of necessary power since you were Chief Engineer?
A.—No, Sir.
Q.—Before you became Chief Engineer did you hear of any occasion when she showed lack of necessary power?
A.—No.
Q.—What is the average depth of the water in the harbour in which the “Sir George Lloyd” has been dredging?
A.—Probably 5 fathoms, i.e., 30 feet.
Q.—Then the theory must be that there is 40 feet of dredgeable material?
A.—That varies with the underlying rock.
Q.—I am asking you, in building a dredger specially for the Back Bay Reclamation and specifying that she must be of a capacity to draw at 70 feet below the surface, that implies that there would have been 40 feet of dredgeable material on an average?
A.—Not necessarily.
Q.—What do you think it implies?
A.—She would be able to dredge down to a depth of 70 feet, not that it is necessary there should be 40 feet of material.
Q.—You say the average depth of the water in the dredging area in the harbour is 30 feet. Mr. Kidd could have ascertained that when he was boring, could he not?
A.—Yes, Sir.
Q.—What is the average depth of the water in the harbour in which the “Sir George Lloyd” has been dredging?
A.—In places.
Q.—In a sufficient number of places to make it reasonable to incur the cost of a dredger capable of dredging up to 70 feet?
A.—Certainly.
Q.—After all, if you are going to specify for a dredger to dredge down to 70 feet, you have got to pay more for her than if you specify 50 feet?
A.—Yes.
Q.—And therefore a prudent man specifying for a dredger will only want that dredger to reach down to a depth at which he will get material sufficient in quantity and quality?
A.—Yes.
Q.—Did there exist in the harbour 40 feet of dredgeable material?
A.—I believe so.
Q.—Have you got any sections that show it?
A.—Mr. Kidd’s borings show that.
Q.—Are you referring to Mr. Kidd’s borings?
A.—Yes.
Q.—What has been your own practical experience of being able to find a dredgeable depth of 40 feet of material?
A.—I could not say that off-hand.
Q.—If there are any documents which could help, you may come again after seeing your documents. I am putting it to you that it is important if you can satisfy the Committee that there did exist, when you became Chief Engineer, and does exist today, a dredgeable area of 40 feet of silt, sand and clay, not in isolated patches but over a proper area.

(Witness took a note of the Chairman’s statement)
Q.—Can you tell us from your own knowledge, from the end of monsoon of 1924, the dredging season of 1924-25, what depth or face did you find in the harbour?
A.—I have not got that here, but I can ascertain that from the weekly reports.
Q.—Very well, will you give us the average face, I mean the depth of dredgeable material in the harbour?

(Witness took a note of the Chairman’s question)

Q.—Something rather serious must have occurred by the 3rd November 1923. You will turn to the letter from Messrs. Meik and Buchanan to the Director of Development on page 101 of the correspondence. You will see paragraph 8, which says “All previous schemes have been based on the assumption that the whole of the material for the filling was obtained by dredging from the harbour by the “Sir George Lloyd” and the “Colaba” working on one pipe alone, or by the “Sir George Lloyd” working in tandem with the “Kalo” and the “Colaba” on one pipe line, but sometime in 1922 the Chief Engineer raised the question of obtaining possibly the whole of the material from the Back Bay itself, thus leaving the harbour side out of the scheme of dredging operations.” That is a complete reversal of the whole scheme. This very big dredger “Sir George Lloyd” was bought for no other purpose than to do work in the harbour?

A.—Yes.

Q.—Was one of the reasons why the Chief Engineer left the harbour and dredged in the Back Bay the fact that he was not getting material sufficient in quantity?

A.—It was more in quality.

Q.—Did quantity enter into it as well?

A.—I do not think so.

Q.—What is the matter with the material?

A.—I should think that Mr. Lewis will be able to tell you.

Q.—I am asking you. Did you make any complaint as to the quality of the material, as from July 1924?

A.—I certainly would have preferred to have seen some better material. I do not think it is an ideal material to fill in.

Q.—We are not living in an ideal world?

A.—No, Sir.

Q.—Was it a material upon which the “Sir George Lloyd” was unable to work?

A.—It was a material on which the “Sir George Lloyd” was unable to give a satisfactory output.

Q.—Let us follow that up to-morrow. You have of course been on the dredger often and often pumping?

A.—I have been on board when she was pumping.

Q.—As soon as the cutter touches the upper part of the bed of the sea, what cut of bed did she take?

A.—For the first cut it depends entirely on the depth of the soft material.

Q.—You know the depth of the material, do you?

A.—We can feel it.

Q.—I shall explain the operation. The cutter passes through the water and eventually touches the bed of the sea. How deep into the bed of the sea does it pass to take the first cut?

A.—It depends entirely on the amount of soft material. If there is 10 feet of soft material the deeper she cuts,

Q.—Does she pass straight through the soft material at the first cut?

A.—Practically.

Q.—And that may be anything from 5 to 10 feet?

A.—Even more.

Q.—Does she have any difficulty in dealing with the soft material?

A.—No.

Q.—The cutter rotates a soft material and it is sucked up and passes through over the pump line. You then come down to harder material, and is that clay?

A.—It is clay.

Q.—Let us take an instance of there being 10 feet of the soft material and 20 feet of the harder material, clay. What is the depth of the first cut into the clay?

A.—I should think about 5 feet. I am not quite certain about these points, because I am not an expert. I rely more on my dredging master and on Mr. Brims. As far as I recollect I think it would be about 5 feet into the clay.

Q.—And getting less each time as the material becomes harder?

A.—Yes.

Q.—And you would disagree with Mr. Girdwood who tells us that the cutter had no difficulty whatever in dealing with any class of clay that she came across, except the last 18 inches of the last cut?

A.—I should think so.

Q.—If that be so, it has been established that as regards the cutting operation, i.e., the separation of the clay from the bed of the sea, the “Sir George Lloyd” does its work?

A.—Yes.
Q.—What then is your difficulty in getting your output? Where does the breakdown come in?
A.—There are various factors.

Q.—Will you tell us all of them? Is there not a possibility of insufficiency of material?
A.—In some cases. Other factors are that we have to contend with very strong tides. And this is an important factor. The difficulty is especially with the spring tides which keep the dredger away from the face. Then there is difficulty also with the moorings of the pipe line. They get carried away and during the first two seasons we experienced considerable difficulty in keeping the pipe line in position. We had to get a large number of extra anchors, the difficulty was so great.

Q.—Was it during your time?
A.—Yes. Furthermore to show the difficulty in holding the pipe line in position in the original pontoons that we ordered, there was one anchor allowed for in every four or five pontoons and that was absolutely useless. We have then on the later pontoons allowed two anchors and winches to each pontoon instead of one for four or five; and even that has not proved sufficient. We have had to get heavier anchors to resist the strain. There is also another difficulty that militates against getting an output so far that is the inexperience of the Assistant Dredger Master.

Q.—What is his name?
A.—There are three of them. Mr. Speirs, Junior, Mr. Merret and Mr. Wallace. We had a fourth and he has gone. They have to learn how to handle the dredger, and it makes a very great deal of difference in the output according to the man who is handling the work. One man will get a good output whereas another man does not succeed.

Q.—Are these the principal factors which in your view have resulted in a disappointing output?
A.—They are two of them. A third factor to a certain extent, especially in the last season, has been too long a length of pipe line to pump through.

Q.—You have been using up to 13,000 feet. I am particularly referring to the time when the “Sir George Lloyd” was working alone without the assistance of the “Colaba”. She was pumping through over 6,000 feet.
A.—She was pumping up to 7,000 feet.

Q.—Is it fair to condemn a dredger constructed to deliver material through a 5,000 feet pipe line, when you put her on to a pump line of over 7,000 feet? You cannot expect a dredger to work on 7,000 as she would on 5,000?
A.—No. When both vessels were working together, I do not think the total length of pipe line has had any great effect on the output. It was more particularly in that one period when the “Sir George Lloyd” was working without the “Colaba”.

Q.—The “Sir George Lloyd” designed for 5,000 feet was made to deliver through a pipe line of over 7,000 feet and you got disappointing results. Is that right?
A.—Yes.

Q.—When you coupled up the “Sir George Lloyd” and the “Colaba” and put on a 19,000 feet pipe line, which was 9,000 in excess of the specification, your results were not so bad?
A.—They varied.

Witness continuing said:
On page 34 of the correspondence regarding the agreement with Meier, Meik and Buchanan there is a statement showing the results of the “Sir George Lloyd” and the “Colaba” working together. For two seasons you can see the lengths of the pipe line for the “Sir George Lloyd” and the “Colaba”. The lengths of the discharge pipes are shown, and the results are in the eighth column.

Q.—By whom was this document prepared?
A.—By myself.

Q.—You point out that the above figures seem to prove that the output is not greatly affected by the length of the pipe line but that it is due more to the quality of the material and the tides?
A.—That is my opinion.

Q.—The matters you have spoken to us about are first the fact that the tide is so strong that it moves the dredger away from the face into which the dredger is cutting at the moment?
A.—That is so.

Q.—That may be to some extent, but it should be overcome by seamanship. It is a question of engine power properly applied and steering properly applied?
A.—It depends on the holding power of the anchors. We have put in heavy anchors and longer wires, especially the head mooring, to get a good hold.

Q.—That is no doubt one of the reasons for the failure of the output; but it is not a reason condemnatory to the “Sir George Lloyd”?
A.—No.
Q.—And the insufficiency of weight of the anchors originally sent out and the insufficiency in the number of them sanctioned is not a matter condemnatory of the "Sir George Lloyd"?
A.—No, Sir.
Q.—But the tides, I suppose, in 1918 and 1919 were presumably the same as in 1924 and 1925?
A.—I do not think there was any variation.
Q.—In your view was the specification asking for anchors of 7 cwt. a sufficient specification?
A.—Not from what we know now.
The Chairman.—But what you know now, might it not have been ascertained in 1918 or 1919? The strength of the tides?
A.—The strength of the tides could have been ascertained and also the quantity of the holding power required, that is, whether on the bed of the sea you have got a good holding ground.
Q.—Now you are coming to the point. Is it not perfectly certain that nobody either in 1912 or in 1919 really knew very much about the quality of the material at the bottom of the harbour?
A.—No, Sir.
Q.—You agree with me?
A.—Yes.
Q.—Before you look on a scheme of this kind, was it not the most essential thing to explore the bed of the harbour, yard by yard?
A.—I would not like to go as far as that. I certainly think there are bound to be variations in material in different areas in the harbour. But personally, if I had had the undertaking of the job I would have made some effort to obtain a dredger, either a great dredger or a Port Trust dredger, and ascertained what is the material that is likely to be found on the bed of the sea.
Q.—What is the nature of the experiment you would have made?
A.—I would have preferred a bucket dredger.
Q.—So as to see the sort of stuff you are likely to get?
A.—Yes, because you can in a bucket dredger see the material as it comes out of the bed. The only drawback is that you could not dredge down to 70 feet, but still it would give you a fair average.
Q.—If you were an expert adviser to a contractor who was proposing an estimate for a work, would not you have supplemented your crab or bucket dredger by coreborings?
A.—I would have taken borings certainly.
Q.—And those borings would you not have done with the coreborings or something of that kind?
A.—Yes. I would ascertain the character of the actual material.
Q.—By drilling with a core drill?
A.—Probably.
Q.—Can you suggest any better thing to do?
A.—It depends a lot on the material; in some cases I might suggest if it was a fairly soft material, and might suggest an ordinary boring gear with a shell auger.
Q.—In the methods you adopted your endeavour would have been to give a definite report to your employer as to what he would certainly find in the bed of that sea?
A.—I certainly would try and ascertain if any work had been done in the neighbourhood.
Q.—I put you in the position of an expert, being employed by a contractor who sends you out here to tell him what he is going to find if he commences an enormous dredge undertaking, you say you would get either a grab dredger or a bucket dredger that would give you a knowledge of some portions of the bed. You say you yourself would drill, would you do nothing else.
A.—I would make enquiries.
Q.—Having done these things, would you not be able to report to your employer the depths of material you find in the harbour, and the quality of the material as well?
A.—Yes.
Q.—It is a matter of skill and diligence, is it not?
A.—It is.
Q.—By skill and diligence in 1919, the character of the sea bed could have become perfectly well known?
A.—Yes.
Q.—I notice you have not told us anything about the employment of wash borings in your investigation? Have you any experience of wash borings?
A.—No, Sir.
Q.—You know the principle of the wash boring?
A.—Yes.
Q.—Does it strike you that a jet of water impinging upon this harbour clay would make a pipe line to sink of its own weight through the clay to the depth of 12, 14, or 15 feet?
A.—I think so, Sir. I have not had actual experience; it may be so. But judging from work with a jet on a stiff clay which I have carried out in Singapore—we were sinking concrete cylinders 10 feet in diameter and we had to sink them 3 feet into the clay—we had great difficulty in getting cylinders down, even very heavily weighted cylinders; we had over 200 tons of kentledge and the cylinders refused to go down and I got over that by providing a pump—if I remember right, it was a 6" pump with a 2" outlet and a hose and nozzle of one inch. I put divers down into the cylinders, after they had been grabbed out, and the effect of that jet was to cut the clay clean out and the cylinders went down.

Q.—If by means of a jet of water a pipe can grab through this clay of its own weight right down to the bed of the rock, it must be obvious that "Sir George Lloyd" cutter can drill a clay of that character?
A.—There is one point. I do not know whether in the wash borings they put weight on the pipe; it may be just the weight of the pipe itself.

Q.—If the pipe was weighted, that is a factor which ought to be mentioned, was it not in the description of the wash borings?
A.—I do not know whether it should be or not; it may be mentioned.
Q.—Is it not essential to mention it if you weighted a pipe, because that would give you some indication of the softness of the clay?
A.—Yes.

Q.—It is an essential factor?
A.—That is what I looked for, because it gives you an idea of the quality of the clay.
Q.—The engineer who talks about soft and unctuous clay will give you a better idea of the quality of softness, however unctuous it may be, if he describes in his wash borings whether the pipe gravitated of itself or whether he put 56 lbs. on the top of it?
A.—Yes; and also the speed with which the pipe went down. It would naturally go through the softer material quicker. If he is boring at the rate of 10 feet in an hour and then came suddenly down to 5 or 6 feet an hour, the conclusion would be that you have harder material.
Q.—But as regards wash borings in a sea-bed in which you are endeavouring to get, in each case, down to the rock, you have had no experience of that work?
A.—Not with wash borings.
Q.—The "Kalu" was bought for £75,000?
A.—Yes.
Q.—That was long before your time?
A.—Yes.
Q.—Had she done any work by the time you were Chief Engineer?
A.—She started afterwards.
Q.—So that the £75,000 lies idle for five years? She was bought on the 21st November 1919.
A.—Yes.
Q.—And do you know that in addition to that she had to have repairs done to her to the extent of Rs. 5,55,000?
A.—Yes.
Q.—So that you have got something well over £100,000?
A.—Yes.
Q.—She was to work in Back Bay. At first she was intended to work in tandem with "Sir George Lloyd"?
A.—I think the original intention with which she was purchased was for work in the East Colaba reclamation. Then it was suggested that she should be used in tandem.
Q.—And eventually she was sent to Back Bay?
A.—Because the working in tandem was uneconomical.
Q.—Before she could work in Back Bay she had to dig out such a hole beneath her as to give her floatation?
A.—That is so.
Q.—How long did she take to do that?
A.—She did not get a berth in the first season's dredging.
Q.—Why not?
A.—The material was too hard to get to full depth; we came across a bed of hard stone, sand stone it may be called, it was only a thin bed, but we could not get under.
Q.—That again troubles us very much. Is it fair to say that you took the "Kalu" in the Back Bay and you put her into a position without knowing what was underneath her keel?
A.—We had the borings that had been taken. It was on the strength of the borings that Mr. Brims and I decided to put her on any particular point.
Q.—There must be something wrong about your information, was not that?
A.—The borings were not quite reliable.
Q.—Who took them?
A.—They were taken—I do not know who actually took the borings—but they were taken under the supervision of Mr. Thomas.
Q.—Is it not a fact that the "Kalu" was dodging about the Back Bay the whole of the season trying to find a place for dredging?
A.—That is not true.
Q.—Just tell us what is true?
A.—The true facts of the case are that we decided on dredging her a berth in a certain area so as to be able to keep her in during the whole season, to get her flooding, and before she could do that she had to come in and work for a portion of the time at high water and then go out again on the falling tide. That was why she was dodging about in Back Bay. It was not an economical thing to do, but it was the only possible method of getting a berth for her.
Q.—Could a berth be dredged by the Port Trust?
A.—I do not think they would bring a dredger into Back Bay for that purpose.
Q.—You remember that this question was being discussed when Buchanan said that the "Kalu" had dredged a berth for herself in three tides on a previous occasion?
A.—That was at Mazagaon Sewree where the material is very soft; very often she was lying actually on the sea-bed. In the Back Bay she could not do so, the bottom is hard in many places; rock is cropping up in various places, and it was absolutely unsafe to leave a dredger like the "Kalu" lying inside at low water and lying aground.
Q.—The question rather arises as to whether it was wise going to Back Bay at all?
A.—Well, it was a question of Hobson's choice.
Q.—Hobson's choice; because you don't get the quality or quantity of material in the harbour?
A.—We might have got material from the harbour, but the extra lengths of pipes, and difficulty of pumping would have made it uneconomical.
Q.—Was not that thought of in 1919?
A.—It might have been; it was on that account, I believe it was decided to go into Back Bay to get the material for the reclamation of the northern part.
Q.—And to go into the Back Bay without any sufficient knowledge of the nature of the bed of the sea?
A.—They had taken the borings.
Q.—You were the Engineer in charge when the "Kalu" went into the Back Bay?
A.—Yes.
Q.—Did you get from any source whatever that information about the bed of the Back Bay which you would have given to a contractor that sent you out to exploit?
Answer Yes or No.
A.—I would not like to go so far.
Q.—Let us assume that you are sent out by a contractor to Back Bay. He tells you that he requires you to investigate the bed of the Back Bay so as to enable him to prepare an estimate for dredging operations there; will you not tell him that you would take a grab dredger or bucket dredger and that you would take coreborings and that you would continue the operations until you knew thoroughly what was in the bed of the harbour?
A.—Yes.
Q.—Had you when you took the "Kalu" into the Back Bay any information such as would have justified you in writing a report to an employer of yours as to the character of the bed of the Back Bay?
A.—I would have written to him that the borings had been taken, but at the same time I do not place very great reliance on borings.
Q.—Putting you in the position of a man sent out here to report to your employer at home exactly what the bottom of the Back Bay consists of. Did you have that knowledge necessary to instruct the employer at the time you took the "Kalu" into the Back Bay?
A.—Not sufficient.
Q.—Have you got it to-day?
A.—We have; yes.
Q.—Can you write a report which would satisfy your contractor in England as to the character of the bed in Back Bay?
A.—Over a certain area.
Q.—Over the area which you proposed to dredge?
A.—Yes.
Q.—You could to-day?
A.—I think I could.

Q.—You know how little the "Kalu" did, and you have told us the reasons. They are set out in your letter at the bottom of page 137 and onwards. We have got the whole story there. It begins, "The dredger "Kalu" commenced pumping tide work on Friday last the 28th November." That letter is a letter to Messrs. Meik and Buchanan dealing with the progress?
A.—Yes.
Q.—And it gives you that "Sir George Lloyd" began to work on Monday the 1st December.
A.—Yes.
Q.—She lost the whole November?
A.—Then they were dredging out a berth for the "Colaba."
Q.—Then we get the work of the "Colaba," and that was sent to Messrs. Meik and Buchanan; and then later you write to him a long letter on the 30th March (at page 140) dealing with the principal reasons for the low output of "Sir George Lloyd."
A.—Yes.

Q.—Now just after you had taken over on the 23rd July 1924, Messrs. Meik and Buchanan wrote to the Chief Engineer. That was in reply to a letter saying that the total quantity dredged is 859,000 cubic yards. The total quantity must have been found to be 526,000 cubic yards. So that Mr. Lewis was explaining to Messrs. Meik and Buchanan that out of 859,000 cubic yards dredged only 528,000 had been deposited?
A.—Yes.
Q.—And the answer of the 23rd July is this: "We are in receipt of your letter dated 4th July 1924 giving the total quantity dredged from the harbour and deposited in Back Bay, also giving the cost of the work. We cannot say that we are surprised at the figures of quantity, as calculations made sometime ago in this office showed that at the present rate of progress the reclamation would be completed in 35 years." Rather an astounding statement.
A.—Yes.
Q.—Then they say "The figures that have been sent to us are very meagre and it is impossible to analyse them properly, but so far as they go, the outstanding features appear to be poor results per hour of pumping which rarely comes up to 1,000 tons per hour against the dredger's guaranteed capacity of 2,000 tons, low percentage of time actually pumped against hours worked, and waste of time and capital by only working single shift. We are assured by the manufacturers that given an ample supply of material there is nothing to prevent the pump doing 2,000 tons per hour; and if that or near that can be achieved and the dredger worked double shift, the output must necessarily be at least trebled and the cost reduced proportionately."

Was later figures show any improvement?
A.—Yes, they did.

Q.—Did they not show a great deal of material passing through the wall?
A.—There has been improvement. The output of the dredger, "Sir George Lloyd," in 1923-24 as measured in the Harbour was 859,858, and its deposit as measured in Back Bay was 528,000. In 1924-25 the output as measured in the Harbour was 1,261,986, and the deposit in the Back Bay was 650,000.
Q.—That is, you were losing at least 46 per cent.?
A.—46 per cent., I believe.
Q.—That is a most serious matter?
A.—Yes, it was.
Q.—Do you remember in January 1925, some discussion arose about the sealing of the wall?
A.—Yes.
Q.—Did Sir George Buchanan ever complain before 1925 that the rubble wall was not made according to specifications?
A.—No, Sir.
Q.—And did you become convinced that this great loss of material was due in part, at all events, to its escape through the rubble wall?
A.—Certainly.
Q.—And there are the letters and memoranda in which the Director and yourself endeavoured to impress upon Sir George Buchanan the necessity of sealing that wall?
A.—Yes.
Q. — With murum?
A. — Yes.

Q. — For some reason which is not very clear Sir George Buchanan didn't think it necessary?
A. — Not until about July or August 1925.

Q. — At that time, in January 1925, Sir George Buchanan, for some reason, didn't think it necessary?
A. — No, Sir.

Q. — But eventually the Director and yourself took the matter into your own hands and sealed the wall?
A. — That is so, Sir.

Q. — And the apparent result of that is that during the last season's pumping you had retained a very much higher percentage of dredged material?
A. — Practically the whole.

Q. — Now, on the 20th of March 1925 (page 140 of correspondence with Messrs. C. S. Meik and Buchanan regarding the Execution of the Works in connection with the Back Bay Reclamation Scheme and the termination of the Agreement with Messrs. C. S. Meik and Buchanan), you were writing to Messrs. Meik and Buchanan about the low output of the "Sir George Lloyd"?
A. — Yes.

Q. — The first is inexperienced Assistant Dredging Masters; the second, nature of material dredged; the third, strong ebb tides; the fourth, bad holding ground for anchors. That was the letter you had in your mind when you were giving the various factors?
A. — Yes.

Q. — Then you deal with the reason why you want a man of experience, because of the difficulty of telling whether the suction dredger is really sucking material up or is merely pumping material or pumping water?
A. — Yes.

Q. — Now, then, at the top of page 141. "The Dredging Master, Mr. Speirs, was working this dredger last season and the output was very much better than it has been this season in spite of the fact that we did not have the same depth of material last season that we have had this season. Owing to Mr. Speirs having to look after the working of the "Kalu" in Back Bay this season, it has been impossible for him to devote his whole time to the training of the men on the "Sir George Lloyd." On various occasions when he has returned on board the "Sir George Lloyd" this season, he has found that the cuts have not been worked systematically, making it necessary to pull the dredger astern and clean up the high ridges left, which were preventing the suction frame from getting down to the full depth." You have got your dredger, you have got your cutter passing in a semicircular way......
A. — In an arc.

Q. — Yes. You put her forward some feet and make another cut and in the result if you are doing the work symmetrically you leave the whole bottom without ridges?
A. — Yes.

Q. — If you find that when the cutter passes through, the ridge is standing up therefore you have to take the cutter back and clear away those ridges, because they stand in the way of the cutter going down to do her work?
A. — Yes.

Q. — Now, then, the material dredged this season has been approximately as follows:—

The top layer of material which has varied from 8 to 15 feet in depth has been fine silt. The underlying material has varied from 7 feet to 20 feet has been clay or consolidated silt of a clayey nature, the bottom 2 or 3 feet of which has been very stiff and interspersed with pinnacles of murum in which boulders are embedded. Owing to the hard nature of this murum in which the boulders are embedded, the cutter engine is brought up to a standstill, or the cutter rides over the top and lifts the suction frame up. This naturally lowers the output of the dredger as it is impossible to keep the cutter into the material.

Let us assume 15 feet of fine silt, let us assume 20 feet of clay, let us assume 3 feet of murum. The total depth is 38 feet?
A. — Yes.

Q. — Have you any plan which shows on how many occasions you got 38 feet depth of material?
A. — I have only Mr. Kidd's borings. They constitute the only plan.

Q. — Page 142 of the same letter. "With regard to a weekly progress return for the 'Kalu,' as this vessel is only able to work for an hour or two a day every other week and her output is very small, being only about 225 cubic yards per hour owing to the hard nature of the clay underlying the sand, it is not worth while giving any detailed
report similar to that for the 'Sir George Lloyd'." Now, Mr. Elgee, owing to the
government's order, the season of 1924-25 was practically
thrown away as far as the "Kalu" was concerned?
A.-Practically. We got the material that was dredged and deposited it, but it was
a very small quantity.

Q.—Following that up, Sir George Buchanan had made an enquiry as to whether
your plan had been abandoned, and your letter says, "work was commenced in
accordance with your plan 3411, which was handed to Mr. Brims and which shows the
Dredger "Sir George Lloyd" to commence dredging in the southeast corner of the area
'K'." That was in the Harbour?
A.—Yes.
Q.—The point selected by Sir George Buchanan as fit for dredging as indicated by
him on plan 3411?
A.—Yes.

Q.—I continue your letter: "But on investigation it was found impossible to put
the dredger to work in the position shown owing to the presence of rock or boulders
projecting up above the surface. Moreover the depth of water available proved to be
only about 4 or 5 feet, the majority of this being silt, and it would not have been
economical working to attempt to dredge in this position": Can you understand how
Sir George Buchanan indicated the southeast corner of area 'K' where dredging
should be performed by the "Sir George Lloyd"?
A.—I don't know, Sir.
Q.—Doesn't it point to the fact that he didn't know what was underneath the sea
in the Harbour any more than the Development Directorate did?
A.—It looks like that.
Q.—The real truth is that when the Development Directorate took up the
"Sir George Lloyd" to dredge at the very beginning on the 8th December 1923, they
really had no practical knowledge of what was underneath her keel?
A.—No, Sir.
Q.—Can you expect much success in conditions like that?
A.—It will be a chance.
Q.—You have got to have a marvellous luck to buy a million pounds worth of
dredging plant, to bring it into a Harbour and hope that everything will turn out well
and think you would really find a sufficient amount of material for her to work it.
Would you advise a contractor to do that sort of thing?
A.—No, Sir.
Q.—That is putting quite fairly what happened at the commencement of the scheme?
A.—I think that is quite so.

Chairman.—I think we must rise now, because we must have consultation on
another matter. We will continue at 3 o'clock.

(The examination of Mr. H. A. Elgee was resumed at 3 p.m. on the 12th August 1926)

Mr. Elgee.—Before you begin your questions, may I be allowed to modify two
answers that I made this morning. The first was, you asked me what was the average
depth of water in the Harbour. I replied that it was 20 feet. But it ought to be "an
average of 30 feet at low water". This morning I had in my mind the height of the
tide. The other question I think you asked me was, when you brought the dredger into
the Harbour you didn't know what was the sea-bed beneath her and I said "No". I
should like to modify it by saying, "No, not with any accuracy".

Chairman.—Would you kindly turn to page 165 of the Correspondence, to the letter
dated the 15th October 1925. This is a letter from Messrs. Meik and Buchanan to the
Government of Bombay, paragraph 3. "The lowness of the output of the 'Sir George
Lloyd' is in our considered opinion due to one of two causes, or probably a combination
of the two—

(a) unsuitable material, and
(b) inefficient handling of the plant.

The unsuitable nature of the material should have been discovered, before or after
the purchase of the dredger?
A.—Before.

Q.—Now Mr. Elgee, as an Engineer of long experience, from July 1924, except for
your criticism as regards the Assistant Dredging Masters, did you see any inefficient
handling of the plant?
A.—Never.
Q.—And are you able to say whether the men who were working the "Sir George
Lloyd", the "Colaba" and the "Kalu" were trying their best to get the best results
they could?
A.—I am certain they were.
Q.—Just one last word about the "Jinga." The only thing that the "Jinga" has done up to date is to cost money?
A.—That is so.
Q.—The question arose about purchasing her some time in May 1924 (page 150). Mr. Lewis is there writing and saying that the Intermediate Pumping Station would be required for the "Kalu" in the event of her being put to certain work. That was right, possibly?
A.—Yes.
Q.—Intermediate Pumping Station might be a vessel or a Pontoon?
A.—Quite so.
Q.—And the Pontoon could be steam or electrically driven?
A.—Certainly.
Q.—Mr. Lewis says, "The question of how an Intermediate Pumping Station could be provided has been considered. On account of the bad state of the hull of the "Jinga" it will probably be possible to purchase the machinery comparatively cheaply—a curtesy inspection has been made. It is suggested that the vessel should be purchased not more than £10,000 if it can be secured at that price, use the boilers, pumping engine, auxiliary pumps and winches, selling the hull and the remainder of the machinery for what it will fetch. Such a purchase would be made on the results of a favourable report from a qualified Marine Engineer who would value these items. These items together with a new pump, the old one being badly damaged, would be placed on a pontoon which would preferably be built by Messrs. Simons and sent out for re-erection in plates and angles."

The decision that has been come to is to retain the machinery in the original hull?
A.—Yes.
Q.—And next season, do you propose to use her as a booster for the "Kalu"?
A.—Yes.
Q.—Has she been in dry dock for about 18 months?
A.—Off and on since we purchased her.
Q.—And have you any idea of what in addition to the £10,000 the cost of her repairs were?
A.—Rs. 5,40,000.
Q.—About £40,000?
A.—Yes.
Q.—That brings the cost of the "Kalu" to £50,000?
A.—Yes.
Q.—I mean the cost of the "Jinga"?
A.—Yes.
Q.—The Development Directorate paid £75,000 for the "Kalu" and £20,000 for repairs?
A.—Yes.
Q.—The "Kalu" has cost £100,000, the "Jinga" £50,000 and what result have you got up to now from the combined efforts of the two?
A.—The actual amount of dredging would be about 888,000 cubic yards.
Q.—Taking the capital cost of the "Kalu" alone. The output is 388,000 yards. The "Kalu" has been very expensive, isn’t it?
A.—Yes, if we stopped dredging now.
Q.—Suppose the question were left entirely to your decision, what would be your plan for the next season?
A.—Do you mean for the work generally, or dredging in the Back Bay?
Q.—Suppose the continuation of the work was left to your decision what would you do as from the end of the monsoon, where would you dredge, would you reclaim by moorum?
A.—At the south end?
Q.—What do you call the south end?
A.—Colaba. Block No. 8. I would put the "Sir George Lloyd" to pump in the Harbour and deposit the material in block No. 7.
Q.—What about block 8?
A.—To my mind, it would be a mistake to put any more dredged material in block 8.
Q.—Then you put the "Sir George Lloyd" pumping into block 7?
A.—Yes.
Q.—Is that a fairly shallow block?
A.—It is.
Q.—Have you got a cross bund?
A.—Not yet. We have got a storm-water drain which is a partial protection and which has been completed.
Q.-How long would it take you to complete the cross wall? Have you got a water-tight wall?
A.-In addition to the sealing of the wall, it will take about four months as estimated.

Q.-Is there any work of sealing that is still in progress, now?
A.-Not at the present moment. We have stopped it.
Q.-Do you think that if you commenced in October or November, it could not be completed before the end of the year?
A.-Not before the end of the year.
Q.-And how long do you think it will take to fill block 7 by dredging?
A.-It would not take long. In 1928 it will be pretty well completed. That is two seasons.
Q.-Let us see. You begin to dredge in January and you could pump in January, February, March and April.
A.-I would start at the beginning of the dredging season. But the wall might be sealed first, because the storm-water drain only allows water to escape between half-tide and high tide. In these tides very little material is wasted.
Q.-You would require the season of 1926-27 and the season of 1927-28?
A.-Part of it (1927-28).

Q.-Allowing for contingencies, it would be safe to assume that by May 1928 block 7 would be filled?
A.-As far as dredging is concerned.
Q.-And ready for moorum when it settles down?
A.-Yes.
Q.-Do you believe that to be a perfectly practical proposition for the "Sir George Lloyd."
A.-I do.
Q.-The "Colaba" will work?
A.-Will work with the "Sir George Lloyd."
Q.-And how do you propose to employ the "Kalu."
A.-At the beginning of the season, I should put her into the area that she was dredging during last season because the probability is that we will find a lot of material which has been deposited during the monsoon. I would start and pump that into block No. 1.
Q.-How much is required to complete block No. 1?
A.-After the 21st of June this year, the quantity was 340,000 brass, that is, 1,260,000 cu. yards.
Q.-How long do you think it will take the "Kalu" to deposit that amount in block 1?
A.-I would not deposit the whole of the amount by dredging. I would continue the filling by motor lorries as we are going on at the present day.
Q.-You would fill block 1 by a combination of dry filling and dredged filling?
A.-Yes.
Q.-When do you think that would be finished?
A.-Block 1 would be finished in March 1928.
Q.-Let us say by May 1928. Are you of opinion that blocks 7 and 1 would both be finished?
A.-Yes.
Q.-You have thought that over?
A.-I thought that over and worked it out.
Q.-I am still a little puzzled about your criticism of the material. You say the output was in part due to unsuitable material, do you not?
A.-That was from Sir George Buchanan's report.
Q.-I am asking you?
A.-I don't think the material is suitable.
Q.-Would you explain in what way the material is not suitable?
A.-The dredger does not seem to be able to take it.
Q.-It is clay?
A.-The silt is easily pumped. It is clay.
Q.-Of varying consistency, soft, stiff, hard?
A.-Yes.
Q.-What is the matter with it?
A.-The cutter does not seem to be able to work sufficiently fast to obtain the material. It seems generally too stiff.
Q.-The cutter takes 9 to 12 revolutions a minute? 
A.-Yes.
Q.—Have you noticed that when the cutter is rotating at that speed, the indicator shows that the engine has developed about 130 horse-power?
A.—I would not care to say definitely on these points.
Q.—Have you noticed that?
A.—I watched the gauges. I don't know what exactly the horse-power was, but I can say that I have seen the pressure on the pump varying from 35 to 45 pounds. That is on the discharge side.
Q.—You were saying that you were of opinion that the rotary cutter could not revolve sufficiently fast owing to the stiffness of the material?
A.—The cutter seems to jump into........
Q.—Is there any difficulty in rotating that cutter when it is revolving at a speed very much higher than 9 to 12 revolutions a minute?
A.—It is quite possible, there may be.
Q.—What you have got to do is, you have got to work your cutter at such a speed having such a power behind it as would give the result you want. That is your object?
A.—Yes.
Q.—Subject to this you must not work so that the engine shakes the whole vessel.
The "Sir George Lloyd" showed no signs of having been injured by any vibration did she?
A.—No.
Q.—Do you know of anybody here who can come and say that the clay was so stiff that the cutter was unable to rotate at a greater speed than 9 to 12 revolutions a minute?
A.—Only Mr. Spiers and Mr. Brims.
Q.—Do you think that Mr. Spiers will tell us that the quality of the material was so dense that it prevented the cutter rotating sufficiently fast to give the output? That is your point, isn't it?
A.—Not exactly.
Q.—What is your point?
A.—I personally rely on Mr. Brims and on Mr. Spiers and I am sorry to say that I have not had the time to spend many hours on the dredger. Therefore, personally I cannot answer this question from my own knowledge.
Q.—You put forward the theory that it may be the reason for the lower output?
A.—Yes.
Sir Frederick Hopkins.—Can you tell me, Mr. Elgee, when the road was laid through from the Marine Lines to the Colaba end?
A.—I think it was towards the end of 1922. I could get the actual date.
Q.—What I want to get at is that the work at Colaba could not have been started until the beginning of 1923?
A.—They did start actually before.
Q.—How did they get the material?
A.—Some of the material was obtained at the site like the broken stone. But the cement had to be brought by motor lorry. The space was very confined.
Q.—Do you know when it was decided to complete the wall from the Marine Lines? Had you anything to do with coming to a decision?
A.—No. I simply carried out the orders for carrying on the work.
Q.—Don't you have any specification giving the particulars of the constituent parts of the concrete?
A.—No, Sir.
Q.—Who decided how much cement was to be used?
A.—I decided it myself.
Q.—Is it not, not merely unusual, but unprecedented that you should commence a work of this description and size without any specification?
A.—It struck me as rather peculiar.
Q.—You have got a long and wide experience of contractor's work. Did you ever have a similar case?
A.—No, Sir.
Q.—Was not Sir George Buchanan interested in the state of the concrete?
A.—Later on. At first there was nothing said about it.
Q.—Did he then give the specification?
A.—No, Sir.
Q.—Did he specify the broken stone?
A.—No.
Q.—Did he specify different sizes of the broken stone?
A.—No, Sir. When he came out here, I think it was the first season. After he arrived here he examined the stuff and found fault with it and suggested that the material was too large. But there was no specification.
Q.—Did he ask you how much sand you had put in the concrete?
A.—No.
Q.—Did he ever know what proportion you had mixed in?
A.—I think he did.
Q.—He asked the question as to what you were doing?
A.—Yes.
Q.—Can you tell me the probable cost of the whole of storm water drains when they are completed?
A.—That is 64 lakhs, I think.
Q.—Has that been estimated?
A.—That is Mr. Lewis’ estimate.
Q.—I want to know if you have made an estimate?
A.—I have got separate figures for storm water drains but I have not got them here.
Q.—I want to see them and I want to see your own estimate also, the total amount done in quantities and the money value, and also the amount still remaining to be done? Are you in a position to make such an estimate?
A.—Yes.
Q.—Have you got sections down to the rock over the line of the storm water drains?
A.—We have now.
Q.—Since when?
A.—Since I took over, that is within the last two years.
Q.—Do they show the depth of the rock?
A.—Not in all cases.
Q.—Therefore I suggest that you will not have sufficient information to make an accurate estimate? Do you know where the rock begins?
A.—In many cases the rock is on the surface.
Q.—Have you decided upon the method of construction?
A.—Yes.
Q.—Of all of them?
A.—Yes.
Q.—Are you going to use blocks or mass concrete?
A.—I have stopped making blocks, I am going to use mass concrete.
Q.—Which is more economical of the two?
A.—I consider mass concrete more economical.
Q.—Can you tell me what information they had when they decided to make those blocks?
A.—I cannot.
Q.—Do you know if they had any information?
A.—Just the surface levels.
Q.—Was it intended to cut away the rock and put those blocks over the endward of the soft rock?
A.—That part of the work was done.
Q.—You have not had that again?
A.—I have stopped it.
Q.—Are there any piles carrying those drains?
A.—One small portion, No. 9 outlet.
Q.—Generally they all go down to the rock?
A.—Not in all cases. Where there is soft material we dredge out a trench and fill it with rubble. In some cases they do not go right down to the rock, but put on the morrum after the grab has got to a hard bed of morrum.
Q.—Is the material overlying the rock?
A.—In some cases.
Q.—Is this estimate for the storm water drains based on actual cost?
A.—Yes.
Q.—In each case?
A.—Yes. This latter estimate we have got is an estimate for each individual drain.
Q.—So that it can be taken as a reliable estimate?
A.—Yes.
Q.—The estimate made before cannot be taken as reliable?
A.—No, but that is also fairly near the mark.
Q.—Is it not always the case with any work of this kind that you have a specification giving the most minute and exact details of everything to be done?
A.—Yes.
Q.—None of that has been done in this case?
A.—No.

Q.—It depended on the feeling of the person at the moment how he did it?
A.—More or less,

Q.—In this 2,000 yards an hour that you have been estimating for the “Sir George Lloyd” does that in any case make an allowance for the 36 per cent. of stoppages?
A.—I have not made any estimate of 2,000 yards an hour.

Q.—I think you said that the dredger should do 2,000 yards an hour?
A.—That is the capacity but I do not think she will be able to do it.

Q.—Not even allowing for 36 per cent. of stoppages?
A.—No.

Q.—Have you any idea why they took 2,000 yards an hour and multiplied it by 15 hours a day in order to produce 5,010,000 a year?
A.—I do not think they made any allowance.

Q.—If you were to estimate for this work, would you make in all cases the necessary allowance for stoppages?
A.—I would.

Q.—Have you ever dreamt of expecting the maximum capacity of pumping and multiplying it with the number of hours of the work?
A.—No.

Q.—Would anyone who knew anything about dredging do such a thing?
A.—No.

Q.—If you come across a man who did that sort of thing what would you think of him?
A.—He was a fool.

Q.—I was rather interested with an answer to a question put to you this morning about the increased length of the delivery pipe and the working material put to the pump. How far do you think it can be carried out?
A.—I do not quite understand.

Q.—Supposing the machine is designed for 5,000 feet and it actually has been working 6,000 or 7,000 feet without any difference in her output. How far do you think you could go beyond 7,000 feet?
A.—I think I explained this morning that it did make a difference with “Sir George Lloyd” when she was working alone. The total length of discharge line from dredger to outlet varied from 5,900 to 7,813. At the 5,900 she had an output of 498 yards and at 7,813 she got 436 yards and at an intermediate stage with 6,207 she got an output of 1,007 yards.

Q.—Would you base any estimate on such figures as those?
A.—I do not think so. The variation is due to the difference of material being pumped.

Q.—How can you tell me what she was pumping at that time?
A.—By watching the outlet discharge.

Q.—How would you manage to get the quantity of cubic yards per hour?
A.—We have done that by soundings at the harbour.

Q.—How frequently do you take soundings in the harbour?
A.—They take them every day.

Q.—What do you estimate the quantity for next season?
A.—The same as last season. That would be 960 cubic yards per hour.

Q.—You stated that the clay in Singapore was very stiff?
A.—Yes.

Q.—Do you call Singapore clay a hard clay?
A.—It is very very stiff indeed.

Q.—Have you ever heard of anyone making wash borings in the solid clay?
A.—I know very little about wash borings only by hearsay. I have never seen them actually being taken.

Q.—The “Kalu” was bought for the East Colaba Reclamation?
A.—So I understand.
Q.—Do you know why that did not go on?
A.—We started on it but it was stopped.
Q.—Do you know why?
A.—I do not know the real reason.

Sir M. Visvesvaraya.—I think the Sub-Committee recommended that it should be stopped.

Sir F. Hopkinson.—There was no engineering objection?
A.—No.
Q.—One point cropped up this morning for filling part of the reclamation. Do you think it is a practical proposition to lay pipes right across Bombay?
A.—It is nearly as expensive as a tube railway.
Q.—It would not be reasonably practicable?
A.—No.
Q.—And ought never to have been suggested?
A.—I do not think so.

Q.—Was there any estimate made of its probable cost?
A.—Not to my knowledge.
Q.—I suppose the sight of it frightened them?
A.—I think so.
Q.—Is it a fact that practically the whole of the superintending staff have been appointed by Messrs. Meik and Buchanan?
A.—Yes.
Q.—If you look at page 107 of the correspondence (Pamphlet entitled “Correspondence with Messrs. Meik and Buchanan regarding the Execution of the Works”) you will find there is letter from Sir George Buchanan to the Chief Engineer about railway in which it is stated “I am well acquainted with the caterpillar tractor and its particular merit in this case is that the machine being free of any line could go into a quarry face and after loading its bucket return to deposit the material in the wagons wherever they may be standing”. It makes one smile?
A.—Yes; it does.
Q.—Have you ever heard of such a thing?
A.—No.
Q.—Do you think the person writing such a letter ever saw such a thing being done?
A.—I do not think so.
Q.—In England or anywhere?
A.—I do not think so.
Q.—Would not you call that stark madness?
A.—Yes.
Q.—Or such colossal ignorance that he did not understand what statement he was making?
A.—Yes.
Q.—On page 9 of the Report by Sir George Buchanan, September 1919, paragraph 28, while criticising Mr. Kidd, Sir George Buchanan says “It is usual when preparing estimates for a project of this magnitude, and especially when the estimates are those on which the authorities are asked to sanction the execution of the work for all details to be furnished but in this case details are left to imagination”. Was there anything else left to imagination besides Mr. Kidd’s details?
A.—I think pretty nearly everything was left to imagination.
Q.—So that the criticisms that Sir George Buchanan applied to Mr. Kidd, may fairly be applied to himself?
A.—I think so.
Q.—In the same report, page 38, he says: “There is an abundance of material in the harbour for the filling and it can be deposited in the area to be reclaimed by means of modern suction dredgers much cheaper than in any other way”. In estimating that there was an abundance of suitable material, I take it that the description is about right?
A.—Yes.
Q.—It is based on the assumption that there is sufficient quantity of suitable material. Has that proved to be the case?
A.—Over the original area there would have been sufficient material for dredging.
Q.—Suitable material?
A.—That was the best available. It is not ideal material.
Q.—But was it suitable?
A.—In the event of not being able to get any other material, it might be called suitable.
Q.—Suitable for the purpose of reclamation?
A.—Yes.
Q.—May we take it that the whole basis of this scheme lies in having an abundance
of suitable dredged material in the harbour which could economically be placed into the
reclamation area?
A.—Yes.
Q.—That is the whole kernel of the scheme?
A.—Yes.
Q.—Sir George Buchanan in 1919 had also realised the same thing. Had you been
in his position, do you think you would have accepted anybody's statement in a work
of this magnitude?
A.—Certainly not.
Q.—Would you have wanted to make borings for yourself?
A.—I would have verified them.
Q.—Would you have decided to take the whole of the material so far as practi-
cable? Would you want to know exactly what would it cost in order to transfer that
material to the reclamation area and whether it was possible to do that without taking
such borings yourself?
A.—Yes.
Q.—On the question of borings, I have got a statement showing the list of plant
taken over from Messrs. Lowther Kidd and Co. In that list the number of pumps is
4 centrifugal pumps and there is no mention of any boring apparatus of any kind for laying
2" length of pipe. Does not that point to the fact that no actual borings were taken?
A.—I do not know how Kidd actually worked his borings. It appears to be some
specially improvised plant.
Q.—Would you call it improvised plant, if you get a barge and a little derrick and
you put two inches pipe and insert in that pipe a smaller pipe and pump into the
smaller pipe as you pump on board? Would you call that improvised plant?
A.—Yes.
I would like to get it on the notes the position of works at the present time and
I would also want you to give me a statement of the quantities remaining to be done,
keeping each material separate, each block separate, and each storm water drain
separate.
The witness promised to supply.
Q.—Two storm water drains have been built in block 8?
A.—Yes.
Q.—The cross-bund has been built in block 8?
A.—Yes.
Q.—In block 7 nothing has been done?
A.—Storm water drain No. 2 is finished.
Q.—For the next block a portion of the storm water drain is done?
A.—Yes.
Q.—But no cross-bund?
A.—No.
Q.—For the next one there is a small portion of drain?
A.—That was just started.
Q.—The next one to that has got a tiny little piece done?
A.—Yes.
Q.—The end of block 2 has got two little pieces of storm drain done?
A.—Yes.
Q.—No cross wall?
A.—No.
Q.—There is a cross-bund in the middle of block 1?
A.—That is the storm drain in the middle of block 1.
Q.—There is another storm drain at Churchgate which is nearly finished?
A.—Yes.
(A statement of all the quantities remaining to be done keeping each material
separate and each block separate and each storm drain separate was promised to be
handed in by witness by next Tuesday.)
Q.—When you made a start here were you given a general programme as to the
way the works were to be carried out?
A.—No, beyond being told I was expected to complete 2,000 feet of wall in the first
season of the Marine Lines wall, 3,000 feet the second season and the following seasons
till completion. That was afterwards modified. That was all.
Q.—Was there any intention of pumping into block 1 at that time?
A.—I never heard of it.
Q.—That must have been subsequently considered?
A.—Must be. I had nothing to do with dredging. At that time I had heard nothing at all about the dredging.

Q.—When you became Chief Engineer what were the instructions then about dredging in Back Bay?
A.—It had been decided to dredge in Back Bay, and the position was fixed by Mr. Prins and Sir George Buchanan and myself.

Q.—You produced the plan the other day showing the borings in the harbour. I have got the original plan of the borings. I want to see if yours is a copy of it. Will you just look at this and tell me if yours is a copy of this?
A.—Yes.

Q.—Have you ever plotted those borings on cross-sections?
A.—No, I do not think so.

Q.—I want you in the next week to have, not the whole of this, but every third, plotted in the form of a cross-section tied up in the centre. At the same time put the outside line giving the area. I want those sections to show the different kinds of materials as given in the borings.

Q.—There is a plan here accompanying Sir George Buchanan's report of 1919 purporting to give the cross-section I think of this dredging area. Would you mind looking at this drawing No. 3036 and 3037. Is that supposed to be a cross-section through the dredging area?
A.—Yes.

Q.—Do you know where that section is made? (pointing to a particular section.)
A.—That would be shown on the plan.

Q.—Is that the only one for the whole area?
A.—No, I think he has got several cross-sections.

Q.—At any rate that shows there is comparatively small quantity of mud or silt and a large quantity of blue clay.
A.—Yes.

Q.—There is a depth there of 25 feet of play?
A.—Yes.

Q.—I cannot reconcile that with the figures given on that large plan over there. Mr. Kidd in his report said there was 3 times 25 millions, and that figure 75 millions has never been questioned.
A.—I have not heard it questioned.

Q.—If you deduct 39 millions and 15 millions restricted from dredging, there is 20,500,000, which is not enough to do the scheme?
A.—Yes.

Q.—So that it would appear that after you were prevented from dredging down to 70 feet and restricted from a certain area, you could not possibly get an area to do the scheme?
A.—Not on those figures.

Q.—Another thing that strikes me as very odd is the mud seems to be largely in correspondence over the clay. Now that cross-section shows from 3/4 to 7/8 clay. Which is right? Who is responsible for those plottings?
A.—I believe these plottings were Sir George Buchanan's.

Q.—Are you sure of that?
A.—I will try and find out.

Q.—As per the details contained in the letter of Mr. Lewis dated 31st August, 1921 at page 34 of the Correspondence there is enough material in the harbour to complete the whole scheme and no necessity to go to Back Bay from the point of view of quantity of material.
A.—No.

Q.—From the particulars given on plan No. 1 in Sir George Buchanan's report, it was physically impossible for the dredger to fill up blocks 1 and 2 having regard to the specifications of the pump delivering 10,000 feet?
A.—Yes.

Q.—You think that is the reason they went exploring in Back Bay?
A.—That was one of the reasons.

Q.—When you commenced Marine Lines, did you have a general scheme of operations given you as to how the wall was to be built?
A.—Yes. I had only a plan showing the gantry and the cross-section of the wall and a longitudinal section showing the ground levels and nothing else.

Q.—Did they tell you what plant had been provided for building that wall?
A.—I do not think I knew at first exactly what plant had been allocated to that section. I knew there were two pile drivers and two concrete mixers mounted on a stage, and I had a 5 ton crane to start with. That was all. Certain plant had been ordered, but it had not been allocated to particular sections.
Q.—No programme was given to you as to how the matter was thought out?
A.—No, Sir.
Q.—It was left to you to carry on as best you could?
A.—That is what is amounted to.
Q.—No direction?
A.—No, Sir. I was told “There is your job. Get ahead.”
Q.—Although you had had nothing whatever to do with ordering your plant?
A.—I knew nothing about what plant was ordered.
Q.—Did you have a copy of that letter to Mr. Lewis from Messrs. Malie and Buchanan of the 25th April 1921 given at page 5 of the Correspondence? The letter begins by saying, “We send you by the same mail plan No. 5244 showing our proposed programme of dredging operations and wall construction, and shall be glad to have your views on the same.” Did you see that programme?
A.—I think that was the one I referred to regarding the orders to carry out the 2,000 feet of the wall. That is as far as Marine Lines is concerned.
Q.—Did they not tell you how they had designed to build the works with certain wagons and cranes and other methods?
A.—No, I was not aware.
Q.—Did you not have to transfer the rock from side wagons to end wagons?
A.—No, that was for the Colaba section.
Q.—How does your section compare with Sir George Buchanan’s section in his report?
A.—Pretty closely generally. There were variations. Original section showed solid concrete 16 feet wide, 7 feet 9 inches deep. That was afterwards altered to hollow blocks, I made the blocks in 20 feet lengths. I fixed the length myself in the first instance, and when we got orders to make the blocks hollow, then we cut out 12” by 8' by 5’9”.
Q.—I should like you to give me two typical sections of Sir George Buchanan’s of 1919 and the section you are speaking of now east in blocks.
A.—I think I have it.
Sir Frederick Hopkins.—In the same letter they say “The dredger will begin work about December or January 1922, or even later if the wall in section 1 is not finished, and will fill section 1 from area ‘K’, pumping through pipe line No. 1.” Does section 1 mean block 1?
A.—I think so.
Q.—At what end was the pumping to begin?
A.—That is the south end.
Q.—This programme was made on the 18th March 1921. You commenced dredging in December 1923?
A.—Yes, in December 1923.
Q.—Did Sir George Buchanan on any of his visits explain the difference between the year’s estimates?
A.—No. I was not in a position to ask it.
Q.—Can you give us a reason?
A.—I believe it was on account of Mr. Lewis’ having an idea to get the material from the Back Bay. That is one of the reasons.
Q.—Mr. Lewis was doubtful about the quality of the material from the harbour?
A.—I believe they took samples with the dredger. Probably it was in 1922.
Q.—In consequence of that experiment he felt doubtful about the quality of the material?
A.—I think it was after he raised the question.
Q.—On page 47 of the correspondence Mr. Lewis says “As regards boring in Back Bay, we have got fairly good results, but I am afraid the plant we improvised is not powerful enough to get through anything at all hard.” The object of making these borings was to find out what material was there. But apparently they could not do it apparently also they were trying to make washborings which were a failure?
A.—Yes.
Q.—As an alternative for boring Mr. Lewis suggested the purchase of a small pontoon with spuds and asked Mr. Buchanan to make enquiries of Messrs. Ingersoll-Rand & Co. or other people who specialise in such boring plant and also to purchase a Crab. That also means the purchase of a pontoon carriage?
A.—As a matter of fact I had got one crane on board, a barge.
Q.—I have seen it. But is that the intention here?
A.—I cannot say what this refers to. Apart from the one you saw there was another crane I was working with, which I had had on shore. I had put it on a barge just to start storm-water drains.
Q.—This suggestion of buying a Crab and pontoon would take years to come?
A.—Yes.
Q.—On page 80 of the correspondence a letter from Mr. Lewis says, "Borings have been taken over Back Bay. These show that there is a layer of sand and clay varying in depth from 4 feet to 21 feet and averaging about 9 feet in depth over the whole area." Would you call that a suitable depth for a pump dredger with a 39 inch suction pipe?

A.—No, Sir.

Q.—Could you expect to do economic dredging under such conditions?

A.—It is too shallow a face.

Q.—In the same letter (of the 19th May 1922) the following appears—"Beneath this is a bed of closely compacted earthy material and stone. Small samples of this have been obtained, but we have not been able to penetrate this to ascertain the quantity of material of this nature or to fully investigate the possibilities of it being workable by the dredger. So really they did nothing about it?"

A.—No.

Q.—Is there anything in Sir George's report and plans accompanying it showing that any sections were ever taken over the line of the storm water drains?

A.—I do not think so.

Q.—Is there anything in his report to suggest that storm water drains were required?

A.—I do not know.

Q.—When did you first hear that storm water drains were necessary?

A.—Just after I came out here. The question arose about the entrance to No. 9.

Q.—Was it a surprise to you to learn that they were required?

A.—I believe I asked the question of what was going to happen to the storm water drains.

Q.—What answer did you get?

A.—That they would look into the question.

Q.—Was it a surprise to them?

A.—I think Mr. Lewis knew about it, but he had not had the time to go into the question. That was how matters stood at that time.

Q.—But no design had been made for that?

A.—Only the positions had then been fixed. I had a drawing given me, just a typical drawing showing what was required.

Q.—Was it a workable one?

A.—It was.

Q.—It was not designed to suit the ground?

A.—No. I took my own sections.

Q.—In this statement you are giving me, you will show what will be the cost of the outfall when it is completed?

A.—Yes.

Q.—Had you any cross-sections of the general area of the reclamation? I have seen nothing yet.

A.—We have them, Sir.

Q.—Were there any when Sir George Buchanan's estimate was made? He had Mr. Kidd's, but does not reproduce it in any of his reports.

A.—Yes, just one or two.

Q.—Is that all he has got?

A.—I could not tell you that.

Q.—According to the plans attached to Mr. Buchanan's report I think there are only one or two sections shown over the length of 20,000 feet. Is it possible to calculate the quantities in two sections?

A.—Not from that information.

Q.—Have you ever heard of any other information?

A.—No.

Q.—Have you got the detailed cross-sections now used? How far apart?

A.—A hundred feet.

Q.—Right over the whole length?

A.—Yes.

Q.—Do you remember when they were taken?

A.—I do not remember, but they have been going on with them since I have been in charge.

Q.—If you are given a report and plans like this of Buchanan's of the year 1919, would you look upon that as giving sufficient information to carry out the work, or would you look upon it as merely a preliminary report?

A.—Merely as a preliminary report.

Q.—You would not attempt to base an estimate upon such information as you find therein—an estimate upon which you are bound to carry out the work?

A.—No, Sir.
Q.—If such a volume as this were given to half a dozen of the principal contractors in England, do you think that any one of them would present a tender based on the report?
A.—I do not think so.

Q.—Would you go a little further?
A.—I would go a little further and say certainly they would not do it. No one will present a tender based on this.

Q.—Were there any borings made on the line of the wall on which to base this report?
A.—No.

Q.—Would you consider it important that you should be told by a person, who had drawn up a scheme for doing a work and had ordered the plant for doing it, exactly how it is proposed to do it?
A.—Yes.

Q.—Do you think it would be efficient to do work on contract?
A.—No.

Q.— Suppose for instance there is a work to be done. With respect to this work do you think that Government will give the same facilities as a private contractor would have?
A.—I think so in this case, because it is a special department. It is not the Public Works Department. I do not think that the Public Works Department would get on with it quickly. But here we have got most of the members of the reclamation staff.

Q.—You had a fairly free hand?
A.—Yes.

Q.—Don't you have a lot of questions to answer, estimates to make and reports and so on?
A.—Yes.

Q.—Do they occupy much of your time?
A.—A good deal.

Q.—What proportion do you think?
A.—In certain months it is less.

Q.—Taking a general average what portion of the time does it take?
A.—It is pretty hard to say, because it would not be accurate, but I think it would amount to a couple of weeks work in a year.

Q.—Then you cannot complain if anything goes wrong that you had no time to attend to things personally?
A.—No. The Deputy Chief Engineer gets out the estimates in the first instance. They are then sent on to me for my sanction or approval. I can sanction the estimates up to Rs. 50,000. If they are over that amount I can approve them and then pass on to Government. I can check the estimates in my own office.

Q.—But all this comes under the original amount of the estimate?
A.—For each portion of the work, for instance the storm drains, an estimate will have to be prepared and sanctioned.

Q.—Each drain or each part of a drain?
A.—Each drain. If you buy a crane you have to put up a bill. Practically it is a sub-estimate for every bit of work.

Q.—Have you got any knowledge of how Sir George Buchanan made up his original estimate of 367 lakhs?
A.—No.

Q.—Did he get values of work from anybody in Bombay?
A.—I could not tell you.

Q.—Would you think it an economical method to complete the reclamation from both ends simultaneously? You see that the scheme was originally proposed in 1919 was to dredge and fill the area by one dredger. But one dredger could not be working in blocks 1 and 8 at the same time. Don't you think the proper method was to start it at one end, fill it and so finish as you go forward?
A.—I think that would have been the most economical way of working.
Q.—By that means you would have been able to sell your land as soon as it is reclaimed?
A.—Yes.
Q.—On the other hand, if your dredger was to break down or the material found unsuitable, you could have stopped the scheme without incurring any great loss. But having begun at both ends, how would you stop it? Is not that so?
A.—Quite so.
Q.—I see it was originally intended to build 2,500 feet from the Colaba end, but actually 8,500 feet was built there.
A.—The actual length built at Colaba has been 11,000 feet.
Q.—Do you know why that alteration was made?
A.—I could not say that.
Q.—With regard to moorum filling that you are doing at present, you are only getting one trip in two days out of your wagons?
A.—Yes.
Q.—Could you not get better than that?
A.—We could. At the present time we are waiting to see what is going to happen to the work. It was only just lately, I think it was in June, that the B. B. & O. Railway were in a position to take more than their trains. They had quadrupled their line and they can now take anything up to 6 trains. Tenders had been asked for for the filling of block No. 3 and the proposal was to allow the contractor to use the whole of our plant. But I was against it, as, if the contractor uses the plant, we have to stop work.
Q.—You can get better terms from the Railway Company than from the contractor—you can control the unloading?
A.—Yes.
Q.—I propose to go through the cost in your office. We can do it much quickly there?
A.—Yes.
Q.—Can you at the same time give me a section of the moorum or tipping behind the wall?
A.—I can give you that. It is only a 30 feet wide bank.
Q.—What does your lorry filling cost?
A.—We are getting that very cheap, about Rs. 2-2 a brass.
Q.—You have heard that Sir George Buchanan accused the staff of mishandling the dredging plant. Did he on any of his visits make a complaint to you?
A.—It is just the reverse.
Q.—He was satisfied with what you did?
A.—Yes. He said that the dredging staff had done all that was humanly possible.
Q.—You find it difficult to understand why he should say now that it was mishandled? A.—I do not understand in what way he used the word mishandled.
Q.—He means that it is not handled in such a way as to produce 2,000 cubic yards an hour?
A.—Yes.
Q.—Did he complain about the working of the dredger?
A.—No.
Q.—Did he suggest any improved methods?
A.—No.
Q.—Did he ever show any signs of distress about the output of the dredger?
A.—He was upset about it.
Q.—He sent out one of his staff to look into the working of the dredger. How long did he stay in Bombay?
A.—He was for two or three days on the dredgers.
Sir Frederick Hopkinson.—Did he suggest any improvements?
A.—No.
Q.—Did he accuse you of mishandling it or was he satisfied that the best was being done?
A.—No; I never saw his report. He went home just at the time when the notice terminating his agreement was given to Sir George Buchanan. He had not any fault to find.
Q.—With regard to the dredging in Back Bay for next year, I suggest to you that next year's work is bound to cost more than the past season's work, for the reason that you have got two dredgers going to work.
A.—That is true; the two dredgers will be worked, but the quantity of material will be much greater for the simple reason that except for the last ten weeks of last season the dredger was working tide work. She could only come in on the top of the tide, until she could get dug into berth. When she got into position she was pumping 23,000 cubic...
yarns per week for the last ten weeks, over more than two-thirds of the output of the season.

Q.—At how many hours a day?
A.—The actual pumping hours would be about 12 hours. I have got the hours. It is 406 cubic yards in an hour.

Q.—I should like to have that figure.
A.—I think we should do better with two dredgers.

Q.—If you do not do twice as well the costs will be more.
A.—You must not take the season’s output of last year, because she was really working only for ten weeks.

Q.—Mr. Brims was here, and he said that the “Jinga” was reconditioned?
A.—Yes.

Q.—You mean altered?
A.—No; reconditioned.

Q.—She had a ladder, and it was taken out?
A.—Yes; it was just taken out.

Q.—Has it been your experience that the prices have been gradually falling since 1920?
A.—Yes.

Q.—And that an estimate made in 1919 would be at the top of the market?
A.—I think the prices went up after 1919. I would not like to say that definitely, but that is my impression from what I have heard.

Q.—For the last two or three years were they less?
A.—Not lower than 1919.

Q.—In the second report of the Advisory Committee, on p. 33 there is given three columns of estimates, one is Sir George Buchanan’s, a second is the revised estimate by Government and the other is the revised estimate of the Chief Engineer. How was this figure amounting to 1,126 lakhs arrived at?
A.—It was got up when I was on leave. That is the original amount. I believe I have got that particular estimate. It is an important estimate.

Q.—Take the sea wall for instance; your revised estimate is 600 lakhs, whereas the project estimate is 235 lakhs. That is enormous. The sea wall is to be built after other two works. Apparently, several items are lumped together in 1919 estimate.

A.—The whole of the works are lumped together.

Q.—Dredge filling, moorum topping, renewal of pipe lines and so on.
A.—Yes.

Q.—In Gibb’s report, he says that moorum can be economically obtained. Do you know what he has in his mind?
A.—I do not know.

Q.—You do not know wherefrom or how it can be obtained?
A.—He put in a price very low indeed. I think he said Rs. 3 a brass. I have not got his report. I remember his having mentioned it because we questioned that.

Q.—Does he mention Rs. 3 a brass? That is about 12 annas a cubic yard?
A.—Yes.

Q.—If you can do that, you can stop all the dredgers?
A.—If we could do that at that price, but we questioned that price. Then Sir Alexander Gibbs, the Honourable Mr. Cowasji Jehangir, the acting Director, Mr. Stileman and myself had a meeting in the Secretariat and this question of Rs. 3 a brass was discussed. Sir A. Gibbs said that he really put in the figure in order to induce contractors to put in a very low price.

Q.—Do you think it will have that desired effect?
A.—I do not think so.

Q.—What is the lowest price you can give for moorum from the quarry to the Reclamation?
A.—Consolidated material at Rs. 1-97.

Q.—If you stopped dredging, where do you suggest sufficient material can be obtained? Have you any idea?
A.—It will have to come from SaiJlette, and the area between Santa Cruz and Kandivli.

Q.—You think a sufficient quantity could be got there?
A.—It may be obtained. There is one area, which would probably be sufficient; in SaiJlette there is plenty of moorum filling.

Q.—That would cost Rs. 14 to bring it down to site?
A.—That is for bringing through the B.B. & C. I. If you have to bring it from Anik in by the Port Trust, you have to work out the cost of getting it here, and it would come to over Rs. 7 a brass. That comes to Rs. 493, i.e., practically Rs. 5 against Rs. 7. The difference in cost is due to its having to be handled over a 4-3/8” gauge, then transhipped to
the G. I. P. and again to the B. B. & C. I. So it has to be conveyed through three different lines. We were looking into that with the intention of getting fillings from here.

Q.—There was a large increase of plant?
A.—There was a very great increase.

Q.—At the rate you are carrying on, it will take 50 years?
A.—Yes.

Q.—That is quite out of the question. If you will double your quality it will take 25 years?
A.—Yes.

Q.—Did you ever consider whether it was possible to put a booster on shore?
A.—We did consider that, but it would mean too long a pipe line between “Sir George Lloyd” and the booster.

Q.—It was considered?
A.—Yes.

Q.—In the Director of Development’s notes, he gives a total estimate of 9,27 lakhs in his advance statement. I cannot reconcile these figures. Can you explain to me the difference between that and your estimate of 11,00 lakhs?
A.—The 11 crores estimate was based on the season’s dredging of 1924-25, as they were the only figures we had to go upon. We were ordered to prepare an estimate on that basis. The whole of the work was to be carried out under that 11 crores estimate.

Q.—Is this 927 lakhs a revision of the 11 crores estimate?
A.—Yes, that would be a revision.

Q.—What is this based on?—Why is it so much less?
A.—The difference is 2 crores, i.e., 14 millions sterling.

Q.—One gets nauseate with these figures. You are putting Government in an awkward position. One month you are giving the cost as 4,27 lakhs; shortly afterwards you are giving the cost as 11 crores?
A.—It was all based on certain figures.

Q.—Then it is not the Engineer’s estimate?
A.—It is not. It was a very pessimistic view; it was based on the season’s dredging which we knew could be improved upon. I do not call that an estimate (the 11 crores) although we had to put up that figure.

Q.—Who wanted it to be put up?
A.—That was prepared by the Advisory Committee.

Q.—I do not think they would see the ghosts of the 11 crores estimate. Have you got a copy of the project estimates of May 1921?
A.—Yes.

Q.—It is given there “Designing, estimating and building have all had to be carried on simultaneously”. Can you tell us why they have to be carried on simultaneously?
A.—I think we were designing the construction work of the walls.

Q.—The work commenced in January 1921?
A.—It was begun in October 1921.

Q.—So, from January to October, you were designing?
A.—The engineer was preparing the lay out.

Q.—Surely that is done before the plant has come?
A.—I do not know. The plant was ordered in October 1920.

Q.—Surely, they had working arrangements all set in before then? At this time, apparently it was decided to do away with the 20 ton concrete blocks, why was that?
A.—I think they found that the heavy blocks were not required; they came to the conclusion that blocks of 3 to 7 tons would be a sufficient weight to add for protection.

Q.—Surely in designing a work of this kind you would consider that before you design anything?
A.—I should.

Q.—What you think would happen to a contractors’ agent?
A.—He will be sacked at once. As regards the estimate, it was prepared for the purpose of handing in to the Legislative Council. This estimate was specially got up to compare the works done up to date and to show which works were under the estimate and which works would be over the estimates, showing that the excess was entirely due to the dredging.

Q.—Mr. Lewis made this project estimate?
A.—Yes.

Q.—Has that the slightest relation to the check of the cost of the work?
A.—It has been remarkably close in the figures in such work as has been carried out excepting the figures for the dredging.
Q.—I do not understand you. If you were asking a man to make an estimate for doing a certain work, would you place any value on that estimate if you employ the same man to carry it out?
A.—It depends on who the man is.
Q.—Right. But supposing you are to make an estimate to Government to carry out certain work and you were asked to give an estimate of what you thought it would cost, what would be your inclination?
A.—To be on the safe side.
Q.—To make it higher?
A.—Yes.
Q.—So that the actual estimate of costs would really be of little value, because the Government would judge if you are going to carry it out departmentally on the nearness of the estimate to actual cost?
A.—Yes.
Q.—Therefore if your original estimate was twice as much as it ought to be, or the cost was twice as much, no blame would attach to you?
A.—No.
Q.—That is the logical conclusion?
A.—I see your point.
Q.—The fact that you have done on the lowest estimate does not prove that the estimate was a correct one or the proper cost of the work?
A.—No, Sir.
Q.—Did not you ultimately order another 100 20-ton wagons?
A.—Yes.
Q.—Do you know why that was so?
A.—Because we were short of rolling stock.
Sir F. Hopkinson.—100 is nearly 50 per cent. of the original contract?
A.—Yes.
Q.—They cost about £600 per wagon?
A.—We have about £438.
Q.—That means additional £60,000.
A.—Yes.
Q.—Was there any alteration in the scheme requiring 50 per cent. more of wagon?
A.—I believe the firm had increased the quarry output to begin the wall at both ends.
Q.—They didn’t provide sufficient allowance to deal with the progress of the estimate?
A.—No.
Q.—Therefore, there was a lump jump to £60,000?
A.—Yes.
Q.—You would not call that a good estimate? Would you?
A.—No.
Q.—In the project estimate of May 1922 it is estimated that the dredging would be 5 annas a cubic yard?
A.—Yes.
Q.—Last year, what did it cost in Back Bay?
A.—It was 11 rupee.
Q.—That is 18 rupees?
A.—No, it was 20 annas.
Q.—That is 4 times as much?
A.—That was last year.
Q.—The best year?
A.—That was not a normal season.
Q.—It was all the dredging you did, no more?
A.—Yes, but we will do better in the future.
Q.—What does the cost include?
A.—We allow for the maintenance of the plant, ....
Q.—In these costs?
A.—Yes, in these costs.
Q.—And superintendence, staff ...?
A.—It has all the supervision, but establishment charges are not included.
Q.—What is the percentage?
A.—Allowing for all establishment and directorate, 13½ per cent.
Q.—That is rather high. Are there any reasons why the dredging in the Harbour should be either less or more than it previously obtained in its original position, unless,
of course, it leaks away? Would you expect that the dredging would make a slightly increased bulk in the silt?  
A.—No; it would eventually shrink.

Q.—Is it not the fact that you cannot move anything without increasing its bulk?
A. —That is on dry land.

Q.—If you evaporate that water what will be your output in the same position?
A. —It will have to be brought on to dry land where it will shrink. It will shrink in bulk after you dredge it and put it on shore.

Q.—But not shrink before you touch it?
A. —It would. We took a bucket of that material. We got a solid slab out of the bucket itself. There were tests made by the Resident Engineer to see what percentage of water there was. The result was 50 per cent. of water.

Q.—To what extent did it shrink?
A. —I forget what the actual shrinkage was.

Q.—Sir George Buchanan makes a complaint and says that he has been struggling against extravagance and inefficiency of this undertaking. Has he ever complained to you of extravagance?
A.—Not to me.

Q.—Did you know of his complaint from any one?
A.—I have only seen it from correspondence to the Times.

Q.—Have you ever been accused of inefficiency by Sir George Buchanan?
A. —No.

Q.—Has he ever complained to you of the general inefficiency with which the works were being carried on?
A. —No.

Q.—Did he state anything to the contrary?
A. —Not to my knowledge.

Q.—Has he ever complained and said that the staff were carrying on the works inefficiently? Has he ever said it?
A. —No.

Q.—He has never given you a pat on the back and said "this is very good"? Did he give any praise?
A.—Yes, he has. He has never made any complaint except in regard to certain minor works—about the construction of the work.

Q.—Here and there there have been letters complaining about the purchase and the quantity of plant and machinery?
A. —Yes.

Q.—Much of which has never been used?
A.—Yes. There were two or three items; one of them was the concrete skips which were originally ordered. They were ordered by Mr. Lewis. Another was a motor trolley for the railway. We used it, or rather Mr. Lewis could make it go, but nobody else could. That is all. All the rest of the plant has been used, I know.

Q.—I see in the same letter, Sir George Buchanan states that the Government should let the work out for contract. Do you think, from your knowledge of contractors, that any responsible man would take a contract for completing this work under present conditions?
A.—I don't think so.

Q.—I mean at any reasonable price?
A.—No, Sir. There are too many risks.

Q.—With that exception you would not call it risky?
A.—No. But the dredging is risky.

Q.—That is the only thing?
A.—The others are all straight-ahead work.

Q.—Is it not a fact that if anything has gone wrong with the provision of plant, the control and conduct of the works out here, it is to be attributed in the end entirely to Sir George Buchanan? Wasn't he the Chief Engineer in direct control of the whole scheme?
A.—Yes.

Q.—Therefore, if there is anything wrong should he not take the responsibility?
A.—I think he ought to, because he called himself the Engineer responsible for the work.

Q.—Everything you did was subject to his control?
A.—Yes.
Q.—If he wants to make any alteration you will have to carry it out?
A.—There is a certain amount of freedom.

Q.—In minor works?
A.—Yes. In major works we will have to consult him. He fixed up the working programme.

Q.—Again, he fixed the quantity of plant?
A.—Yes.

Q.—In fact, he is just in the position of a contractor and the Chief Engineer is in the position of a contractor’s agent?
A.—Quite so.

Q.—If a contractor tells you to do a work, as his agent you are responsible for carrying on the work only as he has ordered you?
A.—Yes.
The Committee assembled at 11 a.m. on the 16th August 1926, all the Members being present, and examined Rao Bahadur G. K. Chitale.

15th Witness
Rao Bahadur G. K. Chitale of Ahmednagar

Written Note of Evidence of Rao Bahadur G. K. Chitale

1. Back Bay reclamation is said to have been a very old idea. It was started as far back as 1865 then from time to time the idea was revised and in 1897 a Committee was appointed for that purpose. Again in 1908 the matter was further considered and so on till ultimately the present scheme fructified and the idea now is to reclaim the sea area from Colaba point up to the old existing wall at the Kennedy sea face.

2. This reclamation scheme was estimated to cost about 375 lacs or roughly four crores of rupees and was expected to reclaim a little over 1,100 acres of land. The estimate for tools and plants was rather a heavy item of expenditure and came to a little over 50 per cent. with prospects of depreciation to a large extent. The scheme was to be worked by the Development Directorate under the supervision of Messrs. Meik Buchanan & Co., as Consulting Engineers. The staff was recruited, but mostly consisted of outsiders who did not appear to know local conditions. A special Audit Officer from the Government of India was expected to keep his watch on the expenditure, etc., by means of pre-audit and the local advisory Committee was expected to give advice on matters in connection with the scheme, but the Government was not bound to accept it. The whole Department was in the hands of an Executive Councillor who was an eminent Counsel of the Bar and the highly paid Director who was previously the Agent of the G. I. P. Railway.

3. The work was started under a glowing report, and it was expected that the reclaimed area would cost a little over Rs. 10 per square yard and in anticipation of this about a third portion of the whole reclaimed area was contracted to be sold to the Military Department at the rate of Rs. 20 per square yard.

4. Such was the ambitious scheme that was sanctioned before the reformed Council began to function. I was a member of that Council from 1921 to 1924. I was new to the work. At the first budget meeting the grant demanded for the Development Department was passed without any discussion worth the name. But still on the facts as they were presented to us we thought that the scheme was in safe hands. However in my budget speech on 20th February 1923, I alluded to this financial liability and argued that in this connexion the question of loans was a very important factor which required very careful consideration and I observed that as a very large amount was to be spent on Development of greater Bombay for which this Council was not responsible. I asked the House to consider the effect of this large commitment of 30 crores on the current revenues of the Presidency. Especially, as it was not likely to bring in any net revenue in the first ten years and I wound up by stating as my considered opinion that our financial policy must be proportionate to the length of our purse which we are able to balance. A few of the Councillors were called at a meeting convened by the contractors and as I was one of them I heard the complaints. Their point of view was that the work if done departmentally would be very costly especially as the engineering staff consisted mostly of outsiders and was not conversant with the local conditions; then again our attention was drawn to heavy charges of tools and plant and the questionability of its satisfactory use with a large percentage of depreciation as most of the plant would not find buyers easily. In the light of this information I carried on my inquiries but came to the conclusion on the facts that were put before us, that as the reclamation work was highly technical it was much better left in the hands of experts who were expected to turn out better work if properly supervised. In the second year of my office I was a member of Finance Committee and was thus able to look more carefully into the question of the financial working of the scheme in my budget speech stated that one wrong step in our calculations will ruin our financial equilibrium to this there was spirited reply given by the Finance Member Honourable Sir Henry Lawrence —

The most important issue that has been raised is whether the loan policy of this Government is too ambitious for the revenues of the Government to bear. As an Officer who came on the scene after the main line of Bombay Development Department had been laid down; I can claim no credit for the courage with which that policy was initiated, a policy which would mould the fortune of this great city for generations to come, but I am able to assure this House, that I have examined those projects from a detached standpoint and am filled with admiration not only for the noble proportions of the scheme and for the breadth of vision.
displayed, but also for the wonderful thoroughness with which initial preparation for the successful prosecution of the scheme has been carried out. It is the scheme for the greatest transformation of any city in the world which has been undertaken since Napoleon III with help of Hausmann recreated Paris. But, Sir, these dreams of a 'City Beautiful' arising in future do not visit men who are oppressed with a nightmare of impending bankruptcy and it is not my desire to beguile this House with fair words."

6. As the Council was responsible for this large expenditure, and as I found that Government did not allot sufficient time for the discussion in the open Council in the year 1921-22 I gave vent to the feeling of disappointment by stating openly that there was not enough time, there was a feeling in the House to allow the judgment to go by default. The argument of the Honourable Finance Member and the General Member and the glowing picture which they drew with the assured prospect of almost cent. per cent. profit, disarmed criticism and as there were not expert members in the Council I must say constructive criticism was seldom brought to bear on the discussion with the result that the scheme was allowed to be put through without public exposure of its defects. After I left the Council, facts began to prove stronger and stronger day by day with the ultimate result that even though the original estimates were trebled, there appeared no prospect of any financial gain, but on the contrary with financial ruin.

7. In the Finance Committee, I remember to have seen some statements and progress of work from time to time and I was assured that the scheme was being worked according to the estimates and scheduled time and my objection for providing interest and sinking fund charges was met by increasing estimates proportionately. I further remember to have come across one more fact namely:—A large amount was spent on certain materials for Railways in connection with the scheme, that they were lying uselessly for a long time on account of unfortunate mistakes in the indent.

8. To summarise, the causes of failure appear to be as under:

(1) Hugeness and novelty of scheme had its own weakness.
(2) Want of experience and knowledge of local conditions in the higher Engineering staff.
(3) Want of proper and timely supervision by experts.
(4) Consulting engineers being practically away from the scene could not effectually supervise from time to time.
(5) Hush hush policy carried in the council which did not encourage intelligent and constructive criticism.
(6) Impatience of public criticism.
(7) Unconfirmed data in which dredging operations were begun and unsatisfactory working of the untrained staff.
(8) Disproportionate expenditure on tools and plant without being sure of its results.
(9) The lateness of commencing dredging operations, which were promised to be begun in December or January 1921 but which were delayed up to about October or November 1924.
(10) Want of proper effective checks and counter checks.
(11) Un satisfactory nature of preparing estimates.
(12) Tendency of high Government officers to draw too rosy a picture of the successful nature of the scheme, without satisfactory basis.
(13) Not giving proper weight to the fact of the capitalists having already sunk huge amounts of capital in building schemes in Bombay city and more especially in adjacent areas of Fort, Colaba, Ballard Pier estates.
(14) Depression of a trade abroad.
(15) Ambition of completing the entire work Departmentally and not even entrusting some parts to contractors.

9. This is of course the criticism of a layman like me, and is therefore to be taken with limitations. As regards the question of recommending future operations I am of opinion that having regard to the fact of having sunk already very large amount of capital a satisfactory way must be found to complete as many blocks of the scheme as may be compatible with the economic financial results of the scheme.

Chairman.—You say in your statement, which you have been good enough to give us, that you were not a Member of the Council when the scheme came before them for the first time on the 3rd August 1920?

Rao Bahadur G. K. Chidale.—No.

Q.—You became a Member of the Legislative Council in 1921 and remained a member until 1924?

A.—Yes.
Q.—The first statement that you made in the Council was in March of 1921 at which time the Government believed that there would be very great profit from this scheme.
A.—Certainly.
Q.—On the 14th of March, Sir Chimamal Setalvad had said that the scheme would make a very big profit.
A.—Yes.
Q.—And that was a continuation of his statement which he made on the 26th of February that on a very modest estimate a profit of at least 30 crores would accrue to the city and in circumstances might go to 50 crores. Did you accept those figures?
A.—Yes.
Q.—Were there at that time in the Council men who did not get sufficient information to enable them to appreciate the financial possibilities?
A.—No information was given. In fact the demand for grant was introduced and, if I remember correctly, only five minutes were left for discussion.
Q.—In your statement you say ‘the grant demanded for the Development Directorate was passed without any discussion worth the name. But still on the facts as they were presented to us, we thought that the scheme was in safe hands’. Were you satisfied with the discussion that was accorded to the demand for grant?
A.—As I have said, there was no time left for discussion because, when the demand for grant was introduced by the Honourable the General Member, guillotine was applied after ten minutes.
Q.—Was your principal objection at that time that the scheme was not for the benefit of the masses but was primarily for the classes?
A.—That was so.
Q.—And to that objection, did Sir Chimamal Setalvad say ‘that Rao Behadur Chitale will remember that 30 crores of rupees, the profit that will be realised out of the land that will be reclaimed, will be available for ameliorating the conditions of the poor classes’?
A.—That is how he met my argument.
Q.—That statement was of course made in the hearing of all the Members of the Legislative Council who were present?
A.—Certainly.
Q.—And as you have told us, in the absence of information, accepted?
A.—Yes.
Q.—In 1922–23 were you a member of the Finance Committee?
A.—Yes, I was.
Q.—Did you state that ‘one wrong step in your calculations would ruin the financial equilibrium’?
A.—Yes.
Q.—In 1922–23 what was the condition of the finances of the Bombay Presidency?
A.—Ever since the year 1921, the finances were very bad and we were not able to make both ends meet and we had recourse to taxation.
Q.—Are the conditions of life throughout India as regards the poorer classes bad?
A.—As far as our Presidency is concerned, that is true. I argued like that because we wanted more money for the masses both for the primary education scheme and other schemes.
Q.—In reply to your word of caution that one wrong step in the calculations would ruin the financial equilibrium, did Sir Henry Lawrence reply thus:—

‘The most important issue that has been raised is whether the loan policy of this Government is too ambitious for the revenues of the Government to bear. As an officer who came on the scene after the main line of Bombay Development Department had been laid down, I can claim no credit for the courage with which that policy was initiated, a policy which will mould the fortune of this great city for generations to come but I am able to assure this House that I have examined those projects from a detached standpoint and am filled with admiration for the noble proportions of the scheme and for the breadth of vision displayed but also for the wonderful thoroughness with which initial preparation for the successful prosecution of the scheme has been carried out’.

Is Sir Henry Lawrence an expert engineer?
A.—No.
Q.—Are you able to say what information he had before him which made him tell the house that the initial preparations had been carried out with wonderful thoroughness?
A.—I am not aware of it. He did not give us any information on that.
Q.—Can you suggest anybody who can lead us to ascertain what was the wonderful thoroughness with which the initial preparations were carried out?
A.—Excepting His Excellency I cannot suggest anybody.
Q.—By His Excellency you mean Sir George Lloyd?
A.—Yes.
Q.—Again in the year 1921-22 you stated that there was not enough time given for discussion of the demand?
A.—There were 25 minutes for discussion.
Q.—And did you add in your speech that there was a feeling in the house to allow the judgment to go by default?
A.—That is so.
Q.—You say the argument of the Honourable the Finance Member and the Honourable the General Member. . . . . Who was then the Finance Member?
A.—Sir Henry Lawrence.
Q.—And the General Member?
A.—Sir Chimanlal Setalvad.
Q.—“And the glowing picture which they drew that the assured profit of almost cent. per cent. profit deserved criticism”?
A.—That is so. “Of almost of cent. per cent. profit” is the other way of putting the statement of Sir Chimanlal Setalvad because I did not believe in that figure of 30 crores.
Q.—You are in fact saying “the glowing picture which they drew of almost cent. per cent. profit.” In fact the picture that was drawn was that for an expenditure that would not exceed four crores on this rate, 30 crores of profit was a most reasonable expectation!
A.—My impression is that he meant that profit on the whole Development Scheme.
Q.—On the 25th of February 1921, Sir Chimanlal said: “Taking the estimate and expenditure on it, the cost per square yard works out to about Rs. 10'-15.’” Is not that clear reference to the Reclamation Scheme?
A.—Yes.
Q.—“Now taking the present values of land in the city on a very modest estimate the result of reclamation would be a profit of at least 30 crores of rupees to the city.” So there he was dealing, for the moment, with reclamation and, nothing else and do to that he attributed a profit of 30 crores!
A.—Yes.
Q.—Am I right that almost cent. per cent. profit is a most modest under estimate! In fact it was going to be 750 per cent.
A.—Yes.
Q.—“In the Finance Committee I remember to have seen some statement of progress of work from time to time and I was assured that the scheme was being worked according to the estimates and scheduled time.’’ Who assured you?
A.—The late Mr. Mead who was then the Chief Secretary.
Q.—“My objection for providing interest and sinking fund charges was met by increasing estimates proportionately’’?
A.—Yes.
Q.—The first estimate was 3.67 lacs, the next estimate was 7.02 lacs. Was there any third estimate?
A.—Before that 7.02 lacs was come to, my objection had been all along that in a huge work of this kind which would require years for completion, the original estimate of capital expenditure is not the total capital expenditure but the total capital expenditure on productive works would be the estimated amount plus the interest that will have to be paid on the capital spent for the period until the work is completed.
Q.—The estimate of 7.02 lacs had been drafted out!
A.—That was not put before the Finance Committee.
Q.—What I am trying to get at is, what were the estimates which were proportionately increased?
A.—That is what Mr. Mead showed me in answer to my objection. He showed me that he was working out figures which would allow for interest and sinking fund even though the amount is being spent from loan funds. The position was thus: This loan was floated in the Bombay Presidency and was intended to be met by the Bombay Government by a loan which that was expected to float and as a matter of fact the loan was floated, if I remember rightly, at 61 per cent. and about 9 crores were collected. Afterwards when additional amounts were needed, I think, for the development scheme, a question arose in the Finance Committee whether the Bombay Government will be justified in floating a separate loan under the financial strain which was then existing in the whole country and we were told that the Government of India had agreed to give the necessary amount which the Bombay Government may need from their loan which they were themselves floating. And in order that there may be no competition between the loans from the public, the Finance Committee agreed and the Bombay Government drew upon the amount from the Government of India from time to time.
Q.—Do you know of any other estimate that was made in 1922-23?
A.—Apart from the then estimate of 702 lakhs which was spoken of as 8 crores, my impression is that the estimate that was shown to me came to about 5 crores.

Q.—Can you fix the date of that at all? It is very important because you see in September 1921 Sir George Lloyd had definitely given to Indian Merchants Chamber of Commerce the figure of 702 lakhs.
A.—If I remember rightly, the first Finance Committee was elected in 1921 because there was no Finance Committee before that and as I had taken up that point in the initial stage of the discussion and as Mr. Mead wanted to assure me, I remember to have seen some figures while the Council lasted till March 1921, from which I gathered an impression that the estimate was increased to about 5 crores.

Q.—Of course it is possible that the estimate of 702 lakhs did, in fact, as you suggest, contain some overloading of the actual expenditure which was necessary in order to provide for interest and sinking fund charges?
A.—Yes.

Q.—If that be so, the Department ought not to take credit to themselves for having, as regards the building of the sea wall, kept within the estimated figures. In the figures of estimate for building the sea wall if there was a percentage for interest and some for sinking charges, the Development Directorate ought not to take credit and say we have constructed our sea wall within the figures which we estimated?
A.—I have not understood it. I was shown a statement which showed that the sea wall was being built within the estimated expenditure provided for in the estimates.

Q.—And this statement did include in your opinion, interest and standing charges?
A.—I am not sure of that.

Q.—At the close of your statement you say, “as regards the question of recommending future operations I am of opinion that having regard to the fact of having sunk already a very large amount of capital, a satisfactory way must be found to complete as many blocks of this scheme as may be compatible with the economic financial results of the scheme.” You say that a satisfactory way must be found and I am going to ask you if you can help us to find that out. Block 8, as we know, is completed and will pass to the military under the arrangement by which they will pay approximately Rs. 20 per square yard. The suggestion has been that blocks 1 and 2 should be completed, also a suggestion that blocks 1 and 7 should be completed, and the further suggestion that blocks 1, 2 and 7 might be completed. Would the rentals that one could obtain from reclaiming land in block 7 compare at all with the rentals that might be obtained from blocks 1 and 2?
A.—No, Sir. They will differ widely.

Q.—Let us assume for a moment that you complete blocks 1, 2 and 7. Then you have got a sea wall with a 1,800-foot gap. That you say should be completed?
A.—Yes.

Q.—If you complete that you have shut in an area of sea, and at present the uncompleted work has been spoken of with objection as an eyesore. This is not an untrue description of it at the moment, is it?
A.—No.

Q.—There are some very lovely houses on Malabar Hill, are there not?
A.—Yes, Sir.

Q.—Houses built in harmony with their surroundings, set in beautiful grounds with flowering trees, flowering shrubs, houses that are a great joy to look at even from the outside. When they were half-built they must have been a great eyesore to people anywhere about?
A.—True.

Q.—Is there any reason to doubt that the architects who designed those houses and laid out the grounds could have designed something with regard to the enclosed area of sea which would be appropriate and indeed beautiful?
A.—Yes.

Q.—And whilst at the present if you shut in the area of sea you would have something that would look very ugly; in the course of a few months you would have vegetation surrounding it?
A.—Yes.

Q.—If you shut in the sea wall completely you could have a marine drive all along the face of the sea?
A.—Yes.
Q.—And would it not be possible by making culverts in the sea wall always to keep the sea inside the area sweet? Ordinarily the sea inside the area would rise as the tide rose and fall as it fell. Bombay is a city that takes a great interest in sport. Does it not?
A.—Yes.
Q.—Football, cricket?
A.—Every sport.
Q.—Have you been to England?
A.—No, Sir.
Q.—Well, you know that rowing is one of the great sports in England?
A.—Yes.
Q.—And it is a sport that can be, and is, enjoyed by thousands of men of very limited means. Young men serving in shops join rowing clubs. And not merely to young men serving in shops or rowing is an exercise, and a sport in England for every class. If you had culverts you could have adjustable valves by which at any moment you could keep the level of your inland lake perfectly smooth. You could also have small boats sailing, and if the depth all around it were carefully adjusted, thousands and thousands of children could go and play there in perfect safety.
A.—Yes.
Q.—There is in London a pond called the "Round Pond" at Kensington where little children from four, five and six years of age of the poorest classes are playing all day. Then if later on financial conditions improved and if there was a definite and well considered demand for more land you might take off an area of that inland lake and fill it possibly by dry filling?
A.—Yes.
Q.—Does that seem to you an extravagant proposition or one capable of being carried out?
A.—It is quite capable of being carried out, but that would however require immense patience.
Q.—What do you mean by "immense patience"?
A.—At this moment I am thinking of this. The whole scheme is now an eyecore. It is very badly commented upon and it will take a very long time before all the defects are removed from the public mind. The public are naturally criticising that the expenditure that has been made so far was perhaps meant for military purposes inasmuch as block No. 8 is finished and is to be handed over to the Military Department. They are not sure whether the other blocks would be filled up on account of the very prominent defects that are now pointed out. Also there are, I might add, large vested capital interests in the whole area consisting of the Fort and Colaba which from the very beginning are considered to be competitors for this particular area, as it is rightly supposed that the rental values of the property in Fort and Colaba or round about the area to be reclaimed will fall considerably, as that area would lose the sea air and the area that is to be reclaimed will certainly gain preference. Under those circumstances I would be prepared for a fight between capitalist landlords who alone can put capital in that area and poor people, and my other objection is that as the landlords have already sunk a very large amount elsewhere I am not sure whether we will have ready buyers for the areas if they are to be completed at a fanciful price.
Q.—The position however is that if a decision were arrived at to abandon the whole thing in its entirety, with the exception of block 8, there must be a grievous financial loss?
A.—Certainly.
Q.—Have you got an approximate figure that you can give me for that?
A.—I understand that about 6 crores have been spent so far on this estate.
Q.—Well then, except for the money that is to be paid by the Military, 239 lakhs, the rest of the money, if the scheme is wholly abandoned, would be thrown into the sea?
A.—That is so. That is the present position.
Q.—Is it not even worse than that, because what is going to happen to the sea wall?
A.—Certainly.
Q.—The decision has really to be come to on a balance of expediency?
A.—Yes, certainly.
Q.—If it is possible to complete blocks 1 and 2, if it is possible to do something that will render the unreclaimed area useful and beautiful at a reasonable price, is it a scheme that might be considered?
A.—Yes.
Q.—At page 4 of your Statement you say, "The causes of failure appear to be as under:—
(1) Hugeness and novelty of scheme had its own weakness."
A.—What I meant was that a work of this nature was never undertaken before, and the previous history of 1865 was a reminder that the amounts that were intended to be spent on such
schemes were doomed to failure. As far as local conditions went, we had not the requisite expert knowledge to run the scheme through. Not only that, but we had not also competent critics who would be useful to us in exposing the defects from time to time. What impressed the people most was the hugeness of the undertaking, and especially as that undertaking appeared to the general public rather risky. Such a scheme as they saw was a novel scheme which was not undertaken previously, and had its own weakness because there are many factors which would lead us to miscalculations even though made honestly.

Q.—You speak of want of experience in the higher engineering staff. To whom do you refer?

A.—There was a complaint that the whole engineering staff of the Development Department was not recruited from the trained engineers of the Public Works Department who were in India, who knew the local conditions, but most of them were imported from abroad and who had absolutely no knowledge as to where the concrete or metal was to be obtained or moorum to be obtained. That was the complaint of the contractors.

Q.—But had you any person in your mind when you spoke of want of experience of the higher engineering staff?

A.—No, I had no knowledge of the higher officers. I meant the engineering staff down below.

Q.—You then say the “Consulting engineers being practically away from the scene could not effectually supervise from time to time”? Whom are you referring to when you use the words “Consulting engineers”,

A.—I meant Messrs. Meik & Buchanan.

Q.—When were they ever made Consulting Engineers?

A.—I thought they were.

Q.—The contract we will have to construe for ourselves, but time and time again on the correspondence Sir George Buchanan has taken up the position, “We were the actual responsible Engineers for the carrying out of the work”. That you see puts a much greater responsibility on Sir George Buchanan. That is a point we shall have to decide ourselves as to what was the legal position of the firm of Meik & Buchanan towards the Government. But if they were in fact the actual responsible Engineers who had agreed to undertake and carry out the work, your criticism applies with much greater force than if they were merely consulting engineers.

A.—Yes. I raised that question in the Finance Committee. I asked for a copy of the Contract, which was not forthcoming. I requested the Chief Secretary to know what percentage they had. I was told they were to get 2 per cent. commission. Then I asked if 2 per cent.

commission was to be paid, did it include also all kinds of material which were supplied by local people, for instance the metal and the moorum. I was told that his percentage would be on the total estimated amount. Then I wanted to know if the estimated amount went up he would be entitled to his 2 per cent. commission. I was told, professionally speaking he would be entitled on the corresponding ascending figure. Then I tried to get at his position, viz., who were responsible for the whole scheme being completed within the estimate. Then I was told, and therefore I still think, as Consulting Engineers the whole scheme was in expert hands, viz., Messrs. Meik & Buchanan, who were conversant with the kind of work, and I was further told that the Government point of view was being looked after by special audit officers, as the Government of India insisted on having altogether a separate audit from that of the Bombay Government.

A.—I meant Messrs. Meik & Buchanan, who were conversant with the kind of work, and I was further told that the Government point of view was being looked after by special audit officers, as the Government of India insisted on having altogether a separate audit from that of the Bombay Government.

Q.—Have you seen the Agreement between Meik & Buchanan and the Secretary of State for India?

A.—No, it was not forthcoming when I asked for it.

Q.—I have it here. It is dated 17th March 1921, and is between the firm and the Secretary of State for India in Council. And the 1st clause says the Firm agree to act as the Engineers of the Secretary of State in carrying out the said scheme and in the construction and execution of all works connected therewith until the final completion thereof and that the Firm shall at all times assist and advise the Government of Bombay in all matters relating to the execution of the works. And then comes the important part, “and shall supervise the same and undertake and perform all works and duties devolving upon engineers of large works and in particular the following work and duties”.

A.—That puts the liability higher than I did.

Q.—And then clause (9) says as regards the work in India, “during the whole period of execution the works shall be closely supervised by the Firm and Sir George Buchanan shall devote the greater part of his time to this particular work and shall, unless the Bombay Government shall agree otherwise, visit Bombay this year and in every year after the monsoon when the working season begins and remain in Bombay for such period during the working season as he or the Government of Bombay may consider necessary to ensure the complete and satisfactory supervision of the works and shall also if necessary in his own opinion or in the opinion
of the Government of Bombay make additional visits during any monsoon". That fastens the
responsibility on them as far as pen and paper could do it. The Secretary of State in Council
was bound to the firm of Meik & Buchanan and Sir George Buchanan down to supervise and
execute and carry out the work and was stipulating most carefully for the personal attendance
of Sir George Buchanan in India at any time during the progress and, until the completion of
the work.

As regards causes of failure you say as No. 9 in your statement, "The lateness of commencing
dredging operations, which were promised to be begun in December or January 1921......"
You mean December 1921 or January 1922? The report of the working of the Development
Directorate for the period ending 31st March 1921 says the dredger is timed to arrive in Bombay
after the monsoon of 1922 when it was expected to have a compartment of the reclamation area
ready for filing.

A.—I have got it from the Council proceedings, from Sir Chimanlal’s speech in the Council
of 1921. December 1921 or January 1922 was my impression.

Q.—You say in your statement, "To summarise, the causes of failure appear to be as
under": and then you say, "14. Depression of trade all round." Now this matter that we
are considering falls into two parts. A trade depression would not in any way affect the proper
carrying out of the work of the reclamation scheme?

A.—No.

Q.—That is purely a matter of being able to carry out the promises that were made at the
price and within the time submitted?

A.—Yes.

Q.—The importance of depression in trade comes in when we are considering what further
work if any should be done?

A.—But it would affect the original estimates, because it would affect the prices that the
area reclaimed would fetch.

Q.—Depression in trade, you have told me, would have no effect upon the actual execution
of the works?

A.—No.

Q.—But depression in trade has a most material bearing upon the extent to which it is
worth while going on with the scheme?

A.—Yes.

Q.—If for instance the Government of Bombay had definite offers for definite areas of land
which people contracted to take up when finished for Rs. 50, 60, 80 or 100 a square yard, then
the matter becomes one of very much less difficulty?

A.—Certainly.

Q.—If for instance the Government of Bombay made definite offers for definite areas of land
which people contracted to take up when finished at 50, 80 or 100 rupees an acre, then the matter becomes one of very much less difficulty? At the present
moment the Advisory Committee is going into those matters with a view to instruct us as to the
possibility of an ultimate reduction of loss by recoupment from the reclaimed area.

A.—Yes.

Sir M. Vasanwala.—Did any section of the public ask for the reclamation at the time when, or before, the scheme was sanctioned? Was there any demand from the public?

A.—There was no demand, but everybody, at least in Bombay, had a liking for this recla-
mation from time immemorial.

Q.—Why was it then that the Indian Merchants’ Chamber were opposed to it at that
time?

A.—As I said, the capitalist class thought that they would be affected.

Q.—The work has got to be carried out from provincial funds?

A.—Yes.

Q.—What was the opinion of the taxpayer generally in the Presidency?

A.—In those good old days nobody cared for the taxpayer, except the Government.

Q.—What was the object of proceeding with this work in such a hurry? You were in touch
with public affairs then?

A.—I might say, an ambition for the greater Bombay. Bombay was being improved all
along and there was no doubt that there was not sufficient room for the people as the population
has immensely increased.

Q.—Are you or are you not in favour of the completion of the work now?

A.—I am absolutely in favour of the completion of the work.

Q.—You know the value of land on this side of the Hornby Road will go down very
considerably and a number of properties will lose in value?

A.—Bombay is such a place that nobody can say anything definitely, and if there is any
city anywhere in India, I should think that this city of Bombay would be the first to make itself
more beautiful.
Q.—What is your opinion of the manner in which the work has been carried on. Has it been efficient and satisfactory?
A.—According to the report it is not satisfactory, nor is it well done.
Q.—Have you any difficulties in view and any remedies to suggest?
A.—I might say that this was partly because the initiative and the driving power of His Excellency the Governor Sir George Lloyd has gone. If he had seen this dredger not working satisfactorily, he would not have allowed it for a day longer. Moreover the outlook has changed now: the price of land has gone down, although there was a boom when the work was sanctioned. But even though land prices are varying now below Rs. 100, it is quite reasonable for Rs. 100 per square yard. It will fetch that on any day.
Q.—If the work is to be proceeded with, have you any changes to suggest in the administration or methods of work or in the agency by which the work is to be done?
A.—If you can get good contractors, that would be the best.
Q.—What is your idea about the Public Works Department doing the work?
A.—I have more faith in good contractors than in the Public Works Department, because the latter has to work under limitations which the former have not to do.
Q.—Will the public want the early completion of the scheme?
A.—As far as I am concerned, I want it.
Sir Frederick Hopkins.—You said a moment ago that you had more faith in good contractors than in the Public Works Department. Have you had experience of both?
A.—I am going by what I could see for myself.
Q.—It is a considered opinion?
A.—Yes, in this way that laymen like myself think that the work done by very good contractors is much better than work done by the Public Works Department. In the former case the work is supervised much better than is done by the Government department, and the results would be better.
Q.—Am I right in thinking that the contractors’ methods are much more elastic than those of the Public Works Department? If the contractor decides to do a thing he does it at once?
A.—Yes.
Q.—We have a proverb in England that the shoemaker should stick to his last. Does not that equally apply in carrying out works of this kind?
A.—Yes. Before the scheme was launched, there was a clamour that the work should be more or less completed by contract.
Q.—The people of Bombay would really have liked to see that the best firm of contractors in the world had taken up the work, and they think they would have done it in the best manner possible, and that if they had done so, the work would have been completed much earlier?
A.—Yes, or it would have been exposed much earlier.
Q.—The firm of contractors that we are speaking of, i.e., the best firm in the world, would set a value on their high reputation?
A.—Certainly.
Q.—And if the scheme had been unfinished or had been carried out by them in the way in which it has been carried out, they would have lost considerably in reputation and presumably also in pocket?
A.—Yes.
Q.—A contractor taking up this work would have taken it for a fixed sum. If he had taken it for 7 crores and had done it for 6 crores he would get a profit?
A.—I am not quite sure whether in such big works it would be so.
Q.—If I say he had taken it for 7 crores and it cost him 8 crores, he would have lost one crore. And if Government had made a proper contract, the contractor would have been bound to do it! Therefore, if the work had cost more than 7 crores, Government would have lost nothing?
A.—Yes.
Q.—You said something about a few minutes ago about the commission payable to the engineers, I mean fees to the consulting engineers?
A.—Yes, I do not grudge that.
Q.—Do you think that 2 per cent. was a reasonable sum?
A.—Yes, it was quite reasonable.
Q.—Probably when the general public hear definitely what the actual rate was, they also will agree in the same way?
A.—Yes, I think so.
Q.—That there has been no extravagant payment to the consulting engineer?
A.—Yes.
Q.—If the consulting engineers were capable of carrying on a work of this magnitude, you would have no objection to pay 2 per cent.?
A.—Of course, if they had done the work properly.
Q.—Provided they were competent and had done it also properly?
A.—Yes.
Q.—I used the wrong term just now, namely consulting engineers. Messrs. Meik & Buchanan were not consulting engineers—they were engineers controlling the whole work. So far as the control of the work was concerned, they were in an almost identical position to contractors?
A.—Yes.
Q.—So far as the actual control and execution of the work is concerned?
A.—Yes.
Q.—If they said that a thing ought to be done, it should be done; and Government could not possibly object to it?
A.—In fact that was the answer that they gave me. It was that all the engineering staff had to be recruited according to the wishes of the engineers.
Q.—They were in fact appointed by the engineers?
A.—In the main they were.
Q.—If I were to tell a man I wanted to be driven a hundred miles an hour and told him that he should use a car that could not run under any circumstances more than 20 miles an hour, that would be an unreasonable thing to do?
A.—Yes.
Q.—And therefore a man who is going to do the work ought to have the choice of tools. If you want to drive in a ten inch spike, you would not use a watch-maker's hammer. The man who is driving should say what sort of hammer he should have?
A.—But that is not always very desirable in such undertakings. My objection is that the firm was not residing here. They were residing in England, and even though the Government might be pleased to put their trust in Sir George Buchanan that would not be the same thing as saying that they put their trust in their agents. If they were residing here, that was another matter.
Q.—Messrs. Meik & Buchanan were in London with the obligation to come out here at least every year and spend a considerable time here?
A.—They would not have come as frequently as one would have wished.
Q.—If Messrs. Meik & Buchanan had a man in sole charge of the works here in whom they had confidence, they would know every week exactly how their wishes and instructions were being carried out. As a matter of practice I may tell you that I have done similar works to this where I have only been twice a year; but I have known exactly what is being done when I was not there and I knew that they were carrying out my orders, because when I first gave them their orders I had the confidence that they would be carried out. It is not necessary for an engineer to be here the whole time, but it is necessary that he should know what is going on and that his orders are being carried out?
A.—Yes.
Q.—Mr. Billimoria. In your notes you have expressed some doubts with regard to the financial prospects of the scheme. I shall therefore ask you a few general questions. You very well remember that, before this scheme was embarked upon, an estimate of 367 lakhs was drawn up. Had you any reason at that time, on the basis of that estimate, to doubt that the scheme would not be a profitable one?
A.—No.
Q.—On page 2 you say that you had certain doubts and you say that you thought it would be pledging the revenues of our presidency, slender as they were, and making our financial position bankrupt. Did you fear that the scheme would not be profitable in 1923?
A.—Yes.
Q.—Were your doubts raised that time?
A.—Therein I was referring to the total amount of debts which had then mounted up to 44 crores which included 30 crores for greater Bombay. Working as I did, I said that an amount of 44 crores was rather a large amount when they were trying to put up taxation almost every year.
Q.—And therefore I ask you that if anything went wrong in our estimates—as a matter of fact we had here some complaints from the people, complaints at least that the work on the Back Bay was not being done quite properly—but that was outside criticism—but according to the facts that are put before us, we are not warranted in accepting the estimates?
A.—What I said therein, however, was that as the finances of the presidency were not on quite a good footing, if one wrong step led us anywhere else with such a huge sum, it may be lost, and also our huge dreams will not be realised. It therefore behoved us to see that no wrong step crept in. As far as we were concerned we had a talk among the people.
Q.—I suppose then you had also heard that the estimate of 367 lakhs had mounted up to 703 lakhs! An estimate of 367 lakhs was sanctioned and approved by the Government of India as also by the Secretary of State for India. The Government of Bombay did not consult either the Government of India or the Secretary of State when the estimate was raised to 703 lakhs, because as I understand under the Reforms they were not bound to refer this matter to the Government of India?
A.—I am surprised at that proposition, because we were told, at least at the initial stage of the scheme, that the Government of India insisted upon a vital condition of maintaining
a special audit officer who was quite independent of the local accounts office, that is, the Local Government. At least I understood from it that it would be the duty of the special audit officer to report to the Government of India, not with a view to any action, but that he would be bound to report to the Government of India any deviations from the original estimate, because it would not be quite within his powers to pass any expenditure which was not within the previous estimates. If, therefore, in 1923 that special audit officer also functioned because his appointment was made after the Reform Councils came into existence, he must have reported to the Government of India the increased estimates of cent. per cent. and it would not be quite right to say that so far the Local Government or the Local Council were free from the reins of the Government of India. That is not the constitutional position. I understood the constitutional position to be this that the Government of India as the supreme authority had every power to pull in the reins at the proper moment, and when in such a big scheme the expenditure or the revised estimate went up a hundred per cent. it would be their duty to have done it and reported the matter to us.

Q.—When you refer to that power, you mean the power of exercising control? But under the Reforms the Local Government were not bound to go again to the Government of India and have their approval or sanction?

A.—What I meant was that, if in the original contract or agreement the Government of India insisted on the maintenance of a special audit officer, then it would be the duty of the special audit officer to report to the Government of India that the estimates had been exceeded. I took that there must have been such a report. But as far as I know, none of his reports as to whether the expenditure was within the estimates or not, ever came before us in the Finance Committee or was ever referred to by the Finance Member. We thought that everything was within the estimate.

Q.—So you had no information that the estimate had gone up to 702 lakhs and was sanctioned by the Government of Bombay, although it was referred to in a speech by the Governor of Bombay at the Indian Merchants’ Chamber? I suppose that was the common knowledge of all the members of Council?

A.—No, I am afraid not. Because it was a speech made at a particular meeting.

Q.—And you for one, as an honourable member of Council, were all along led to believe that the work was carried on within the estimate of 367 lakhs?

A.—Not quite that; I was prepared for 5 crores.

Q.—Now, Rao Bahadur, that is not the constitutional position. I understood the constitutional position to be this that the Government of India as the supreme authority had every power to pull in the reins at the proper moment, and when in such a big scheme the expenditure or the revised estimate went up a hundred per cent. it would be their duty to have done it and reported the matter to us.

A.—I meant both. The patience of the public is now exhausted and anything which they would consider very proper in calmer moments is not likely to be taken up on the present basis. But if some time is allowed to elapse, and the scheme materialises I am sure public opinion will veer round, especially if the scheme is finished.

Q.—When you refer to that power, you mean the power of exercising control? But under the Reforms the Local Government were not bound to go again to the Government of India and have their approval or sanction?

A.—What I meant was that, if in the original contract or agreement the Government of India insisted on the maintenance of a special audit officer, then it would be the duty of the special audit officer to report to the Government of India that the estimates had been exceeded. I took that there must have been such a report. But as far as I know, none of his reports as to whether the expenditure was within the estimates or not, ever came before us in the Finance Committee or was ever referred to by the Finance Member. We thought that everything was within the estimate.

Q.—So you had no information that the estimate had gone up to 702 lakhs and was sanctioned by the Government of Bombay, although it was referred to in a speech by the Governor of Bombay at the Indian Merchants’ Chamber? I suppose that was the common knowledge of all the members of Council?

A.—No, I am afraid not. Because it was a speech made at a particular meeting.

Q.—And you for one, as an honourable member of Council, were all along led to believe that the work was carried on within the estimate of 367 lakhs?

A.—Not quite that; I was prepared for 5 crores.

Q.—Now, Rao Bahadur, that is not the constitutional position. I understood the constitutional position to be this that the Government of India as the supreme authority had every power to pull in the reins at the proper moment, and when in such a big scheme the expenditure or the revised estimate went up a hundred per cent. it would be their duty to have done it and reported the matter to us.

A.—I meant both. The patience of the public is now exhausted and anything which they would consider very proper in calmer moments is not likely to be taken up on the present basis. But if some time is allowed to elapse, and the scheme materialises I am sure public opinion will veer round, especially if the scheme is finished.
Q.- You also mean it will be more economically done ?
A.- That I am not sure of; from the past history, one ought to suspend his judgment.

Q.- To some question from the Chair, I heard you say something about the contract. You suggested that Messrs. Meik & Buchanan's contract was not forthcoming when you asked for it as a member of the Finance Committee. Did you actually call for it that it should be produced ?
A.- When this question was mooted in the Finance Committee, I just asked whether there was a copy of it; I wanted to ascertain what the liabilities were. It was not forthcoming at the moment.

Q.- At the moment ? Had you asked for it again ?
A.- I had asked for it again. It was not forthcoming. It appeared that it was perfected on 16th March 1921.

Q.- Was any reason assigned for not producing that copy ?
A.- No reason was assigned. I was under the impression that as it was in the old council the scheme was carried the contract would be ready. But that was not so.

Q.- In reply to a question put to you by Sir Visvesvaraya, you said that the public of Bombay did demand the reclamation. Did they demand the reclamation of such a huge area as 1,145 acres ?
A.- I know that the public wanted the whole reclamation done from the Colaba point to the Malabar Hill point. But this was much smaller.

Q.- Do you think there was demand for land over such a huge area ?
A.- The Development Department and the Improvement Trust created those huge notions in men's minds.

Q.- Do you think there was any demand for such a huge area being available for reclamation ?
A.- Out of 1,145 acres, 350 were marked down for roads, then there were only 800; 200 of this was given to the Military department; it was then thought that 300 acres just near the sea would be readily taken up by any capitalist; so there was only one-third remaining for reclamation.

Q.- Then you said something about the completion of the scheme. Is it that whole scheme should be completed or only a few blocks, as was pointed out to you by the Chairman when the suggestion was that Nos. 1, 2 and 7 might be completed ? Are you in favour of that or for the completion of the whole scheme ?
A.- No, No. As I said, we have already sunk a large amount and I would restrict myself to saying that block No. 7 would be economically filled up and the cost would be comparatively smaller than block 2. We cannot give up block 1 in any circumstance even if it cost a little more, and if also we can economically fill block No. 2 and leave the rest as a lake, as our Chairman pointed out, I think that would be a capital idea, and need not require also the finishing up of the whole wall.

Q.- Then you also referred to the congestion of population and so on. There is a report that is published by the Bombay Development Department, and Mr. Barucha, the Land Manager, on 16th October 1913, in one of his notes, mentions "It goes without saying that no individual or public body, no matter what their resources may be, can deal satisfactorily, single-handed, with the question of housing people living in one tenement, seeing that according to the census of 1911, out of the total population of 939,000 living in 200,000 tenements, 743,000, i.e., about 80 per cent. of the total population, live in one-room tenements". This idea was hammered as far back as 1919. The extension of the greater Bombay was considered vitally necessary. But did it mean reclamation or development of the north of the Island ? People living in one-room tenements were not expected to shift on to the sea front reclaimed area: they want better land, better housing, and better accommodation in the north of the island in the vicinity of their own surroundings?
A.- We must take the scheme as a whole and judge on its merits.

Q.- We are dealing with reclamation alone now ? Our reference is confined to the reclamation and not the whole of the development scheme ?
A.- If we take up the whole scheme, we must see that it is properly apportioned in order to meet the objection that the poor could not be placed on these. There was the greater induce­ment in providing about 50,000 one-room tenements, especially not far from the property on which they were to work; near the mills, etc. What appears to me (of course it may be quite justifiable from the point of view of greater Bombay) is that more money was being spent on the roads and other amenities which could have been minimised; that is the layman's view. But taken as a whole, one cannot say that the scheme for the Back Bay would have been so appealing to the general public as it was without the reclamation, and especially, as the Government of Bombay was to raise a loan; (they cannot help that), naturally the sympathies of the rich people went for the whole scheme, and they therefore subscribed for it.
Q.—Now with regard to your answer to Sir Frederick, you said that you did not grudge any commission to the firm of contractors. Naturally no one would do it. But supposing there was an estimate on which a contract had to be entrusted, say, about 4 crores, and eventually that was doubled, would you grudge three times the commission?

A.—I would not give him anything at all. I would terminate the contract. I would find fault with him and won't pay him. That would be the most business like way. The whole trouble was due to his neglect of duty. The 2 per cent. commission for such a big scheme was certainly low, because on the estimate, usually one's commission is 5 per cent. at least.

Q.—Would you as a prudent business man not fix a maximum while employing the engineer?

A.—In professional matters we always go by percentage, and never put up a maximum.

Q.—If then the estimate is exceeded by three or four times?

A.—That is the routine procedure; otherwise nothing of the kind could go there.

Q.—If the original estimates were doubled, there appeared no prospect of any financial gain, but on asking...

A.—Must have been.

Q.—What would you...

A.—As a lawyer, if you had sanctioned it you will have to pay it, but as a prudent business man, if it is due to his neglect of duty or responsibility, I am not quite sure of his being given 2 per cent. But as far as the first 2 per cent. is concerned, that is quite reasonable and fair.

Q.—If the estimates were drawn up, well considered and with mature experience, and it has subsequently been noticed that there have been serious defects, would you still consider that the commission would be a reasonable one?

A.—As I understand a business proposition, the contractors or anybody else prepares the estimates. Somebody, some expert on behalf of the local Government goes through it, examines it, approves of it; then it is looked into by the Government of India and the Secretary of State when they put their seal on the estimate. Then, the contractor is absolutely right in asking his commission on them.

Q.—But do you know whether this particular estimate was ever examined by anybody in the local Government?

A.—Must have been.

Q.—Do you know of any person that has done it?

A.—That is the routine procedure; otherwise nothing of the kind could go there.

Q.—So many things are being done in the name of routine; else there would never have been this enquiry?

A.—I think this estimate would not have been sanctioned without the authority of the local Government or the Chief Engineer. That is my position. I have never seen an estimate of even Rs. 1,000 accepted without being looked into by a superior officer.

Q.—So you think it was done usually; if it was not done, it was gross negligence?

A.—Yes; it was gross negligence.

Q.—On page 6 of your notes, in paragraph 6, you say "After I left the Council, the facts became stronger and stronger day by day, with the ultimate result that even though the original estimates were doubled, there appeared no prospect of any financial gain, but on the contrary financial ruin." How did you come to that conclusion? Had you any data or was it from what you have heard that you arrived at that conclusion?

A.—What I would say is this; a programme of 50,000 one-room tenements has been cut down after a lot of money has been spent on road improvements and other things. The area that was marked for commercial enterprise, in other places, that has also been restricted, though a lot of expenditure has been incurred. This Back Bay estimate has been doubled, and as I said—I speak subject to correction—the whole is now expected to cost 11 crores or somewhere between 11 and 12 crores, out of which 8 crores are for the Back Bay, which may fructify or may not. The present rental value of the one-room tenements which should be taken into consideration first has gone down considerably, at least by 50 per cent. as far as I can see. Most of the one-room tenements are not taken up by the people. These are facts which lead me to say that the whole expenditure would not only bring us nothing but would land us in financial ruin, because it would not fructify.

Q.—That is your conclusion? In the next paragraph, you say "A large amount was spent on certain materials for railways in connexion with the scheme and that they were lying useless for a long time on account of the unfortunate mistakes in the indent. Do you refer to the Back Bay or some other scheme?"

A.—I refer to the Back Bay.

Q.—Can you give us some instances, if they are within your knowledge as to the mistake in the indents, of which you have just mentioned, in which materials were lying for a long time?

A.—I have got that particular instance in mind. It is this. Some railway materials were intended for linking up the Back Bay system with B.B.C.I. main line. The report then went...
up that in spite of the indent for the necessary material, that would fit in only for 6' 8" gauge. This was an unfortunate mistake, and everything was brought in which would not suit the purpose. I remember putting a question in the Finance Committee, and the answer was in the affirmative, that there was a mistake of that kind, with the result that with the materials the railways could not be built at once and it took some time. That was the report that went up. I said there was some mistake, and what particular mistake there was I have told you. It was in connection with this.  

Q.—We will take up that question later. But can you tell us what that cost the department? It must be a question of several lakhs.

A.—It is a question of 3 or 4 lakhs.

Q.—Then you mention "Want of proper and timely supervision by experts." May I clearly understand what you wish to imply by that remark?

A.—As I told you already, I understand that the whole of the engineering staff had to be recruited according to the wishes of Messrs. Meik & Buchanan, and therefore the Public Works Department was ignored altogether. At least that was the complaint of the Public Works Department then. The local Government had made itself responsible for the scheme, and I think it would be a good business proposition to suggest that when the staff has been recruited by Messrs. Meik & Buchanan and supervised by them, the local Government would employ some higher officers of their own to look into the matter from time to time and supervise them effectively. It is not one item but several items; not only do we audit whether particular items agree with the voucher or not, but also see whether there are any defects in the scheme and the estimates. I found, as far as the Finance Committee of the Council was concerned, that there was no control of that kind, and therefore I say that if that had looked into it from time to time, they could have avoided the mistakes. Of course it is not so easy a thing, because even though an estimate may be made, unless you go up to the end of it, you cannot say whether you are exceeding it or not, because it is a total amount; but as the local Government has made itself responsible and as the honourable the Finance Member was assuring us that everything was going on merrily, I thought it natural that the local Government had looked into it, and with the driving power of Sir George Lloyd I thought that we were absolutely in safe hands, and therefore also I opposed in the Council the transfer of the department to a minister. I said it was much better that the department be under the control of an Executive Councillor than a Minister. Because the proposition was moved in the Council and I voted against it.

Q.—What allowance would you make for excess in the estimate? 10 or 20 per cent.

A.—Not more than 10 per cent. including 5 per cent. for contingencies.

Q.—In your concluding paragraph you say "hush hush policy in the Council." Do you suggest by that that the public were not taken in confidence?

A.—What I meant was this, that in the discussion on the budget there were only two or three items of big expenditure, for instance, this Development department, the Irrigation department. These were the only original schemes and these were other items of expenditure on which we might differ in details. My first complaint was that this should be referred to the Council at the last moment of the guillotine. Usually the business in the Council was so arranged that they were taken up almost at the end of the council sessions. Other grants were introduced and they went up. In the first council we had only 5 minutes left, in the second council 25 minutes left, in the third council we had a couple of hours. Then again when there was any remark made or information asked for in the Finance Committee we were assured by the officers concerned that everything was going on all right; and even if the scheme was bad financially, we were told "we have been looking into it from beginning to end, and we are satisfied." In these circumstances, I called it a hush hush policy. In a matter of this moment they should have taken the Council into their fullest confidence; they should have moved their estimates and the grants or demands for grants earlier in the session when we had about 10 days to vote upon. As they did not do it, I called it a hush hush policy; because it was the full council that could bring any responsibility to the proper quarters and fix it.

Q.—You mentioned something about Officers. Will you kindly mention any names?

A.—Sir Henry Lawrence, Finance Member, who watches the financial part of the proceedings and the Honourable General Member.

Chairman.—Sir Chimnala Setaid.

A.—Yes.

Mr. Billedaria.—Any other names?

A.—Sir Lawless Hepper, who was a member of the Council.

Q.—Anybody else?

A.—And the Financial Secretary. He never spoke anything in the Council openly.

Q.—These were the three big officers you referred to?

A.—Yes.

Q.—Can you tell me who was responsible for placing these items before the Council, how is it only 5 minutes or 25 minutes or a couple of hours were allotted, who is responsible for it, the Council or any particular official?

A.—Oh no, it is only the Government that is responsible.
Q.-They gave you no time?
A.-Yes, it is the Government that are responsible for it.
Q.-Could you ask for more time?
A.-No, we could not.

5
Q.-So that you complain that you had no opportunity to discuss an important matter like this?
A.-Yes.
Q.-Did you point out your grievance in writing or in other ways?
A.-I have said so in my speech that the judgment of the House was to allow the grant to go by default.
Q.-Did you raise that objection, did you .......
A.-According to the constitutional procedure it is the Leader of the House and the Executive Councillors who are responsible for asking that their demands for grants might be introduced in the order they liked from day to day. It is they who are responsible for introducing them as there are only 10 days allotted for the consideration of the grants. They could have introduced the demand even on the first day, because in the last council they did introduce it much earlier, but we could not have asked for this order.
Q.-But if members of Council devote much of their time to matters which are of much less importance, and if on account of that vital questions are left out to the last moment, do you think Government is responsible for it?
A.-They know exactly their position and therefore they should be responsible. They ought not to take advantage of the Councillors spending their time uselessly, as you put it.
Q.-I did put it like that.
A.-It is their duty to introduce items of big expenditure and explain matters to the Council.
Q.-Nothing could have been lost if the Government introduced a demand earlier.
A.-I quite agree with you. Supposing a longer time was allotted .......
Q.-I am not sure, at least the public would have been satisfied; there would have been no room for complaint. On the other hand, if they had introduced it much earlier, we might have looked into it more carefully.
Q.-Then you refer to the unsatisfactory nature of preparing the estimates?
A.-Yes.
Q.-Has the estimate gone wrong? You made a complaint.
A.-While the Council was going on, we found that certain provisions were asked for without the estimates forthcoming. If I remember rightly, some one of us proposed a cut of so many rupees, and there was a discussion. If I remember rightly, there was a remark by the Auditor General or somebody from the Accountant-General's office that the original estimates were not met within the grant. One item I do remember: Kirol Road Widening Scheme or something which was discussed in open Council. No estimates were forthcoming and we were told in reply that as this was a budget discussion, budget grant should be voted, and that the estimates would be coming in afterwards. We said it was not a correct procedure, that the estimates must be there, and that if the estimates were not ready the Government ought to wait until we looked into it. To say that the estimates were not ready and to ask for a grant is in itself wrong.

45
Q.-You said something about the Auditor-General. Do you know of any instance of the Auditor-General complaining?
A.-Not that. I meant the first report of the Accountant-General that we had after the Department or rather the Government had sanctioned the estimate. There were certain items of expenditure to which there was no sanction.
Q.-The amount was spent without sanction?
A.-Without proper estimate. That was prior to our coming to Council. You find at page 1033, the Volume for 1923 of the Accountant-General's Report, where the Accountant-General refers to the fact of certain City Schemes and Suburban Schemes without estimates being sanctioned. The project estimates for 8 schemes have been sanctioned; and on the 8 schemes considered to be financially unsound, expenditure was incurred. That was the position in 1921.
Q.-In your conclusion you say that a satisfactory way must be found to complete as many blocks of the scheme as may be compatible with the economic, financial results of the scheme. Have you anything further to add to your reply to the Chairman in answer to the query as to now you want the whole scheme to be completed, whether you will go slowly, cautiously and carefully? You said that work might be commenced in blocks 1 and 7 and then think of any further development.
A.-I have put it as economically as possible. If block 8 is completed we would get about Rs. 2,39 lakhs. I would have no objection if work in block 7 or 1 is taken in hand.

60
As the Chairman assured me that the matter is being looked into as to the amount which those lands will fetch, if let out for contract, it would give the answer to the query. I cannot therefore say the time when this completion will fructify. The whole work should be done by
contract and not departmentally. If it is possible to have the whole scheme completed I would have no objection. The examination of Rao Bahadur G. K. Chitale concluded.

16th Witness

Mr. C. W. E. Arbuthnot, Executive Engineer

Mr. C. W. E. Arbuthnot, Executive Engineer, Bombay Presidency Division, was examined.

Chairman.—What is your Christian name?
A.—Clifford William Ernest.

Sir M. Visvesvaraya wants to ask you some technical questions at first.

Sir M. Visvesvaraya.—You were a member of Mr. Neilson’s Committee?
A.—Yes.

Q.—For how many months did you carry on your investigations on that Committee?
A.—I think about three months altogether. But for the first month we had not received the estimates, and so we didn’t hold many meetings. I have not got the exact date of the first meeting.

Q.—You have found out what it would cost to do the filling in future, isn’t that so?
A.—Yes.

Q.—Can you give us what the rates are likely to be for dredged filling and moorum filling respectively as a result of your investigations?
A.—The rates have been reported to Government in the report of the Committee. The cost of the consolidated filling worked out at 11’88 annas per cubic yard and that rate is being adopted for the estimate for block 7. That was for dredged filling. For moorum filling the rate has worked out to Rs. 2’14 per cubic yard.

Q.—Have you got the details for the Rs. 2’14 per cubic yard rate? How did you arrive at that rate?
A.—For the moorum filling we were given figures of actual cost by the Development Department.

Sir Frederick Hopkinson.—Are you quoting from that document? (He showed a document to Mr. Arbuthnot).

A.—Yes.

Q.—Did you work out the details?
A.—We had the details before us.

Q.—I consider that the rate for moorum delivered at site would be about Rs. 3. You have got your report with you, I suppose?
A.—Yes.

Q.—Turn to the second page, about harbour dredging, you will find the reason why the cost of moorum filling has been taken by the Bombay Development Department at Rs. 4’92 per brace. The actual words are “and this figure can be adhered to except that 15 per cent. should be allowed for” etc. There seems to be some mistake in that, the rate per cubic yard should be Rs. 1’36.

Q.—Did Mr. Neilson point that out to you?
A.—No, Sir. There is some arithmetical miscalculation.

Sir M. Visvesvaraya.—Can you say what the rate is per cubic yard, from your experience, of moorum filling in Bombay generally? You are the Executive Engineer, Bombay Presidency District?

A.—Yes. I could not say off-hand.

Q.—From your daily experience on work, what is it per brace?
A.—I think it is about Rs. 3 per brace for dry filling.

Q.—Are you quite sure of that?
A.—No, I am not quite sure, but I think approximately it is so.

Q.—What we want to know is, from your experience of the moorum filling, whether you thought that 1’36 was the proper rate at which you could get moorum filling done?
A.—I think it is a reasonable rate for such a large quantity of filling as has to be brought by the Development Department for this work.

Q.—1’36 is the rate at which the Engineers of the Development Department calculate?
A.—No; it is after allowing 15 per cent. for shrinkage.

Q.—Dredged filling comes to about twelve annas for filling from the Harbour and Rs. 1’3 for filling from Back Bay?
A.—Yes.
Q.—Would you like to proceed with the dredged filling or would you substitute moorum filling to complete the work rapidly?
A.—I don't think the work could be completed rapidly by using only moorum filling.

Q.—Can you tell us as a result of your recent investigation what the rates are likely to be for dredged filling and moorum filling?
A.—The figures are given in the report.

Q.—What is your opinion?
A.—I have not given my opinion, but the opinion of the Committee is that the figures given in this report should be accepted for the future.

Q.—You don't think that by moorum filling you would complete the work faster?
A.—No.

Q.—Why not? You know the Kandivli quarry was taken up in order to get stone and not moorum. Could not you get moorum from places nearer than Kandivli?
A.—I don't know.

Q.—Could not you get moorum also from the Thana side e.g. Dadar?
A.—I believe there is a certain amount of moorum there, but I don't know that district.

Q.—So there are possibilities of getting moorum from both directions?
A.—Yes.

Q.—If you can get sufficient quantity of moorum to complete the work in about three years at the rate of Rs. 1-3—the rate will be lower on account of the quantity—would you proceed with the dry filling only?
A.—I would like to see the total figures worked out before I express an opinion.

Q.—The quantity left undone will be about 22 million cubic yards at 13 annas per cubic yard of dredging, and the cost comes to 165 lakhs. At Rs. 1-5 per cubic yard the cost will be 328 lakhs. With the addition of dredged filling it is expected that the work will be done expeditiously.

Chairman.—What do you say to that? We want an answer to that.
A.—I am not quite clear what the question is.

Sir M. Visvesvaraya.—The question is—whether, with the information before you, you prefer dry filling or dredged filling or would combine the two?
A.—I would combine the two. Block 8 could be completed using dredged filling, block 7 and block 1 also might be completed by dredged filling. I am doubtful about block 2. Further investigations need to be made as to what material is available in Back Bay.

Q.—About 22 million cubic yards will remain to be carried out and if you do it by dredging the filling will go on at the rate of about 2½ million cubic yard per annum under favourable circumstances. It will take about ten years to carry out the work. Would you prolong the work to that extent or would you expedite it by moorum filling?
A.—I would expedite it as far as possible. But I am doubtful whether it could be done in less than ten years, whatever material is used.

Q.—Do you know what was the original estimate?
A.—I have seen it; 367 lakhs.

Q.—The estimate was increased to 702 lakhs from the original estimate of 4 crores. If the contract for the dredger had not been entered into they would not have sanctioned the estimate for 702 lakhs. If you take this as an ordinary earth filling proposition, the work might have been done for about 3¼ crores.

A.—The position would have been entirely reviewed and they would have considered the advisability of giving up the idea of dredging.

Q.—They could not give up the idea of dredging, because the contract had been entered into. The contract was entered into before the estimate was sanctioned?
A.—So I have heard.

Q.—Have you formed any opinion regarding the stoppage of the work; at what stage it should be stopped if stopped at all?
A.—I have formed the opinion that blocks 1 and 8 should be completed and that block 7 may well be completed. With regard to the other blocks I think blocks 2 and 3 should be the last to be taken in hand. That is my personal opinion.

Q.—You have some knowledge of the value of land?
A.—Not very much, some slight knowledge.

Q.—How much of the land when reclaimed would you set apart for public purposes and how much for Government use?
A.—I could not give any figures for that. I have seen different plans, drawn up with public parks, and recreation grounds, and one with the site for Government House at Colaba.

Mr. Billimoria.—In your report how did you arrive at the conclusions? Were the figures arrived at quite independently by you or were they given by the Development Directorate?
A.—We were checking estimates and the figures were in the first instance given to us by the Development Directorate and we proceeded to check them and revise them where necessary.

Q.—On the assumption that these figures are correct you base your conclusions. If anything goes wrong your conclusions will be upset?

A.—We first of all satisfied ourselves as to which figures were correct.

Q.—Have you satisfied yourself?

A.—Yes.

Q.—What steps do you take to verify?

A.—We checked them. We got different sections; we checked the sections independently one member or another in his own office. We also took a sample of the material and made an experiment with the sample to see to what extent it shrank.

Q.—How long have you been on this checking, verifying, etc.?

A.—I think the Committee sat for three months of which very little work was done in the first month.

Q.—For how long was serious work done, for how many days?

A.—I could not give you the exact number of days. We met on different days.

Q.—You found that very serious mistake had crept into your report. You mention 2.14 which two of my friends have found to be absolutely incorrect?

A.—I cannot explain how the mistake has crept in. I would like to see the figures of the Committee. I don't say that the report is incorrect.

Q.—If there are mistakes of this nature they are likely to upset all your calculations?

A.—That will be so if the one incorrect figure has been used in working out the total.

Q.—You were asked about dredged filling and dry filling. Do you think that there is sufficient material for dry filling available which could be brought out for reclaiming this area to Marine Line without interrupting the traffic on both railways, the B. B. & C. I. and the G. I. P., in view of the congestion of traffic?

A.—It would be rather slow in filling with dry filling because it is difficult to allow more than a certain number of trains to run daily. I think the trains are carrying a maximum load.

Q.—I understand that it is proposed to increase the rail. Do you think it would expedite the work?

A.—I think it would expedite, but it would also put up the cost.

Q.—Is there room enough?

A.—Not in Bombay.

Sir M. Vire-power.—They are doubling the track. Why should you think there will be congestion?

A.—I do not think they are quadrupling the track in Bombay City between Dadar and Churchgate Street or Marine Lines. There would be large expenditure on extra wagons and it is doubtful whether the railway could permit of extra trains during the period when there is suburban traffic. If the tracks are doubled it might be possible to bring a larger quantities.

Q.—It looks like it, prima facie. You can bring Moorum via Dadar from the Thana side?

A.—From Dadar it could be brought only through the B. B. & C. I.

Mr. Billimoria.—You know that when the Railway Board sanctioned their railway scheme, there was hardly any likelihood of two lines running between Grant Road, Colaba and Marine Lines.

A.—There was no likelihood.

Q.—In view of that how many years would it take to get material for dry filling? Would it be longer?

A.—I think it would be longer. It depends on more facilities being given by the railways.

Q.—That would require an additional capital outlay of Rs. 50 lakhs?

A.—I don't know how much.

Q.—If instead of six trains you were to run double the number, you would require rolling-stock, you would require locomotives, you would require rails. The figures will then run to Rs. 60 lakhs?

A.—It seems a reasonable figure.

Sir Frederick Hopkinson.—You spoke just now about tests and shrinkage of material. Could you please say exactly how these tests were made and what the results were?

A.—Small tests were made with dredged filling.
Q.—What kind of dredged filling, mud?
A.—Yes, mud, in order to find out approximately how far it shrank. We were told by
the Engineers that the shrinkage was about 15 per cent. But we were inclined to think it was
1/3. As a result of our investigations, it was decided that 40 per cent. would be a prudent
figure to adopt.
Q.—Can you give me the details?
A.—No, Sir.
Q.—It is very important. Could you ask the gentleman who made them if he can put
into writing the exact results of these tests?
A.—I am prepared to ask the Chairman of the Committee.
Q.—Do you think that can be done?
A.—Yes.
Q.—Because I am conducting little tests and I should like to have figures.
A.—Mr. Mistry conducted them.
Q.—I would like to know exactly what he did and how he arrived at the conclusion
of 40 per cent. I presume that 40 per cent. only covered soft mud. It did not refer to clay.
A.—I am not quite certain where he took the sample from. I know before he conducted
his experiments he poured off all the water.
Q.—You also suggested about checking the quantities. Did you check them?
A.—I personally checked the quantities of Block 1, and Mr. Neilson…….
Q.—Quantities of what?
A.—Sections showing the filling, how much filling has been actually put in.
Q.—In the whole of Block 2?
A.—I am speaking of Block 1.
Q.—So that you can speak from your own knowledge the exact quantity still required
to fill up block 1?
A.—I can speak from the knowledge of the figures which were arrived at by the
Committee. I checked the sections.
Q.—Isn’t that the same thing? You checked the sections, you arrived at a certain figure
and that is the figure which appears in Mr. Neilson’s report. These are your conclusions,
but you depend on the Engineers for sections. Did you agree with the Engineers as to the
quantities?
A.—The figures are very nearly the same.
Q.—Did you try that in block 7?
A.—Mr. Neilson checked them.
Q.—Did they agree with the Engineers’ figures?
A.—I think so.
Q.—Did you try in block 2?
A.—No, Sir. No estimate for block 2 was given to us for checking.
Q.—Really you are only telling us that you checked the figures and guaranteed them so
far as blocks 1 and 8 are concerned. Did you separate the dredged filling from the
moorum? What was the measurement you took?
A.—A depth of 1 foot. For block 1 the moorum was 70,000 brass by lorries and
40,000 brass by trains.
Q.—What about block 7?
A.—The last page gives the figure for moorum filling as 97,800 brass. I think the
depth was 1 foot.
Q.—Would you mind letting me know, because the quantity of moorum required depends
entirely on the time when it is done. If you go to block 8 and decide to finish that off
with moorum filling some of the ground is hard enough to carry the moorum. Other parts
of the filling are not hard. Consequently the moorum sinks into it. Instead of putting a foot,
you might put 6 feet?
A.—I would not recommend that. I do not think that the filling of block 8 should be
completed by moorum alone.
Q.—It is said that it was not worth while putting any more dredged material in
block 8?
A.—That is the opinion of the Development Department.
Q.—Do you agree with that?
A.—No.
Q.—Have you got the level for filling block 8?
A.—They have got the sections.
Q.—Who have got the sections?
A.—The Development Department.
Q.—You handed them back? Would you mind asking Mr. Elgee as to the present surface levels of block 8? The quantity of moorum required would depend entirely on the time when it was done. If it was done, after dredging was done, it would take much more than if it was allowed to rest. Therefore the foot allowance you make for moorum is quite tentative. It depends entirely on circumstances.

A.—It depends on whether they complete it with dredging.

Q.—It depends on when they complete it?

A.—No, I don’t think.

Q.—If you start filling block 8 with moorum and if the dredged filling is soft, moorum would sink?

A.—The dredged material would not harden first but shrink and the consequence would be that far more moorum would be required than it would appear from the present state.

Chairman.—In the report to which you put your signature you say that as regards the cost of moorum filling the figure of Rs. 5'79 per brass can be adhered to. May I take that as an assertion by you as a professional man?

A.—That was the opinion of the Committee, Sir.

Q.—Do you pledge yourself to that?

A.—No, Sir. I do not pledge myself to anything.

Q.—You have put your signature?

A.—That is my opinion.

Q.—You pledge your professional opinion to that statement?

A.—My opinion.

Q.—Professional opinion?

A.—Yes.

Q.—And that mean, turning the cost from brass into cubic yards, that it is an assertion of your professional opinion that you can get dry filling at Rs. 1'56?

A.—That is the figure that has been arrived at.

Q.—You put your signature to a document and you say this figure can be adhered to at 1'56. Do you mean to say that that is your present belief as a professional man?

A.—Yes. Sir.

Frederick Hopkinson.—I should like you to give me the details as to how you arrived at the figure 1'56. I should like to know the factors that entered into that calculation.

A.—I have not got them here.

Q.—Could you get them?

A.—Yes.

Chairman.—I should mainly like you to give me the details as to how you arrived at 1'56?

A.—I have not got them here.

Q.—Have you ever had them?

A.—Yes. The Development Directorate supplied them to the Committee.

Q.—This rate, i.e., Rs. 1'56 will, in your opinion, have to be adopted to provide moorum for the whole area?

A.—Subject to the correction that my copy shows 2'14. Subject to that, the answer is in the affirmative.

Q.—You think that the reclamation area can be filled with moorum at Rs. 1'56?

A.—Such moorum as is required in blocks 1, 7 and 8.

Q.—Do you consider that the entire area could be filled at the rate of 1'56 per square yard?

A.—I cannot answer that question. I have not got enough details to form an opinion.

Q.—Had you enough details before you to say that the amounts which were suggested in your report could be obtained at 1'56?

A.—Yes, I think so.

Q.—The suggestion is that your Committee took the figures from the Development Directorate and worked on them?

A.—Yes, checked them.

Q.—Without adequate examination perhaps? In the same way as Sir George Buchanan took Mr. Kidd’s borings and estimates of cost and was apparently content with them?

A.—I know that the figures of actual cost for moorum were supplied to us by the Development Directorate.

Q.—For the purpose of this report, did you go to Kandivli?

A.—No.

Q.—Mr. O’Rorke said that at present Kandivli, as regards moorum, is more or less worked out. Do you know that?

A.—I do not know that.
Q.—That is the most important point. Mr. O'Rorke giving evidence two days ago said that Kandivli, as regards moorum, is more or less worked out, and that fact alone alters your whole view of figures.
A.—Yes, it does if it is correct.

Q.—Mr. O’Rorke ought to know because he is the Engineer in Charge!
A.—I think he should.

Q.—You were never told that.
A.—We were at least given to understand that there was sufficient material available.

Q.—Did the Committee assume that the whole of this moorum was coming from Kandivli?
A.—Yes.

Q.—Did anybody ask Mr. O’Rorke, the Engineer in Charge, whether there was enough stuff there to make it possible?
A.—So far as this is concerned we were given to understand by the Chief Engineer, and not Mr. O’Rorke, that the material was available and would continue to be brought to Bombay as it is being brought at present?

Q.—Did Mr. Elgee ever put that in writing?
A.—I do not think that is in writing in "A.—The rate would certainly have to be received.

Q.—As regards moorum filling, can we accept the rate that you have given in the report of Neilson’s Committee, of which you were a member, you suggest filling of one foot deep of moorum layer. Do you think one foot is quite sufficient for moorum layer?
A.—Yes, it appears so.

Mr. Billimoria.—In the report of Neilson’s Committee, of which you were a member, you suggest filling of one foot deep of moorum layer. Do you think one foot is quite sufficient for moorum layer?
A.—It has not been suggested. That was the specification.

Q.—In your report you base your calculations on one foot basis. Do you approve of that suggestion or do you recommend that suggestion?
A.—As a Committee we were not asked for any opinion.

Q.—Do you not think that a layer of at least 7 or 8 feet deep of moorum is required, because when the moorum dries up and is harder it sinks day by day and you want more filling in, one foot
filling would not suffice. You will now change your opinion from what has been stated in the report that one foot filling in of moorum is not sufficient.

A.—I do not remember that that was stated in the report; one foot was the specification.

Q.—Do you adhere to that view or change your opinion?

A.—I never adhered to that view.

Mr. Billimoria.—A deep layer of moorum is necessary than one foot and there has not been any past experience where one foot layer of moorum was laid.

Sir Frederick Hopkins.—That depends on the circumstances.

Mr. Billimoria.—I would like to have the exact details by which you arrived at 1.56, the details supplied to you by the Development Directorate, and we would also want to see the details for loading, unloading, transport and whatever other charges there may be.

The witness agreed to supply.

Sir M. Vishwanath.—Kandivli is about 18 miles from here but we want moorum from quarries near to the works if possible. They went to Kandivli because they got stone.

A.—One would have to go out and inspect the country as to ascertain what material there is.

Q.—You cannot say?

A.—No, I do not know.
Q.: And depend for your output entirely upon the power of the suction dredger, to suck in the bed of the sea?
A.: That is so, propelling all the time.
Q.: When did you first have experience with a dredger equipped with a cutter?
Q.: Now when you went into Back Bay did you know at all what was the nature of the bed of the sea?
A.: No, Sir, I did not.
Q.: Did you know what depth of silt or clay you were likely to find, in any given area?
A.: No, Sir, I did not.
Q.: What amount of water did you find there?
A.: The water would be about twelve or fourteen feet at high tide.
Q.: How much in low tide?
A.: Sometimes nil. I take no particular interest in the depth, Sir.
Q.: What did the "Kalu" draw?
A.: The "Kalu" draws an average of about 10 feet.
Q.: Were you not at a great disadvantage owing to the shallowness of the water?
A.: Quite so. We had to do tide work.
Q.: That means that instead of the "Kalu" steaming into Back Bay and remaining there week after week she had to go in when the tide was high enough and come out before the tide dropped too low?
A.: That is so, Sir.
Q.: Was it a business proposition to run her into Back Bay for two or three hours and hurry her out?
A.: Financially, no.
Q.: Therefore how many hours' pumping did she do here in the day at that time?
A.: About three or four hours, dependent on the tide.
Q.: Every time you took her out you had to disconnect the pipe line?
A.: Yes.
Q.: Every time you took her out you had to connect the pipe line?
A.: That is so, Sir.
Q.: How long did that operation take?
A.: Some time about 20 to 30 minutes according to swell.
Q.: Was an attempt made for the "Kalu" to dredge a hole in which she would have flotation?
A.: Yes, Sir.
Q.: How long did that take?
A.: One season.
Q.: Well, it is said in one of the letters that the "Kalu" when she was on the Sewri reclamation dredged a flotation for herself in three tides?
A.: It was very hard, Sir.
Q.: And apart from its hardness, was there a sufficient face to enable you to get reasonably good results?
A.: No, Sir.
Q.: By face I mean a layer of silt and then a layer of clay or other dredgeable material of such a depth that you can put your cutter into it and work it economically. Now, the "Kalu" has a suction pipe of 39" in diameter?
A.: The "Kalu" had a 42" suction pipe and 39" delivery.
Q.: During the whole of the time that you were working on the "Kalu" did the working of the machinery give you satisfaction?
A.: Quite.
Q.: Have you any fault to find with the "Kalu" as a machine?
A.: No, Sir.
Q.: The "Kalu" gives an extremely low output per pumping hour, did not she?
A.: I cannot say, Sir.
Q.: Have you ever been interested enough to know what the "Kalu" did?
A.: Somewhere about 300 cubic yards. I think so.
Q.: What was her guaranteed output?
A.: I cannot say, Sir.
Q.—It has been stated to be either 2,000 cubic yards or 1,500 cubic yards. Take it as 1,500 cubic yards per hour. An output of 384 was very poor, just about 25 per cent.
A.—Yes.
Q.—What was the reason for that?
A.—That I cannot say, Sir.
Q.—You have told us you have no fault to find with the "Kalu" as a dredger?
A.—Yes.
Q.—Have you any fault to find with the staff working there?
A.—No, Sir.
Q.—No fault with the dredger, no fault with the crew. The next thing must be the material?
A.—Yes, the place we were working on.
Q.—Can you explain the low output of 384 cubic yards to the hour upon any other basis than the quality and the quantity of the material you were working on? Is there anything else?
A.—When we started working we got soft stuff. But immediately we went down to a depth of 12 feet below it was very hard.
Q.—You mean 12 feet below the bed of the sea?
A.—Yes.
Q.—Except for the quality and quantity of material, can you suggest any other reason why the "Kalu" gave a poor output?
A.—I cannot.
Q.—Before you start dredging operations anywhere, which is the more important matter, to provide dredging plant or to make sure of the nature of the bed of the sea?
A.—The latter.
Q.—What is your position at present?
A.—Chief Engineer on the "Kalu".
Q.—Is she ready, or will she be ready by the 25th October or so to come out and do the work?
A.—Yes, Sir.
Q.—And is it proposed to use the "Jinga" with her as a booster?
A.—Yes, Sir.
Q.—As far as you know will the "Jinga" be ready to do that work?
A.—Yes, Sir.
Q.—And therefore if you can find, or anybody in the Development Directorate can tell you where there is within 35 feet of the surface of the water a thoroughly good face of clay, have you no doubt that the "Kalu" would dredge it?
A.—The "Kalu" will do it, Sir.
Sir M. Visvesvaraya.—How do you measure the quantity of material pumped out daily?
A.—It is done by sounding.
Q.—What other observations do you take to make sure that work is proceeding satisfactorily?
A.—By watching my gauges in the engine room.
Q.—What guarantee is there that you are pumping mud and that you are not merely pumping out pure water?
A.—By watching the vacuum and pressure gauges.
Q.—Did you test the vacuum gauge by actual experiment, by taking a quantity of water within the pipe and compare the result you expect through the vacuum gauge by measuring the volume of silt in the water you pumped out at any time?
A.—No, Sir, I did not. My place is in the engine room.
Q.—You are not concerned with the quantity of material?
A.—Yes, I am concerned with reference to the pump.
Q.—You ought to compare with what you did in the harbour or in the bed of the sea with the output? Don't you compare the two daily?
A.—I do not, but that is done.
Q.—Do you observe the vacuum gauge and pressure gauge?
A.—Yes.
Q.—What is the steam pressure?
A.—One hundred and eighty lbs.
Q.—Have you got any idea of the cost of dredging?
A.—I do not know, Sir.
Q.—Is not the "Kalu" rather old? Is not its capacity affected by age?
A.—I do not think so.
Q.—It is as efficient as it was when it was first bought?
A.—Yes, only minor repairs have to be attended to.
Q.—Is the cutter powerful enough?
A.—Yes, Sir.

5 Q.—And the engine power sufficient?
A.—Yes.
Q.—Where do you propose to place the “Jinga” for the next season?
A.—I suppose immediately behind the line of the “Kalu” nearer the shore.
Q.—Is there any other depth of water?
A.—There is the hole that we dredged last season.
Q.—Have you any idea as to what distance you can pump? Can you pump to blocks 3 and 4?
A.—We have already pumped about 5,000 feet. I don’t know.
Q.—Do you pump to block 1?
A.—Yes.

10 Q.—Are you sure you will be able to pump to blocks 3, 4 and 5?
A.—With the aid of a booster.
Q.—You are prepared to do that?
A.—Yes.
Q.—Does the Chief Engineer consider that he could pump to block 4?
A.—I do not know.
Q.—Your expectation is that you would be able to do it?
A.—I think so.
Q.—Do you expect any difficulty to work with three shifts if the crew is strengthened?
A.—No.
Q.—How many live on the boat now?
A.—I think there will be about 30 or 40 men all told.
Q.—How many actually live on board? Do all of them live there at present?
A.—A double crew.

15 Q.—If three shifts are ordered, what changes will be necessary in the present organisation?
A.—Not very much.
Q.—How many hours of actual work do you hope to put in?
A.—About 19 hours per day.
Q.—If you work in three shifts you will be working continuously?
A.—Continuously.
Q.—So there would not be much time lost in stoppages?
A.—It is all due to pipe line difficulties and so on.
Q.—You are doing 3 to 4 hours work not now?
A.—No. That was for previous season 1924-25.

20 Q.—How many hours do you hope to do with your improved experience next season?
A.—According to the same percentage that we worked this year; 19 hours is the maximum.
Q.—How many hours did you actually pump last season?
A.—By double shifts we averaged 12 hours: as high as 15 some days and as low as 10 on others.
Q.—In the coming season how many hours do you hope to put in?
A.—I should say about 19 hours with three shifts.
Sir Frederick Hopkinson.—How many seasons have you worked in Back Bay?
A.—Two seasons.
Q.—Is there not something wrong with the figures, as regards the date? You began in November 1923?
A.—It is a mistake. It should be 1924.
Q.—Have you made a mistake in the year? Is it 2 years and 5 months?
A.—Yes.
Q.—About this “Kalu” you say that the coal used is bad and you lose four hours a day for cleaning the fire? It is a very long time.
A.—Our average is sometimes less.
Q.—Have you got any spare boilers?
A.—No.
Q.—How many hours did you spend a day for cleaning the fire?
A.—Three.
Q.—Four hours for cleaning the fire is very serious. I am referring to the 24 hour day.
A.—It is 2 to 3 hours out of 16.
Q.—How many hours do you think you lost for cleaning fire?
A.—Three hours on the 18 hours shift.
Q.—You have been working 18 hours shift?
A.—Yes.
Q.—That is a lot of time to lose?
A.—We have tried our best.
Q.—You might report about the condition of the coal to the Chief Engineer?
A.—I have done so.
Q.—What coal do you use?
A.—Bengal No. 2.
Q.—Is Bengal No. 1 better?
A.—Yes.
Q.—Then it would probably be advisable to get the better coal?
A.—Yes.
Q.—Have you any difficulty in keeping steam?
A.—Under the coal, yes.
Q.—Are you losing any revolutions in the pump?
A.—Yes, a slight decrease.
Q.—What is your pump designed to run at?
A.—I do not know. It is usually designed to run about 140 revolutions.
Q.—Have you no instructions from anybody?
A.—I have no guide.
Q.—Really you are explorer. You do not know how many revolutions she was designed to run at. Is it not marked on any of the engines?
A.—No.
Q.—The borings show that there is a layer of sand and clay varying in depth from 4 feet to 21 feet. That is an extraordinary variation. You find that in practice?
A.—No, Sir.
Q.—You find that you can get more everywhere?
A.—No.
Q.—Have you got plenty of power in the cutter to cut the material up to 10 feet?
A.—Yes.
Q.—If the boat's output is poor, it is not in consequence of the cutter not cutting the material?
A.—No, Sir.
Q.—What is the reason?
A.—The material is not there.
Q.—It is neither the machine nor the hardness of the material. It is the difficulty of getting to the material?
A.—Yes, Sir.
Q.—The first season you were out there you were dredging the whole season at the top of high water?
A.—Yes.
Q.—Only working daylight time?
A.—Yes.
Q.—It is therefore 3 or 4 hours out of the 24?
A.—Yes.
Q.—If you are working yourself, what profit would you make working 4 hours out of the 24?
Would it not be a very extraordinary price?
A.—Yes.
Q.—There is no means that you know of to test the percentage of clay in the outer pipe?
A.—In the delivery pipe—no means.
Q.—If it were sand, you get a test tube and see what the percentage is?
A.—Yes.
Q.—With clay it is a different thing?
A.—Yes.
Q.—You could not get a reasonable percentage at the end of the delivery pipe?
A.—No, Sir.
Q.—You are satisfied that the “Kalu” is a good machine?
A.—Yes, Sir.
Q.—What is your previous experience?
A.—I have worked an 18-inch dredger.
Q.—What were you working at?
A.—Very light sand.
Q.—Where?
A.—At Chittagong.
Q.—Was it for reclamation work?
A.—No. It was a hopper dredger.
Q.—The intention next season is, I understand, for the "Jinga" to lie at the northern end of the hole you have made last season and for you to go to the south. You will be coupled up to the "Jinga" and she will be coupled up to the shore. They will have to bring their coal in the barges?
A.—Yes.
Q.—You live on board?
A.—Yes.
Q.—You have no objection to working 24 hours a day?
A.—No.

[Witness then withdrew.]

18th Witness

Dr. N. H. E. Sukhia

The examination of Dr. Nadirshaw H. E. Sukhia then commenced.

The Chairman.—Dr. Sukhia, was there a Government enquiry in 1913 in which this question of a reclamation scheme was considered?
A.—Yes.
Q.—And was that referred to a sub-committee?
A.—Yes.
Q.—And were the considerations of that committee ultimately put in the form of a report, namely that of the Bombay Development Committee, 1914?
A.—Yes, in a book form.
Q.—Did you give evidence before that committee?
A.—Yes, and onwards.
Q.—On the subject of reclamation did you say this: "I think it will be conceded by everyone without exception that the growing needs and wants of the ever and vast increasing population of Bombay must require a recourse to a reclamation scheme, if there is no suitable space and ground available for the development of Bombay so as to meet all its requirements for, say, the next 25 or 30 years"?
A.—Yes.
Q.—And in your copy the words "if there is" are underlined, showing that you were attaching great importance to the question as to whether there was any other suitable space and ground available?
A.—Yes.
Q.—You then make the point that the "expenditure should be cautious so as not to put on the then generation a large burden of which they would only have a partial enjoyment"?
A.—Quite so.
Q.—And having limited the period of extension for the period of 25 to 30 years you say as follows: "For this period of time and even longer I am respectfully of opinion that Government have at their disposal ample space and ground now existing within the town and island of Bombay or within its close vicinity without resorting to any huge reclamation, if the suggestions I now submit meet with the approval of the committee and Government"?
A.—Yes, quite so.
Q.—And then speaking of the reclamation scheme you say: "The reclamation scheme which I believe Government have had under their consideration for the last few years is that which owes its origin to Lord Sydenham or his Government. That scheme may probably be a necessity some 50 or more years hence" putting it to 1963 or 1964. "It will cost some crores of rupees, and the question therefore is, if by utilizing half that sum we can fairly meet all our requirements, setting aside for the moment the huge outlay of sinking and interest funds which the reclamation will entail, is it desirable or wise that we should launch on an expenditure of crores and crores of rupees, the full advantage of which neither this nor the succeeding generation can get? However, if Government can successfully finance the reclamation scheme, of which I am very sceptical, it will afford some means of dealing with the problem of the growing requirements of the city for the convenience of future generations."
A.—Yes.
Q.—Have you been from the time that you wrote that memorandum right up to the present day of much the self-same opinion?
A.—Yes, up to April 1926.
Q.—Were you a member of the Advisory Committee in June 1921?
A.—Yes.
Q.—I think you were the representative of the Bombay Municipality?
A.—Yes.
Q.—And did you wish to bring up before that Advisory Committee the question whether the Bombay Reclamation scheme should be abandoned at present or postponed for at least 5 years?
A.—Yes.
Q.—That was, I think, on the 20th June 1921?
A.—Yes.
Q.—I am only putting that forward to confirm what you said a few months ago that that was your view?
A.—Yes.
Q.—That question was considered by the Chairman and it was decided that it was not a question which could usefully be discussed by the Advisory Committee?
A.—Quite right.
Q.—I think we ought to make that quite clear. The reason given was that the Advisory Committee was a committee to advise upon work in progress already sanctioned by Government?
A.—That is right.
Q.—And not to discuss questions of policy which might have the effect of reversing the decision of Government?
A.—No.
Q.—Criticising the settled decisions of Government?
A.—No.
Q.—The subject is referred to in the letter of 24th June 1921. It was a letter from Sir Lawless Hepper and runs as follows:

"Dear Sir,—With reference to your letter dated 22nd instant addressed to the Secretary of the Advisory Committee, I beg to explain that the Directorate of Development is an executive body, especially created to carry out certain schemes sanctioned by Government and the Advisory Committee has been appointed to advise the contractor on matters relating to the work of the Directorate in connection with the carrying out of the scheme."

A.—Quite right.
Q.—"The question raised by the Bombay Chamber of Commerce mainly relates to the general policy of Government in sanctioning the Back Bay Reclamation project and cannot suitably be discussed by the Advisory Committee."
A.—I was prevented from discussing further.
Q.—That might have been the right view for Sir Lawless Hepper to take having regard to the constitution of the Advisory Committee.
A.—It was this statement that made me think that Sir Lawless Hepper had that view.
Q.—As I say, I only mentioned to you your wish that the Advisory Committee should consider the question as to whether the Back Bay Reclamation Scheme should be abandoned or postponed for at least five years, to show that throughout this has been your attitude.
A.—Quite right.
Q.—You know generally the position of the work at the moment. Have you any suggestions to make as to what might be the work to be undertaken in future or whether the work should be wholly abandoned?
A.—I think the work should be gone through.
Q.—And do you mean the whole of it?
A.—Yes. From the health point of view as well as from the business point of view.
Q.—Tell me first from the first point of view.
A.—All those big areas of sea water may deteriorate, if it is not carried through, and the result on the public health will be serious.
Q.—You say the sea water is deteriorating at present over 850 feet, through which the tide comes?
A.—Yes; whenever it is stagnant; at present the sea water is moving, but when it is put into blocks it won't.
Q.—No, no. But once it is to be put into blocks, it is intended to reclaim these blocks as quickly as possible?
A.—Yes.
Q.—At the present minute the tide goes over 550 feet and keeps the water interior of the sea wall and you can have daily two great tides. So there is no reason to apprehend that the water will in fact be any danger to health?

A.—I think it would become stationary. Although there will be a tide to bring in fresh water, it won’t mix with the old water to such an extent that it would become harmless.

Q.—In your view, Bombay having embarked upon this scheme, it should be carried through?

A.—Yes, both from a health point of view as well as the business point of view after spending away crores of rupees.

Sir M. Visvesvaraya.—Have you any idea of the present price of land in this neighbourhood?

A.—Yes. I think no less than about Rs. 100 per square yard.

Q.—Is the value falling or rising?

A.—It is falling.

Q.—If the whole area is completed, at what rate you think the land can be sold?

A.—Between Rs. 50 and 65 per square yard.

Q.—Do the public of Bombay want the early completion of the scheme?

A.—My own view is that it ought to be from two points of view, as I said,—from the health point as well as business point of view.

Q.—You are in favour of completing the work?

A.—Yes.

Q.—But what about cost?

A.—If it had been provided in the very beginning, the public would not have suffered. It ought to have been provided by Government from the very beginning.

Q.—The scheme would not have seemed profitable if they had done so.

A.—Why not?

Q.—It would have been very costly!

A.—I doubt very much; it would not be very costly. Perhaps you may not be aware that just at the site of Bruce lane, the Tata Company gave Rs. 900 per square yard.

Q.—Rs. 1,150?

A.—In one case it was Rs. 1,150; in another it was Rs. 900. If this be the cost, why should not the new land fetch higher price?

Q.—Would not the prices in Bombay be disturbed if you throw open such a large area?

A.—I do not think so.

Q.—You want to complete the scheme?

A.—Yes.

Q.—And if it costs a considerable amount, you will face it?

A.—I don’t mind the cost; I say from the public health as well as business point of view these things should be carried out.

Q.—Do you suggest any change or method in the execution of the work?

A.—I would rather suggest this: instead of the Directorate, it must be by private contracts.

Q.—What is your idea about the Public Works Department?

A.—I think they can stand against all this.

Q.—At the time the scheme was sanctioned was there any public demand for it? And from what classes of people?

A.—There was; from almost all classes.

Q.—In the Bombay city or in the mofussil?

A.—In the Bombay city itself. That is my experience.

Q.—Why did you not sign either of the reports of the Advisory Committee?

A.—For this reason: I was no doubt aware I was doing the right thing at that time; but now I am convinced, after certain statements submitted by Sir Lawless Hepper at the instance of Mano Subedar, that the scheme should be carried through. Therefore I signed it with the majority.

Sir Frederick Hopkins.—Have you had any experience of the Public Works Department?

A.—I have not.

Q.—So you cannot give us any information as to whether it is highly efficient or not?

A.—I could give, but I think it is worth nothing, as I am not an Engineer.

Q.—So please keep it. Can you tell me whether the Public Works Department had experience of such reclamation works? Are they more concerned with internal works or land works?

A.—So far as internal works go, they are concerned.
Q.—Do you know whether they do reclamation work of this kind?
A.—I do not remember.

Q.—On broad grounds, inasmuch as the work is managed by business people, you would prefer it to be given out on contracts?
A.—Yes.

Q.—That is your experience after a fairly long time?
A.—Yes.

Mr. Billimoria.—Do you speak in your personal capacity or representative capacity as representing any public body?
A.—At present in my individual capacity.

Q.—You have signed the interim report of the Advisory Committee dated 17th February 1925?
A.—Yes.

Q.—Who supplied the information and the figures in connexion with the said report?
A.—Sir Lawless Hepper.

Q.—Relying upon the information and the figures furnished to you you arrived at your conclusions?
A.—Of my own experience I speak.

Q.—The benefit of which the Committee had?
A.—Yes.

Q.—Do you know, Dr. Sukhia, that the original estimate that was sanctioned by the Government of India was over 367 lakhs?
A.—Quite right.

Q.—That was subsequently increased to 5 crores, and 7 crores, and now the figure is in the vicinity of 11 crores?
A.—Yes.

Q.—You also know that none of these figures include any interest?
A.—No.

Q.—You are aware of that?
A.—Yes.

Q.—As a business man, Dr. Sukhia, you know when a business is undertaken on a capital investment, if you are getting your return after certain number of years, you always calculate interest on the capital and see whether the venture is going to be profitable or otherwise?
A.—I don't mind for the profit of the scheme; I am concerned more for the public health.

Q.—You are looking at it from the health point of view?
A.—Yes, principally.

Q.—Having regard to that you would be prepared if the City of Bombay had lost several crores of rupees?
A.—Quite right; I do feel it.

Q.—Do you know that when the estimates were prepared they were based on certain calculations which calculations now turn out to be incorrect or out of the market?
A.—It is their look out who made the estimates. To my mind the estimates are not even now correct.

Q.—And if those estimates go to you round you would still insist upon the scheme?
A.—Public health must have the first consideration.

Q.—When you talk of public health, is it your suggestion that at present the health of the citizens of Bombay is suffering without that reclamation?
A.—I think so.

Q.—With the reclamation the health will be considerably improved?
A.—Much improved.

Q.—In what manner?
A.—There will be very large open area for sea airing and other matters, which will actually lead to the public health being properly maintained, and there will be no stagnant areas of water.

Q.—You mean that after the reclamation a large area of land will be left vacant for recreation grounds? Is that your idea?
A.—Not that. As soon as it is reclaimed there would be a good sea breeze coming on the reclaimed land and that would be beneficial to the people.

Q.—Living on the reclaimed land?
A.—Behind it.

Q.—What is there to prevent the people getting fresh air to-day?
A.—They cannot go there; there is the sea water there.
Q.—There will be sea water in spite of the reclamation?
A.—No; there won't be; we must go on in such a way that the scheme is finished within some years.

Q.—Supposing the wall is completed and the two ends which have not yet been joined have been joined, there still will be sea in front of the sea wall?
A.—There is a little difference between the two.

Q.—What is it?
A.—The difference is that the stagnant sea water will be within the area of the wall itself which will be dangerous to the health of the people.

Q.—Before this reclamation was undertaken, was the water stagnant?
A.—No.

Q.—Have you no reasons to suppose that the water will be stagnant if the two ends are not joined?
A.—It is a natural consequence.

Q.—You draw this inference from a medical point of view? Are you supported by medical authorities in this matter?
A.—If you ask that, unfortunately my health does not permit me to go through all these details. I do feel that that is the proper view everybody should take if he has at heart the good of the people.

Q.—I shall come to the business point of view. Let us finish health point first because as a medical man you will be in a better position to offer your views.
A.—I do.

Q.—How do conditions telling upon health improve by the reclamation of this strip of land?
A.—There will be no stagnant water there. And whenever there is stagnant water, whether it is fresh or salt water there is chance of infection.

Q.—So your belief is based on the assumption that there is stagnant water?
A.—It will be a fact.

Q.—So in spite of other recommendations which have been put forward for filling in some of the blocks you are in favour of completing the whole scheme?
A.—By degrees.

Q.—No matter what it costs?
A.—Yes.

Q.—Even if there is a tremendous loss of several crores of rupees you would still disregard that loss and complete it?
A.—Yes; it will be in the interests of the public health of the city of Bombay.

Q.—You would not look at it from the point of view of business, whether the scheme is going to be profitable or otherwise?
A.—That is a secondary question; if the whole plot is filled in, the land that will be sold will fetch a high price unquestionably.

Q.—Have you any idea as to what it will fetch?
A.—Between Rs. 50 and Rs. 65.

Q.—The whole of the reclaimed land after providing for roads, etc.?
A.—Yes.

Q.—Do you think there would be an immediate demand for all the land 300 acres?
A.—I am not so rich, but there are some rich multi-millionaire people who do desire to take it; I can mention one name who wants to take up a large area at any cost to have a fire temple put up.

Q.—How much area would he take up?
A.—He wanted several acres of land; simply to keep up open space for the benefit of the fire temple.

Q.—Is he a multi-millionaire that he would give away several lakhs?
A.—He was.

Q.—Then he is gone?
A.—Unfortunately he is dead and gone.

Q.—That is very uncharitable. Now, the report that was signed was dated 17th February. Since then in January 1926, another report was published which is known as the second interim report, with a minute of dissent by Manu Subedar. Have you gone through it?
A.—No.

Q.—I suppose you have been in sick-bed for a long time?
A.—Yes.
Q.—Detached from public life?
A.—No; I am not detached from public life.
Q.—You are no longer a member of the Corporation?
A.—No.
Q.—You don’t take any active part in the debates of the Legislative Council?
A.—So long as I am not there I cannot do it.
Q.—You are still connected with the public life of Bombay? In which way?
A.—I make speeches on public platforms.
Q.—Have you got a copy of the interim report?
A.—Unfortunately it is not with me now. (A copy of the report was handed to the witness.)
Q.—You know that when you signed that report on 17th February 1925, yourself and the other members of the Committee who signed that report did not know or were not told that the dredgers were not working satisfactorily. Had you that information, inasmuch as the required output was not produced?
A.—I do not believe that story at all.
Q.—Now, if you are told to-day that the information is absolutely correct, would you believe it?
A.—No; I have personal experience; I had been to the Colaba site after dredging; I had been also to the other side, the east side and I saw the dredger was working very nicely. But you are not an engineer?
A.—I am not; but I am a commonsense man, as you know very well.
Q.—If you will kindly turn to page 3 of the report that you have signed, in paragraph 5 you say "The total expenditure on the Back Bay Reclamation to the end of December 1924, including interest, may be taken at Rs. 468'54 lakhs, out of which it has been estimated by the Chief Engineer that about Re. 57'00 lakhs might be recouped by the sale of plant. The net immediate burden on Government would therefore amount, in round figures, to Rs. 4 crores".
A.—Yes.
Q.—Now with regard to the 57 lakhs, that was the figure furnished to you by the Department and you put it as correct?
A.—Yes, I supposed it.
Q.—Suppose that figure is an overestimate, would you still say that the net expenditure would be 4 crores only?
A.—Yes, until other facts are brought forward.
Q.—Would you still say that?
A.—Yes.
Q.—In spite of the figure of realisation being lesser?
A.—Yes: that is no good mathematics, that is my experience.
Q.—Your experience is different from Arithmetic. If you kindly turn to paragraph 9, "As an alternative to closing down the work completely, it might be possible to modify it by reducing the area to be reclaimed either permanently or by postponing part of the reclamation to a later date". Do you still stick to the same opinion?
A.—This is drafted by the Chairman. I signed it and I stated there distinctly "seen" meaning only seen.
Q.—That means you don’t agree with those conclusions?
A.—I might have or might not have agreed fully.
Q.—Is it not a fact that when a report is being signed and if you are not in agreement with the views expressed therein, you put in a minute of dissent?
A.—Not necessarily; if you say "seen" it means dissent.
Q.—Is that the practice followed?
A.—That is followed in the Municipality.
Q.—Nearly 20 years since, is that the rule?
A.—That is the usual practice.
Q.—Then you don’t agree with the conclusions of this report in toto?
A.—No.

Q.—In what material particulars do you differ from the conclusions arrived at in that report?
A.—It has been stated that Nos. 3, 4, 5, 6 and 7 blocks should also be taken. I said “No”:
first finish up 1, 2 and 8.

Q.—That is your view?
A.—Yes.

Q.—Your view is that you should complete blocks 1, 2 and 8?
A.—That has first to be done. That does not mean that we should leave off others completely.

Q.—This is not stated in the report?
A.—No.

Q.—If you will kindly turn to page 4, paragraph 10, you go further and say “It would appear, therefore, that the Back Bay Reclamation Scheme, having reached the stage it now has, should be proceeded with unless it can be established that there are serious grounds for believing that the scheme is unsound from an engineering point of view . . . . . . .” How do you know whether it is sound or unsound from an engineering point of view?
A.—I consider it sound from a commonsense point of view.

Q.—In the Interim Report of the Advisory Committee for 1924, you say, “It would appear, therefore, that the Back Bay Reclamation Scheme, having reached the stage it now has, should be proceeded with unless it can be established that there are serious grounds for believing that the scheme is unsound from an engineering point of view, or that it is likely to result in an ultimate financial loss greater than that which would be entailed by closing it down”. Now, Doctor, where did you get your engineer’s experience from?
A.—By being a member of several committees of the Corporation as well as by my connection with the Development Department and bodies like the Advisory Committee.

Q.—“Or that it is likely to result in an ultimate financial loss greater than that which would be entailed by closing it down”. Do you subscribe to that?
A.—Yes.

Q.—In paragraph 11, you say, “The actual cost (including interest) per square yard of net developed building area will be in the neighbourhood of Rs. 30”.
A.—Yes.

Q.—You base your calculation on the expectation of the land being reclaimed “net developed building area at a cost of Rs. 30”.
A.—That is the Chairman’s view.
Q.—Not your view?
A.—My view is that I have said “seen”.
Q.—You differ also here?
A.—Yes.

Q.—What is your idea of the cost?
A.—My idea is that the cost may be anything.
Q.—Even a thousand rupees a square yard would not matter?
A.—I mean it would fetch a higher price.

Q.—I know your views, Doctor, and now I shall ask you a few questions in connection with your answers given to our friends here. You said that in the reclaimed area the price to be realised would be about Rs. 100 and then you modified it by saying on an average between 50 to 65 rupees.
A.—Quite right.

Q.—Do you say that from any personal experience?
A.—Certain gentlemen asked me to get a large area of land at that rate.

Q.—What do you mean by “large area”?
A.—Several acres of land.

Q.—Out of 1,145 acres, how many?
A.—I think nearly about 100 acres.

Q.—To build a Fire Temple?
A.—He wanted to put it up on the style of Framjee Cowasji’s.

Q.—That won’t require so much! Do you know how many square yards 100 acres mean?
A.—There are some orthodox people who don’t mind their money in the matter of building a temple for every acre of land there are 4,840 Sq. yards of land.

Q.—In reply to Sir M. Visvesvaraya you said that you knew very well that Rs. 1,150 was realised at booming time?
A.—Yes.
Q.—Do you think you can realise to-day anything like that?
A.—Unfortunately the very people who offered it realise that the price has gone down.

Q.—Do you think that there is anybody living who would come forward for Rs. 1,150 per square yard in any part of the City of Bombay?
A.—I cannot dogmatise it.

Q.—Anybody to pay Rs. 900 a square yard?
A.—I think it would be doing a job really speaking.

Q.—Where did you get that experience from?
A.—From my personal experience, of course.

Q.—Is that for the business area or residential area?
A.—Both.

Q.—You will get Rs. 900 for residential area?
A.—Residential area plus business area.

Q.—Do you know that within a few yards of the business locality the price of land is not maintained at the same figure. For instance, the price of land in Hornby Road or Esplanade Road is not the same as in Pitha Road.
A.—You are not aware that Rs. 1,100 is offered on the Hornby Road. If the Hornby Road is opened up I think it will fetch a very high price.

Q.—What do you mean by high price, Rs. 1,100?
A.—Rs. 700 and something more.

Q.—You were a member of the Municipal Corporation when the Hornby-Ballard Estate Scheme was drawn up. Do you know what was offered for the acquisition of the Ballard property?
A.—They offered because they wanted to be cheese-sparing. Later on they paid under a Court’s Decree so far as I know about Rs. 900 odd.

Q.—Per square yard?
A.—Per square yard in Hornby Road near Sir Dinshaw Petit House.
Q.—I am talking about the Hornby-Ballard Scheme.
A.—Just in the background, what is called the Pitha Street, they have paid Rs. 900.
Q.—Because they acquired it in the front?
A.—No, no, this is in the back.
Q.—Who awarded that?
A.—I think the Development Department or the Municipality.

Q.—You are under an impression that if any property is put up for sale it would fetch Rs. 700?
A.—Particularly, on that spot.
Q.—If you go 50 yards further up?
A.—I cannot say that.
Q.—What would you get within a distance of 50 yards from there?
A.—No less than about Rs. 800 to 900.
Q.—In Pitha Street?
A.—Yes.
Q.—If you hold any building or land at that position?
A.—Yes.
Q.—Do you know of any instance recently?
A.—No, there was a property which was worth only Rs. 8,000. It has been sold for Rs. 60,000 very recently.
Q.—So you consider that on the reclaimed area within a few yards of the business locality the probability is that you might realise about Rs. 700 a square yard?
A.—That is my conviction.
Q.—And it is based on that conviction that you have recommended the completion of the scheme?
A.—Yes.

Chairman.—Generally, I understand you to say throughout the whole of the reclaimed area you think an average of Rs. 50 to 65 would be obtained?
A.—That is my view.

Sir M. Visvesvaraya.—What is the value of land at present to the west of the Hornby Road and to the east?
A.—To the east it comes to Rs. 200 to 500, in the west it comes to Rs. 900 to 1,100.
Q.—You can’t get land at less than that?
A.—No.
Mr. W. Speirs, Assistant Dredging Master

Sir Frederick Hopkinson.—What is your full name?
A.—William Speirs.
Q.—What is your position?
A.—Assistant Dredging Master.
Q.—When appointed?
A.—February 1924.
Q.—What dredger are you employed upon?
A.—“Sir George Lloyd”.
Q.—The whole time?
A.—Yes, Sir, since 1924.
Q.—What has been your past experience of dredging?
A.—None at all.
Q.—Are you keenly interested in dredging?
A.—Yes, Sir.
Q.—Your father is an old dredging master?
A.—Yes.
Q.—Who is associated with you?
A.—Mr. Merritt.
Q.—You take alternate shifts?
A.—Yes, Sir.
Q.—You are working, how long? 17 hours a day?
A.—16½ hours.
Q.—The dredger stops for meal time?
A.—Yes, ½ of an hour.
Q.—Don’t you think it a luxury?
A.—No, Sir.
Q.—A very powerful and expensive machinery to stop for meals? Don’t you think it should work right through?
A.—Yes.
Q.—Do you see any objection to its working for 24 hours?
A.—No, Sir. It can be worked in two shifts of 12 hours each.
Q.—After all it is not a life-time sentence, it is only 6 or 7 months in the year that it is working. Can you tell us why the output of the dredger has been so low?
A.—There was no material.
Q.—What do you mean by that?
A.—No material below the ship, we have no ‘face’.
Q.—What was the depth of your face?
A.—Sometimes 25 feet, sometimes 15 feet.
Q.—But 25 is a good deal?
A.—But sometimes the material is very soft.
Q.—Can you tell me what particular areas you have been dredging on?
A.—I was working outside Colaba, in the inside and outside the Oyster Rock.
Q.—You have been working on the dredger since 1924?
A.—Yes.
Q.—Taking your memory back to November 1924, can you tell me on the plan where you were dredging?
A.—Inside the Oyster Rock.
Q.—That would be block K. Were you also working in block G?
A.—Yes.
Q.—What sort of material was it?
A.—Partly clay.
Q.—This plan shows that there was no clay in any of the blocks?
A.—There was blue clay.
Q.—Covered with mud?
A.—Covered with 10 feet of mud.
Q. — According to this plan there is more mud than clay?
A. — There was not much on the shallow ground.

Q. — Was that a fairly even surface?
A. — No.

Q. — What caused it to be uneven?
A. — It was very uneven.

Q. — Was clay sticking right up to soft material?
A. — No, all mud was on top.

Q. — Can you give me any idea of the comparative quantities of clay and mud in those two blocks?
A. — I cannot say.

Q. — Did you notice any particular difference in that material?
A. — Yes, the clay was very tough.

Q. — Before you got to this clay, you were on to this so-called silt which is really little better than liquid mud?
A. — Yes. It is practically liquid dirty water.

Q. — Did you have any one on board the "Colaba" testing the percentage of mud?
A. — I do not think so.

Q. — Do you take any on board?
A. — No.

Q. — Nobody suggested that you should test the material as it went through the pump?
A. — No.

Q. — You simply turned on steam and trusted to Providence?
A. — Yes.

Q. — Let us come to second year. Can you tell me where you were pumping in the second year?
A. — It was outside the Oyster Rock.

Q. — That is in blocks J and H. In block J there is as much clay as mud but in block H there is about 75 per cent. of clay and about 25 per cent. of mud. Did you notice any difference in the working in the second season?
A. — It was just the same.

Q. — In the third year where you were working?
A. — Close up the oyster rock, that is block H.

Q. — Did you get the same results here?
A. — Yes.

Q. — But the records of reclamation appear to show that you have done very much better work than in either of the other two seasons?
A. — Yes, it was better material and there was more clay.

Q. — Did the cutter have any difficulty in cutting the clay?
A. — When she was at the bottom of the hard stuff.

Q. — Can you say if it was moorum?
A. — That was very hard; I cannot say.

Q. — Did the cutter ever pull up?
A. — Yes at the bottom.

Q. — Where do you intend to work next season?
A. — Up against the oyster rock again.

Q. — What depth have you dredged over the sections K and J?
A. — About 35 feet but we had gone down to 65 ft.

Q. — When?
A. — In the second season over H.

Q. — In the first season?
A. — We were dredging 70 feet.

Q. — Did you notice any difference in the dredging when you were dredging 70 feet or 65 feet?
A. — It was better at 70 feet.

Q. — Is it a fact that harder the work, the better she would pull?
A. — Yes.

Q. — Did you ever feel that "Colaba" is not working fast enough?
A. — She has, I believe, identical pumping engine.

Q. — She has never caused you any difficulty?
A. — No.

Q. — You have been dredging comparatively at a short distance from the Colaba?
A. — Yes.
Q. — Had you much trouble with your floating pipe?
A. — Yes.

Q. — What was the cause of it?
A. — Swells and winds.

Q. — That is the natural thing. You cannot stop swells. Did anything else cause you trouble with the floating pipe?
A. — Yes, the joints were breaking.

Q. — Did you lose much time on account of that?
A. — No.

Q. — Can you tell me if there is any difference between the pumping engines when you are pumping in liquid mud and when you are clearing the pipes?
A. — No, Sir. I cannot say.

Q. — So that you can only tell that the engines were working all the time?
A. — Yes.

Q. — Have you seen Sir George Buchanan on Board?
A. — Only once.

Q. — During all the time he has been here?
A. — Yes.

Q. — Did he say anything to you about dredging?
A. — No.

Q. — He never discussed it with you?
A. — No.

Q. — Did you ever hear on board if Sir George Buchanan made any complaints about the way in which the dredger was handled?
A. — No.

Q. — Did you ever hear that he was satisfied?
A. — No; I cannot say.

Q. — You heard nothing about it?
A. — No.

Q. — He never came and raised a storm that you were doing less than the machine was designed to do?
A. — No.

Q. — Do you know if he ever said to anybody else?
A. — I do not know.

Q. — Have you plenty of power in the engines?
A. — Yes.

Q. — So that if you require you can get plenty of power?
A. — Yes.

Q. — Did you ever thought of the feasibility of increasing the speed of the cutter?
A. — That is for the engineer.

Q. — Are there no fixed number of revolutions given in the instructions issued with the dredger or the rate it is to work at?
A. — I do not know.

Q. — Do you know the reason for the poor output?
A. — That depends on the material you are dredging.

Q. — If you had more clay you would have been better off?
A. — Yes.

Q. — Is this a correct summary of what you say, that the low output is more likely to be due to the lightness of the mud than the hardness of the clay?
A. — Yes.

Q. — Does that express your view? If you had more clay you would be far better off?
A. — Yes.

Q. — Do you feel any doubt about it?
A. — No.

Q. — You have been on board the dredger for a long time when she has been dredging. Can you suggest any improvement to be made to her?
A. — No; I cannot say.

Q. — Has she worked during the whole period with great steadiness?
A. — Yes.

Q. — How would you describe to anybody else what sort of dredger have you?
A. — I have got a very fine dredger.
Q.—You cannot suggest any improvement?
A.—No.

Sir M. Visvesvaraya.—The failure of the dredger to give you the required output is the insufficiency of the depth of clay?
A.—Yes.

Q.—Would it work better if there were sand instead of clay or mud?
A.—It would be just the same, I do not think it would make any difference.

Q.—With mud it would not work so well?
A.—She does not work with very soft mud.

Q.—What observations do you take daily and what records do you keep?
A.—We only keep dredging hours.

Q.—Does anybody take soundings?
A.—Yes, the surveyor does it.

Q.—Does he take soundings every day?
A.—Yes.

Q.—Do you take soundings continuously day to day for a week or ten days?
A.—The Surveyor comes daily, once a day.

Q.—He takes soundings only for the work done during that day?
A.—Yes.

Q.—And not for the week or season?
A.—He continues it daily throughout the season.

Q.—You do not take a correct average?
A.—Yes, he does it.

Q.—Do you measure the quantity excavated by taking soundings in the material dredged?
A.—Yes.

Q.—How do you measure the output through the pipe?
A.—The Surveyor takes measurement of the output.

Q.—Is there any other man employed for testing the output by allowing the liquid to lie for a couple of hours and then measure the mud?
A.—I have nothing to do with that.

Q.—So you have no means of knowing the actual output?
A.—No.

Q.—It is all left to chance?
A.—Yes.

Q.—You do not know the percentage of solid material dredged and discharged from day to day?
A.—Yes, when the Surveyor comes he gives us the results.

Q.—Do you watch the results?
A.—Sometimes we do.

Q.—Do you know the quantity that you dredged last year?
A.—No.

Q.—You think that the dredger is efficient in every way?
A.—Yes.

Q.—But it does not give the required output and the only reason you give is the insufficiency of the depth of clay?
A.—Yes.

Q.—I suppose you have plenty of power?
A.—Yes.

Q.—Is there more power than you need?
A.—No.

Q.—Are the cutter blades very strong?
A.—Yes.

Q.—Supposing you made the blades stronger and you increased the power of the engine do you think you could increase the output of the dredger?
A.—No, I do not think so.

Q.—Have you ever worked with "Kalu" and "Colaba" together?
A.—I am on "Sir George Lloyd".

Q.—You pump into "Colaba" but you have never worked with "Kalu"?
A.—No. "Sir George Lloyd" is with "Colaba".

Q.—Do you expect any difficulty in working three shifts?
A.—No.
Q.—Do you live on shore or on the boat?
A.—I live on the boat.
Q.—How many people live on board the boat?
A.—The whole of the dredging staff.

Q.—You do not go into the cost of dredging?
A.—No.
Q.—You do not know how much you are spending?
A.—That is for other people.
Q.—For what period did you get bonus?
A.—Once for March only.
Q.—If your men are given bonus, do you think they will be able to increase the output considerably?
A.—No.
Q.—But it has been suggested?
A.—Yes.
Q.—What percentage do you expect next year? You have done last season better than the previous?
A.—I cannot say.

(This concluded the evidence of Mr. Speirs.)

20th Witness

Mr. S. R. Merrett, Assistant Dredging Master, "Sir George Lloyd."

Sir Frederick Hopkinson.—What is your full name?
Mr. Merrett.—Sydney Edward Merrett.
Q.—You are Assistant Dredging Master, "Sir George Lloyd"?
A.—Yes.
Q.—How long have you been on "Sir George Lloyd"?
A.—Seven months.
Q.—What previous experience have you?
A.—I was five years with the Soudan North-Eastern Railway at Hull, as Dredging Master.
Q.—What sort of dredgers had you to deal with?
A.—Both bucket and suction dredgers. The bucket dredgers, 2, 3, 4 and 5, 3 and 5 being the double ladder type, 2 and 5 single ladder type. Then to the larger bucket dredgers "Lord Goicey" and "David Dale". Afterwards the 18 inch suction dredger "Brindley" double pumps in parallel.
Q.—Outside the King George Dock it was mostly heavy silt and sand very fine at that?
A.—Yes, Sir.
Q.—Do you know what percentage you get there?
A.—Take for instance Salt end. There we got 1,600 tons in three hours. We used to fill that with solid material you could walk over.
Q.—You know exactly how much you pumped?
A.—No, Sir.
Q.—You must lose 25 per cent. of what you pumped. You know what percentage you actually pumped?
A.—I should say we lost 25 per cent.
Q.—How much do you think you pumped altogether? What percentage of sand was it to the water?
A.—I think 10 to 12 per cent.
Q.—Did you take tests with a tube?
A.—Yes.
Q.—How often?
A.—Every load, six times a day.
Q.—About the King George dock there was more silt? Was that near the entrance to the docks?
A.—Yes, Sir, both east and west jetty.
Q.—Can you tell us what percentage of that stuff you got?
A.—It was slightly more.
Q.—The mud was so soft that it was really more like dirty water?
A.—No, like treacle.
Q.—How long did you take to fill your hopper?
A.—Half an hour. And the percentage in the hopper used to run up to 65 per cent. solid material.
Q.—How did that silt compare with the soft stuff that you have here?
A.—I think pretty well the same.
Q.—Have you heard the evidence given by Mr. Speirs. Do you agree with what he said or do you disagree with it?
A.—No, Sir.
Q.—Are you satisfied that he has given a fair representation of the difficulties and trials?
A.—I do not think he has half told you what the difficulties are.
Q.—How does the "Sir George Lloyd" compare as a dredger with other machines you have had control of?
A.—I think she is the latest, best, and the most modern dredger. As far as I can see it is the best in the world.
Q.—Have you any criticisms to make about her construction?
A.—No, Sir, I am quite satisfied.
Q.—I was asking you about the mud at the dock entrance. You said it came out like treacle.
A.—It comes out a quarter instead of full bore.
Q.—But you used to fill the boat in half an hour?
A.—Yes.
Q.—If you had that kind of mud here it would probably choke your delivery pipe?
A.—You could not use that material because to send it along the pipe line you want a thinner stuff.
Q.—Do you see any objection to working 24 hours a day?
A.—No, there is no difficulty.
Q.—Supposing a special effort is required. The first thing to decide would be to work twenty-four hours?
A.—Yes, Sir.
Sir M. Visvesvaraya.—You were getting 10 to 12 per cent. material out of the total quantity of water and water it pumped?
A.—Yes.
Q.—How much do you get here?
A.—Here too it is 10 to 12 per cent.
Q.—How have you measured it?
A.—I am given to understand that an average is from 1,200 to 1,800 per hour.
Q.—When did you join?
A.—January of this year.
Q.—When you work at the depth of seventy feet, does the pipe run full bore?
A.—It should do.
Q.—Have you noticed it or does the capacity fail?
A.—She works best between fifty and seventy.
Q.—What records and measurements do you keep on this boat?
A.—None whatever.
Q.—You were keeping them at Hull?
A.—Absolutely.
Q.—Why don't you do that here?
A.—I am very small here.
Q.—If they ask you, you will do it?
A.—Do anything to help the work.
Q.—In what respects does the dredging here differ from the work there as regards records?
A.—One is run by a private company and they want their pound of flesh. If you do not turn over the percentage, you have to make room for some one else.
Q.—Do they measure the silt?
A.—That is done by a surveyor here. Figures are not available to us.
Q.—Do you think the engine is of sufficient capacity to work the cutter here?
A.—Yes.
Q.—And is the cutter strong enough?
A.—Yes.
Q.—What is the reason for the short output?
A.—That I could not say. I have done my best. I do not think it is the dredger's fault.

5 I want a certain fixed depth of material. Manoeuvring takes a lot of time. It is due to the conditions of the harbour which do not exist at Hull.

Mr. Billimoria.—Was the dredger mishandled in any way?
A.—None whatever.
Q.—Is the staff inefficient?
A.—Far from it.
Q.—There is nothing wrong with the dredger itself. The reason you attribute for the smaller output is due to the material?
A.—And the local conditions.

Q.—Have you noticed any difference in the working of the dredger when you have been cutting clay and when you have been pumping mud?
A.—In the mud you will get better results. In the mud you naturally bury suction head about twelve feet below gauge level. But you cannot do that in clay.
Q.—The first cut you take is twelve feet below gauge level?
A.—Yes.
Q.—Then the next one is four?
A.—The first twelve feet cut takes off all the mud, then I take four feet, three feet, and then two feet.
Q.—Obviously if you are taking two feet, unless your cutter is running pretty fast, you are bound to get less material?
A.—Yes.
Q.—So that you have got your eye on the vacuum gauge and you increase the speed?
A.—Yes.
The Committee assembled at 11 a.m. on Tuesday the 17th August 1926, the Chairman and all Members being present.

Mr. Elgee, Chief Engineer, was called in and examined again.

Sir F. Hopkins:—I have received from you I think—those are not signed—two statements giving unit prices.

A.—Yes.
Q.—Is this costs for last year or estimates for the future?
A.—These are estimates for the future.
Q.—There is nothing whatever to show that on this list. If I had not asked you that question, I would not have known it. Will you have this written out again and describe them and have them signed, please?
A.—Yes.
Q.—If they are your estimates for next year will you so head the document?
A.—Yes.
Q.—I notice an the dredged filling there is a great discrepancy between your estimate for shrinkage and the Neilson Committee’s. They say 40 per cent., you say 15 per cent.?
A.—The difference is, they allow 40 per cent. on the material deposited in the area.
Q.—That is to say, they measure the total deposited in the area and then deduct from that 40 per cent. You on the contrary deduct 15 per cent. from the quantity that has been dredged as measured by soundings?
A.—Quite so.
Q.—Supposing you dredge 100, you call that 85. Theirs has no basis at all?
A.—I have got a comparison here, Sir.
Q.—They assume something, and from that assumption they deduct 40 per cent.
A.—That is so.
Q.—How do they get this assumption?
A.—I cannot tell you, Sir.
Q.—It does not seem to me to have any meaning at all. Do you think it has? Can you understand it?
A.—I should say it was guess work entirely.
Q.—But there is no foundation even for a guess. As a figure it is quite useless to me, because it says that this dredged material is going to make so much filling, and from that filling we deduct 40 per cent. But where do they get the quantity of filling from?
A.—They have measured the filling from sections taken from the area, in one case immediately after the dredging had ceased, and in another case within a few weeks.
Q.—Did they take many sections?
A.—They checked the sections that were taken by my staff.
Q.—You took I presume at the end of the working season?
A.—Yes.
Q.—That dredging material may have been 6 months there. Some of it may have been there for a week?
A.—Yes.
Q.—And so there is no basis at all?
A.—I do not think so. That is why I do not take any consideration of those quantities.
Q.—In the case of Back Bay dredging you deduct 5 per cent. shrinkage?
A.—Yes, Sir. Because the clay is in a very much larger proportion than it is in the south end from the harbour, and there is a much larger proportion of sand.
Q.—If there any sand in the harbour dredging? Is there ‘001 per cent.?
A.—There is very fine sand indeed and a very small proportion not worth mentioning.
Q.—There is practically no mud in the Back Bay dredging?
A.—Very little.
Q.—So little that you can ignore it?
A.—Yes.
Q.—Will you at the same time give a section of the parapet?
A.—Yes.
Q.—These prices for the storm water drains I presume are the prices you would use for the purpose of making your total estimate?
A.—Yes.
Q.—Do these cover superintendence and fixed charges?
A.—Yes.
Q.—These are the prices which, if you were taking a contract, would appear in the schedule?
A.—That is so, Sir, except establishment charges.
Q.—What do establishment charges cover?
A.—They cover the office staff and the Deputy Chief Engineers and the Assistant Engineers.
Q.—I thought these were included in superintendence?
A.—That includes subordinate staff. All the superior officers are included in this.
Q.—In the second page you give us costs of cement, sand, rubble, etc. Is not the first date 1928-29 wrong?
A.—I think that ought to be 1922-28.
Q.—Are these the prices you have actually paid for cement?
A.—Those are the prices we have been charged by the Department.
Q.—Does the Department make a profit out of you?
A.—I believe they do. Those are the prices we are charged. The cement is purchased by the Department for the whole of its requirements. It distributes the cement to us and charges us a certain price,
Q.—So that you are not a free agent in buying your own cement?
A.—No, Sir.
Q.—These prices may include establishment charges for the Directorate?
A.—Yes.
Q.—In fact they may include anything?
A.—They may.
Q.—Have you any idea how these compare with the market prices at any time?
A.—The market prices are much lower.
Q.—If you are carrying out the works separately your costs would have been lower?
A.—They would have been.
Q.—I take it the price of sand, Rs. 6-1-0 is the price delivered on the works?
A.—Yes.
Q.—With regard to the rubble and crushed stone you give us the costs at the quarry. What does that include?
A.—That includes the whole of the overhead charges at the quarry.
Q.—Will you give that on the note?
A.—Yes.
Q.—Fuel oil does not include duty. Will you put on what the duty is?
A.—We do not pay the duty.
Q.—You can find out?
A.—Yes.
Q.—This scheme ultimately pays duty, does not it, or are you exempt from duties?
A.—The Government of Bombay get a rebate. I am not quite sure what becomes of that.
Q.—Did you pay duty originally?
A.—No, Sir.
Q.—All materials and plant for this work are imported free of duty?
A.—Yes.
Q.—We have been told that the "Colaba" was laid up for 17 working days last year for the vibration?
A.—It was not 17 days. The "Sir George Lloyd" was delayed 17 days due to the "Colaba" being laid up. That was occasioned by the alterations in the pipe lines. The "Sir George Lloyd" was brought close to shore and the whole of the pipe line was disconnected as a consequence of the "Colaba" being laid up. It was 17 days' loss of time for the "Sir George Lloyd."
Q.—Can you tell me how long the "Colaba" was laid up?
A.—From the 12th November 1925 to the 24th March 1926.
Q.—And consequently during the whole of that time the "Lloyd" had to work alone?
A.—Yes.
Q.—How do you account for the "Lloyd" doing so much better work last season than in the previous season? She was doing "Colaba's" work as well as her own. The working period is 7 months. For more than half the time the "Lloyd" was working alone. Does not that rather point to the desirability of letting the "Colaba" alone for all time?
A.—No, Sir, without the "Colaba" the "Sir George Lloyd" would not be able to pump ashore from a long distance.
Q.—What distance was the "Lloyd" pumping alone?
A.—From 5,900 feet to 7,818 feet.

Q.—And at the same time your output was better than in the previous year when they were working together?
A.—When she was working 7,818 it was only 416 yards an hour. That is our measurement from the soundings in the harbour.

Q.—You know, Mr. Elgee, that the effort of a pump in driving water through a horizontal pipe is very very slight that nearly the whole of the work done in a pump is in lifting?
A.—Yes, I agree, in a short length of pipe. But in a long pipe the effort is proportionate to the length.

Q.—I have had some figures given me extracted from one of your log books. The pumping days of the "Lloyd" last year was 167?
A.—Yes, Sir. That is correct.

Q.—And the pumping days of the "Colaba," 66?
A.—Yes, of the "Colaba".

Q.—Has it ever occurred to you that you may be suffering from an air-lock on the "Colaba" in the suction pipe?
A.—I have thought so.

Q.—Then why not put in a hole there at once.

A.—I did not do that.

Q.—Do you know that a centrifugal pump is helpless when it gets in air in the suction pipe?
A.—Yes.

Q.—But you have not done anything to remedy it up to the present?
A.—No.

Q.—One of the Dredging Masters told us yesterday that the Dredger stopped for meal times. Do you not think that could be obviated?
A.—It could be, Sir. But they do the oiling round during the meal time.

Q.—The pumping engine is almost identical with the propelling engines, is it not?
A.—But there are winches and things require oiling.

Q.—I suggest to you that you ought to eliminate the loss due to stopping for meal hours?
A.—We can try that on the "Sir George Lloyd," but on the "Kalu" you have to stop at intervals. We have to rake out the grates, and clear the ashes out. They have to stop for that.

Q.—Why is it necessary to stop to clean the grater?
A.—Because of the accumulation of ash.

Q.—In the case of ocean going ship you do not stop for cleaning out the fires?
A.—There is not exactly the same coal and also the appliances are not the same on the "Kalu" as on an ocean going steamer.

Q.—Would it not pay you to make the appliances the same? You have got an extremely expensive dredger with an expensive outlay. Even moment of the time is valuable to you.
A.—I quite understand that.

Q.—I think you ought to make mechanical arrangement to get rid of your ashes. One of your engineers told us yesterday he lost 4 hours a day in cleaning out the pipe.
A.—That would be about 2 hours for each shift.

Q.—That is 25 per cent. of the time. Have you got the cross sections plotted for the harbour dredging?
A.—The sections you asked for the other day of Mr. Kidd's borings are being plotted.

Q.—Can you put on this map the site and particulars of your borings in the Back Bay?
A.—Yes, I can put them on.

Q.—And at the same time give some cross-sections?
A.—Yes.

Q.—In Sir George Buchanan's sections he shows on Plan No. 3056 a cross-section of the dredging in the harbour. There is cross-section No. 1 in the plan. Do you know how he got that?
A.—I cannot tell you, Sir.
Q.—Do you think it is plotted from Mr. Kidd’s borings? There is no such section
in Mr. Kidd’s papers. There are also cross-section No. 2 and No. 3. This cross-section
No. 1 shows that the material consists of from 8/4 to 7/8 of blue clay and very little
mud.
A.—Yes.
Q.—Again there is cross-section No. 2 in the middle of the dredging area. This
shows that the bulk of material is hard as distinguished from mud.
A.—Yes.
Q.—It shows a surface of mud, and then another line underneath, a surface of hard
bottom.
A.—Yes.
Q.—In it not clear from that that none of the borings went into the clay?
A.—This might mean there was a hard bottom of moorum and the overlying material
is mud.
Q.—That might be clay or that might be moorum. There is nothing on that cross-
section to show that the material to be dredged is clay at all?
A.—No, Sir.
Q.—It may be rock.
A.—It might be.
Q.—There is nothing to show that his boring went anywhere near the 70 feet?
A.—Nothing.
Q.—Now look at Section No. 3. It is identical with No. 2 and shows that the bulk
of the material to be dredged is seven-eighths at the least of hand material.
A.—Yes.
Q.—It is something other than mud, but does not say what it is?
A.—Yes. You have to dredge down to 70 feet.
Q.—If you do not get to 70 feet, you cannot get your 75 million yards?
A.—No.
Q.—Your section will show exactly what this line is described as?
A.—Yes.
Q.—Obviously from that section it was intended to get the whole of that hard bottom
material?
A.—Yes.
Q.—From those cross-sections as given by Sir George Buchanan is it not clear and
obvious that any one starting the work of dredging would have no idea of what he was
going to meet below that so-called hard bottom line?
A.—Yes, Sir, it is clear.
Q.—In Mr. Kidd’s report I notice he gives the area for dredging as 17,400 feet
by 9,000 feet, i.e., over 8 miles long and nearly 2 miles wide?
A.—Yes.
Q.—Have you ever contemplated dredging over that area?
A.—This is 12,000 feet here (measuring the plan with a divider).
Q.—Mr. Kidd has taken 5,400 feet from somewhere else. If he takes 17,400, he
is going quite outside the limits you have got on that plan?
A.—That is 12,000 feet long and 4,000 feet wide (measuring it again on the plan).
The Chairman.—In the correspondence with the Port Trust the Director put the
figures of 12,000 and 4,000 feet.
Sir Frederick Hopkinson.—Is there any plan of Mr. Kidd’s showing that area of
17,400 by 9,000?
A.—None that I am aware of.
Q.—Is it shown on the borings plan?
A.—It is outside the 12,000 feet area.
Q.—That plan of Mr. Kidd may show the length of 17,400 feet?
A.—Yes.
Q.—I should like to know which end of the dredging area?
A.—It is in this area (showing it on the plan).
Q.—Have we anything to show the area selected by Sir George Buchanan in 1919
for his dredging area?
A.—I think this plan here (showing the plan) shows the exact boundary that he
relied on.
Q.—Did he settle his boundary line?
A.—That is his boundary line (pointing to the plan).
Q.—That is the area which he decided that the dredgeable material was to comes from?
A.—Yes.
Q.—Where did the "Sir George Lloyd" first start work?
A.—She started in block K.
Q.—Did she finish that block?
A.—No, not in the first season. She was working in block K the whole of the first season.
Q.—The second season?
A.—She started work in block J for the second season.
Q.—How many blocks did she do in the second season?
A.—She did areas in blocks J and H.
Q.—Who is responsible for these quantities shown in the various blocks?
A.—Those were taken out by Mr. Lewis.
Q.—Were they taken out from Mr. Kidd’s cross sections?
A.—I believe so.
Q.—In fact you have no other information but those supplied by Mr. Kidd?
A.—That is all.
Q.—The totals given on this plan in the various blocks A to K amount to 86 million cubic yards?
A.—Yes.
Q.—The quantity the Port Trust prohibited you from dredging is 15½ million. That left you 20 millions?
A.—That is so.
Q.—That of course is not sufficient to complete the reclamation?
A.—No.
Q.—And it was ultimately decided that you should widen out here (showing in the map) by these four strips 250 feet wide and 1,000 feet long?
A.—Yes.
Q.—What is the material in those four strips? Did you take any borings?
A.—No.
Q.—You never had any dredging on them?
A.—I think we did some outside of this place. But it is not worth speaking of.
Q.—Out of the 35 millions there is according to this plan less than 1½ million of clay?
A.—Yes.
Q.—So that more than two-thirds of that material is mud?
A.—Yes.
Q.—The three sections made by Sir George Buchanan show that at least seven-eighths of the material is hard?
A.—Yes, and that is dredging up to 70 feet depth.
Q.—You notice that in block K it is all mud?
A.—Yes.
Q.—Also in block G it is all mud; block J is about 8 of clay and 4 of mud; block H is 8 of clay and 42 of mud; block F is all mud; block E is 2 of clay and 25 of mud?
A.—Yes.
Q.—So that over those areas for some time the material you will get will be practically all mud?
A.—Yes.
Q.—Does it not follow from that that nearly the whole of the area of reclamations is mud?
A.—I do not know that these quantities can be relied on. As a matter of fact some of the best material we have got is from block K, whereas this plan shows that there was no clay in block K.
Q.—You have not gone down to 70 feet?
A.—No.
Q.—What is your suggestion, is it that the boring is wrong?
A.—I think he must have gone into some of the faces having hard material.
Q.—There is no clay shown on those cross sections. It is only mud and then hard material which must be clay?
A.—Hard material may be moorum or rock or clay.
Q.—That comprises seven-ninths of the whole, and as the dredger was ordered and designed to dredge soft clay, where does it come?
A.—I do not know.

Q.—It is obvious that the hard bottom is clay?
A.—I think so.

Q.—We shall see better when we get the cross sections. Apparently in those sections of Sir George Buchanan the borings never went below the surface to what he calls the hard bottom. Therefore, if those borings are accurate, nobody knew what there was below that line?
A.—No.

Q.—Neither Mr. Kidd nor Sir George Buchanan?
A.—No.

Q.—The explanation of the difference between the 75 million yards as given by Mr. Kidd and the 35 millions shown on this plan appears to be the constitution of this area?
A.—Yes.

Q.—Is it possible that the small output of the dredger is due, not to the hardness of the clay, but to the softness of the mud? I want you to think over that very carefully?
A.—Yes, that is very probably so.

Q.—We have been told by all the Dredging Masters that the cutters have no difficulty in cutting the clay and they all agreed that they cut it well. But all carefully excepted the last 18 inches. Otherwise you agree?
A.—Yes.

Q.—The cutters on the "Sir George Lloyd" have never been worked to their full power?
A.—I think they have.

Q.—One of them told us that the horse power of the engine was 400 and that was never worked?
A.—I have seen on board that the cutter has stopped.

Q.—That is at the bottom, not in the upper part?
A.—Yes.

Q.—There is nothing to show that the cutter did not cut?
A.—No.

Q.—Would you give a correct description of the mud when once it has been dredged or broken up? Do you think it would be fairly correct to say that the kind of material as deposited in the reclamation area has been little more than dirty water: would that be a fair description?
A.—Yes, I think so.

Q.—And consequently the percentage of solid matter would be much smaller than in the case of sand or any other heavier material?
A.—Yes.

Q.—Had the mud been stiffer or been sand, do you think it probable that the "Sir George Lloyd" would have done 2,000 yards an hour?
A.—I believe so.

Q.—And that the whole difficulty has been due to the fact that the mud is so impalpable that it is impossible to get a reasonable percentage of solid matter for pumping in?
A.—I believe that is one of the reasons.

Q.—Sir George Buchanan in his specification for a pump described the material as soft clay. Mr. Kidd in his report calls it stiff unctuous clay. Which description do you agree with?
A.—I think Kidd's description is probably the more correct.

Q.—Would you call it soft clay? Supposing you had come to investigate the matter and you had some of the material dredged out by a grab and you saw it came straight out of the face, would you call that soft clay?
A.—The term of soft is hard to describe, it is comparative. It is a case of taking borings, and I would go by the speed at which the boring is carried out and so on.

Q.—It is a very loose expression?
A.—Yes.

Q.—On the other hand Mr. Kidd's expression is one that I have never previously heard. Do you think you could possibly find a better description of this clay than the term "stiff and unctuous"?
A.—I think that is a fairly good description.

Q.—My question was, could you give me a better description?
A.—I do not think that I could.
Q.: I presume that you have no knowledge as to the reason why in the specification for the dredger the material to be dredged is described as soft clay?
A.: That I cannot say.

Q.: You think if it had in fact been softer clay than it is, the cutters would have done more?
A.: I think it is possible.

Q.: Do you think it probable?
A.: I would not like to say that it would be probable.

Q.: I have been very much struck by the unanimity of all the dredging masters in saying that the speed of the cutter has been regularly constant, that the cutter engines have never had any trouble at all in making the necessary number of revolutions. And so, had it been softer, could you have taken a deeper cut?
A.: Yes.

Q.: Why, where is the room? Won’t you take the maximum cut with the cutter?
A.: I should think that we get deeper if the material were softer.

Q.: My point is about the cutting. Would you take more in soft clay than in hard clay? Is there a limit beyond which you cannot go? A cutter is really a planing machine, and you cannot put one blade to cut 6 inches and then another for more than 6 inches?
A.: No.

Q.: Supposing you had been sent out in 1919 to investigate the scheme and prepare an estimate for a contractor. As has been stated, this is one of the largest pumping reclamation works in the world. Would you not have thought it prudent to take extensive samples of both the clay and the mud to submit to the people who are designing the pumps?
A.: Yes.

Q.: Would you think it an absolutely essential thing to do?
A.: Certainly.

Q.: If you had not done so, would you not be showing that you did not understand your work?
A.: Yes.

Q.: Do you know if that was done?
A.: That I cannot say.

The Chairman.:—There is no indication of any document that it ever was.

Sir Frederick Hopkins.—Do you not think that in fairness to the builders of this enormous dredger this information should have been supplied to them?
A.: Certainly.

Q.: Otherwise had they designed unsuitable machinery, their reputation would have suffered very greatly?
A.: That is so.

Q.: In making your estimate for the morrum filling, have you assumed that you would get your material at Kandivli?
A.: Not at Kandivli itself, but in the neighbourhood.

Q.: Within reach of the existing sidings?
A.: That is so.

Q.: Your estimate is a limited one for a limited quantity, and you don’t say that it is an estimate that can be applied for the whole work?
A.: No, Sir.

Q.: When it was decided to take “Kalu” into the Back Bay, was it explained to Sir George Buchanan that there was not water enough for her to float?
A.: I think he must have understood it, in any case from the charts.

Q.: Was not a suggestion made in one of his letters that you should hire a bucket dredger from the Port Trust to make her a berth?
A.: I think there was a suggestion either for a bucket dredger or a grab dredger.

Q.: Did you act on the suggestion?
A.: No.

Q.: Do you think for a moment the Port Trust would have allowed the bucket dredger to go there?
A.: I am certain they would not.

Q.: You think it would not be prudent to do so?
A.: No.
Q.—Did Sir George Buchanan ever suggest that this dredging for floatation purposes was essential? Did he suggest how it ought to be done?
A.—I think the first plan Sir Buchanan had in his mind was to dredge the channel from the outside, from the reef inwards.

Q.—What distance?
A.—Roughly I should say, within two miles.
Q.—And what is he going to do with the material?
A.—Going to deposit it ahead so as to pick it up later on. I think that was the idea.

Q.—But your suction is ahead of you; you could not deposit it ahead?
A.—We have a plan showing that the dredger in the channel was prepared to go in ahead.

Q.—Going in stern first?
A.—I do not know.

Q.—Would you let me see that plan?
A.—I can show you.
Q.—Was any estimate sent to you as to how long the two mile channel would take to dredge?
A.—The distance is on the plan. The dredging area (referring to the plan) would have been 6,000 ft.

Q.—About one mile long?
A.—Yes.
Q.—And you deposit the material in front?
A.—Yes.

Q.—So, Sir George Buchanan was kept fully advised of the progress of the works?
A.—He was.
Q.—Of all the difficulties met with?
A.—Yes.
Q.—Did you send any weekly reports?
A.—Yes.
Q.—Full details?
A.—Yes.

Q.—So that in London he ought to be able to understand a fortnight after the event exactly what had been done here and what you were going to do for the future?
A.—He had a special plan marked in squares, which were numbered, and we could refer to the particular number and the section in which the dredger was working at any time.

Q.—In the letter from Sir George Buchanan, dated 5th June 1924, he writes under the head "Kalu": "We adhere to our opinion that whatever the future decision respecting the cables in Back Bay, the 'Kalu' should begin work next season in the area north of the cables and coloured pink on our drawing No. 5496." (Is that the drawing you referred to showing the channel? If not let us have 5496) and in order that the work may be commenced by the 'Kalu' without an intermediate pumping station we recommend that the vessel be taken at high water to the nearest point to the new sea wall (see sketch attached). She would go to this position at high water and would then either dredge a hole for her own floatation or float in a hole previously prepared by the Priestman Grab Dredger. We have considered this matter very carefully and can see no difficulty, as when the 'Kalu' and 'Jinga' were working on the Sewri Reclamation, the first operation was to take the dredgers at high water and place them in a position where they had to dig their own floatation before they started work, and we understand the digging of the whole took about three tides ".

Is it a fact that the digging of a hole for the 'Kalu' by herself took nearly three months?
A.—The first season.

Q.—The whole of the first season?
A.—And then we did not get sufficient depth. We were in the position shown in the drawing.

Q.—Is it possible to compare the two operations, on the Sewri Reclamation and on the Back Bay?
A.—No.
Q.—They are entirely different?
A.—The materials are entirely different; because in Sewri Mazgaon you have got a very soft bottom. In the Back Bay the Kalu would meet with injury if she has not sufficient depth.
Q. — She would probably have been lost if she had landed at low water there?
A. — Yes.
Q. — Have you read Mr. Kidd’s report of 1912?
A. — Yes.
Q. — Does he not explicitly say there that the Back Bay had been thoroughly investigated as it seemed a most suitable place to get the material from for the reclamation, that it was quite impossible to get it owing to the nature of the material, rocks and pockets of soft material? I suppose you agree with that?
A. — Yes. Personally I would not have advised the ‘Kalu’ being put into the Back Bay at all on account of the shallow face.
Q. — Who decided that the ‘Kalu’ was to go there?
A. — Sir George Buchanan and Lewis.
Q. — Between them, or did the one propose it and the other agree to it?
A. — It was Mr. Lewis who proposed it at the first instance and Sir George Buchanan afterwards approved of it.
Q. — Did Mr. Lewis put up a complete statement showing the borings, the thickness of the dredging available?
A. — Yes; in one of his letters.
Q. — Did he put before Sir George Buchanan the physical conditions of Back Bay?
A. — Yes.
Q. — Notwithstanding that, he suggested that it should be done?
A. — That is so.
Q. — Sir George Buchanan would have that opinion presumably before he had agreed to its being done?
A. — Yes.
Q. — Turning to page 47, there is a letter dated 1st May 1922. He says in that letter ‘As regards boring in Back Bay, we have got fairly good results, but I am afraid the plant we improvised is not powerful enough to get through anything at all hard.’ What does he mean by ‘at all hard’? There would not be vast material there to come under that description?
A. — Yes.
Q. — Therefore it means no results at all?
A. — I think that referred to wash borings.
Q. — Then he says ‘For many small jobs, we shall require a grab dredger on a pontoon with a crane and it seems to me that we might get better results by grabbing out instead of trying to make wash borings’?
A. — Yes.
Q. — In the same letter he has told Sir George that wash boring is no good at all and ‘another alternative for boring naturally would be to get a small pontoon with spuds and on the pontoon convey a proper core drill.’ That is the alternative he suggests. This was in 1st May 1922, and presumably to do any good, the dredger ought to have started in November?
A. — Yes.
Q. — Would it have been possible to do that?
A. — Not before November of that year.
Q. — It was in November of that year they were proposing to start the work?
A. — Yes. The proposal was to start originally in the harbour in November 1922. I do not think there was any idea of Back Bay then.
Q. — This letter was in May 1922; it was really making a proposal to alter the whole scheme of doing the work?
A. — Yes.
Q. — The whole original scheme was to fill the Back Bay from the Harbour?
A. — Yes.
Q. — And can you give me any idea as to why in May 1922 they should want to abandon that scheme on which they spent nearly a million pounds? Do you know what is the reason for going to the Back Bay at all?
A. — As far as I understood it then, it was because they did not think there was sufficient material to be obtained from the harbour within a reasonable and economical distance.
Q. — But have you got enough on that plan? It is to get 50 millions there.
A. — That 20 millions was not sufficient for the whole.
Q. — You have got an extra width, you have got any quantity there without going any further away?
A. — If you have got the full quantity it would be unnecessary to have gone much further out to get the material, and also to get to the northern end it would have been almost impossible to pump material from the harbour.
Q.—This added strip is immediately on the other side of the blocks we have been talking about and is at no greater distance than the northern blocks?
A.—But they would not have filled the northern end, I think it would have been impossible to fill the northern end from anywhere else.

Q.—Impossible with the dredgers at your command?
A.—Yes, because it is very expensive to put pipe lines across the city.

Q.—Of course it would be a mad brained scheme to run a pipe line across the centre of Bombay?
A.—I think that was the reason; they wanted to obtain material for the blocks 1 and 2 from the nearest end.

Q.—It was not possible to fill blocks 1 and 2 from the dredging area in the harbour?
A.—That is so.

Q.—Therefore the scheme as a scheme absolutely broke down?
A.—Yes.

Q.—This dredging in the Back Bay is the only possible way of getting over something which they had not seen in 1919?
A.—That is so.

Q.—If you had got to dig the whole of that soft material it would mean you would be in constant dread of your cutter touching rock?
A.—Yes.

Q.—If indeed the thickness of the clay varied from 4 to 21 feet it would have meant that you would be in constant fear of running up against one of those 4 feet depths and rocks?
A.—Yes.

Q.—And with the probability of smashing the cutter?
A.—Yes.

Q.—And having smashed your cutter your vessel will be laid up for some months?
A.—Yes.

Q.—And therefore you consider it a highly risky thing to do?
A.—It is not so much now, now that we have a reasonable depth of face and depth of water.

Q.—But you cannot get over this 4 feet depth of harbour?
A.—That is in certain areas, but we know the areas where the vessel is working now.

Q.—And you are satisfied that you can work there?
A.—Work there with comparative safety.

Q.—9 to 10 feet in depth?
A.—Yes.

Q.—That is as much as you can get?
A.—We might get more in some places, but on an average it would be about 10 feet of material and we will have about 14 to 16 feet at low water.

Q.—This is a very important matter. They should have known in 1922 how much dredgable material there was.
A.—Yes.

Q.—But I see Mr. Lewis in his letter says that he has discussed this question with the Director and he suggested that he might perhaps carry out our investigations further with the aid of a suitable grab dredger or by using a core drill and by discussing this with you in London?
A.—Yes.

Q.—Is that the way to manage a large work of this kind and is it possible to carry on works on such lines satisfactorily?
A.—No.

Q.—Alternatively, he says core drill would give accurate information on any particular spot. What does that mean?
A.—He was referring to core drill.

Q.—You do not want rock drill?
A.—That was not necessary because it was no use there.
Q.-On the 22nd June 1921 (that is to say before anything was done here) Sir George Buchanan, in writing to Mr. Lewis, heads the paragraph "Possibilities of dredging material for reclamation from Back Bay", and says "We have always held the view that there is so much rock in Back Bay and in many cases near the surface, that it would be impracticable to use a suction cutter dredger on a large scale. You might get a considerable quantity of material in pockets by means of a grab dredger loading into barges, but it is probable that the cost would be heavy". I should like to interpellate here. Can you give me an idea as to why he uses the word "probable"?

A.-No.

Q.-What word you would use?

A.-"Certain" would be the word.

Q.-Then he says "Alternatively it is possible that a certain amount of material in the locality marked with on an enclosed plan No. 3297 might be made available by dredging with the 'Kalu' or even with the big dredger for reclamation of the northern area, and we certainly think will be worth while taking the borings to ascertain the position of the rocks; if you could reclaim a portion of the northern section by this means it would be much cheaper than by taking it from the harbour."

So that apparently, he was going to do it on the score of economy; not because he could do it from the harbour with the two dredgers that were provided. Is there anything in your experience to show that this is an economical way of filling as against taking it from the harbour.

A.-It is difficult if you attempt to get material from the harbour. The difficulty lies in the length of the pipe lines which would probably decrease the output from the harbour. Therefore the shorter distance to the Back Bay from the northern blocks would probably compensate for the difference in length from the harbour to the northern side.

(The examination of Mr. Elgee was continued at 12-30 noon on the 17th August 1926.)

Q.-In the same letter you go on to say, "I may say that we do not accept without more information Mr. Mitchell's very pessimistic view of the nature of the material we shall get from the Harbour as we hope there will be a great deal of hard clay that will require very little moorum topping." Who is Mr. Mitchell?

A.-Mr. Mitchell is an Analyst and carried out tests. He was with the firm of Stanger and Blount.

Q.-Do you think Mr. Mitchell can see further into this clay than you can?

A.-I do not know what Mr. Mitchell's opportunities had been or what his previous experience was.

Q.-The question is simple. Do you think he can see further into the clay than you can?

A.-No. ................

Q.-Do you think he can see into the clay?

A.-He has taken the specific gravity ......

Q.-That is only after he took the sample. He cannot tell? The only way is by taking borings. These borings were taken 6 or 5 years before and he says "there will be a great deal of hard clay." Didn't he know that there was going to be hard clay from Mr. Kidd's borings which he accepts?

A.-He ought to have known.

Q.—On the 7th of July, in the same year, Messrs. Meik and Buchanan reported about the sealing of moorum topping. That being so, Sir George Buchanan's project estimate dated September 1919 allowed for 1,919,000 cubic yards of moorum. That is the amount necessary to cover the whole area of reclamation one foot thick and also provide for some additional moorum on cross bunds and behind the mass concrete wall at Colaba. At that time, the dredging was all going to be done in 5 years and the whole scheme finished off at once?

A.-Yes.

Q.-That being so, they will have to put this one foot moorum on the top of dredged mud?

A.-Yes.

Q.-The whole of it would disappear after a few weeks into the mud. If you allow sufficient time this mud will dry out and carry the moorum?

A.-Yes.

Q.—In order to complete the works in 5 or 7 years you cannot wait till it is dried out?

A.—If you get one block filled and then leave it for a season to dry out, it will be possible then to cover it over with a foot of moorum. It would be progressing season by season, block by block.
Q.-Beginning at one end and finishing at the other?
A.-Yes.
Q.-In the same letter, they go on to say "until the nature of the dredged material is ascertained by actual experience, it is useless to attempt to estimate the total quantity of moorum required." Was not the nature of the dredged material ascertained by the borings?
A.-No. I could not; I don't rely on borings.
Q.-But in dredging to a depth of 20 feet of material you must reach clay?
A.-Yes.
Q.-Mr. Mitchell took tests. Could not he tell you all about it?—the nature of the material? Can't you test?
A.-With clay it is possible.
Q.-And with what it is not possible?
A.-With other materials.
Q.-Which other materials?
A.-With different kinds of earth.
Q.-There are only two kinds of earth, mud and clay?
A.-The washborings
Q.-I was not speaking of washborings, but of the hard core of it?
A.-You can.
Q.-That means that at this date in 1921 after the dredger was ordered it was useless to attempt to estimate the quantity of moorum required, because they didn't know the nature of the dredged material, is that so?
A.-That is stated so.
Q.-On page 2 of the Development Directorate's report for 1924 there is this paragraph. The material obtained proved to be of much better quality than had been anticipated, being a hard, heavy clay with sand. That is apparently in the Harbour because it is connected with the remark about "Sir George Lloyd." Would you spend, as a business man, over a million pounds in the purchase of dredging plants 4 years before you proved what kind of material you had to deal with? Does not this all boil down to the fact that when the dredger was ordered Sir George Buchanan knew no more of the nature of the materials in the Harbour than was given by Mr. Kidd's report?
A.-It does.
Q.-That no attempt had been made to prove or in any way to check Mr. Kidd's borings and soundings between the dates of the acceptance of Sir George Buchanan's estimate in 1919 and 1924?
A.-No, Sir.
Q.-There have been 5 years during which no attempt had been made to prove conclusively the nature of the material that had to be dredged?
A.-The dredging began in 1928. That proved the material.
Q.-I don't call that an attempt. There was nothing in the nature of borings?
A.-No, not in the Harbour.
Q.-I am speaking of the Harbour, because the Harbour was the potential area containing the whole of the material for making up the reclamations as far as was known in 1919 and the dredging from the Back Bay is a subsequent innovation?
A.-That is so.
Q.-I notice that Sir Alexander Gibb in his report states that the moorum cost compares favourably with the dredging. Do you know on what he based that remark?
A.-I think at the time that he made his report he was basing his dredging figure on the output of the season 1924-25 which was 19 annas a yard.
Q.-Can you tell me what the price of moorum was?
A.-I believe it was Rs. 8.
Q.-You don't call that favourable?
A.-I mean Rs. 8 a brass for moorum.
Q.-It has been proved by your own knowledge and by the other investigating committee that the cost is Rs. 1 57 per cubic yard.
A.-Per yard. But I don't know whether he mentions that figure in his report.
Q.-The expression he uses is "that the moorum cost compares favourably with the dredging"?
A.-I think afterwards when Government asked for further particulars after they had received his report, he gave the price as Rs. 8 a brass, which would be somewhere about 12 annas.
Q.—That being so, 1·57 is about 25 annas?
A.—Yes.

Q.—Do you know where he got this information from?
A.—I think he guessed it, because they didn’t think it was possible to get it done anywhere for that price.

Q.—Did he inquire from you at that time what your moorum was costing you?
A.—I believe he had that information.

Q.—I want to try and find out how he converted that information that his dredging cost 19 annas based on your first year’s experience, 1924-25 experience, and 25 annas for moorum, to say that moorum compares favourably with dredging. Do you think it is a misprint for “unfavourably”?
A.—No, Sir. He did not explain the figures exactly afterwards. That was verbally explained in the Secretariat. Mr. Cowasjee Jehangir asked Sir Alexander Gibb to come and have an interview to discuss his report, and Sir Alexander Gibb, Mr. Stileman and Mr. Bell, Secretary to the Development Department, and myself were present. One of the questions was how he arrived at the price of Rs. 8 a brass. He passed it off with the observation that he put in that price because he knew his report would be published and that it was likely to influence any contractors who tendered for block 2 and induce them to put in a very low figure for moorum.

Q.—Taking a long view in the interests of Government and not giving them the facts they wanted?
A.—That is so.

Q.—He was putting politics in front of business?
A.—You may put it that way.

Q.—I noticed when I was in the Marine Line ends the other day that the parapet seemed to be higher than the existing ground?
A.—It is not proposed to raise the ground level of the present area except for the Marine drive.

Q.—What is your definite programme for the next season? Have you got one?
A.—Yes, if the works are allowed to go on, my programme is for the Harbour dredging to start, filling into block 7. Before doing that we have got to seal the wall and also start the cross bund. In the matter of cross bunds, my proposal is to tip the bank in order to seal the storm-water drains. Probably 80 feet wide at the top we anticipate to start with and then fill up the block as far as we can with dredging and afterwards widen out the banks to a width of about 150 feet. The storm-water drain No. 2 is already completed. The preliminary work for next season would be to start at once sealing the wall and also making preparations for the cross bunds.

Q.—But you can’t do it without orders from Government?
A.—Yes.

Q.—Till then you are marking time?
A.—Yes.

Q.—What do you propose to do at the other end?
A.—I propose to continue the filling of a portion of block 1 by means of motor lorries.

Q.—What will that cost?
A.—We have got the contract at a low figure. It costs Rs. 2-2-6 a brass.

Q.—How much has he paid for the privilege of putting it in?
A.—Nothing. But he provides motor lorries.

Q.—What else?
A.—I propose to dredge from Back Bay with the “Kalu” at the beginning of the season, put her into the berth where she was dredging last season and as she works during the season we will have to bring the “Jinga” into commission, because the length of pipe line would be getting rather too long and I propose to work the whole of the season into block 1. Then there is the completion of the storm-water drain No. 7. We are doing that now, and will then carry on with storm-water drain No. 6 at block 2.

Q.—How long will it take...this season...two years?
A.—No, it will take about one season and a half of the following season.

Q.—There is no urgency to begin that storm water drain No. 6.
A.—No. 6 is rather difficult. We are going on with it because it is the deepest drain and we get the fewest tides to work on it.

Q.—The work for the coming seasons consists of dredging, moorum and going on with 2 storm-water drains?
A.—Yes.

Q.—Nothing else?
A.—Nothing else.
Q.—A comparatively simple, easy job?
A.—Yes.

Q.—Requiring nothing in the way of plant, except the dredging plant?
A.—And the wagons.

Q.—Have you had any instructions to make any investigation in the district of Kandivli to prove the existence of large quantity of moorum?
A.—We are at present making trial pits over an area which has been notified. Several hundred acres have been notified.

Q.—Notified for purchase?
A.—For purchase on certain terms.

Q.—For a hundred acres?
A.—More than that. I will get the exact amount.

Q.—Do you think the money would be well spent?
A.—Yes.

Q.—Assuming you get a good area will it give you 20 feet depth?
A.—That is doubtful because the machines we have at present are unsuited to do the work required.

Q.—Have you persons who know something about the modern excavating plants?
A.—Yes.

Q.—Don’t you think that with a clear face and a machine like that you will get an increased output of even harder material? Do you agree with me that you have not got the proper kind of machine?
A.—Yes.

Q.—And that the machines you have got are under the circumstances useless for the purpose?
A.—Yes.

Q.—The rock varies so much that it would be leaving either soft stuff in or require blasting which would be impracticable and too costly?
A.—Yes.

Q.—That the machines are totally unsuited to do the work required?
A.—Yes.

Q.—That the drag-line scraper will go down to a depth of 30 feet, 40 feet from the existing surface, and you can get all the soft material and that there is not much expenditure incurred?
A.—Yes.

Q.—You have given us the particulars of the estimated cost of the dredging for the next season. Before you finally finish I would like you to carefully consider the increased cost likely to be caused by the use of the “Jinga”, because you must remember that she is the sister ship to the “Kalu” and with the exception of the ladder and the manoeuvring she has as much to do as the “Kalu”.
A.—I made allowance for that because the cost of machinery will be very nearly double next year of what it has been last year.

Q.—Turning to page 129 (pamphlet entitled “Correspondence with Messrs. Meik and Buchanan re the execution of the works”) we find there a letter from Messrs. Meik and Buchanan about Back Bay in which they say, “We cannot say that we are surprised at the figures of quantity, as calculations made sometime ago in this office showed that at the present rate of progress the reclamation would be completed in 35 years”. Do you know if at this time the attention of the Government was called officially to this?
A.—I could not say that.

Q.—Do you think that Government ought to be informed that completion of the scheme was going to be delayed to that extent, i.e., about 5 to 8 times more than originally estimated?
A.—That does not come under my province. The Director would have known about that.
Q.—In July 1924 that letter would come to you?
A.—It came to me but the Director saw all the letters.
Q.—Did you call the Director's attention to it?
A.—I think the Director was aware of it.
Q.—Do you know if he informed the Government of it?
A.—I could not tell you.
Q.—Do you not think it is such a startling statement that the Government’s attention should be drawn to it immediately? Do you not think it is a very grave statement?
A.—It is, but then he is basing this letter on the one season’s output.
Q.—This is a letter dealing with the total quantity?
A.—That is at the end of first season’s dredging.
Q.—What did Sir George Buchanan subsequently do in consequence of that statement that the work was going to take 35 years, that is to say, when he came out in the following December, did he say anything about this statement?
A.—No, not about this particular statement. I think it was more in the nature of a remark that if we went on at that rate it would take 35 years. That was a hint at the end of first season that it was not satisfactory.
Q.—He goes on to say “we should, however, be very sorry to think that the pace will not be greatly accelerated during the next season of work and thereafter”. Did he ever say to you that if you do not get on faster it will take 35 years?
A.—He knew that we were doing all that we could do.
Q.—He gives one reason “waste of time and capital by working only single shift.” Were you only working single shifts?
A.—Yes, in the first season.
Q.—Who started working by single shift?
A.—Mr. Lewis.
Q.—Was it not essential in order to make proper use of this very valuable dredging plant to work 2 shifts?
A.—I do not remember the reason for this.
Q.—But surely before December 1923 all such questions about getting dredging masters had been solved when it was intended to work dredgers with double shifts.
A.—I was trying to remember the reason. Of course I have no personal knowledge.
Q.—Do you think there can be a satisfactory reason?
A.—I have an idea that it was due to the shortness of pipe line.
Q.—But you had all the pipe line you wanted?
A.—Not at the start of the first season.
Q.—The dredger arrived here 18 months before, did not somebody discover during this time how the dredger was to work?
A.—I think when Mr. Brims came out he first raised the question about the pipe line.
Q.—Did you not work out these preliminary things showing the dredger will work at such and such point and then assume the length of the pipe line?
A.—I think they had various proposals for working the dredgers.
Q.—Were there no definite instructions on the subject here as to what they were to do?
A.—I think instructions were given by Sir George Buchanan.
Q.—But pipes were not sufficient to carry out those instructions?
A.—That was the first season. I cannot tell you definitely because I know nothing about it.
Q.—Surely in ordering the pipe line you would first of all show on paper exactly how it is going to be used and how much will be required?
A.—There was not sufficient information in the first instance.
Q.—Before you are going to do a work of this kind would not you lay down the exact position the dredger is going to keep and the amount of pipes required to do the work?
A.—Yes.
Q.—And would not you provide in anticipation of your dredger starting work for the first season the required quantity?
A.—Yes.
Q.—There was no lack of time?
A.—No.
Q.—As far as I can make out, the dredger was lying here for 18 months and nothing was done about dredging as to how she was going to work, and when she started work in December 1923, she had no pipe line to work with?
A.—I think that is one reason, but I do not know definitely.
Q.—Can Mr. Brims tell us?
A.—Yes, he will be able to tell you. I am not sure about it as I had nothing to do
with dredger at that time. I think when Mr. Brims came out he brought up the question
of pipe line and he will be able to give you the real reason.

Q.—The "Colaba" did not work in the first season?
A.—No.

Q.—She really started work in December 1924 for the first time?
A.—Yes.

Q.—And the vibration started at once?
A.—Very soon after.

Q.—Here is a letter referring to it in December 1924, that is to say, vibration must
have begun as soon as she started work. Can you suggest what that vibration is caused
by? It must have been very very severe because Captain Phillips spoke of the funnels
working towards each other a distance of 6 inches?
A.—That was when he saw it.

Q.—What do you think it is caused by?
A.—I think it was due to some defect or structural weakness of the vessel.

Q.—Do you think it can possibly be caused by the uneven running of the engines?
A.—That was one of the facts.

Q.—If there was air in the suction pipe the engines would be working but would only
be able to get half their quantity of either water or mud and consequently they would be
running badly?
A.—I have been thinking it is due to uneven running because it was a more or less
steady vibration and in the first instance when it showed up it was at low water and then
gradually it became continuous right up to high water.

Q.—But it was first noticeable, as Sir Lawless Hopper said, at high water when it
had less to do?
A.—I think it showed up at low water.

Q.—In your letter to Messrs. Meik and Buchanan on the 20th of March 1925 you
definitely say that you do not consider that the length of discharge line has in any way
affected the output of the dredger. You have shown that when she was dredging at
7,800 feet the output was only 480 yards per hour.
A.—Yes.

Q.—Do you not think it had some effect on the output?
A.—Then on the other hand when she was working at other distances she was
getting much larger output.

Q.—The best output is when she is working at 6,970 feet, i.e., 1,488 yards and when
she is working at 7,279 feet, the output is 1,125 yards. Therefore this question of 480
yards might be merely an accident. That goes to show that the question of horizontal
length has very little importance.
A.—Yes.

Q.—It shows also that you have nothing to complain about the quantity of power?
A.—No.

Q.—We have had evidence from all the engineers and all the Dredging Masters who
have unanimously said that the dredgers are working at least better than any other they
know of. We have also got it on Sir George Buchanan's authority that the dredging
department have done all that is humanly possible. Therefore we have got a perfect
tool, everything that a human being can do, and yet are faced with the result that the tool
has not produced half its guaranteed output in soft clay?
A.—Yes.

Q.—That points to the fact that neither of these things can achieve the desired results
unless you have got the material present in sufficient quantity and is of suitable quality?
A.—Yes.

Q.—On page 2 of Sir George Buchanan’s memorandum speaking of 702 laca
estimate he says he protested strongly that it was excessive and would lead to extravagance.
A.—I think there might be some reference in the correspondence with Mr. Lewis
but I have no idea about it.

Chairman.—Are you not confusing Sir Frederick Hopkinson’s question more or less
with more material. He referred you to 702 laca estimate and he says do you know
whether Sir George Buchanan protested against this figure?
A.—First of all I think there was some correspondence about it because he did not
agree with it because he had not seen the revised estimate which had been submitted to
Government before he had seen it.
Q.—Do you know that on the 11th February 1922 he put his own signature to an estimate for 668 lacs?
A.—Yes.

Sir Frederick Hopkinson.—There was not very much difference between 668 and 702.

Can you tell me what material he had for making up that estimate of 668 lacs?
A.—He had investigated when out here the probable cost of the works.

Q.—Did he go into your cost?
A.—Not to my knowledge.

Q.—Surely he would have come to you if he wanted information?
A.—He might have gone to Mr. Lewis.

Q.—Do you know if he did it?
A.—I do not know.

Q.—Mr. Kidd’s estimate made in 1912 was a total of 825 lacs. Now if you deduct from that 59 lacs as the cost of the roads, etc., as estimated by the Public Works Department, it gives you 266 lacs that is the net cost of the reclamation. Sir George Buchanan’s estimate in 1919 was 867 lacs and if you deduct from that 75 lacs as the cost of the roads it gives you a net cost of 292 lacs. The difference between Mr. Kidd’s figure and Sir George Buchanan’s figure is almost exactly 10 per cent. Do you think that 10 per cent. represents the increased cost between 1912 and 1919?
A.—Decidedly not.

Q.—What do you think would be an approximate increase in cost between these two years?
A.—40 to 50 per cent.

Q.—I suggest to you that it would be 200 to 300 per cent. taking everything. Has not the labour gone up in England from 6 pence to 18 pence, that is 300 per cent. and has not cement gone up from 20 shillings to 80, that is about 400 per cent. Can you give me any idea why Sir George Buchanan imagined 10 per cent. on the 1912 estimate as representing the possible increased cost of the work?
A.—I cannot say.

Q.—Assuming that it was possible to do the work for 266 lacs in 1912, would it be possible to do it for 292 lacs in 1919?
A.—Impossible.

Q.—It looks as if the project estimate, announced in August 1921, is still lower than a comparison of the prices obtaining in 1912 and 1920 would give?
A.—No.

Q.—Do you think that prices nearly doubled themselves from 1914 to 1921?
A.—Yes.

Q.—The prices were gradually ascending from 1914 to 1919 and so 1919 was almost the top of the curve?
A.—Yes.

Q.—Therefore they could not have doubled themselves between 1919 and 1921?
A.—Not in these two years.

Q.—The actual prices being paid in 1919 were those nearly at the top of the curve. So generally speaking 1919 was nearly the top of the curve and therefore 1919 estimate should have been approximately the same as 1921 estimate?
A.—It should have been.

Q.—In Mr. Kidd’s Report he suggested, in fact, he stated, that all stone for the reclamation works could be got from the foreshore?
A.—Yes.

Q.—He ends up the statement by saying, "the quarry will enable an important economy to be effected in the cost of the works". Now Sir George Buchanan, when he came and reported in 1919, dismissed the whole thing in a phrase and said the only thing was a few loose boulders.
A.—Yes.

Q.—Now it occurred to me when I was round the first time there there were great possibilities of opening a quarry there and you could have got most of the stones required for the works.
A.—After taking trials down there to see what the quality of the stone was it might have been possible to do so, but till they take some steps to ascertain whether the rock was sufficient or not I do not think they could have come to any definite conclusion.

Q.—You of course do not know if Sir George Buchanan took any such steps before dismissing the thing?
A.—I do not know. Sir. I have never heard of it.
Q.—I would like to go through Sir George Buchanan's memorandum to the press. What is your present estimate for finishing the work, the one in existence when these papers were printed?

A.—That was 702 lakhs.

Q.—You do not think that is sufficient now?

A.—No, Sir.

Q.—Sir George Buchanan says that the figures for the estimated increase from 708 to 1,100 lakhs and the time for completion from 80 to 44 years are purely imaginary. He stated himself in his previous letter that at the rate they were going it may take 35 years. That would take it to about 1960. Further on he says that the Director of Development is the responsible administrative head of the Back Bay Scheme in Bombay. Is that not correct, is it? There is no administration of the Back Bay Scheme now. There is only the construction, is not that so?

A.—Well, the reclamation scheme comes in under the Development Department.

Q.—There is no administration of the scheme now. All you need is the construction?

A.—Yes.

Q.—And for that Sir George Buchanan was solely responsible?

A.—Yes.

Q.—Again at page 2 he says in the matter of selecting the area over which dredging operations should take place he had no responsibility whatsoever. Can you tell us who had?

A.—I cannot, Sir. If Sir George Buchanan had not, I do not know who else had.

Q.—No one else could have. He in fact was the man who should have selected the site, and he did select it?

A.—Yes, he did on his own drawings.

Q.—And he bound himself by his plans and estimates and agreement to carry out the work from that particular place?

A.—Yes.

Q.—Again on the next page he says that this restriction of area of 15½ million yards was particularly suitable material. Do you know what he means by it? Was it more suitable than any other material?

A.—I believe that according to his calculations there was a larger proportion of clay in comparison with the total quantity of material.

Q.—But that is the only reason?

A.—Yes.

Q.—And as a consequence of that the difficulty was overcome by arranging to obtain a certain amount of material from Back Bay itself. Mr. Kidd in his report had given attention to getting material from Back Bay and if suitable material could be obtained there it had great advantages over any other possible source because it was nearer?

A.—That is so.

Q.—But he goes on to say, "This was quickly disposed of as the conditions are a very irregular rock bottom containing pockets or thin layers of loose sand in insufficient quantity within practical distance, and—for a great part of the year—a heavy ground swell prevails which renders the working of dredgers dangerous, and frequently wholly impossible". Would you agree with that statement?

A.—Yes, if you take the whole area into consideration.

Q.—"Containing pockets or thin layers of loose sand"?

A.—There is other material besides sand.

Q.—It is confined in pockets?

A.—More or less in pockets. Some pockets are large.

Q.—"In insufficient quantity within practical distance". He speaks of the whole scheme of 26 million yards?

A.—Yes, for the whole scheme it would be impracticable.

Q.—After what we have heard this morning, viz., that the mud when stirred up with the pump becomes what is practically only dirty water, there is nothing whatever to prevent that going through the bottom of the reclamation bank?

A.—Not unless it is sealed as designed.

Q.—You soon saw you were losing material through the mound?

A.—Yes.

Q.—Did you actually see the material going through?

A.—Yes.

Q.—And of course you suggested that should be stopped and retained?

A.—Yes.
Q.—Sir George Buchanan objected to this?
A.—Yes.
Q.—He refused to have it done at that time?
A.—Yes.
Q.—And you and the Director of Development did it in spite of his objections?
A.—That is so.
Q.—Again at page 3 he says, "I assert most positively that there is nothing the matter with the dredger".
A.—I think that is true, Sir. So far as the dredger is concerned, as a machine.
Q.—Do you not think the "Colaba" is a luxury? Would it not have been better to have put a land station on the nearest point and pumped direct from the "Lloyd" to that station?
A.—I do not think there would have been material enough within reach. The land station would have had to be a fixture.
Q.—Could you not select more than one site, for as long as you did not go more than 5,000 or 7,000 feet away you can take all the material within that radius. Then if it became necessary afterwards you can take advantage of a monsoon and move on the land station to another point?
A.—It is pretty heavy work to move it during one monsoon.
Q.—After all it is moving only of an engine?
A.—You have got to make the foundations. The foundation would be a pretty big item.
Q.—You could get the foundation beforehand and the moving could be done in a monsoon.
A.—Actual moving could be done in a monsoon.
Q.—The "Colaba" cost altogether about 1/4 million?
A.—I think it was more than that.
Q.—A land station could probably be done for £50,000 or £60,000 or less?
A.—I could not say personally what the land station would cost.
Q.—There would be a considerable saving in putting up a land station?
A.—Yes, for one single station there would be.—
Q.—I noticed in their estimates they speak of if they thought of this because in the estimate of 1919 they do speak of a land station, don't they. They call it the shore pumping station. Does that mean a floating craft?
A.—I think he meant a floating craft.
Q.—You have seen Sir George Buchanan out here since you have been Chief Engineer.
A.—Yes, when he was out in the end of 1924.
Q.—Did he make any suggestions to you about altering the system of working the dredger in order to increase the output?
A.—No, Sir.
Q.—He further complains that "the Executive had neglected to blind the retaining wall and as fast as the material was pumped in it flowed out again through the interstices in the wall and was then returned into the upper portion of Back Bay on the flood tide, thus largely accounting for the wonderful natural siltation, in paragraph 19 of the sub-committee's report". Was there any "wonderful natural siltation"?
A.—Not I am aware of.
Q.—The material that comes in is sand?
A.—Yes.
Q.—Do you know what he means by this "wonderful natural siltation"? Do you know of any wonderful natural siltation?
A.—No, Sir.
Q.—As far as your levels show it is not there?
A.—No, Sir.
Q.—As I said before, he said, you, the executive, had neglected to blind the retaining wall. The facts are you wished to do it and he prohibited you from doing it.
A.—That is so, Sir.
Q.—He also goes on to say that "the Committee's figures are for one dredger working in the harbour, and takes no account of the large dredger which should now be working in Back Bay, and for the improvements in the general working of the dredgers, which we had said we were confident would be attained". Did he make any improvements in the working of the dredger?
A.—None at all.
Q.—He also accuses you (at page 4) of a lack of efficiency and economy. Has he ever complained to you personally about the lack of efficiency and economy?
A.—Never.

Q.—Has he ever written to you about that?
A.—No, Sir.

Q.—Not at any time?
A.—No, Sir.

Q.—On the 17th March 1922, Mr. Lewis wrote to Meik & Buchanan giving reasons why he wanted certain plant?
A.—Yes.

Q.—On the 11th April 1922, Meik & Buchanan wrote criticising this and suggesting that some of the things were not required?
A.—Yes.

Q.—On the 16th May 1922 he wrote another letter on the same terms saying that "We are still unconvinced that you require three of these machines at once, estimated to cost over £12,000, nor do we understand why you want 20 ton lifting power when the very heaviest of the protection blocks shown on our last drawing No. 3299, is only 15 tons". It was for Sir George Buchanan to say, "I do not think these are necessary and therefore I shall not supply them"?
A.—He could have done so.

Q.—If he had been in close touch with the work, surely he could say that without putting the responsibility on somebody here?
A.—I think so.

Q.—I saw in one letter he spoke of 8 to 7 ton being enough for all requirements?
A.—Yes.

Q.—But he says his drawings call for 15 ton stones. Are there any 15 ton stones in the reclamation bank?
A.—No, Sir.

Q.—What is the biggest?
A.—About 7 tons.

Q.—And there are a very few of those?
A.—Yes.

Q.—He further says, "For years I have been struggling against extravagance and inefficiency in this undertaking. I pointed out in February 1922 and further emphasised in April 1922, that no cost accounts were kept and that it was impossible to exercise economy without a proper system of cost accounting". Were no costs kept?
A.—I think that each Deputy Chief Engineer kept his own costs in his own way at that time. He had the costs worked on the Public Works Department system by the Audit Office.

Q.—Did your Deputy Chief Engineer keep his costs?
A.—I kept mine for my own section.

Q.—Did you keep your own costs at the Marine Lines?
A.—As far as I could I did.

Q.—You knew every month what it cost?
A.—Yes.

Q.—Did Sir George Buchanan have a copy of the costs?
A.—Once or twice he asked me for figures and I showed them.

Q.—But did he not ask them to have sent monthly?
A.—Not then.

Q.—How could he tell that the work was being done properly without those costs?
A.—He could not have.

Q.—Did Sir George Buchanan ever tell you that he asked for tenders to be sent in for completing the reclamation wall or a portion of it?
A.—He never told me, Sir.

Q.—Do you know if it was done?
A.—I believe they invited tenders for a length down at Coleba, 8,000 feet. I believe that 8,000 feet was for mass concrete wall.

Q.—What is the rest?
A.—Rubble and mass concrete.

Q.—Supposing that it had been built of large concrete blocks, would it have cost more or less than the mass concrete?
A.—That would have cost more, much more.
Q.—You would have had to keep heavy cranes?
A.—Yes, of course.

Q.—You think it would have been more expensive?
A.—Yes.

Q.—The plan showed that wall was to be built of large concrete blocks faced with stone, a much more expensive method than has been adopted?
A.—Yes.

Q.—A suggestion was made yesterday it was a possible way of completing the work would be to finish the reclamation wall, back it up with moorum, make a marine drive right round the whole of the reclamation and have inside a boating lake with shrubs all round and make it more or less the sort of thing you have in England in seaside places. Would there be any difficulty in doing that?
A.—No, I do not think there would be.

Q.—You could not leave the blocks 3, 4 and 5 as they are to-day. Something would have to be done to make it less of an eye-sore, to make it ornamental?
A.—Yes.

Q.—Would it not be a very expensive one?
A.—No.

Q.—Would it have this advantage that at any time when funds permitted or if so desired, reclamation could go on slowly from the shore with moorum filling and making up the full height as you went on?
A.—You will have to do it block by block, Sir, on account of the storm-water drains.

Q.—You take your storm-water drains in advance.
A.—Then you will have to shut your water out, because with inlets for letting the water in there has always to be a certain depth. Then it means a lot of difficulty in putting in your storm water drains.

Q.—Did you at all times before Sir George Buchanan severed his connection with the works look upon him as your chief?
A.—Yes.

Q.—He was the man you would apply to when in doubt or difficulty?
A.—That is so.

Q.—You would expect to receive all your drawings from him?
A.—In the ordinary course one would. But in this case we did not. We made our drawings and submitted them for his approval.

Q.—And the work was not done until he had approved of the drawings?
A.—Generally speaking.

Sir M. Visvesvaraya.—Did Sir George ever suggest to you or give you any idea that he was not the responsible Engineer?
A.—No, Sir.

Q.—Did he ever suggest that you should work 8 shifts on the dredger?
A.—No, Sir.

Q.—Did he in the first season complain about your working only in one shift?
A.—I could not tell you that, Sir. I do not know.

Q.—There is a carriage road along the whole length of the reclamation on this side, i.e., along the old sea shore?
A.—Yes.

Q.—It would cost very little to make it serviceable as a drive?
A.—I do not quite understand.

Q.—There is such a carriage road, but it has been derelict?
A.—No, Sir, I mean the Queen’s Road.

Q.—Has there not always been a drive right along?
A.—I do not think there was a drive. There has been a pathway and a ride.

Q.—Would it cost much to make a road for a drive along this side of the reclamation, i.e., along the old sea shore?
A.—No, I do not think it would be expensive.

Q.—Would not a ride be a very desirable thing for Bombay?
A.—I think it would.
Q.—Is it not greatly called for?
A.—Yes, judging by the complaints we had when we had to close a portion of the existing ones.
Q.—You remember you promised to collect some information for me on the day on which Sir Lawless Hepper was examined? May I know to what extent it has been collected?
A.—I have already sent some of them to the Secretary of the Committee. The others, which are statements, are being prepared.
Q.—I suppose the details of expenditure and cost of the dredgers have been collected under the directions of Sir Frederick Hopkinson?
A.—That is being done. That for the dredging plans has been completed now.
Q.—When will that be ready?
A.—It was nearly ready this morning.
Q.—All these will be signed by you I hope?
A.—I can sign them, they have been sent in through the Director.
Q.—I have to traverse some of the ground already gone over by Sir Frederick Hopkinson. The information you have ready at hand you may kindly give now and the others you can give me in a day or two. Recently in His Excellency the Governor's speech also it was mentioned that the prospects of the scheme had improved since the Advisory Committee made its report and you know that Sir Lawless Hepper also said the same thing, namely that the prospects had improved since the Advisory Committee made its second report. Can you tell me in what respects the prospects of the scheme have improved?
A.—In the output of the dredger.
Q.—I want exact figures. Last year you dredged about 1,800,000 cubic yards roughly. Is it not so?
A. 1,828,925 from the harbour and something from the Back Bay, viz., 372,925 cubic yards.
Q.—That means about 2,201,000 cubic yards?
A.—Yes.
Q.—From your experience of the last season by how much do you hope to increase the output in the coming season?
A.—I am allowing for the same output from the harbour, although I hope we shall be able to do better, for the reason that, although the last season was the best season we have had, it was not strictly a normal season in that the Sir George Lloyd was delayed for 17 days on account of the Colaba being out of commission. For the normal season, after allowing say 7 days of that for bad weather, that comes to 10 days extra working. But I am still adhering to the output of 16 lakhs as a normal output from the harbour.
Q.—What will be normal output in your opinion from the Back Bay?
A.—I estimate that we would probably get 760,000 yards.
Q.—So the two together will be 
A.—6¼ million yards.
Q.—Now if you increase the number of pumping hours by employing three shifts what do you expect?
A.—You get 8½ million yards from the harbour providing that we get the same output in each shift. But I think it will be found that the night shifts do not get as much.
Q.—But if you have a separate shift and put your best men on it
A.—You will get 50 per cent. greater output and that will mean 8½ million yards from the harbour.
Q.—About the Kalu what increase in output do you expect in the next season by improved working and what by increasing the shifts to three?
A.—I have allowed an output of 790,000 on the double shift as worked at present, that is, working 18 hours.
Q.—You can get a million and 60 thousand cubic yards by having three shifts?
A.—Yes, that is a very optimistic view.
Q.—Will you put the total output at 8½ millions only?
A.—Yes.
Q.—That you think will be an optimistic estimate?
A.—I think so.
Q.—What would be the estimate of which you can be quite sure?
A.—I should say about 8 million on the three shifts.
Q.—So the output may vary from 8 to 8½ million cubic yards for the coming year?
A.—Yes, that is on the three shifts.
Q.—There has been much blame thrown on Sir George Buchanan for an estimate of 387 lakhs. If he had made an estimate for 702 lakhs, would it not have been ridiculous on his part, if you can fill the Back Bay with moorum or earth without resorting to any scientific method at all? If you can calculate it now, you would find that for four crores or five you could easily fill it with earth. That being so, an estimate of 702 lakhs would be absurd on the face of it. The total quantity of filling is 28 million cubic yards?

A.—Yes.

Q.—Now you can get moorum filling at Rs. 1-8-0 per cubic yard?

A.—Yes.

Q.—If you arrange to get it in a very large quantity, you might be able to do it for much less, say at Rs. 1-4-0?

A.—Yes.

Q.—Assuming that it is Rs. 1-4-0 for 28 million cubic yards it will come to—?

A.—That is for consolidated material.

Q.—You will have to add another 10 per cent.?

A.—Yes and you will have to allow percentage for shrinkage.

Q.—If you brought moorum from outside, how much shrinkage will be necessary?

A.—I am reckoning 15 per cent. on the estimate. That is in excess of the quantity required for actual consolidated filling.

Q.—If you work out the figures at Rs. 1-4-0 for 28 million cubic yards it will be 850 lakhs. You may add 80 lakhs for the sea wall?

A.—Yes.

Q.—That will bring you to 490 lakhs?

A.—Yes.

Q.—In any case the cost of the filling would not be more than 5 crores. Do you admit that?

A.—Yes.

Q.—If that was so, surely Sir George Buchanan would not have submitted an estimate for 702 lakhs?

A.—But then you have to take into account the length of time required.

Q.—Probably you can do it sooner by moorum filling than by dredging? Here it only means running more trains?

A.—There is a limit to the number of trains that you can run.

Q.—You may get 8 trains a day. That would be 8,000 cubic yards a day. You may also get it from the Great Indian Peninsula Railway via Dadar. The other day we discussed about the possibility of getting 12,000 cubic yards a day. It is also possible to get material from Kalyan side and that will complete the work in about three years’ time?

A.—I do not say that it is impossible.

Q.—At any rate an estimate of 702 lakhs looked excessive and ridiculous as a reclamation proposition if Government had not committed themselves to the purchase of dredgers?

A.—Yes, if done on a very large scale like that and if it could be arranged to get the material in. But I think you will find very considerable difficulty in getting the number of trains required. All will have to come in on one line, and it is only this year that they have quadrupled their line. Up to this year it would have been impossible to run any train except at night.

Q.—But in future it might be possible?

A.—Yes.

Q.—When a new work is started it is usual to prepare approximate estimates; and then as soon as possible after the work is started to improve upon them by preparing detailed estimates and collecting further information?

A.—You are speaking of the Public Works Department system?

Q.—When an estimate is prepared usually the person who prepares it is less experienced than the people who are actually in charge after the work is started. As the work proceeds they gain in experience and wisdom and probably there would be a more reliable estimate?

A.—I think it is a general rule, if engineers are called in to give their estimates, that they give a sufficiently close estimate to what the work will actually cost; when they know from their experience what the contractors’ prices would be they can put in a close price.

I do not think that an engineer of any standing would agree to alter an estimate after he has put up an estimate for the work. If he found that the contractors’ prices were too high, he would find out where the reason was

Q.—This is not a case like that, because it is a very large area you are filling. There are uncertainties about shrinkage and uncertainties about the cost of material, because it depends upon the volume of the material and the arrangements made for transport, etc.?

A.—Yes.
Q.—Do you think that any engineer will be able to give a very reliable estimate at
the very beginning? Would anybody waste money on scientific appliances if he could
do it in the ordinary way, in the ordinary methods practised in the country?
A.—It depends upon what the appliances were. We might easily import labour saving
appliances such as concrete mixers.

Q.—I am speaking of the reclamation by earth filling. You can do the filling with
earth or murum. There is nothing scientific about it?
A.—If you have got sufficient depth of material, you may be fully sure that a good
steam navvy would be able to beat labour prices.

Q.—My point is that no engineer would have submitted an estimate larger than
5 crores for such a work. Would you agree?
A.—If he were basing it on the murum filling.

Q.—Since he knows that he could do it by murum filling, why should he bring in
scientific appliances? By murum filling you could do the work for 5 crores. If that is
so, no body would suggest that a dredger should be purchased and the work carried out at
an expenditure of 7 crores?
A.—No, not in that case.

Q.—Because they did not know that the cost would go up to 7 crores, they launched
on that scheme?
A.—I am sorry I do not quite understand the question.

Q.—If they had gone into the details and found that it would have cost 7 crores, they
would have abandoned the project for dredgers originally?
A.—Yes, if they had originally gone into the details and found that it was going to
cost 7 crores by dredger filling and only 5 crores by earth filling.

Q.—The contract for the dredgers shows that the manufacturers have no responsibility
for giving the required output. Is it not so?
A.—Yes.

Q.—They have no responsibility for ensuring that the dredger would give the required
output at the site?
A.—All that they had to do was that the dredger was to pass a test on the Clyde.

Q.—Was that test according to the normal conditions under which the plant would
work? I mean was there a pipe line?
A.—No.

Q.—Then the original specifications were defective?
A.—Yes.

Q.—I think that there ought to have been a clause that the full amount should not
be paid to the contractors until they had satisfied the engineers out here that she could get
the output at the actual site. But there was no such clause in the contract?
A.—No.

Q.—To that extent was the contract defective?
A.—Yes.

Q.—Who is responsible for that omission?
A.—That would lie between Sir George Buchanan and Sir John Biles, who was the
Naval Architect who was nominally the designer of the vessel. I do not know whether
it is actually Sir George Buchanan who is responsible as being the engineer to the scheme.

Q.—Was it not necessary for somebody on behalf of Government to see to that?
A.—Sir John Biles was acting on behalf of the Government of India. He was
appointed by the Government of India to supervise the construction of the dredger and to
see that the test was carried out satisfactorily and it was he who gave the certificate.

Q.—Was it not desirable that somebody on behalf of the Local Government should be
watching the development of the contract?
A.—In ordinary circumstances I do not think that it would have been necessary.

Q.—You think that it was quite sufficient to have a man of Sir John Biles’ experience,
if he is acting on behalf of the Government of India?
A.—It seems rather useless to send home anybody else as a second man.

Q.—This is not an ordinary contract. It is a matter of about 1½ crores. Do you think
it is right to leave it to one gentleman to deal with such a large contract in this manner?
A.—If I were in the position of Sir John Biles, I should not like somebody to be
sent out. But if I were a representative of the Government of India and the Govern-
ment of Bombay proposed to send somebody else, I would resign if I was not competent
to do these tests by myself and let other men to do it. That is my opinion personaly.

Q.—Is there not wisdom in a multitude of counsellors?
A.—I do not think there is, in a case like this.
Q.—Another point is how was it that tenders had not been invited from other manufacturers. I understand that some of them would have given a guarantee to work the plant here so as to give the required output?
A.—That is difficult to say. It should have been put in the contract. They all practically get the same specifications and probably this was not mentioned in the specification. Ordinarily, the contractors who build the dredgers run the boat for six months; that is a very usual thing, and when they send it out the chief engineer is provided by them; they run the boat for six months and they are responsible for any defect if it shows up within that period. That is a very ordinary fact.

Q.—That is not departed from in this case?
A.—I do not think it is.

Q.—With the permission of the Chairman I would ask for the specification of the ‘Kalu’ if available.

(The Chairman asked the Secretary to note this and get the specification of the ‘Kalu’ when it was originally purchased by the Port Trust.)

A.—I believe there was some clause in the contract: I had no had time to go through it.

The Chairman.—Anyhow, Sir M. Visvesvaraya’s point is that there was no provision for her doing any work in India and the question arises whether Simons & Co. the makers will tell us what their view of it was.

Sir M. Visvesvaraya.—Now, when you found that the dredgers had not come up to expectation, when the “Colaba” was shaky and “Sir George Lloyd” did not give the required output, was it not desirable to consult other experts, both in England and America, or to ask the makers themselves to send out a man to go over the calculations again and put the dredgers aright? Your case is that the material is bad.

A.—There is nothing wrong with the dredger as a machine. If she is put into the material that is suitable she will give the output required.

Q.—Was it not the duty of the manufacturers, in such a large contract as this, to make sure of the material in which it was to work?
A.—That is not the contractors’ business. I should say that any of the contractors who are tendering would merely pass it on the specification.

Q.—In this case, suppose they had been obliged to give the plant in working order on the spot, probably they would have considered that question also?
A.—That is likely if they were responsible for the output at the site.

Q.—When you found that Sir George Buchanan would not do anything and the manufacturers were not moving in the matter, would it not have been well for the local Government or for yourself to take steps to have the plant inspected by outsiders? Is there any professional etiquette against such a procedure? Is it not the right procedure to take? If it is a small machine you can get the local people to examine it, but in the case of a big plant like this, would it not have been well to get experts from other parts of the world, if necessary, and see if it can be put right?

A.—I think the Government of Bombay did consider the question of whether they could get an expert out from home; because they asked me whether I could mention the names of any eminent engineers who can give advice on the spot. I mentioned Mr. Wentworth Shields of Southampton and Lyster, the Chief Engineer of Liverpool Docks.

Q.—Did they take any action on it?
A.—I don’t think they did; but they asked the question; they believed it was costly to invite somebody from home.

Q.—Did you make any separate payments for the drawing supplied by the firm of engineers, or is that all the work covered by the 2 per cent.?
A.—The whole of their work is covered by the 2 per cent.

Q.—I want information about the future cost of the work in a nutshell if you can give me. I want specific data. You can give it to-day or you make a note of it and give it to-morrow?
A.—Yes.

Q.—You know the average depth of filling required varies from 5 to 5¼ yards in the whole area?
A.—Yes. They vary in different blocks, from 10½ feet in block 8, to 20-16 feet in block 4.

Q.—In blocks 1 and 8, the average is 37 yards roughly?
A.—That would be.
Q.—And in blocks 2 and 7 it would be about 5 yards and in the rest 5'7 yards.
A.—In 2 and 7, it would be under 5 yards.
Q.—In 2, it is 6'3 and in 7 it is 4'4. So, the average is 5'8.
A.—4'75 yards; that is the average of 2 and 7, that is approximately.
Q.—Then, in 3, 4 and 5, the average depth is 5'7 yards.
A.—You are taking them on the depths of each quantity.
Q.—The total quantity divided by the area.
A.—That is probably correct.
Q.—The average for the whole filling is 5'5 yards?
A.—Yes.
Q.—What is the average at which you expect to do the dredging in future with the improvements you are contemplating? Suppose you got 24 million cubic yards last season, at what rate would you be able to do it next year, with three shifts, after all these improvements are effected? You can say this from your experience in the past?
A.—Yes; that would cover all.
Q.—For 5 cubic yards at 12 annas per cubic yard of land reclaimed, the cost will come to Rs. 8-12-0.
A.—Yes.
Q.—If you spend Rs. 8-12-0 per square yard you will be able to reclaim 1 square yard which may be worth anything between Rs. 30 and 100?
A.—That is taking it for the whole area.
Q.—5'5 cubic yards is a very good average for the whole area?
A.—Yes.
Q.—Now 5'5 x 75 as. will give Re. 4-12-0.
A.—Yes.
Q.—I want to fix up these facts. For one square yard reclaimed you would have to spend Rs. 4-12-0.
A.—That is for dredged filling.
Q.—And for moorum filling can you give me an estimate? The other day you said it would be 1'56.
A.—I'57 is my figure.
Q.—Could you not reduce it if you work in a mass; if you carry on operations on a large scale wouldn’t the cost be reduced?
A.—Yes; it would be reduced.
Q.—You cannot take that as correct. If you carry on on a large scale you will require a large plant?
A.—Overhead charges would be reduced.
Q.—You know something of the country beyond Bandra on both the G. I. R. and the B. B. & C. I. Railways?
A.—Yes.
Q.—You went to, Kandivali for the sake of the stone; not moorum.
A.—For stone, not moorum.
Q.—If you want moorum or other stuff you would try to find out quarries nearer?
A.—Yes.
Q.—And there is a possibility, if investigations are conducted, of reducing the rate?
A.—Yes.
Q.—So, from 1 '57 how much would you bring it down to assuming that you have to do moorum filling on a large scale?
A.—It is a very difficult question to answer.
Q.—We have to come to a decision. You know on this side of Kandivli there are mounds of earth and undulating ground?
A.—Yes.
Q.—You can possibly get moorum cheaper?
A.—I have examined some of those areas; in some of them there is very little moorum, but a lot of rock, I don’t think it would be cheap.
Q.—Can you get clay and soil nearer this side of Anderi?
A.—In that neighbourhood and in the interior there is a large area.
Q.—There is no moorum?
A.—Between Anderi and Kandivli there is plenty of moorum.
Q.—So from 1 '57 by how much would you reduce the cost?
A.—I won’t like to reduce that figure at all. I would rather keep it. It would be a question of having to put in expensive railways and there would be extra plant. The only reduction would be in the case of overhead charges like the establishment. It would be very slight.
Q.—If you are running more trains, and there is a better organisation, won’t you bring down the cost?
A.—We may get a reduction in freight.
Q.—Also the contractors may load the cars at cheaper rates.
A.—I do not think they will get a lower rate than what we get at the present time.
Q.—Probably the discount may also be reduced?
A.—It may be reduced by a mile or two, but I don’t think it will have much influence on the total cost.
Q.—1 '57 x 5 5 would give Rs. 8 63?
A.—Yes.
Q.—So it will cost 8 63 per square yard by moorum filling and Rs. 4 12 by dredging?
A.—Yes.
Q.—That is, assuming your own rates?
A.—Yes.
Q.—In either case, there is the certainty of the filling being done for less than Rs. 9 per square yard reclaimed?
A.—Yes.
Q.—That is one point I want to see placed on record.
A.—That is for filling material alone.
Q.—Of course the sea wall is different.
I am going out of your sphere of engineering, but you know the value of land may be anywhere between Rs. 20 and 100 per square yard in that area?
A.—If you can get at Rs. 9 a square yard you could certainly fill it in with that. But you have to add something more. That rate is for filling only, that is not for completing the area ready for sale.
Q.—You will have to add for railways and roads, about another crore of rupees?
A.—The expenses on road making, sewerage and lights, are pretty heavy.
Q.—At the outset, could not the heavy expenditure be reduced?
A.—There is another point too. Taking the whole area you are taking into consideration all the roads and recreation grounds and open spaces. So that average is not for completing the area.
Q.—Half the amount will be required for open spaces, it is said.
A.—Yes.
Q.—The remaining half might be all sold?
A.—If you take it in as the value of building land you have to double the price right away from Rs. 9 to 18.
Q.—For open spaces, either the Government or the municipality might pay?
A.—Somebody will have to pay.
Q.—Because open spaces are for children and for public purposes?
A.—We ought to have a value put on that too.

Q.—They cannot be handed over for nothing?
A.—We ought not to do it. Some price ought to be given for it.

Q.—So this point you accept as a certainty now. By moorum filling you can reclaim 1 square yard for less than Rs. 9.
A.—That is the average for the whole area.

Q.—It would not be very much more, because the variation is between 5 and 5½ yards?
A.—I am referring to the area—Rs. 9 a square yard for the whole of the reclaimed area including roads, etc., and open spaces; all will be Rs. 9 a square yard for filling only.

Q.—I only take the filling. Laying out of the roads may be a separate item. For reclaiming and giving you plain level land by dredging, if the dredgers work well and if they work fast enough, you can do it for Rs. 4·12.
A.—Yes.

Q.—I understood the other day from Sir Lawless Hopper that they had calculations for bringing material by barges across the harbour. Have you got the calculations?
A.—I have not.

Q.—You have got an estimate for 927 lakhs now for the whole work?
A.—Yes.

Q.—According to Sir Lawless Hopper’s report?
A.—Yes.

Q.—Out of those 927 lakhs roughly 80 lakhs is for the sea wall. It is for the Kandivli quarry, permanent way, and rolling stock?
A.—That is correct.

Q.—927·85 lakhs is the cost given. Is that authorised by anybody.
A.—No, that is not the sanctioned estimate.

Q.—You have got detailed estimate for these now?
A.—No, not in any great detail.

Q.—Is that the figure you cling to now as reliable for the purposes of completing the work? Do you consider that it is more correct?
A.—I think that it is more correct than the original estimate.

Q.—If you revised the estimates now, would you put it at a lower figure than that in view of the recent improvements in the working?
A.—It will be fairly near the mark. I have got an estimate that is being checked at the present moment and it is roughly 10 crores. That is after allowing 5 per cent. for contingencies.

Q.—You have got here unforeseen charges 10 lakhs already? That is very small?
A.—Yes.

Q.—When will you give us a reliable estimate?
A.—It is being checked. It has got to be drawn up in form. It will take about 2 to 3 days to type.

Q.—Could you give us a comparative statement showing the original estimate and the actual expenditure against each of the heads and the balance available up-to-date? What we want is the actual position now, assuming that your estimate is the final one.
A.—It will take some time to make a comparative statement as it has to be typed.

We are short of men.

Q.—Could you not put on men specially for that?
A.—A lot of time is taken in checking those figures.

Q.—It is most important for us to know what the expenditure has been up-to-date.
A.—Yes, I can give you that.

Q.—I want another comparative statement showing the 702 lakhs project estimate and the expenditure against each of the main heads with any explanations for the excesses on individual heads. We want a comparative progress report both as regards the 702 lakhs estimate and the 967 lakhs estimate. I am rather concerned; in spite of improvement in the working of the dredgers you still say that the cost will go up to 927 lakhs. The other day the 927 lakhs was accepted by Government?
A.—That was got out in February.

Q.—Some time has elapsed since then?
A.—That is, 9th of February.

Q.—Conditions have improved.
A.—Yes, we have got further information since then.
Q.—What do you say to this, is it possible to give us these two statements?

A.—What I can do is to put them all on the same sheet.

Q.—We have the total expenditure up to 31st July 1926. It was given by the Deputy Accountant-General. He said the total cost of the work was 474-51 lakhs. Including interest it was nearly 6 crores. We want the same expenditure distributed over the main heads?

A.—You want it for the 702 lakhs, 926 lakhs and for the fresh estimate.

Q.—Have you given us the designs and specifications of the dredger?

A.—I brought them here the other day.

Q.—Other than those by Sir George Buchanan? I should like to study them. You have got references in the printed book to the contract with Messrs. Meik and Buchanan. Is there any copy of the original contract?

A.—I have not any.

Q.—There is also a report on the tests carried out on the Clyde. There is nothing more than that?

A.—No. You will get all the information available from the printed book.

Q.—Do you think that Sir Alexander Gibb's statement that moorum could be got at Rs. 9 per brass is an underestimate?

A.—I consider it is.

Q.—Where did he get this information from?

A.—I could not tell where he got the information from as to the price of Rs. 3.

Q.—Mr. Arbuthnot was here, but he was not able to give us any figure yesterday.

A.—I don't know where he got it from.

Chairman.—He does not indicate any locality any more than you can?

A.—No.

Sir M. Venkataraya.—Have you worked out the cost of lorries?

A.—We have got this.

Q.—Do you remember the figure? There is a hillock beyond the Malabar Hill, Kambala, near Worli. Could not you get some filling from there?

A.—Lorry filling is only a very small item.

Q.—What was the object of your recent tenders?

A.—The Government wished to ascertain whether they could get a better price for dry filling from contractors than we can do it at the present moment and they therefore proposed to let a contract if they could get a favourable price.

Q.—Have you got any offers?

A.—We have not got any. The tenders have not been sent in and will not be sent in until October.

Q.—Do you expect any?

A.—We have got 12 enquiries locally.

Q.—But the specifications seem to be very rigid?

A.—I am not responsible for it.

Q.—Not you?

A.—I did draft the specification but it was submitted to Sir Alexander Gibb and he said mine was too rigid. He put in another draft of his own which is worse than mine.

Q.—You said the other day that there was no specification for the sea wall?

A.—No.

Q.—On whose specification is the wall built now?

A.—I made up my own specification. I was given a cross section of the wall and was provided with material, whatever material could be spared.

Q.—Did Mr. Lewis have his own specifications?

A.—No.

Q.—He worked without any specification?

A.—The only specification was a verbal one that they were to use the small stone in the hearting and they reserved the large stone for the protection of the wall.

Q.—Is not that an important thing in constructing a work of this magnitude? I am putting this question from a public point of view.

A.—There ought to have been a proper specification written by the Engineers—by Sir George Buchanan.

Q.—If Sir George Buchanan did not give the specification, why did not the Engineers on the spot do it?

A.—One reason is that at the commencement of the work Mr. Lewis was very busy and he gave us a free hand more or less in the working.
Q.—Would not the loss be very considerable if you work in this way without any previous calculations?
A.—The important part of the work consisted first of all of the construction of the sea wall and Mr. Lewis already got out a plan to begin and I worked there. When he gave me the work of construction of the sea wall, I had the cross sections and we were limited to the quantity of stone.

Q.—I do not understand the design for drains, cross walls. Could you explain very briefly? Do you have the cross wall in combination with the cross drains?
A.—You mean the bunds?

Q.—You first have the drains?
A.—Storm-water drains are constructed first.

Q.—And then?
A.—The bund will be tipped along the top of the drain. One drain has been completed in No. 8 area. You see the main holes of the No. 1 drain in the surface of the

Q.—Cross bunds are made of moorum?
A.—Yes.

Q.—On what are these cross drains founded?
A.—They are founded upon rock for a portion of the length, and the rest when we get to soft sea, chart and permanent wall is constructed upon rock for a portion of the length, and the rest when we get to soft sea, chart and permanent wall is constructed upon rock for a portion of the length, and the rest when

Q.—You say for your material you depend on Mr. Kidd’s borings and levels taken in 1919 or thereabouts?
A.—Yes.

Q.— Might not the sea-bed of the Harbour have altered during the last 14 years. Is it not necessary to make sure about that?
A.—I do not think there have been very many alterations. We have the Admiralty chart which should note variations.

Q.—You have satisfied yourself on that point?
A.—Yes, we found that Kidd’s borings were reasonably accurate.

Q.—What is the total quantity you got by motor lorries?
A.—I think it is about 3,500 tons a month.

Q.—In preparing the estimate for 927 lakhs what amount do you expect to realise from the sale of the plant at the conclusion of the work,—from dredgers and accessories and permanent way and rolling-stock respectively?
A.—It does not appear in that statement (witness referred to printed copy handed on to Sir Frederick Hopkinson).

Q.—You have got some idea about the figures yourself?
A.—I think I gave a figure to the Advisory Committee. I cannot remember exactly.

Q.—That has got to be deducted from this 927 lakhs?
A.—Yes, but that is a very doubtful item. You must get a purchaser for the dredger.

Q.—That, will reduce your estimate?
A.—Yes.

Q.—What will be the quantity of filling remaining to be done after blocks 1 and 6 are completed? I can give the figure. It is 32 million cubic yards. If you want to complete that in 8 years you should do 3.7 million cubic yards per annum if the dredgers worked satisfactorily in the future. As you expect to do 81 million cubic yards the whole of the project could be completed in about 6 years.

A.—I think I have said 3 million for the 8 dredgers.

Q.—If you took into consideration 8 shifts. You have taken into consideration the improvement effected last year, what would be the cumulative effect?
A.—7 to 6 years.

Q.—Assuming that you are going on with moorum filling as you are doing now, will you be able to complete it in 6 years?
A.—I cannot foresee now as you will have to allow for covering up the dredging. You have got to allow for 16 months after the last block was deposited with dredging, so that you may take it that it would take about 7 to 8 years.

Q.—Supposing you combine moorum filling and dredged filling, what will be the maximum output per annum? Now assuming that you have got moorum what is the maximum you expect daily by rail?
A.—That depends entirely on the number of trains that will have to be taken. We might be able to increase it from 2 trains running at present to 8 trains a day.
Q.—Assuming you can get material in sufficient quantity to run those eight trains a day?
Chairman.—That is a very big proposition. You will require 360 additional wagons and that alone will consume 24½ lacs. Then as Mr. O’Borke said, you will have to find out your site, to acquire the land on royalty basis, and to make arrangements to build your railway sidings.

Sir M. Visvesvaraya.—You want to make sure by investigation before making a statement.
A.—Yes.

Q.—Have you been able to effect any reduction in your estimates as a result of the fall of prices since 1921?
A.—No.

Q.—For roads and lighting you have a provision of 119 lacs; could you not do with about half the sum to begin with and close the project at that? A.—That depends on the standard of the roads that is required. The idea is to put in roads in keeping with the roads that have already been built in Bombay by the Improvement Trust.

Q.—Cannot that be left for future development?
A.—Of course, that could be done.
Q.—You have effected savings under all heads except dredgers and dredging?
A.—Yes.
Q.—Assuming that the work is to be completed in six years, can you give a rough outline?
A.—In point of fact it is to be completed in eight years.
Q.—You have an idea to spread expenditure over seven or eight years?
A.—Yes, and of filling the blocks as required.
Q.—In order to make a forecast of work for the future, what would you take as a starting point to start fresh accounts? What would be a convenient date?
A.—30th June 1926.
Q.—You can give us figures up to that date?
A.—Yes.

Q.—From your experience have you noticed any difficulty in working the pipes connected with the dredgers? They are too long for giving the required output.

Chairman.—Are they too long?
A.—No.

Sir M. Visvesvaraya.—In the present condition of the dredgers do you expect to fill blocks 3, 4 and 5 without any difficulty?
A.—As regards block 3, I am very doubtful about filling it by dredging. Most of block 4 we can fill by dredging. I am leaving one quarter for dry filling. As regards block 8, I am estimating dry filling for the whole block.
Q.—Have you thought about the possibility of pumping by “Sir George Lloyd” and utilizing two boosters instead of one?
A.—That would not be economical, that has already been considered.
Q.—Why not? After all the dredging cost is very small, probably it will be 2 annas or 3 annas per square yard.
A.—That depends how far you want to go out to get your material. If you want to utilise the dredger and two pumping stations that means you are going out very long away from the shore.

Q.—That is just the reason why you cannot fill No. 3 by dredging?
A.—If you want to fill No. 3 by dredging you will have to build a third pipe line right through the city where it is comparatively wider and that would probably be a case of tunnelling.
Q.—Could you not avoid it by utilising three boosters?
A.—That would not assist us unless you put in shore boosters.
Q.—You have got to get the stuff across the island. Could you not utilise pipe line (No. 2)?
A.—That is not designed to reclaim block No. 8.
Q.—Could not you take out the engine from “Kalu” and put it on shore and pump?
A.—That will be somehow pumping through this pipe line. (The witness explained it on the plan).
Q.—Blocks 1 and 2 will be filled exclusively by dredging from the Back Bay?
A.—Yes.
Q.—Do you not think that further detailed investigation is necessary to make all these points definite?
A.—I think we have got information now that is necessary in order to obtain the filling.

Q.—You have no tests for gauging the progress from day to day or week to week to find out the quantity of material delivered?
A.—We take sounding which are taken every day and a return is sent in to me every week.

Q.—Do you pay any attention to the liquid in the outfall pipe and examine what percentage of silt is in suspension?
A.—No, not as a general rule, but it has been done. We keep a man stationed at the outlet of the pipe all the time and he keeps an observation as to whether there is sufficient material coming through when the dredger is working.

Q.—Is it not desirable to have a small tank or well specially constructed near the outfall to hold a certain quantity for testing the output?
A.—But the outfall is constantly shifting. You will be constantly lengthening your pipe line, and when the dredger is getting better output we have to put in sometimes several 80 feet lengths of pipes in one day.

Q.—That is not in the sea?
A.—Both in the sea and at the discharge end.

Q.—If you do not have any measurement you leave it to chance at the end of the year? What we want is that the establishment should know what work they are doing from day to day and week to week. Then they will be very careful because there will be a check over them.
A.—We have a man at the outlet to supervise the pipe line who is watching the outlet also as material is not coming out he sends a message by telephone from the pipe line (we have a telephone at the pipe line and the dredger) to the dredger and informs the Assistant Dredging Master who is on duty that the dredger is not pumping sufficient material and also warns him if there is a block.

Q.—You do not think any improvement can be effected either by increasing the horse power of the "Sir George Lloyd" or by improving the design of the cutter?
A.—Not of "Sir George Lloyd". I do not know if there is any improved design of cutter, there might be but I do not know.
Q.—Would it not be advisable to consult other experts instead of depending on one specialist?
A.—The difficulty is that somebody should come out here to see and then he will have to remain here for a considerable period.
Q.—Considering the magnitude of the interest involved, is it not desirable to do all that?
A.—Yes, it might be advisable.
Q.—Do you think that before you complete your estimate now for a new start, further investigations are not necessary as regards dredging?
A.—I think we have got sufficient information.
Q.—Also for the additional rolling stock that is required?
A.—That is a question, I have not gone into. I have also not gone into the question of moorum filling for the whole area.

Sir Frederick Hopkinson.—Do you think it would be possible within the next week to get a tug and take soundings in Back Bay?
A.—No. We cannot get a tug to go round to Back Bay. It is very rough for a tug to go out of harbour. We can only get a jolly boat in the Back Bay.

Mr. Billimoria.—After the termination of Sir George Buchanan's agreement, who has been responsible officer in charge of the works?
A.—I have been.
Q.—What are your powers?
A.—My powers are limited to the powers of a Superintending Engineer under the Public Works Department rules. That is as far as my official powers are concerned.
Q.—What are the powers of Sir Lawless-Hopper?
A.—I have to report and consult him on any details of the work which I consider it necessary to bring forward that is too expensive and is beyond my power of sanction. I have to submit the estimates to him. My powers are confined to sanction the work on any estimate up to the amount of Rs. 50,000. If an estimate exceeds that amount I have to submit it to Sir Lawless-Hopper for his sanction, and in some cases he has to submit it to Government.
Q.—Sir Lawless Hepper has stated that he is only the administrative head, he has no experience of reclamation nor has he the requisite knowledge which is left to the engineers. He throws the entire responsibility on the engineers in India for the actual carrying out of the work?
A.—But as regards the estimates he has the power to sanction any estimates. If it is an ordinary case, that is, the estimate is below Rs. 50,001, I sanction it myself but if the estimate is over 50,000 I only approve of it and pass it on for the sanction of Sir Lawless Hepper. If the amount is above his powers (he used to have power to sanction up to 10 lakhs but I think it has been reduced now) he submits it to Government for sanction.

Q.—Have you seen Sir George Buchanan's report dated September 1922 very carefully?
A.—Yes, I have gone through it several times.

Q.—If you will look at the revised estimate of cost of scheme as submitted by him on page 28, you find that he makes an allowance of 10 lacs for the value of the plant. (It is item 14). After allowing the cost of plant he comes to the figure of 567 lacs, that is total. In this estimate has he taken into consideration the rolling stock, quarry machinery, acquisition of land and quarry? Do you find any of these figures in this estimate?
A.—No.

Q.—Do you find any item for contingencies provided there?
A.—No.

Q.—Is not it the usual practice with all engineers when they prepare estimates to make some allowance for contingencies as a rule?
A.—Yes.

Q.—Sometimes 5 or 10 per cent.?
A.—Yes.

Q.—And you do not find any item of contingencies provided for in this estimate?
A.—No.

Q.—Item No. 12 “As per Government Public Works Department Estimate” 75 lacs. That does not include any storm water drains costing £50,000?
A.—No.

Q.—Now take item Nos. 8, 9 and 10 for “murum backing to wall, murum in cross banks and murum over surface of filling”. The total provided for in this estimate for these items works out to 88,89,000?
A.—Yes.

Q.—If you will now kindly refer to the Revised Estimate which has been signed by Sir George Buchanan on the 11th February 1922 you find that he makes in the Revised Estimate a provision of 60 lakhs for murum topping. It is item No. 7 at page 13. Can you give us any reason why there is such a considerable difference between 88 lakhs and 60 lakhs between those dates? Had the price of murum gone up so considerably? What was the reason for revising the estimate, only one item rising from 58 lakhs to 60 lakhs?
A.—I cannot tell you on what Sir George Buchanan had based his figures.

Q.—Item No. 12 in the original estimate has in the revised estimate been put down at 185 lakhs at page 14. In the original estimate it is 75,000 lakhs. Can you tell me why there is this difference of 60 lakhs provided for?
A.—I can give you no reasons.

Q.—If you will kindly refer to the wording of item No. 12 in the original estimate, where it says, “As per Government Public Works Department Estimate, lump sum 75,000 lakhs” and compare the wording in the revised estimate, “roads, lights, etc., 185 lakhs” you find there is an increase of 60 lakhs. That provides for the extra storm water drains?
A.—Yes...

Q.—That conclusively proves that at the time the original estimate was drawn up the item of storm water drains was not considered or taken into account.
A.—That appears to be so.

Q.—If you will please look at item No. 13, “Engineering charges including all establishments” it is put at 17,98 lakhs at 5 per cent. That was increased in the subsequent estimate to 25 lakhs?
A.—Yes.

Q.—With a further contingency of further 25 lakhs for unforeseen contingencies. This item included commission payable to Sir George Buchanan? Five per cent. is for all establishment. Sir George Buchanan’s firm were the Engineers. They were to get 2 per cent., and the others, 3 per cent. of the amount?
A.—I do not know whether he included his own fees in that estimate.
Q.—Do you not think when an estimate is submitted and a commission is payable to an Engineer, that ought to be included as a charge in the estimate?
A.— Probably Sir Frederick Hopkinson would be able to tell you. My impression is that a Consulting Engineer does not include his fee in the estimate. He is paid the amount in accordance with his estimate. I think the intention is that the 5 per cent. is only for the establishment.

Q.—So the original estimate in various respects as I have pointed out was incomplete and defective in many ways?
A.—Yes.

Q.—Do you think an Engineer of repute and standing would make such colossal mistakes?
A.—Not if he was careful.

Q.—I shall ask you to kindly turn to page 6 of his Report. In the 1st paragraph at page 6 he says, "Provision was made in both estimates for all contingencies that could be foreseen and a large margin was provided for unforeseen contingencies." Then in the 2nd paragraph he says, "The Governor in Council has closely examined the figures and is convinced that they have been drawn up with due care and are sufficient for immediate purpose in view, namely to show that the reclamation scheme will be a reproductive public work and as such deserves detailed investigation." Then at the bottom of the page he says, "the difficulties which have arisen with the Port Trust dredgers serve as a warning on this point." Then at page 7, "The investigation has been most carefully made and might be accepted as exhaustive. The report was clear and complete, all doubtful points had been settled and the revised estimate might be accepted as completely trustworthy and ample." Then if you turn kindly to page 13, at the bottom, of the page where he gives the estimate of Mr. Kidd and himself he says, "With reference to my estimate of the cost of the work at the present time I have gone into the matter very thoroughly and I believe my figures to be reasonable and reliable. As a matter of principle I never over-estimate an estimate because although by so doing an engineer may get the credit for not exceeding an estimate, such a practice is not conducive to economic work and I prefer to make a fair estimate on the data before me and try to get within that amount." If you will kindly turn to page 14, in paragraph 43, he says, "The Back Bay Reclamation Scheme is a straightforward project without any of the difficulties that attended the Rangoon scheme." Could you now, after reading these various passages, think that Sir George Buchanan did not take the necessary care and precaution an ordinary engineer in discharge of his duties would exercise?
A.—I would not say that he was careful in spite of all these various passages.
(Sir M. Visvesvaraya.—These perorations are usual.)
Q.—You find that this estimate is hopelessly wrong. That is what has been proved now?
A.—Yes.

Q.—Did Sir George Buchanan prepare any settled programme of work in reference to this estimate of 367 lakhs?
A.—Not that I am aware of.

Q.—Did he draw up any plans or diagrams or designs?
A.—Except those at the end in the Report, no.

Q.—Mr. Elgee, have you seen the Report published by the Audit Officer Mr. Bean who gave evidence here, for the year 1924-25?
A.—I do not know.

Q.—He submits an annual report to the Auditor General. Have you seen his report? Unfortunately I may tell you in his report he works out the cost of dredging at Rs. 6-2-0 a cubic yard. That is on the actual expenditure incurred on dredging during the year from figures supplied by your Department?
A.—I think I have heard of that.

Q.—In these estimates both revised and original you have taken As. 5 a cubic yard. Is not that a tremendous difference?
A.—It is.

Q.—Would you account for that? One is the actual. The actual works to Rs. 6-2-0 a cubic yard?
A.—I think Mr. Bean was taking the work up-to-date and including the whole of the charges of the plant he took the total expenditure and the total quantity and divided expenditure by the quantity at that date and arrived at that figure.

Q.—He has taken depreciation into account. That does not mean the whole value of the plant. In this report he has taken depreciation into account, i.e., you take into account the cost of the plant and allow at the end of the period something for what you would realise for the sale of the plant. He has spread over the depreciation to a number of years. That is the only difference.
(Witness.—How many years has he spread it over?)

Q.—He has taken a round figure for depreciation. We are going into that. Now I shall ask you some questions regarding the "Jinga." I find you have not been asked anything about that. Why was she purchased at all?
A.—Because it was necessary to work a booster in conjunction with the "Kalu."

Q.—Has she ever been used since she was purchased?
A.—Not yet.

Q.—When was she purchased?
A.—On the 80th March 1925.

Q.—£10,000 was paid for it?
A.—Yes.

Q.—How long has she been in the dry dock?
A.—Ever since she was purchased. Soon after she was purchased she was put in the dry dock.

Q.—Do you know what the bill of the dry dock will come to?
A.—We have got an estimate that includes docking charges. They are working on a percentage basis. They are not charging the ordinary dock charges.

Q.—Have you any idea as to what it will come to?
A.—We have got a total estimate for the repairs and for reconditioning. It is Rs. 5,50,000.

Q.—That would be about £40,000?
A.—Yes.

Q.—So you paid £10,000 as the cost and £40,000 is for her lying there in the dry docks?
A.—Yes, where she is being reconditioned.

Q.—Have you reported this to the Accounts officer that there is this liability pending?
A.—All estimates were sent to him. It has been sanctioned by Government.

Q.—No payment has been made in respect of this dry dock bill?
A.—I think a number of bills have been sent in and paid.

Q.—Do you know what the liability is?
A.—I believe at the present time the total expenditure to date has been Rs. 5,06,701.

Q.—How old is the ship?
A.—She was built in 1905.

Q.—Is she nearly 18 years old?
A.—Yes.

Q.—What is the usual life of a dredger?
A.—It depends on the amount of work it does.

Q.—She has practically finished her life more or less?
A.—Well, the hull has. The hull requires a certain amount of reconditioning, but we bought her originally with the intention of taking the engines out of her and utilising the engines and the pump.

Q.—So you paid £10,000 for the engine?
A.—Yes.

Q.—The engine is not used and interest is running on?
A.—When we purchased her we intended it to be used as booster, but she has not been really required for work until this season.

Q.—What is the value of spare parts in connection with that?
A.—There was a new pump and various replacements.

Q.—What does that cost you?
A.—I cannot tell you at the present moment.
The Committee met at the Legislative Council Committee Room at 10.45 a.m. on Wednesday, the 18th August 1926, Sir M. Visvesvaraya occupying the chair, the Chairman of the Committee Sir Grimwood Mears being absent on account of indisposition.

Further examination of Mr. C. R. Brims, Deputy Chief Engineer

Mr. C. R. Brims, Deputy Chief Engineer, was examined again.

Sir Frederick Hopkinson.—We have to ask you a few more questions in continuation of what we asked you the other day. The principal thing is why the “Sir George Lloyd” was worked only one shift in the first season?

A.—In the first season we only had one dredging master Mr. Speirs to take control of the bridge and work the ship and we only had one shift. With the engineers before us it was impossible to work two shifts. Two assistant dredging masters arrived in February 1924. They were untrained men and we had to train them during the first season of 1923-24.

Q.—Did any more engineers come in February 1924 ?
A.—No. The engineers for the double shift were not required until the following season, because the two assistant dredging masters were untrained and they could not be left in charge of the bridge.

Q.—Had the assistant dredging masters been trained, you would have required engineers?
A.—Had the assistant dredging masters been experienced, we would have required engineers.

Q.—Were no engineers sent out with the assistant dredging masters?
A.—No, on account of the assistant dredging masters not being trained.

Q.—Was that arranged in London?
A.—Yes, I believe it was.

Q.—So that really in the first season you were running the “Sir George Lloyd” largely to train two assistant dredging masters?
A.—The dredging master Mr. Speirs was getting the output out of the ship and at the same time training the men. He remained on the bridge the whole time working the ship.

Q.—Had you had experienced and trained dredging masters, there was no reason why you should not have worked two shifts in the first season?
A.—No reason, had the assistant dredging masters been experienced.

(Mr. Brims then withdrew.)

21st Witness

Sir Dinshaw Petit, Bart.

Sir Dinshaw Petit representing the Bombay Presidency Association was then examined.

Statement by Sir Dinshaw Petit, President, Bombay Presidency Association

Happening to be a member of the Governor’s Legislative Council at the time the reclamation scheme was introduced I can say with some personal knowledge that it received the support of the non-official members as it was felt that if carried out at the figures mentioned at the time the reclaimed area would be a great acquisition for Bombay. Accepting the figures of cost which were then given out the margin between the cost and the probable value that could be realised was so large that its success was not doubted. The would-be price of the land when put in the market was considered by those who supported it not on the basis of the boom price that was ruling then but on that of the price that could be fetched in ordinary times. The figures of cost as given out by Government were readily accepted as nobody could imagine that a responsible body like the Government of Bombay could have treated a matter of such importance so light heartedly and had arrived at the estimate then declared in a manner so superficial as it has now turned out to be. Large estimates are apt to vary but not generally by more than ten, fifteen or twenty per cent. and therefore the Councillors who supported the scheme believed they were quite on the safe side even if the estimate increased in actual working by fifty per cent. In the Council several non-official members pressed for an executive committee representative of the public to be associated with the Government department carrying out the development schemes but in the select committee the chairman Sir George Cortis ruled this proposal out of order and in the Council it was stated that at that juncture such a committee was not needed, but later on the reformed Council could take the question up if it so desired. If such a committee had existed the great blunders which have caused the abnormal increase...
in the cost of the reclamation might not have happened, or might at least have been detected in time to save a considerable loss of money, and in any case the public would not have been kept in the dark for such a length of time. When insinuations were made openly against the executive of the development my Association (The Bombay Presidency Association) could not believe that the Government could allow such grave irregularities to exist in one of their departments, but now that there is no doubt left as to their existence it is much to be deplored that in the Council reassuring statements were made on behalf of the Government even when they should have known that all was not going right with the scheme and that financially it was going to be a huge failure. When the majority and the minority reports of the Committee appointed at the recommendation of the Advisory Committee were out my Association felt no doubt that there were some grounds for the grave insinuations that were made in public and lost no time in representing to the Government that an enquiry committee should be appointed, and they feel grateful to the Government of India for having appointed this Back Bay Enquiry Committee. In order to save the prestige of Government from such a state of affairs happening again and the people from the hardship consequent on the handling in such a manner of important schemes, and in order that responsible parties should know that the finances of the city and the Presidency are not to be trifled with and in order that incompetent persons should not take upon themselves duties which they are not capable of properly discharging my Association prays that the Committee will leave no stone unturned to apportion the blame of neglect or dishonesty as the case may be to the individuals associated in this work, and to bring them to look. The Back Bay as it is existed before the reclamation work was begun, neglected as it was, was a spot of great natural beauty which evoked the admiration of many a traveller and if the works are left incomplete Bombay will have been robbed of one of its most prominent and pleasing features, and therefore the scheme should be so far as possible completed at the minimum of loss which could be spread over for payment over a period of many years, in order that it may not be felt too harshly by the present generation.

Sir M. Vreesswyk.- You are the chairman of the Bombay Presidency Association?

A.—Yes.

Q.—You say, “I can say with some personal knowledge that it (the reclamation scheme) received the support of the non-official members at the time”?

A.—Yes.

Q.—The non-official members of the Governor’s Legislative Council approved of it?

A.—Yes.

Q.—And they had no doubt about the success of the scheme?

A.—They had no doubt.

Q.—You say in the Council several non-official members think that an executive committee representative of the public should be associated with the Government Department which is carrying out the development schemes?

A.—Yes.

Q.—How in your opinion was that committee to be constituted?

A.—By asking the Municipality, the Port Trust, the Improvement Trust and other public bodies to send in their representatives.

Q.—Was it to be an advisory committee?

A.—An executive committee.

Q.—How many members in your opinion should have constituted the committee?

A.—About 8 or 9.

Q.—How many are there in the present Improvement Trust?

A.—I do not know.

Q.—Would not nine be an unwieldy number for an executive committee?

A.—I would not think so.

Q.—Assuming that the work is to be proceeded with in future, what do you wish done in the matter of a committee? Do you think that a committee should be appointed in order to carry forward the work in future?

A.—Yes. No steps should be taken by the executive body without consulting the committee. They should be passed by the committee.

Q.—You want an executive committee appointed to supervise the construction of the works in future?

A.—Yes.

Q.—You say that “The Bombay Presidency Association could not believe that the Government could allow such grave irregularities to exist in one of their departments.” You refer to the conduct of the works?

A.—The way in which they have been carried out.

Q.—Could you mention some of the irregularities there?

A.—Ordering costly machinery and dredgers before they could be used; the loose way in which the specifications were made; and the loose way in which the original estimate was made. There are all what I call very grave irregularities.
Q.—Are there any specific points to be investigated to which you wish to draw the attention of the Committee?
A.—I think the whole scheme has been so badly managed that the whole matter should be investigated. Of course there will be several points; for instance, Sir George Buchanan ordered out a dredger which was not suitable for dredging the material which was in the harbour, although, I believe, it was reported before he ordered it what sort of material was there. There may be several such points.

*Sir Frederick Hopkinson.*—That is a point of course which this Committee is investigating.
A.—Quite so.

Q.—Have you any facts to tell us which will be of help to us?
A.—I was not connected in any way with the Council after this was done.

*Sir M. Vishveswaraya.*—You might consider that some points are likely to escape the notice of the Committee.
A.—There are none that I know of.

Q.—Supposing you had your own way, how would you like the scheme to be dealt with? I mean about the completion of the work? By what agency and by what methods?
A.—My idea is that it would cost about 50 to 60 rupees. There are some chances of not making a huge loss.

Q.—Suppose you could complete it at Rs. 10 per square yard: you will accept the idea?
A.—Yes, of course.

*Sir Frederick Hopkinson.*—You spoke just now about a committee of nine being appointed to manage or advise the construction.
A.—Not quite to manage, but to see that no important step is taken without its being sanctioned by the committee.

Q.—Supposing it was decided to let the work by contract, an important step would be taken at first and there would be no use of a committee thereafter?
A.—Unless there was no variation in the way the work was to be executed. After it is proceeded with, there might be reasons for the contractors to come to the Government and say that they cannot carry it out in that way.

Q.—They have got the contract and they must.
A.—I mean to say that points may arise by which it may be better in the interests of the Government and the contractors to vary the form.

Q.—What you mean is that you would like the Government, before making any alteration in the scheme as detailed in the contract, to consult the committee you are speaking of?
A.—Quite so.

Q.—You do not suggest that this committee would be of the slightest use in managing or controlling the execution of the work?
A.—Not, if it is given by contract.

Q.—Are the members of the Committee you suggest experienced in the conduct of such work?
A.—That depends on how the committee is constituted. Some of them might have some engineering knowledge.

Q.—But the mere fact of being the President of a public body in Bombay would not give that president any technical knowledge?
A.—Not simply on account of being a president.

Q.—Don’t you think it would be a better plan if Government decided to finish the work, to hand it over to one experienced and competent man and make him entirely responsible for it?
A.—Well, I think that was the idea when Sir Lawless Hepper was appointed, and there might be a repetition of the same history.

Q.—You are afraid of that?
A.—Yes.

Q.—I may take it from this statement of yours that the Bombay Presidency Association were enthusiastically in favour of the scheme as originally laid down?
A.—There was no resolution indicating such enthusiasm, but that is my feeling.
Q. — Had the works been carried out at the original estimate, or within a reasonable variation, you think it would have been an excellent thing for the city of Bombay?
A. — I have no doubt about it whatsoever.

Q. — And that not on the basis of the boom prices then ruling but on that of the prices ruling at ordinary times?
A. — Quite so.

Q. — You speak in your statement about "grave irregularities" in the department of the Development Directorate. Is that so?
A. — Yes.

Q. — Do you mean any irregularities against any particular person?
A. — No. Irregularities in not carrying out things in a business-like manner.

Q. — You have no charges of a personal nature to make against any one?
A. — No.

Q. — But you thought it was not being managed in a business-like and proper manner?
A. — Yes.

Q. — You state also that "reassuring statements were made on behalf of Government even when they should have known that all was not going right with the scheme and that financially it was going to be a huge failure". Is that proved yet?
A. — Practically it was. It may not now be if the way in which it has been done is altered in time.

Q. — You think it is possible at the present moment that it may be turned into a success?
A. — It may be quite possible, if efficiently and economically controlled.

Q. — You say again that on the receipt of the Advisory Committee's report your association felt no doubt that there were some grounds for the grave insinuations that were made in public. Can you give us any notion of what these insinuations were? Can you give us any facts?
A. — The remarks that were made in the Council by Mr. Nariman.

Q. — Did they refer to any personal irregularities or were they only general remarks?
A. — I cannot say they did refer to personal irregularities. I do not quite remember.

Q. — Irregularities in the sense of bad management and not in the sense of personal irregularities?
A. — Yes.

Q. — Further down in your statement you say that "responsible parties should know that the finances of the city and the presidency are not to be trifled with and in order that incompetent persons should not take upon themselves duties which they are not capable of properly discharging''. What do you mean by taking upon themselves? Is not Government entirely responsible?
A. — Government are responsible, but they have made several appointments in connection with the scheme.

Q. — You say "take upon themselves" referring to incompetent persons. Are there any incompetent persons who took upon themselves anything that they had no right to take?
A. — Those who have allowed this irregularity have proved their incompetency.

Q. — Who has taken upon himself these duties which he is incapable of properly discharging? Can you give us any instance?
A. — The man who has ordered the dredger.

Q. — But he has not taken it upon himself. He was appointed by the Government?
A. — That is what I meant.

Q. — You do not mean that any one has overstepped his bounds?
A. — No.

Q. — You use a very ugly word here—"dishonesty". Can you tell me what you mean by that?
A. — I qualify that by saying "as the case may be".

Q. — Can you give me any instance of dishonesty?
A. — I cannot.

Q. — Do you know of any one? We should be only too glad to investigate.
A. — I cannot.

Q. — Can you give us any specific instances of neglect?
A. — The slipshod way in which the first estimate was prepared. That is an instance of neglect.

Q. — You are assuming that there has been neglect?
A. — To my mind, there is no doubt about it.
Q.—You say in your general conclusion that “the scheme should be as far as possible completed at the minimum of loss.” That is the idea of the Bombay Presidency Association?
A.—Yes.
Mr. Billimoria.—Sir Dinshaw Petit, you are one of the largest landlords in Bombay?
A.—I won’t say so.
Q.—You own a very large number of lands and buildings in the City?
A.—I know that is the general idea, but it is a very mistaken one.
Q.—You don’t want to have that credit for yourself?
A.—No.
Q.—You have been a member of the Legislative Council and the Municipal Corporation for a number of years?
A.—Yes.
Q.—So you are very intimately connected with the city of Bombay as one of its principal responsible citizens?
A.—Yes.
Q.—You are also a large millowner and have intimate knowledge of the conditions of life in Bombay?
A.—Yes.
Q.—Being connected with the key industry of this Presidency—I mean the textile industry—you know that that industry is practically passing through a stage of crisis?
A.—Yes.
Q.—And that Bombay is not at all prosperous?
A.—I know that to my cost.
Q.—It is very difficult to state when conditions may improve in Bombay?
A.—Very difficult to say that exactly to a month or a year, but it is my idea that it will improve at no distant date.
Q.—You don’t expect it to be very distant?
A.—No.
Q.—You expect prosperity in Bombay in the next few years?
A.—I see better times in store, I won’t say prosperity.
Q.—Do you think there are prospects of the repetition of the boom that we had experienced between 1920 and 1922?
A.—I don’t think, within this generation.
Q.—The year 1920 was the best period that Bombay had ever seen in its history?
A.—Yes.
Q.—In your statement you say “Accepting the figures of cost which were then given out, etc.”; you mean the estimate of 367 lakhs?
A.—Yes.
Q.—And the figures worked out at Rs. 56 per square yard of land available?
A.—I thought it was Rs. 22. That was on the basis of 702 lakhs, but I am not quite sure.
But I think the figure then worked out at Rs. 22 per square yard. That is my impression after calculating everything, deducting for roads, paths, etc. I may be wrong.
Q.—That was after taking into account the interest on the money spent on the scheme?
A.—I do not know; they are supposed to have taken that into account. I do not know whether they did or not.
Q.—What was the prospect at that time of land being sold? At what price? You say in your statement that it was not “on the basis of boom price that was ruling then but on that of the price that could be fetched in ordinary times”?
A.—At that time, anything between 300 and 400 times.
Q.—In ordinary times what would you expect?
A.—Between Rs. 55 and 75.
Q.—If on completion of the scheme, the cost works out to Rs. 55 or more than 55, would you consider it a reasonable and productive proposition and financially sound?
A.—Apart from that, my feeling is that we have got to face it; that is it.
Q.—We have incurred a loss and we must face it boldly; is that your feeling?
A.—We are in the soup: we have to see through it now.
Q.—Further, in your statement you say “Large estimates are apt to vary but not generally by more than 10, 15 or 20 per cent.” I take it that this was your experience?
A.—Yes.
Mr. Billimoria.—With regard to the completion of the scheme, you say it would be wise to complete it. Do you know that up to the end of June last 5,67 lakhs have already been spent on the scheme?
A.—Yes.
Q.—In order to complete the scheme, a further expenditure of seven crores would be necessary?
A.—Eleven crores is the estimate.
Q.—After providing for roads, open spaces, paths, etc. It has been suggested that 22 lakhs of square yards of land would be available for public purposes, for buildings, etc. Do you think
that such a huge expenditure on an area of 23 lakhs square yards would result in a profitable proposition in the end?
A.—It is doubtful.
Q.—You also know that it will take a number of years to have the scheme completed?
A.—It depends on what you call "a number of years."
Q.—We had several witnesses here who had put it roughly between 10 and 15 years—engineers and others.
A.—I am afraid that is an engineering question.
Q.—If it takes 25 or 30 years for the completion of the scheme, the interest would pile up on the large amount of money that would be spent, so that at the end of the period, the 11 crore estimate would be more than double.
A.—At the end of 30 years, naturally.
Q.—As such it could never be a business or financially sound proposition? You agree in that?
A.—Yes, granted it has not been completed within 30 years.
Q.—Having regard to that, would it not be prudent to complete a few blocks that have to be completed and on which work has already been started and to await the result?
A.—No; I do not think so.
Q.—You would have the scheme completed, and face the loss whatever it is?
A.—To a reasonable extent.
Q.—That means you would not launch the whole scheme but go slowly and cautiously?
A.—Yes. But I would complete the scheme as quickly as possible.
Sir Frederick Hopkins.—Is your personal opinion or the opinion of the Bombay Presidency Association?
A.—My own personal opinion.
Q.—You don't speak for the Bombay Presidency Association?
A.—No.
Mr. Bilimoria.—Then in your statement, you are putting forward a grievance that in the council several non-official members pressed for an executive committee representative of the public to be associated with the Government department for carrying out the development schemes, but that in the select committee, the Chairman Sir George Curtis ruled this proposal out of order. Have you any authority to say that?
A.—Oh, yes. I myself pressed for such a committee and I was ruled out of order.
Q.—You speak from your own personal knowledge as to the statement made here?
A.—Yes.
Q.—Do you know the reason why Sir George Curtis ruled it out of order?
A.—He could have thought it out of order, and ruled it so.
Q.—He thought that the committee at that juncture was not needed?
A.—I won't say, I am not quite sure as to who said that, whether it was the Governor Sir George Lloyd or Sir George Curtis, but somebody on behalf of the Government said so in the Council. I think Sir George Curtis said it; you will find it in the reports of the council.
Q.—Then you proceed with your statement and say, "and in any case the public would not have been kept in the dark for such a length of time." What you mean by "being kept in the dark for such a length of time"?
A.—We had very reassuring statements in the council made by Sir Chimanlal Sethalvad and others, and if there was an executive committee working jointly with the Directorate then surely all would not have sat silent and given the reassuring statement; the public would have known what they are doing.
Q.—So the feeling of your association is that if the public had been taken into confidence the financial ruin, which has been complained of would to a large extent have been avoided?
A.—Would have been checked.
Q.—Then you say when insinuations were made openly against the executive of the Development! What were the insinuations? Who made them?
A.—The insinuations made by Mr. Nariman, in particular.
Q.—In the council?
A.—Yes.
Q.—When Mr. Nariman comes we will ask him about it. Then Sir Fredrick asked you about the grave irregularities you say as existing in the department. I suppose you refer that also to Mr. Nariman?
A.—The very fact of the increase of the estimate by 300 per cent. means that there must be grave irregularities in existence.
Sir Frederick Hopkinson.—Don’t you mean this that as the cost has increased so enormously there must be grave irregularities?
A.—Quite so.
Q.—You don’t know of any specific ones?
A.—Except what I have heard from general reports.

Sir M. Visvesvaraya.—Do you know of any people who can give us specific instances?
A.—Perhaps Mr. Nariman may.

Mr. Bittorma.—When Mr. Nariman comes we shall ask him about it because he has been making these insinuations. Then, you have on the second page of your notes “that all was not going right with the scheme and that financially it was going to be a huge failure” and events have proved it: and if this scheme with interest piling up in a number of years when it is completed is going to cost you several crores of rupees, the prospects of realising 30 to 50 crores have not only evaporated in the air, but we are faced with a distinct vision of a huge loss. That is what you refer to by huge failure?
A.—If it is continued in the same fashion.
Q.—Would you suggest other alternatives?
A.—No; I would leave it to the department to suggest.
Q.—This committee has to consider whether the scheme is to be abandoned at present or to be completed in part or in the alternative completed in its entirety as originally planned or with modifications as regards the methods of execution. Have you any suggestions to make with regard to any of these alternatives?
A.—I would have it completed as far as possible.
Q.—Then, you have been good enough to thank the Government of India, expressing your gratitude for having appointed this Enquiry Committee. Now that this committee has been appointed and is working have you anything definitely to suggest or to propose to the Committee as to what the committee should do. The committee is now sitting in enquiry, would you like the committee to make enquiries in any particular or definite directions?
A.—I think it is, from all reports, doing all that it is expected to do.
Q.—Thank you very much, Sir Dinshaw, for the compliments. Then you proceed further and say “that the Committee will leave no stone unturned to apportion the blame of neglect or dishonesty as the case may be to the individuals associated in this work.” Would you be more candid with regard to this and say what you convey by this?
A.—I mean that unless there is gross negligence there cannot be this increase in the estimate. Therefore it is for the committee to find out who are the responsible persons for having landed us in this quandary.
Q.—In reply to a question from Sir Visvesvaraya you said something with regard to a committee being appointed for the future prosecution of this work. Could you suggest anything with regard to its constitution? Would you like business men to be associated with that committee, or engineers and financiers to be put on the committee?
A.—I would ask public bodies, responsible public bodies, such as the Bombay Corporation, the Mill Owners’ Association of Bombay, the Chamber of Commerce, the Indian Merchants’ Chamber of Commerce and such bodies, to appoint their representatives, and the Government will also appoint one or two experts, to constitute this committee.
Q.—Do you suggest that that committee is to be a sort of advisory committee or a sort of executive body?
A.—Executive body. What I mean is this, that no improvement scheme is to be undertaken without its being passed and approved by the committee.
Q.—If it is suggested that this work is to be proceeded with would you suggest or recommend the transfer of a portion of the activities of the Development Department to the Public Works Department, or would you suggest any other agency for taking over and getting on with the work?
A.—I think this committee would be the best body to decide that question.
Q.—So you would desire that Government should carry on with the advice and co-operation of the committee constituted by representatives of public bodies?
A.—By what agency I would not say that; It would be for this committee to recommend.

Sir M. Visvesvaraya.—If it is decided to do the work by moorum filling are there local contractors who could carry out the works?
A.—It is more than what I can say. I have no idea.
Q.—There is some misapprehension about the area to be reclaimed. The total area is 55 lakhs of square yards, and the net building area will be about 22 lakhs square yards. As to cost various figures have been mentioned Rs. 40 per square yard and 50 per square yard. These figures refer to the net building area, not to the total 55 lakhs of square yards. Now if you get
55 lakhs of square yards at Rs. 10 per square yard—it would cost you Rs. 10 per square yard to reclaim—have you any objection? Out of 55 lakhs, 45 lakhs remain to be completed. So if it is proposed to complete this 40 lakhs at a cost of Rs. 10 per square yard would you object to that?

A.—Calculating what has already been spent?
Q.—No; additional. Whatever has been spent is spent. There is no going back. There is no means of wiping off that loss?
A.—I have no objection whatever.
Q.—If the work can be done cheaper you would complete it?
A.—Yes.
Q.—In the shortest time possible?
A.—Yes.
Q.—You may be able to wipe off the loss if the work is done expeditiously?
A.—Yes.
Q.—If the Public Works Department took over the work you can still employ contractors?
A.—I don’t know; I have no idea.
Q.—Is it the opinion of the public of Bombay also that the work should be completed expeditiously?
A.—That is a divided opinion. I have talked with many; some say it should be completed; some say it should be abandoned, only what is incomplete must be finished.
Q.—It depends on the cost?
A.—Yes, of course.

Mr. Billsoria.—Just one question. Sir M. Visvesvaraya just now put to you some definite figures with regard to reclaiming this land at Rs. 10 a square yard. Those are hypothetical figures.

Sir M. Visvesvaraya explained that for the next few years they might adopt that figure, as the work would consist of filling in with mud, and no dredgers or anything would be required. As to how long it would take that depended on the facilities afforded by the two railway companies, and if they could agree between themselves to give 20,000 cubic yards a day, they could finish it quickly.

The witness withdrew.

22nd Witness

Mr. N. D. Kanga

Mr. N. D. Kanga, Civil Engineer, was called in and examined.

Sir M. Visvesvaraya.—What is your full name?
A.—Nusserwanji Dorabji Kanga.
Q.—Your profession?
A.—Architect and Civil Engineer.
Q.—You are constantly in touch with the prices of land in the neighbourhood of the Reclamation area?
A.—Yes.
Q.—Are any sales being effected nowadays?
A.—Yes, I should say on Queens Road. I remember two sales. One was the day before yesterday. That was a small compact plot at Rs. 200. Another plot was sold for Rs. 160, near the industrial centre. All these were small plots.
Q.—What is the price of land in the neighbourhood of the area to be reclaimed, at the Marine Lines end?
A.—There are several factors to be taken into consideration before giving the answer. The question is what the area and the period of disposal would be. The purchaser will take into consideration all those factors. Taking the Colaba end, the Improvement Trust realised about Rs. 35 per square yard. That was about 15 years ago. The principal question will be about the period of disposal.
Q.—What will be the period to get that high price? The area is about 22 lakhs of square yards?
A.—I want the total area for building.
Q.—Including the open spaces it will be about 55 lakhs of square yards?
A.—The public has nothing to do with the open spaces. Roads and parks should be left out.
Q.—The net building area is about 23 lakhs of square yards?
A.—There will be about 3000 square yards in one plot. You will sell about 2000 square yards in one plot.

Q.—You might mention the conditions if you like and then give us the price you think is reasonable?
A.—The principal question will be about the sinking fund. Twenty-two lakhs of square yards will mean about 1100 plots. If you dispose of about 30 plots a year, it will take about forty years. I do not think you will be able to dispose of more than 30 or 40 plots a year.

Q.—Will not all the buildings be located there, on the Hornby side?
A.—Provided you take the industrial user. There is the question of the restrictions you put on the plots. If you sell only for residential purposes as in Salsette the value of the plot is greatly restricted. If you take thirty years as the period of disposal, you will have to set apart a sinking fund.

Q.—If you take thirty years what will be the prices?
A.—On the day of start it means 50 per cent. of the total value. You may be able to realise about Rs. 40. The principal point is the sinking fund.

Q.—Would it be reasonable to assume that Rs. 40 would be realised for that area?
A.—On the day you complete the whole thing? I should say it would be Rs. 40. On the day you complete the whole scheme—complete with roads and everything else—you can realise Rs. 40. I don’t think you will find the immediate market for that price. You take your own time and see the tendency in the market. The demand will be the same. As the supply gets less, the vendor will realise more. But the period of disposal is the principal thing even if you set apart sinking fund at 4 per cent.

Q.—But the prices will vary between the Marine Lines end and the Colaba end?
A.—Oh yes.

Q.—I take it that Rs. 40 was the average?
A.—I meant that.

Q.—What figure will you give for Marine Lines?
A.—I should say you will get about Rs. 125 for a large area and the buildings in the rear will fetch less. Again, the question is whether Queens Road is for industrial purposes?

Q.—I don’t know what the object of the Government is. It is not likely that it would be used for industrial purposes?
A.—Then the Queens Road would not fetch so much.

Q.—You may assume it for offices and Government buildings.
A.—Then I don’t think any purchase in the area 1 lakhs of square yards will fetch less. Again, the question is whether Queens Road is for industrial purposes.

Q.—Will not the public take that area because of the favourable position?
A.—Certainly because of convenience, towards the north of the Fort, between the Churchgate Station and the Marine Lines. These blocks (Nos. 1 and 2) are most favourable and valuable for building purposes as they are in the centre of the business area.

Q.—Colaba area will be taken up by the Military………
A.—That is the Wodehouse Road. Here are the Improvement Trust Plots. They realised in all about Rs. 35 per square yard. For some of the inner plots away from the sea they realised about Rs. 25 or something like that.

Q.—How long ago were the sales effected?
A.—I think about 1912. The prices of land had considerably increased since 1912. Actually the boom started about the year 1918 after the Armistice and the prices went up in 1919 and went up to the top in 1920. After the last quarter of 1920 the fall began and it still continues.

Q.—Already 15 lakhs of square yards have been reclaimed?
A.—Yes.

Q.—And there are still 40 lakhs remaining to be reclaimed. Would you proceed with the work in expectation of profitable sales? One thousand and one hundred plots are estimated to cost 4 crores?
A.—I cannot say about 4 crores.

Q.—That is for the building area of 22 lakhs?
A.—That is what I believe would cost: assuming 2000 yards a plot, 22 lakhs of square yards at the rate of Rs. 40 a square yard will realise about Rs. 8,80,00,000

Q.—Is there any prospect of realising that?
A.—I said it would take about thirty years, if you put all the plots in the market. I assume that you sell about 30 to 40 plots a year. The Improvement Trust and the Municipality take into consideration the sinking fund.
Q.—Are you in favour of completing the reclamation area or leaving it incomplete?

A.—To leave the scheme incomplete in my opinion is an eye-sore. To leave the scheme incomplete will be something like treating the money spent as bad debts. The only question is whether you are going to recoup the loss by spending more or increase the loss.

Q.—Supposing you are likely to recoup the loss? If you can get Rs. 40 rate, in 10 years you can recoup the loss?

Sir Frederick Hopkinson.—Rs. 40 is based on the 30 years' period.

Sir M. Venkataraghavan.—You will have 23 lakhs of land available on the day of starting and if you sell at Rs. 40 you will get about 8 crores, nearly 9 crores. The area to be reclaimed is about 40 lakhs of square yards. The area to be reclaimed is 40 lakhs of square yards and it will cost only 4 crores. In it is included the 22 lakhs of square yards. If the circumstances are just what you said, would you recommend the scheme to be completed or not?

A.—Certainly, I would.

Sir Frederick Hopkinson.—I should like to make it clear that these estimates or cost of completion are not the considered estimates of the Committee.

A.—No. Rough estimates.

Q.—Not even as rough estimates of the Committee, because we have not considered it. They are an assumed cost?

A.—The only statement I can make is that on the day of completion you can expect Rs. 8 crores. The Rs. 40 rate is spread over 30 years. I assume that the plots are in the market. I don't think I shall be so pessimistic as regards plots on the Queens Road.

Q.—What are the prices on the Hornby Road in the centre of the town?

A.—I should say about Rs. 300 today. Originally it was Rs. 1,300 in boom time. A good plot I should say would fetch about Rs. 400. But there are no vacant plots. Buildings are actually built over. I think there were some sales which were about Rs. 400 to 500. I think one or two plots have actually changed hands. That is on Hornby Road, to the west of it, occupied by banks.

Q.—Is there any large demand for land for public buildings like hospitals or public offices and business offices?

A.—I can say there is some demand among business people. The Municipality is going on with its Hornby Road Scheme and therefore there may not be any competition. It depends on the centre of the banks. If Government wishes to move the banks the demand may be less. Then the question of the prohibitive cost of the construction comes in. If you intend to construct, I mean the purchaser will consider that heavy foundations will be necessary, and thus the cost will be prohibitive.

Mr. Billimoria.—Mr. Kanga, you have a great deal of experience as an Engineer in Bombay. You have been retained by the Improvement Trust and the Bombay Municipality and the High Court of Judicature has always quoted your opinion as an expert.

A.—I have given evidence in several cases. I was retained by the Municipality and the B. B. & C. I. Railway.

Q.—Do you think from your experiences and connection with the town and city of Bombay, if such a large area as 22 lakhs of square yards were thrown open in the market there would be immediate demand?

A.—If you spread it over for 30 years, I think the plots will be disposed of at the rate of 30 or 40 plots a year. While suggesting these 30 years, have you taken into account the vast area of land that is now lying vacant in the city itself, approximately 90 lakhs of square yards?

A.—I think that the price of this land will go down in view of the scheme.

Q.—There are some plots in Colaba. Will they not directly compete with the reclaimed area. The area available from the Colaba end to the Marine Lines end is 171 lakhs, the G. I. P. and the B. B. & C. I. Railway lines, all these amount to about 400 lakhs of square yards immediately available for building purposes. They don't require the foundations that you have mentioned. Do you think there will be a demand for the land on the reclaimed area?

A.—That is why I said spread it over 30 years. It is a fair estimate.

Q.—You don't suppose these lands will compete?

A.—They will compete. That is why I said Rs. 40 will be a fair rate. I don't think they are prepared to sell at Rs. 40. Large area has to be divided into plots, and if you divide, a good deal of land will have to be thrown out for open spaces. Then this 400 lakhs of square yards will be reduced.

Q.—Mr. Kanga, you referred to Improvement Trust Plot in Colaba, by which you mean I suppose the Cuffe Parade and the Railway Station and the back side. On an average, this
realised Rs. 35 fifteen years ago. That is a small area. With a huge area which you see on the front of it, do you think, inspite of the rise in the price of land, there would be a demand in that locality at a price nearing Rs. 35 or 50?

A.—Yes, because you can during the period of thirty years. Since 1910, 1912 the market price has been rising considerably. Leave aside the boom time. Since 1919 there has been an intrinsic rise. It cannot be ignored. Even now we are not below the level of 1918.

Q.—Do you take 1918 price as normal conditions?

A.—I should say so.

Q.—You have said something about the Hornby-Ballard Scheme. When that area is opened for business purposes there will not be any demand in the reclaimed area for business purposes?

A.—But they don’t want to sell at less than Rs. 300.

Q.—Do you know what the Municipality has paid for acquisition?

A.—I think it may be Rs. 200 for residential area.

Q.—To be converted into business area?

A.—Yes.

Q.—You have stated that the whole of this reclaimed area would realise about 8,50,00,000.

Are you aware that about 5,90,00,000 have been spent?

A.—I read that in papers. But I cannot say.

Q.—Supposing it costs you another 5 crores, the cost will come to 11 crores. This has not taken into account the interest for thirty years to come.

A.—The fallacy lies there. The Rs. 40 rate is spread over 30 years. The question will be what will be the cost on the day of completion when you put the land in the market for selling.

Q.—But you don’t take interest into account?

A.—That is already reflected in my rate allowing interest at 4 per cent. I take Rs. 40 to be a fair rate on the day of the completion of the scheme. We have spent so much as 5 or 6 crores whatever it be. The main point is, what is to be done in the future. We have got to spend a certain amount in the future and this 8 crores ought to be set aside against it.

Q.—Mr. Kanga, I will ask you a general question: Whether you would prefer to complete the scheme as and when there is demand for land or would you prefer to complete the whole scheme?

A.—That depends on the advice you get from the constructional Engineer. Are you prepared to put these plots in the market as the scheme is completed in sections or are you prepared to wait till the time you complete the whole thing? If it is cheaper to do the plots in sections and dispose them of, you had better do that for a certain time. In any case, the sea wall will have to be completed.

Sir Frederick Hopkinson.—Otherwise all the sea wall already built will be money thrown away.

A.—That is what I say. Now the question is what amount we have to spend now. By spending 5 crores if you can finish the scheme in five or six years, if you get that 8 crores you will be able to reduce the loss.

Sir M. Visvesvaraya.—If the scheme costs four or five crores only?

A.—I think you ought to proceed.

Sir Frederick Hopkinson.—You remember that the scheme was first launched in 1919.

Have you any recollection considering the value of the scheme?

A.—I was reading the scheme in papers. At that time it appeared to me that there was no necessity for the scheme, as there was land available then.

Q.—Assuming that the scheme could be completed something under four crores, at that time it would be a profitable scheme for the Government to undertake?

A.—Certainly.

Q.—Notwithstanding your objection it was a wise thing of the Government to undertake to work on that basis?

A.—Four crores, yes.

Q.—At that time you would not consider Rs. 40 a low price?

A.—Everything was rosy at that time.

Q.—In 1919-20, at the boom time, land would be much more than Rs. 40?

A.—But the question is how long the high prices were going to rule. How long they will take to complete the scheme. The conditions of the market were not known then.

Q.—You have already told us that in 1919 it would be a profitable undertaking?

A.—If the scheme was ready at the time.

Sir Frederick Hopkinson.—I said when the scheme was first launched in 1919 would not you consider it profitable. Your answer was that at the time you considered it would be profitable if undertaken by Government and if it was only going to cost four crores.
The most amazing thing about the Back Bay Reclamation Committee is that it should have been necessary. Here we have a qualified firm of engineers of world-wide fame tripping up in an amateurish manner which one would think a tyro would have been exempt from and a Government with a well organized cadre of engineers ignoring all ordinary precautions and business methods long and successfully pursued by their predecessors.

For if a reputable and capable firm of engineers are asked to advise on a vast engineering project one would imagine that they would have at least taken the necessary precautions to be certain beyond cavil of the foundations on which their proposals were based. Instead of which we find that the engineers of the project (1) Never took any trouble to convince themselves of the quantity and extent of the mud, silt or clay they so airily decided to garner and use.

(2) With equal light-heartedness they ordered a dredger at a vast sum.
(A) Months before it was required.
(B) To pump material of the nature of which they had a limited knowledge.
(C) Worked it with engineers who had little or no knowledge of dredging methods.
(D) Failed to call in experts from the makers as soon as their machine failed to work up to specification.

And a Government
(A) whose slogan seems to have been hurry, hush and more hurry,
(B) whose inability to consult the Port Trust as to the feasibility of the proposals was pitiful.
(C) whose ignoring of the rights of Bombay citizens to participate in the management of their own affairs was unfortunate,
(D) whose conduct in keeping the public in the dark as to the financial failure about to occur until the day such knowledge could not be averted was entirely reprehensible.

So much for the past and now for the future.

One must realise that
(1) No less than 3 crores of rupees have been spent beyond recovery.
(2) That 25% of this vast sum represents dredgers, pipes and machinery whose value is little more than scrap to-day.
(3) That plots 1 and 8 are nearing completion.
(4) That only 1,800 feet of sea-wall remains to be built.

In order to make the best of this very bad bargain I suggest
(1) That plot 8 should be completed with the utmost despatch and handed over to the Government of India so that the interest charges are immediately extinguished.
(2) That plots 1, 2, 7 be completed by the dredgers worked as efficiently as possible by competent engineers.
(3) That the sea-wall under water be completed but so that the ebb and flow are unimpeded.
(4) That the remaining of the project be left in abeyance until further experience has been gained and the financial situation eased when it can be fully and fairly reconsidered.

Personally I do not agree with the proposal of an ornamental lake and a marine drive suggested by some people. Nor do I think that further reclamation will be undertaken in the next 25 years.

Sir M. Viswanatha—You say in your statement “A Government with a well organized cadre of engineers ignoring all ordinary precautions and business methods long and successfully pursued by their predecessors”. Do you refer to the Public Works Department?
A.—I refer to the procedure generally. Whenever Government in the past has carried out a work of this magnitude they have first of all invited the light of public opinion fully, fairly and at length. When they have had that public opinion they have considered these various opinions tendered to them and then they have estimated the cost and put the work out to tender. Instead of this, the Government conceived a scheme, they bottled it up and so we knew nothing about it until they were driven to disclose it in Council.
Q.—In your note you refer to a well organised cadre of engineers, you mean the Public Works Department?
A.—Yes.
Q.—Are you aware that the work is being carried out by a special staff and not by the Public Works Department?
A.—I am aware of that.
Q.—Was that desirable in your opinion?
A.—I think it was very undesirable to bring a lot of strange engineers on to a job, the nature of which, they were not well acquainted with. They brought Sir Lawless Hepper who is not acquainted with reclamation but he was a Royal Engineer.

Q.—But the local men have not got experience, is it not?
A.—But still they have had more experience. I think our Port Trust Engineers had a lot of experience about reclamation.

Q.—They did not belong to the cadre of the Public Works Department?
A.—I do not know if they would have a special knowledge of reclamation but I do think that there were men on the spot who knew more on the subject than the men subsequently employed on it.

Q.—You think that it was not advisable to supersede the Public Works Department?
A.—Not by a worse organisation.

Q.—Here in another place you say the engineers of the project “failed to call in experts from the makers as soon as their machine failed to work up to specification”. Will you kindly explain?
A.—I have something to do with machinery myself. When we want a new machine to do a new job, we send both the work and the product from which it is to be made to the maker. We are very particular about sending full details of what we want. If we want to spin waste to England to be spun into the sort of yam we like. It is a trifling matter. We think, therefore, that an engineer who was about to spend 5 million pounds would at least have made sure about the ground work on which he was going to build his project. The first thing a project of this magnitude should be sure of is whether there was plenty of silt, clay or mud in the harbour to dredge. He made no attempt to be sure of this.

Q.—Is it not usual to obtain guarantee from the makers?
A.—If the dredger did not work up to the mark, he should have called the makers experts out here and asked them what should be done. Here is mud, silt and clay that you wish to dredge from place to another, how should that be done. The fact of an engineer ordering a dredger to do work while he himself did not know what work it was called upon to do, is a piece of ignorance which I cannot forgive.

Q.—Everybody says that it is due to the clay being hard?
A.—If that is what everybody says, it was the duty of the engineer connected with the dredger within six months to have got experts who could cut hard clay effectually. Surely there are men in this world with experience who are used to cutting hard clay.

Q.—You advise they should be called in for the future work?
A.—I say no time ought to be lost in calling them in.

Q.—You say “the slogan seems to have been hurry, hush and more hurry”. Could you kindly give us some instances?
A.—The first instance is that they did not take the trouble to ascertain the bottom of the harbour what they were going to pump. That is a most glaring instance.

Q.—That is a case of hurry?
A.—That is knowledge coming after the event. The second instance of hurry is the ordering of the dredger without knowing what they were going to dredge. They must have imagined what they were going to do with it. The third case is that the dredger arrived 21 months before its time and therefore you lost interest on £750,000.

Q.—And the instance of hush?
A.—Nobody knew anything about this project. It was conceived between Sir George Buchanan and Sir George Lloyd, and it was not made public until long after the dredger was ordered. We in Council have asked for the specification of the dredger but have not been able to get it up to this day and we have been told that the Secretary of State for India ordered this dredger and not the Government of Bombay. Shall I say if the Bombay Government is carrying out a project why the Secretary of State should have anything to do with it and order a dredger without the consent of the Government of India and the Bombay Government.

Q.—Any more instances of hush?
A.—We have not been able to get any details out of Government and we were being assured up to February 1925 that all was rosy, that everything in connection with the building of the wall was below the estimated cost, that pumping and dredged fillings were going on in perfect order. This was said by Sir Lawless Hepper in Council not so long ago as February 1925. In 3 or 4 months, the whole scene changed. Do not you think this is a policy of hurry and hush.

Q.—You were not correctly informed of the progress of events?
A.—We were informed of nothing. Then the principal point I desire to mention is that when a scheme of this kind like the Improvement Trust or the Port Trust or any large work of that kind is formulated, we citizens of Bombay are asked to go into it and be responsible for the expenditure of it. We were asked nothing.

Q.—But you were not consulted for the money part of it?
A.—Money part is probably only part of it. The Government ought to have come to us and said that we are going to spend so much. The Director of Development ought to be in charge of a Committee like the Improvement Trust or the Port Trust.
Q.—In future you would like to have a Committee like the Improvement Trust or the Port Trust in charge of the entire executive works?
A.—Yes. The Chief Engineer ought to be a servant of this Committee and not the master.
Q.—The Chairman of the Port Trust is not the servant?
A.—He is a servant of the Port Trust and the trustees are the masters of the Port Trust. He cannot spend money without asking the trustees, he cannot do anything without their consent.
Q.—Here you say “whose ignoring of the rights of Bombay citizens to participate in the management of their own affairs was unfortunate”!
A.—That is what I have explained. I would like the whole project to be in charge of a Committee of citizens of Bombay and I would like the citizens to decide what shall and what shall not be done in terms of the recommendations they receive.
Q.—But that money belongs to the general taxpayers and not to the Bombay citizens.
A.—A very large share comes from the Bombay city.
Q.—It is a provincial charge?
A.—They contribute the largest share to the revenues of the Bombay Presidency.
Q.—What would be the relations of the future Committee that you recommend with the Government?
A.—The same as those of the Port Trust.
Q.—You think the execution of the work would be satisfactory?
A.—I think so.
Q.—You say “No less than 6 crores of rupees have been spent beyond recovery”. The latest estimate of the Development Directorate is 4 crores out of which 2 crores would be paid by the Government of India for the land. I only wanted to draw your attention to it.
A.—Yes.
Q.—If the filling can be done by moorum earlier although not just as cheap as dredged filling would you prefer to fill by moorum?
A.—If moorum filling can be done reasonably cheaper and within a reasonable measure of silt and harbour dredging, I would prefer moorum filling but I very much doubt whether it can be done within 33 to 50 per cent. of silt from the harbour.
Q.—What do you recommend about the future work, should we leave it where it is, or leave it half done?
A.—You must complete No. 1 because you are getting money for it. No. 7 is the least expensive and can be done most easily, therefore I would certainly do it and I think I would complete 2 also.
Q.—Would you not give some sort of finish in order that it may not prove an eye-sore?
A.—I would like to finish it but I do not understand the engineering difficulties. I cannot make up my mind about the sea wall to remain open and the monsoon waves breaking in and damage it.
Q.—If you complete the wall, you would not get in debris?
A.—Yes, you will have to keep the gap open otherwise you would not get in debris. Monsoon helps in filling but if you complete the wall you will lose valuable material. I am not certain but Sir Frederick Hopkinson will be able to tell us. Perhaps an opening will be better in very severe monsoon because the waves can get through instead of dashing against the wall and damaging it. That is an engineering question but as any rate you have to get some substantial insurance against any future disaster.
Q.—You tell us the whole should be finished properly?
A.—It is subject to what I have said that it ought to be determined by the Engineers whether debris coming in with the monsoon waves sufficiently compensate for the eye-sore.
Sir Frederick Hopkinson.—You were in Bombay in 1919?
A.—Yes.
Q.—Did you know the first inception of the scheme then?
A.—I was able to see it afterwards but I never heard about its inception in 1919.
Q.—When did you learn that the scheme was to be proceeded with?
A.—I think it was either at the end of 1920 or in the beginning of 1921.
Q.—I thought news travels quickly in the East?
A.—I was away from Bombay a good deal in 1920.
Q.—When you heard of it, did you raise any objection?
A.—No. I thought we were going to recover a very large area for the sum of 367 lacs. Looking at it casually, I thought it was an immense bargain.
Q.—And consequently you would have been delighted if the work had been finished for 367 lacs because it was going to be such an immense bargain for Bombay?
A.—Quite so.
Q.—Therefore your objection to the scheme is that it is going to cost more than it was anticipated?
A.—Very much more.
Q.—But then it does not affect the desirability of the scheme as a scheme. You think it is a good scheme if done at a price that will give you immense profit?
A.—I cannot agree with you. If the scheme when finished is going to bring relief to the taxation of the Presidency, I say it is a very good scheme, but if this scheme, in the end, instead of being of benefit, is of great loss to the Presidency, I say that scheme had not been gone into carefully originally and ought never to have been incepted.
Q.—But you would have been glad to have a profit which would have been made had it been carried out at the original price and you feel disappointed if you are losing this immense bargain?
A.—Yes, instead of its being of benefit, we would have been required to pay from our pocket for it.
Q.—When did you first change your mind about its not being a profitable scheme?
A.—When the revised estimate came out.
Q.—That was September 1921?
A.—Yes, when the estimate of 702 lakhs came out I began to think that a project that could double in the course of a year had something very doubtful behind it.
Q.—You spoke about debris coming in with monsoon. Do you know as a fact that such debris does come in?
A.—I know that debris does come in but to what extent, I cannot tell you. It may be very small probably, but it is very doubtful.
Q.—If as you say it is 20 per cent., Back Bay would have been filled up many years ago. If debris come in 20 per cent. you would see the ground rising every season. Have you noticed any such change on the foreshore?
A.—I had noticed some change in the past years but as you say it was 20 per cent. it would be visible very soon.
Q.—Now with regard to your written statement; I have very little to ask you on it, but if I may say so without offence, it looks to me very much like notes for a public speech than something that is going to help us in this enquiry.
A.—You may take it as you like but as the Committee asked me to give them written notes on which I was going to give evidence, I have given you notes. You may ask me any question you like.
Q.—I am quite sure that any orator on these notes could go on speaking for quite a long time. Of course the majority of those notes you have given us are subjects on which we have to give an opinion and do not seem to me to contain any facts on which we could form an opinion. These are all general statements.
A.—Not being connected with the project I am hardly in a position to give you those facts which are necessary for the formation of your opinion.
Q.—In item No. 3 (on page 2) of your written statement you say "that the sea wall under water be completed but so, that the ebb and flow are unimpeded". Of course if you do that you will keep out all the debris you have been expecting to get in?
A.—I would build it within five or six feet of low tide.
Q.—Debris travels along the surface of the sea wave. It is sand that comes in but that will not float. You get a little dirty water floating but not sand which will form a foreshore for you. You do not agree with the suggestion, I notice, that some one has made for an ornamental lake and a marine drive?
A.—No.
Q.—It will be part of the final work?
A.—Yes.
Q.—Anything you did in the nature of a marine drive would be part of the present scheme, it would not be something new?
A.—Yes.
Q.—Probably the suggestion is put forward so that you should not have this eye-sore every time you come down to the sea front, and would you not personally see an ornamental lake rather than the back of that wall?
A.—I would like to know how much that ornamental lake is likely to cost and who is going to construct it. I would prefer to see that at a certain cost, but not at something enormous.

Mr. William.—Mr. Wadia, your note is very illuminating and interesting. The facts that have been stated there have more or less turned out to be true. But I may be permitted to ask a few general questions if you do not mind. You have been a Member of the Legislative Council as well as the City of Bombay Improvement Trust for some years?
A.—Of the Legislative Council for five or six years at least, but on the Improvement Trust I was only put on last year.
Q.—You are a millowner and familiar with the conditions of life of the citizens in Bombay.
You must be aware, Mr. Wadia, that nearly 90 lakhs of square yards of land are now vacant and
available in the town and island of Bombay.
A.—I am aware of that, yes.
5
Q.—Did you think that there would be a demand for 22 lakhs of square yards of the
reclamation area in view of 90 lakhs being already available, did you think there would be an
immediate demand for another 22 lakhs of square yards of land?
A.—I am afraid I never thought about it. I thought the project was so beautiful and we
10 were going to get something which was going to bring us back money in our investment in
Back Bay a hundred-fold. I did not think the Government could possibly make so large an
error, and therefore I did not literally think about the land part of it.
Q.—You were tempted with the profits of 30 to 50 crores "upon a modest estimate"?
A.—I was impressed by it.
Q.—At the time the scheme was launched do you think there was a necessity for a scheme
15 of that nature?
A.—I do not think so.
Q.—Do you think the scheme has a reasonable prospect of being a productive one to-day
by completing it?
A.—Not a dog's chance I should say.
20 Q.—On a review of all the circumstances at present known and the future as far as it is
possible to forecast, it should the scheme be abandoned or completed in part or completed in
its entirety? You have put forward some suggestions. You have stated that plot 8 should
be completed, 1, 2 and 7 should be completed and that the remainder of the project be left in
abeyance until further experience has been gained and financial situation eased. Of course
25 you confirm that opinion now.
A.—Entirely.
Q.—Would you as a prudent business man recommend to proceed very carefully and
slowly or would you proceed to complete the scheme immediately?
A.—I would be very cautious about how I proceed with the scheme.
30 Q.—With regard to the dredging plant that was ordered out, is it not usual, I suppose it
is your experience as a machinist that when a new type of machine altogether unknown is
ordered out the indentor does not pay the full value, but retains a certain percentage, 20 or 25?
A.—If there is a guarantee that the machine does something then it is the duty of the man
paying to keep back the money. We are putting up a wireless station at a certain place where
35 we are retaining for a year a certain amount of the contract price to see if it satisfactorily
functions.
Q.—In this particular instance, although the dredgers were got to turn out a certain
specified quantity there was no guarantee taken nor money withheld. Do you think it was wise
or prudent?
40 A.—Most unbusinesslike.
Q.—When you suggest that the scheme was launched by Sir George Buchanan and
Sir George Lloyd, do you mean to suggest that no other Engineer was consulted by
Government as far as you know?
A.—As far as I know, I have not heard of any other.
45 Q.—If any one has suggested that the Secretary of State ordered out the dredger, I might
say from the correspondence it appears it was at the instance of the Government through the
Secretary of State which is the usual channel it was bought and that the Secretary of State did
nothing behind the back of the Government of Bombay or the Government of India.
A.—We were told in the Council the Government of Bombay did not order the dredger,
50 nor did they know the dredger was ordered until the correspondence was handed to
Sir Frederick Hopkinson. They told us so.
Q.—That is an incorrect statement, Mr. Wadia, because the correspondence will show that.
A.—That is what we were told last year in February 1925 or 1926 in Mr. Cowasji Jehangir's
speech. I think you will find it there.
55 Sir Frederick Hopkinson.—I think we ought to have that. Have you got the February
speech? Could you spot that from the proceedings in the Council if the book was handed to you?
I suppose it is difficult for you to do it now.
A.—After you have done with me I shall stay behind and look.
Q.—In the speech you made in the Council in March last session you have pointed out to
60 Government the three mistakes Government had committed, and you say that you would
apportion the blame where blame is due and guard against the repetition of follies and mistakes
previously committed. Have you any particular idea as to where the blame is due, could you
suggest anything, could you lay the blame at any one's door?
A.—With all due deference to Sir Frederick Hopkinson my notes make it clear where the
blame lay. I want to leave it to this Committee to apportion the blame. I know where it is
due.
Q.—You say where the blame is due. This Committee would be guided by it.

A.—I think the blame attaches to the Engineer who ordered the dredger without knowing what it was to do and secondly to the Engineer who calculated it would cost 367 lakhs to do a job which would cost 11 crores.

Q.—Then, Mr. Wadia, in your speech you say, "I should not go on with the departmental work as it is at present worked". Do you suggest any change in the method of work?

A.—Yes. What I had in mind was the Citizens' Committee that I speak of should be created and it should be left to the Citizens' Committee whether they would carry on the work departmentally, and if so on what expenditure or whether they would ask for tenders from contractors. I am myself in favour of contractors.

Q.—To a contractor working under a Committee?

A.—Yes. Quite easily. The general Engineer-in-Charge of your Committee would ask for tenders. He would say, "I can do the work departmentally for so much and the contractors' tenders are so much. Which would you like?" And the work may be split up into sections. I presume you would have a capable Engineer who knows his business.

Q.—Then, Mr. Wadia, you say, "The appeal should be world-wide, not only to local contractors—so that the best brains and men of ripe experience may be at our disposal in order to have large areas of land at our doors." You still are of the same opinion?

A.—Yes.

Q.—Do you think that if contractors from outside with very mature experience were invited by the Government of Bombay for carrying on this project it would not invite unfavourable criticism from people in Bombay?

A.—No, not if they were shown what they were going to do. But the public want to be let into Government confidence. If Government take them into their confidence, however unfavourable a given scheme may be, the Government may rely on them. But the public are not going to back a project that is conceived in the dark and carried without any light whatsoever.

Q.—That is plain speaking, Mr. Wadia. Then you go on to say, "There will then remain, Sir, the financial burden, a veritable nightmare. I admit; but Sir, there it is and I fear there is no cure; we have got to bear it philosophically." Would you in view of that suggest that the scheme may be carried on partially, as you have suggested in your note?

A.—Yes, that is precisely what I mean.

Q.—With regard to the new constitution that you have suggested, would you suggest the Government Department to carry on the work with the Advisory Committee, or would you transfer it over to the Public Works Department and the Advisory Committee working it? Do you want the present Department to be abolished or to carry it on with the Advisory Committee as an executive body?

A.—I should create the Advisory Committee first and let them decide what they will do, either the Government or private agency. Let them decide. If they are going to trust the Citizens of Bombay let them trust wholeheartedly.

Q.—In your note, Mr. Wadia, you have stated with regard to Government that their conduct in keeping the public in the dark as to the financial failure about to occur until the day such knowledge could not be averted was entirely reprehensible. Do you blame thereby the Government or any particular official of Government?

A.—Everybody concerned with it. I think the public have a right to know of their misfortunes as well as their good fortunes at the earliest possible moment, and not deferred until they could not be hidden any longer. But it is for you, gentlemen, to determine who the culprits are. I am afraid I do not know who they are.

Q.—Do you suggest the facts were not known to the public and were kept back until the Advisory Committee's Report was published?

A.—It looks very likely.

Sir M. Visvesvaraya.—The total area to be reclaimed is fifty-five lakhs of square yards. Out of these fifteen have been completed or will soon be. Forty lakhs of square yards are left to be done. Assume it will cost about Rs. 10 per square yard to complete those 40 lakhs of square yards. That will be about 400 lakhs. If that money is spent the whole work may be completed. That is my view. Probably my colleagues do not share that view. The work will be completed if 4 crores are spent even by moorum filling. You do not want any scientific machinery or plant for that purpose. On the other hand about 22 lakhs of square yards will be made available for building area. And 22 lakhs of square yards as Rs. 40 will give you 880 crores of rupees. Rs. 40 per square yard was the amount suggested by one of the estate agents who came before us to-day. It will be fair when you start building to assume a rate of Rs. 40 per square yard. On the one side you have got an expenditure of 4 crores to incur, and on the other a prospect of getting 8-80 crores return. If the conditions are as I have stated, would you complete the work or would you hesitate?

A.—We will take your figure of 4 crores. How long did your estate agent tell you it would take for the people of Bombay to absorb this 22 lakhs.
(Sir M. Viswanaraya.—He said thirty years. So that your 4 crores may go into 15 crores by way of interest.)

Q.—He said at the start you may assume a rate of Rs. 40 per square yard after making allowance for the interest and other charges. By calculation it would be fair considering the current rates at which land is sold to assume a rate of Rs. 40 per square yard. What he said was you could take Rs. 40 when the land was ready for sale, that being the price it was worth at that time after allowing for sinking fund. The value of the land when it was ready would be Rs. 40 a square yard after allowing for sinking fund.

A.—I do not follow his argument.

Q.—You see it is going to cost you in the next four or five or six years four more crores. To complete the scheme. But whatever you spend you disregard, but you take this 4 crores.

A.—Those 4 crores will not matter until the last plot is sold.

Q.—Probably he expects the rate of Rs. 40 to be the current rate while starting the building or at the time the work is completed and the building is commenced.

A.—Looking at the past history of Bombay such as I know it, I may be wrong, it would be very difficult to absorb 22 lakhs of yards in thirty years. It would be almost an impossibility. That is my own opinion. But we are all making guesses. But that is what I should say. It is very difficult to have that land absorbed in that time.

24th Witness

Mr. J. P. Mistri, Architect, Member of Mr. Neilson’s Committee

Sir M. Viswanaraya.—Your full name please?
A.—Jamshedji Pestonji Mistri.
Q.—You were a member of Mr. Neilson’s Committee?
A.—Yes, I was.
Q.—Can you tell me generally what was the result of your investigation on the Committee?
A.—We came to certain figures of valuation. We examined minutely all the figures that were given by the Development Directorate and then we took out our own figures and with that we corrected their estimate and sent the report.
Q.—Do you happen to remember the figures?
A.—No, but I have got a copy of the Report.
Q.—Have you made any comparison of the rates between dry filling and moorum filling?
A.—Yes, I think the rate is given there. In block 8 it comes to about annas 11 I think for dredging, and moorum filling comes to about Rs. 1.37.
Q.—What were the figures originally given to you?
A.—I do not remember them.
Q.—Have you read the specifications for dredgers?
A.—No.
Q.—Whom do you usually hold responsible for the proper working of a plant like this?
A.—Those who undertake to look after it.
Q.—Usually is it the engineers or is it the officers in charge of the work or the makers?
A.—I think all combined together.
Q.—You would mention that in the specification?
A.—Certainly I would have a guarantee from the makers that the dredger would give the required output on the spot.
Q.—If that has not been done it was an omission?
A.—Yes. As a matter of fact we asked the dredging master whether any experiment was taken with the dredger before charge was taken. He said the experiment was taken in the river but without any pipe line, and we asked about the nature of the silt, and he said it was very soft. So if the trial was taken under such conditions it was no trial at all. It was not the condition in which it was required to do work.
Q.—You know the Kandivli quarry?
A.—Yes.
Q.—The quarry was taken in hand in order to get stone for the sea wall?
A.—Yes.
Q.—They are getting moorum now from there?
A.—Yes.
Q.—Do you not think that moorum and soil and material for filling can be got from areas nearer than Kandivli either in the G. I. P. Railway or the B. B. & C. I. Railway?
A.—I think we could get.
Q.—It is not necessary to get moorum only. You might get stone and other material?
A.—Yes, it is better to get both.
Q.—You think you could get moorum or soil nearer than Kandivli which is eighteen miles?
A.—I think so.
Q.—You think you could get moorum from Kalyan side via Dadar?
A.—Yes.
Q.—Have you calculated the cost of bringing moorum by barges?
A.—No.
Q.—By lorries?
A.—I know contract has been given per brass for Rs. 2-8-0. The Municipality is going to pull down a large number of houses in Hornby Road and Ballard Estate shortly and a larger quantity of debris for filling in will be got from there.
Q.—You know the railway charge is four annas for transport from Kandivli to here. What? I want to ask you is if you are likely to get stone and moorum nearer would not the rate be lower?
A.—Yes.
Q.—If you increase the quantity brought in daily?
A.—I do not know how the freight would decrease, because it would be settled railway charges.
Q.—For both reasons you think you might be able to get it cheaper than this?
A.—Yes.
Q.—Do you happen to know the rate for moorum delivered at the rail head?
A.—No, not that way. When I was in the Committee in order to satisfy myself whether the rate was correct or not I made inquiries through good contractors, independently if they took the contract what rates they would charge. They gave me a rate very much near this figure, 5'79 per brass. And I think when they are going to give tenders they are going to quote that rate. If I give out their exact figure, it will become an open secret to other contractors.
Q.—Your get moorum for 5'79 per brass?
A.—Yes.
Q.—Is that consolidated at site?
A.—No, delivered at site.
Q.—Have you a very opinion as to the future conduct of the works?
A.—We have said in our reports that No. 7 may be taken in hand, and No. I may be completed and after these are completed, after actual experience, further progress should be considered. But it will take a number of years to complete it.
Q.—For moorum you know the depth of filling on an average is about five yards.
A.—I know about four yards.
Q.—Four yards in some blocks. On the whole it is five yards. The maximum is 5'5 yards. That being so, if you apply your rate of 5'79 per brass, the quantity per square yard will be how much?
A.—1'35 multiplied by 5'79 is about 8'69 or about Rs. 8 as. 11.
Q.—If it costs you Rs. 8 as. 11 to complete one square yard, do you think it is a business proposition to complete the work?
A.—Certainly, I think so.
Q.—Have you noticed the quality of the material available for dredging?
A.—Yes, I have seen it.
Q.—What do you think of it?
A.—I think it is very soft. I went myself for checking the quantities and levels. I went to check the levels in block No. 1 and No. 8 at the request of the Chairman.
Q.—You also made experiments for shrinkage?
A.—As I went to check the levels I found there was a difference of two feet in the levels. It had gone down. It had gone down from the original level which they took. Then I sent a man inside about thirty or forty feet. He was then half in the mud. I asked him to go further...
and he said it was impossible. In Colaba on the very edge he could not go in. It was so very soft, that a man would be drowned and I was told that two men trying to catch fish there got drowned. So in a way of experiment I put in my staff and the staff went simply with the pressure of the hand seven feet inside. That struck me that the percentage of fifteen given by the 5 Development Directorate was not enough. I asked the Assistant Engineer to give me a tin. He brought one tin. I filled it with the material. There was a lot of water over it. I put out the water and carried it home. I began to think how to experiment. I thought any vessel would not do. I took an earthen pot, because I thought the percolation would expedite the experiment. On the very first day within twenty-four hours it went down 1 ft.

The cubic contents was 242.59 cubic inches and what was lost was 75.69. That gave me 31 per cent. of shrinkage. I showed it the next day to the Committee, and I allowed it to stand for eight days and at the next meeting it went 21 ft below and there were cuts everywhere. So that gave us 107.14° shrinkage, and that was about 49 per cent. The Committee went to the plots again and in looking at them the Chairman pointed out that although there was 49 per cent. at the top there would not be so much shrinkage at the bottom, because the bottom would be rather settled. So after great discussion we came to the conclusion that 40 per cent. would be a proper shrinkage to allow.

Q.—In what order do you propose to complete the blocks?
A.—Seven and one.

Q.—You have not thought of No. 2?
A.—That should be taken up after completing the first block.

Q.—As an engineer what is your view about the completion of the work?
A.—You mean which should be completed first?

Q.—You want to complete these three and leave the works?
A.—I do not want to leave the works, but only to proceed cautiously. If you go slowly, you can sell what you have completed.

Q.—The whole of the foreshore will be in an insanitary condition and it might be prejudicial to the health and business interests of the population?
A.—If sea water is allowed to come in and go out as it does now, I do not think it will be.

Q.—Have you examined the estimates for reclamation of the Development Directorate?
A.—Yes.

Q.—What is your opinion about the individual items? Are they reasonable or are any of them excessive or insufficient?
A.—They have not taken into account the over-head charges which forms a very great item. We had to go to the auditor to ascertain these. Then the shrinkage was given less. There were some mistakes in calculation and those mistakes were corrected.

Q.—I want to put you one more question. You know that the total quantity of filling for the reclamation is 28 million cubic yards?
A.—I do not remember these figures.

Q.—You have got the ferro print? That gives the figure.
A.—I see.

Q.—You say that the cost of moorum filling would be about Rs. 1-8 or less. Is it not?
A.—Yes.

Q.—Then the cost of 28 million cubic yards at Rs. 1-8 would be 420 lakhs?
A.—Yes.

Q.—Adding to this 80 lakhs an approximate cost of the sea wall and another 50 for other contingencies like the quarry and so on, you get a total of Rs. 350 lakhs for which this reclamation could be completed without any dredgers at all?
A.—Yes.

Q.—If the work could have been completed for 55 crores, Government should never have gone for an estimate of 703 lakhs. Is it not so?
A.—That depends upon how fast the work of moorum can be done.

Q.—Do you expect any difficulty in doing the work fast enough? Can you not get moorum from both sides, from both railways?
A.—How many trains could come every day?

Q.—Can you not have trains at night time?
A.—This requires investigation.

Q.—If after the investigation you think that by moorum filling you can complete the work in three or four years, it is worth doing?
A.—Of course.

Q.—The whole data requires investigation?
A.—Yes.
Sir Frederick Hopkinson.—You give a price of 5·79 per brass for moorum. Can you tell me how you arrive at that?

A.—The Development Directorate had given us certain figures. We asked the engineer about all those figures, and the committee after satisfying themselves over the working of these figures added for shrinkage and then arrived at these figures.

Q.—They accepted those figures?

A.—They cross-examined the engineer.

Q.—What I want to know is how that figure is arrived at?

A.—He has given something for royalty also.

Q.—I want the details.

A.—The details are here. We only added the shrinkage and accepted the figures. The details are:—

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost (Anna)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation and loading</td>
<td>5·12</td>
</tr>
<tr>
<td>Quarry charges including royalties</td>
<td>6·56</td>
</tr>
<tr>
<td>Freight to Bombay</td>
<td>4·48</td>
</tr>
<tr>
<td>Loco roads, maintenance, etc.</td>
<td>2·72</td>
</tr>
</tbody>
</table>

The whole thing comes to 21·28 or 1·33 Rs. per ton.

Q.—What about shrinkage?

A.—Fifteen per cent. should be added.

Q.—That brings us to Rs. 1·53, whereas we have taken the figure 1·57. The other thing I wanted to ask you was this. You were explaining the shrinkage. You say you took a cylinder?

A.—First I took from the Colaba reclamation area a tin of the sample material. The tin was full and on the top was water.

Q.—Was it very soft?

A.—Yes. I told the Assistant Engineer to bring one sample from the place. He sent one man and took it out. He brought it to me. There was a lot of water on the top. But I threw away the water as it would have spoiled my motor. I threw away some mud from the top. After taking the tin home I thought that if it were put in a metal pot it would not evaporate fast as it would only do so at the top. If there was something from which the water would percolate, it would be better. So, I found an earthen pot with parallel sides and I put it inside. There were seven inches of mud inside the vessel.

Q.—Was the vessel full?

A.—No, something less from the top.

Q.—How much from the top?

A.—About two or three inches from the top.

Q.—The material was two or three inches from the top and the mud was seven inches deep?

A.—After twenty-four hours it sank down one and a half inches. Then after eight days it sank two and a quarter inches. Then the whole measurement which measured 106·14 cubic inches, and it is nearly 49 per cent.

Q.—Did you state originally that it was two or three inches from the top? Was this measure taken in the same way?

A.—I took my measurement of sinking from the top line of the mud. All my measurements were from the top line of the mud. Seven inches was reduced by one and a half inches in twenty-four hours. Then the total contents of that mud was 214·76 cubic inches.

Q.—Was that before you took it?

A.—No, this is just when it was put in, i.e., before it sank. The portion that sank, one and a half inches, measured 73·40. Then after eight days it sank two and a quarter inches on the whole which measured 106·14 cubic inches, and it is nearly 49 per cent.

Q.—What was the first percentage of sinking?

A.—35 per cent.

Sir Frederick Hopkinson.—That is all I want.

Mr. Billimoria.—Mr. Mistry, did you rely on the figures submitted to you by the Development Department?

A.—We examined the figures wherever we wanted and we also verified the figures personally from the Audit Department.
Q.—Did you work anything independently by your own tests?
A.—We looked into the shrinkage and cubic contents.
Q.—In your report you say that you want moorum filling of one foot deep?
A.—Yes.

5 Q.—In your experience of reclamation do you think one foot of moorum sufficient on a reclamation area?
A.—If the moorum filling is done after the dredging has properly settled, it will be sufficient.
Q.—It sinks every day. Then you want a larger filling?
A.—Yes.

10 Q.—One foot would not be sufficient?
A.—If it is done while it is wet. We have taken samples of this mud and have experimented on it. We have found that it becomes as hard as stone if it is dried.
Q.—How long does it take to dry?
A.—Two years.

15 Q.—For two years no moorum filling is to be put in; the land is to be allowed to dry before moorum filling is put in?
A.—Yes.
Q.—How long does it take to get dry?
A.—I think about two years.

20 Q.—Do you mean to suggest that for two years moorum filling is not to be put in?
A.—I think so.
Q.—And the land is left to dry and settle down for two years before any moorum is put in?
A.—Yes. We wanted to put these remarks on record.
Q.—On this basis, if it is immediate filling you would require four to five feet?
A.—I think six to seven feet.

25 Q.—Do you think there is sufficient quantity of moorum available in the vicinity of Bombay for filling for the whole area of reclamation?
A.—I think so.
Q.—How long would it take?
A.—That depends upon working a number of trains.
Q.—Roughly?
A.—It may take about twenty to twenty-five years.
Q.—After having spent six crores on the scheme, and bringing in moorum filling running for twenty-five years, have you any idea, with interest piling up, what the eventual cost is going to be?
A.—I cannot say.
Q.—It is going to be tremendous?
A.—If the work is done in parts.
Q.—My friend Sir Visvesvaraya asked, when all things have to be done at the same time, whether it was a feasible proposition. I ask you as an engineer, if it takes twenty-five years to fill the whole block, do you think it is a business-like proposition?
A.—I do not think.
Q.—With regard to the flow of tide, you think it will not be a danger to the health of the citizens of Bombay if water is allowed to flow on each tide and the work is not completed?
A.—Yes.
Q.—The health of the citizens of Bombay will not in any way be affected?
A.—I do not think.
Q.—While considering and calculating the cost of moorum you have not taken into account the extra cost that will be incurred for rolling stock and the bringing in of extra trains if you want to expedite the work. That cost, we have heard from other witnesses, would roughly run to forty or fifty lakhs of rupees. Do you think that amount should be added to the cost of the moorum?
A.—In our committee we considered this question, and we thought that the only possible way would be to work it with all the materials and all the appliances that are available now and not to buy anything more, and not to calculate any interest on that. If any interest is calculated on all those appliances, then the scheme is impossible.
Q.—Taking interest into account, you think it is a hopeless failure?
A.—Yes.
Q.—Therefore you would not launch into the whole scheme, but would go cautiously and slowly with your present recommendation of filling in or completing blocks 1, 7 and 2?
A.—Yes.
Q.—And after you have had some experience of blocks 1 and 7 you would advise the Government to fill in block 2?
A.—Yes.
Sir Frederick Hopkinson.—I am going to suggest to you that the 40 per cent. shrinkage you have given is not accurate; for this reason. The sample for taking the tests of shrinkage must all be taken near the wall of block 8. I suggest that this figure is quite wrong and does not fairly represent what may be expected. The pumping commences delivering the material at the edge of the foreshore, and the lighter particles run from there towards the back of the sea wall, the heavier particles remaining near to the pump outlet. This continues until the reclamation area is filled up to its highest level and therefore the point from which this sample was taken is a sample of all the lightest particles which have been pumped by the dredger and is not a fair representation of the filling of the block!

A.—I do not quite agree to that.

Q.—The reason is obvious. The heavier particles settle down and the lighter particles run off the top. You would expect to find all the lighter particles on the top and near the wall.

A.—Partly right. But my calculations gave me only 40 per cent. against 49 after 8 days' experiment only.

Q.—It might be more.

A.—We don't take all the cracks into consideration.

Q.—When this is consolidated below the surface, there would be no cracks. Generally speaking, you would agree with me that it is not a fair representation of the material in the Back Bay?

A.—No.

Sir M. Vivekananda.—Your experiment showed that there was a shrinkage of 50 per cent. and they took 40 per cent.

A.—The Committee adopted 40 per cent. after going through the whole again and considered that as the bottom part is already settled there would be no further shrinkage there. They took that into account.

The witness withdrew; and the Committee rose for the day (5 p.m.)
The Back Bay Enquiry Committee assembled at 11 a.m. on the 19th August 1926 at the Legislative Council Committee Room, Civil Secretariat, Bombay, with Sir M. Visvesvaraya in the Chair, Sir Grimwood Mears being absent

25th Witness

Mr. E. M. Duggan, Under Secretary to the Government of Bombay, Public Works Department

Sir M. Visvesvaraya.—To-day also I have to announce that the witnesses and the public will miss Sir Grimwood Mears. He will probably be able to resume his duties on Saturday.

Q.—What is your Christian name?
A.—Edwin Merle.

Q.—Can you tell us to what extent the Public Works Department has participated in the Back Bay Reclamation Scheme from the commencement, as far as you know?
A.—So far as I know, Sir, the Public Works Department was the Government Department that dealt with the matter up to about the end of 1918 or early 1919.

Q.—The work has been going on in your Department for many years?
A.—Many and varied schemes have been prepared.

Q.—Were soundings and borings taken before Mr. Kidd took his?
A.—I don’t think so.

Q.—In 1912.
A.—Not to my knowledge.

Q.—If I may suggest, Mr. Kemball was employed on this duty about 1904-06 when I was in the Secretariat. He was doing this work. Did he not take soundings?
A.—I think it is very probable that he took soundings in the Back Bay, but that was over the area to be reclaimed and along the line of the wall.

Q.—Do you happen to have his drawings?
A.—They were all transferred to the Development Department.

Q.—None of the sections are available now on your records?
A.—Not with us.

Q.—Can you tell us the names of the officers who have been associated with the scheme besides Mr. Kemball?
A.—Mr. Beale.

Q.—Mr. Cameron?
A.—Yes, and I think Major Johnston, to a certain extent. Major Johnston is a Royal Engineer Officer attached to the Public Works Department.

Q.—How many schemes were prepared before Mr. Kidd prepared his?
A.—I think the first serious one was made in about 1906, probably at the time of Mr. Kemball, and then I think one was made in 1911 largely, as on the data submitted by Messrs. Wolfe Barry & Co.

Q.—So, there were two estimates before Mr. Kidd prepared his?
A.—At least, I think.

Q.—Did Mr. Kidd base his drawings, plans, and estimates on any of the surveys conducted previously?
A.—So far as I know, all the available data was made available to Mr. Kidd. To what extent he utilised it I don’t know.

Q.—You are not aware of any borings having been taken in the Harbour by the Public Works Officers?
A.—No. In fact, I am fairly sure that none were taken; I have been able to find no trace.

Q.—Have you as Under-Secretary seen Mr. Kidd’s estimate and also that of Sir George Buchanan?
A.—Yes, I have read Sir George Buchanan’s estimate as printed in the book.

Q.—You are also aware of the 367 lakhs estimate?
A.—Not in my official capacity.

Q.—You have also seen the sanctioned estimate for 702 lakhs?
A.—No.

Q.—Upon which the work is being carried on?
A.—I have not seen that.

Q.—You are not aware of the expenditure on the work?
A.—No.

Q.—You are not aware that the estimate was increased from 400 lakhs to 702 lakhs?
A.—I am aware of that; that is public property.
Q.—What was the increase of 75 per cent. due to? You may for the moment detach yourself from your position as an official?

A.—Well, one thing that I do know, Sir, is that Mr. Kidd's pre-war price of pump filling, speaking from memory, is 9 annas 8 pies per cubic yard and Sir George Buchanan's post-war estimate was eight annas.

Sir Frederick Hopkinson.—In each case do they include charges?

A.—Interest?

Q.—No, capital cost of the project?

A.—Presumably.

Q.—Mr. Kidd's was annas 9 and pies 8 per cubic yard and Sir George Buchanan did not make any estimate in 1912?

A.—This is Sir George Buchanan's estimate in 1919.

Q.—At any rate, Mr. Kidd's estimate was Re. 0-9-8 in 1912 and, Sir George Buchanan's estimate was 8 annas post-war?

A.—That is right.

Sir M. Visvesvaraya.—Have you read the recent reports of the Advisory Committee?

A.—Yes.

Q.—Have you seen the specifications for the dredgers in 1919?

A.—Only that which is given in Sir George Buchanan's report.

Q.—What do you think of the conditions put in in the contract for the supply of dredgers?

A.—I have not studied the contract. In fact, I have not seen it.

Q.—If the plant is designed to give a stipulated output, it is usual to obtain guarantees for the performance of that obligation. If the dredger is designed to give a certain output it is usual to have guarantees that it will come up to the stipulated capacity. Is it not?

A.—Yes.

Q.—That is the practice in the Public Works Department?

A.—Yes.

Q.—In connection with all engines and large plants? If such guarantee were omitted it would be a serious omission?

A.—Yes.

Q.—Have you any experience of the rates at which work is done in the Bombay City?

A.—Not exactly.

Q.—Do you know roughly?

A.—I see all the estimates that go through the Secretariat.

Q.—At what rate can moorum filling be done in a place like the Harbour, from your general knowledge of conditions here?

A.—I do not really know. It will entirely depend on the quantity.

Q.—Do you mean to say that the larger the quantity the smaller will be the rate?

A.—That is generally speaking true, provided that the stuff can be got.

Q.—I suppose you know the area north of Bombay, Salsette?

A.—Yes, to a certain extent.

Q.—You have seen the Kandivli quarry?

A.—Yes.

Q.—The Kandivli quarry has been selected to obtain stone. In order to get moorum it should be possible to select quarries nearer the work?

A.—Yes. It would be largely a question of the cost of acquisition, the value of the land that you are going to acquire for the purpose of the quarrying.

Q.—Probably they paid Rs. 1,000 per acre?

A.—At Kandivli.

Q.—North of Bandra?

A.—I don't know much about that.

Q.—If, at present, they are getting moorum at the rate of Rs. 1-37 per cubic yard when they are getting daily about 2,000 cubic yards, what would be the rate if the quantity were increased to 10,000 cubic yards?

A.—It depends on whether the excavation is being done in the most efficient manner. If not then I would anticipate a material decrease in the cost per unit if you increase the quantity; otherwise Re. 1-1 will be a fair rate.

Q.—So, you take Re. 1-5 per cubic yard?

A.—Well, I think so. I have not practical knowledge of that.

Q.—Would there be any difficulty in the transport of such a large quantity, say, 10,000, instead of 2,000 cubic yards a day?

A.—That will depend on the railways.
Q.—It will give them more business, they will be glad to transport?
A.—Oh Yes, but it will be question as to whether they could handle it on their lines.

Q.—The G. I. P. Railway can pass through Dadar on to this line?
A.—Yes.

Q.—Now, when the scheme was taken up they created a separate department for its execution?
A.—Yes.

Q.—Could not the Public Works Department have carried out the work with the Chief Engineer at the head?
A.—I see no reason to doubt it, Sir. We are carrying out the Sukkur Barrage.

Q.—On the same line you might carry this out?
A.—Not necessarily.

Q.—You mean on different lines?
A.—I take it you are speaking of the actual method of execution of work. The Lloyd Barrage is being executed departmentally.

Q.—It does not matter whether the work is done departmentally or by contract. You will have your own Engineers to supervise?
A.—Yes.

Q.—Would not the traditions of the department have prevented the mistakes made and keep the work on the right lines?
A.—You mean with regard to the organization?

Q.—You have got the necessary staff to attend to the details, to check estimates……
A.—Yes.

Q.—But with a new department they have to create new traditions, organise a new accounts staff, train staff for checking estimates and so on?
A.—Yes, that is true.

Q.—Have you any other facts and figures that you can give us which will be useful for our purpose in connection with the scheme, now or in a day or two? We want facts and figures about the origin and conduct of the work.
A.—I have found a demi-official letter from Mr. Beale to Mr. Kidd, dated November 1914. In that letter Mr. Beale said that " I am arranging to find out the amount of stuff available for reclamation from Back Bay. I thought you had done this before, but I find from your Report that the question was quickly disposed of as you concluded there was not enough material for the big reclamation and you also stated, apparently in reply from Mr. Kidd to Mr. Beale, dated 31st December 1914, that is, a month later. He says, " You would gather from my recent report that I am not on the whole very sanguine about obtaining a sufficient quantity of material for the filling from Backbay under sufficiently favourable conditions to compensate the disadvantage of dredging and pumping sand as against mud and clay and for the difficulties and delays of carrying on dredging work in the exposed conditions and probably on the irregular bottom in the Bay. Obviously it was a hopeless course for the whole scheme, especially so as the situation of the 920 acres is the least favourable of any part of the total scheme in relation to the mud and clay deposit in the harbour " . Whether there was material available I do not know. I have been unable to trace any record."

Sir M. Visvesvaraya.—That information will be useful to us.

Mr. Billimoria.—Were Government aware of these opinions when the estimate was sanctioned at the time Sir George Buchanan’s estimate was sanctioned?
A.—I do not know.

Sir M. Visvesvaraya.—As an Engineer, have you any ideas about completing the work? We have got blocks 1 and 8. They will be completed in any case.

Sir Frederick Hopkinson.—You can’t say that till our report is made.

Sir M. Visvesvaraya.—But the Government are committing themselves. You know the difficulties. You have read the Advisory Committee’s Report.
A.—I would make a list of all the plant, etc., publish them and ask for tenders for the completion of the work using the available plant.

Q.—Including the dredgers?
A.—Including them.

Q.—Would you place it into the hands of the Public Works Department or leave it to the present organisation?
A.—I would prefer not to express an opinion on that.
Q.—Are there any facts and figures you can give us to help us in our enquiry?
A.—I don’t think so.

Q.—Is there any other officer in the Public Works Department who can give us any more information, and who understands the details of the project?
A.—Mr. Kembell and Mr. Beale are both dead.

Q.—Any one in England?
A.—Mr. W. L. Cameron, Mr. Dunn.

Q.—Any others?
A.—Mr. Rajadhyaksha.

Q.—Did he do any work?
A.—He may have done some survey work or something, I am not sure.

Sir Frederick Hopkins.—Mr. Duggan, you used an expression just now that I am not familiar with. Could you explain to us what it means, that is, "demi-official"?
A.—Well, Sir, it is a letter written by a Government official as an individual to a gentleman by name as distinct from a letter to a man by the title of his office.

Q.—Is it the idea, therefore, that it carries no responsibility?
A.—Certainly not, but it does not carry the same responsibility.

Q.—Does it go on the files?
A.—That entirely depends on the discretion of the receiver.

Q.—Is it used as a means of getting out of any statement that is made in it?
A.—Oh no.

Q.—It may be taken as official then in some sense?
A.—It can certainly be taken as the opinion of the individual, but not as the opinion of the official.

Q.—It is beyond me, we will leave it at that. One point I wish to ask, how long have you been connected with the Public Works in the Bombay Presidency?
A.—Twenty-one years.

Q.—How long have you been in the Bombay City?
A.—Two years before the war and two years now.

Q.—Can you tell me approximately what was the percentage of the increase in prices between the years 1912 and 1919?
A.—For a fairly large engineering scheme?

Q.—For material, plant, labour
A.—I should say roughly 100 per cent.

Q.—Have you any data confirming that? Take labour, for instance. What was labour before the war as compared with what it was in 1919 in this District.
A.—I have not had executive experience in Bombay, but I should say that the pre-war rate was 8 annas.

Q.—What would it be in 1919?
A.—About 12 annas to a rupee.

Q.—That is from 50 to 100 per cent. increase. Tools
A.—I don’t know.

Q.—Cement?
A.—I have forgotten what the pre-war price was. Post-war cement is manufactured in India, which was not so pre-war to the same extent.

Q.—I have seen some figures under which they paid Rs. 100 a ton?
A.—Yes.

Q.—Dropping down to 80 or 85. What had you to pay for cement before the war?
A.—I could not say.

Q.—Didn’t you use cement before the war?
A.—Yes, but we didn’t get any large quantity as our work was generally done by contract.

Q.—Would you be surprised to hear that the price of cement in 1912—1919 went up 3, 4 and even 5 times?
A.—I could believe that.

Q.—I am trying to check your 100 per cent. Cement is an important thing. Now, take the plant. Do you know the price of a 10-ton crane before the war? For your information I shall tell you that it was £450 to 500. After the war it was £1,700. That is an increase of 300 per cent. A good bucket dredger before the war cost £30,000 or 85,000. The post-war price was 8 times that. I am trying to show that your 100 per cent. is very low.

A.—I was referring to ordinary Public Works operations which were small.
Q.—Was any machinery required for those ordinary small works?
A.—I am speaking really from my experience of Poona. I was in charge of Poona Division in 1918.

Q.—The estimated cost for dredging according to Mr. Kidd's report in 1912 is annas 9 and pies 8 per cubic yard. Do you know of any circumstance that would enable that same work to be done after the war at 8 annas per cubic yard?
A.—No, Sir.

Q.—Do you think it is possible to do work at a cheaper rate after the war than before the war?
A.—It depends on the method which was estimated for but I doubt it.

Q.—Doesn't it startle you to see these comparative estimates, doesn't it make you rub your eyes and say "it is misprint"?
A.—It does seem so now. But whether it would have done in 1919 I cannot say.

Mr. Billimoria.—Mr. Duggan, you have been in the Public Works Department for the past 21 years of which you have spent 4 years in Bombay and you will more or less be conversant with the conditions of affairs in Bombay with regard to labour and with regard to various projects that might have passed through your hands?
A.—I have been in Bombay but in the Secretariat as an administrative officer and not as an executive officer.

Q.—I see that you are a member of the Institute of Civil Engineers.
A.—Yes.

Q.—Did you actually study the report and the estimates of Sir George Buchanan? Did those ever come to you?
A.—No.

Q.—Do you know which was the officer in the Public Works Department that was consulted on those estimates.
A.—No.

Q.—Were those estimates ever checked by the Public Works Department Officers.
A.—I do not know. I was not in Bombay then.

Q.—Do you know if the Public Works Department was ever consulted by Government?
A.—I have no personal knowledge of that point.

Q.—As an Engineer of vast experience is it not usual to allow for some contingencies in estimates?
A.—Certainly.

Q.—If you will kindly turn to page 29 of the Report of Sir George Buchanan, do you find any contingencies provided there?
A.—Not there. It's possible it might be in the detailed estimates.

Q.—If you will now turn to page 80, you won't find allowance for contingencies there?
A.—No.

Q.—Is it not the usual practice where estimate of a large project is concerned to get the same checked by higher staff? Have you not personally checked these? If so, you are not in a position to say so?
A.—No.

Q.—Where is it please?
A.—It is in the Government P. W. D. estimate made in 1912 for roads and lighting and storm water drains, etc.

Q.—Have you any reason to suppose why this figure was doubled within such a short space of time?
A.—No.

Mr. Billimoria.—Since you have not gone through the details I would not trouble you any more. Do you know if Sir George Buchanan is still a Member of the Institute of Civil Engineers? (Question withdrawn).

Q.—In answer to Sir Frederick you explained that there is a practice of sending out D. Os. between officials and officials of Government?
A.—Yes.

Q.—Is it not usual to keep them on files? If they go on the file they form part of the file?
A.—All letters exchanged between officials and officials that are D. Os. may or may not go on the file. When I have received a letter if I keep it with me, it would lie with me; if I file it, it will go on the file.
Q.—Then the letters just now read by you were filed?
A.—That's true.

Q.—Was it brought to the knowledge of Government?
A.—I am not sure, on what files the letters were.

Sir M. Visvesvaraya.—Were not Government told when they launched on this scheme that there were letters of this description?
A.—I do not know, I was not there.

Mr. Billimoria.—Is there any officer who could give us that information, Mr. Duggan.
A.—I think I could find out.

Q.—(You will please tell that gentleman's name to Mr. Ewbank). In 1919, when Sir George Buchanan submitted his estimates, if you can find out from your files whether the Public Works Department were consulted by the Government or their best expert. There were two projects in 1906 and 1911, had Government called for those estimates that were prepared by your department before launching the scheme? If you can kindly get that information?
A.—All our records have been transferred to the Development Directorate.

Q.—That means the Development Directorate had full knowledge of what had passed before?
A.—All the materials are transferred to the Development Department when that department was made.

Q.—Directly the department was created or before or after?
A.—I don't know exactly.

Sir Frederick Hopkinson.—You say, the estimate of 58 lacs represents drains, etc., was that prepared by the Public Works. Have you that estimate?
A.—No.

Q.—Who has got it?
A.—The Development Department.

Sir Frederick Hopkinson (addressing Mr. Ewbank).—The Development Department should be asked to produce that estimate of 58 lacs.

Sir M. Visvesvaraya.—The total area to be reclaimed is 1,145 acres. You had in the year 1913 prepared a statement showing how the land was to be used. You have got it here? You intended to reserve a portion for the future Government House (page 48). From your knowledge of Bombay how would you divide the area supposing the whole of the portion were reclaimed? Of course the Military would take 265 acres out of 1,145. How would you distribute the remaining area between roads and open spaces and buildings?
A.—I should think a rough figure would be half and half. I am speaking from some recollection of the previous estimates.

Q.—Has the idea of locating a Government House been abandoned?
A.—As far as I know.

Mr. Billimoria.—My friend has asked you some questions regarding the project which was submitted on 25th March 1913. I find that there you worked out a cost of square yard of Rs. 17 perhaps that must be the reduced cost per yard. If an estimate is prepared showing the cost per yard at Rs. 17 do you think it safe to put it at Rs. 7 in 1919?
A.—Rs. 6.

26th Witness

Mr. Bole, M.L.C.

Sir M. Visvesvaraya.—You have been a Member of the Legislative Council. Can you tell us for how many years?

Mr. Bole.—For the last six years.

Q.—Do you know why this work was started from the point of view of the man in street?
A.—My impression is they were in need of land.

Q.—But did any section of the public ask for it?
A.—I do not think so, as far as my knowledge goes.

Q.—The initiative came from the Government, you say?
A.—Yes, but later on we were told in the Council that such schemes were considered by some business firms.
Q.—It is said that the work was sanctioned in great haste?
A.—Yes, that is so.
Q.—How do you know, can you give us any facts?
A.—As far as my knowledge goes in the year 1921 when this matter was discussed
at the time of the Budget members wanted more time for discussion but there was no
time left and the scheme was got through.
Q.—What was the object of Government in starting this work?
A.—As I told you before, they were in need of land.
Q.—They wanted to show that Government were enterprising and they did not want
the profits to go to the public as it was boom time?
A.—They wanted to have the profits themselves out of the scheme.
Q.—Have you any opinion to offer as to the manner in which the work has been
carried out?
A.—Yes, I was a Member of the Advisory Committee also and there I have signed
the Minority Report submitted to Government and the impression of that Committee is
that no due consideration was given to the scheme.
Q.—It was not properly examined?
A.—Yes. They relied much on the experts' opinion.
Q.—Did it cause you any surprise when you saw that an estimate for 4 crores was
raised to 7?
A.—Yes, it was a great surprise when we heard it.
Q.—Was that discussed in the Legislative Council?
A.—Yes, that was discussed in the Legislative Council, and members criticized the
action of Government.
Q.—Can you give out any specific defects the members of the council noticed?
A.—The defects were that proper figures were not placed before the Council.
Mr. Billimoria.—That is the public were not taken into confidence?
A.—That was so.
Q.—Have you any other facts or figures to give us to help us in this inquiry?
A.—The figures are there in the Minority Report.
Q.—You have nothing to add?
A.—Nothing to add.
Mr. Billimoria.—At the time this scheme was launched and was announced in the
Legislative Council did it not appear to the members then as a very tempting proposition?
A.—No doubt it appeared to be a tempting proposition to the Members of the Council;
I am talking of the Reformed Council, the council that meet in the year 1921.
Q.—While in 1921 the estimates have increased from 4 to 7 crores, did you or any
of the members had any doubts as to the scheme being gone through?
A.—Some of the members had expressed doubts as to the feasibility of the scheme.
Q.—Were their doubts removed and satisfied?
A.—They (Government) tried to remove their doubts and when the tempting figures
as regards profits were placed before the Council and members were carried away.
Q.—You had at that time nothing to complain of? Because everything looked very
rosy and the scheme was launched in haste?
A.—A rosy picture of the scheme was drawn and the members of the council had no
time to consider it and that the scheme was launched in a hurry.
Q.—May I inform you that several projects had been before the Government in the
past and it was after very careful consideration that Government thought this was a very
perspective proposition?
A.—This was a very big scheme and a scheme like this was never launched by
Government.
322
27th Witness
Mr. Walchand Hirachand, Director of the Tata Construction Company

Written Statement of Mr. Walchand Hirachand on behalf of the Contractors of Bombay

1. A Meeting of the leading Indian Contractors was held last week when it was decided to tender the following statement on behalf of contractors assembled there.

Work by "Contract" versus "Departmental" method, the former superior

2. Apart from the particular instance of the Back Bay Reclamation, as a general principle, we assert that construction by "contract" is always economical in cost and sounder in quality than by "Departmental" system. The idea that departmental work is sounder in quality is based upon wrong psychology. In "Departmental" system the same staff is responsible for both "cost" and "quality" of work and as keeping the former down is more appreciated by the superiors, efforts are naturally made to attain that result even sacrificing the latter to a certain extent while in "contract system" the supervising Engineering staff have no other business but to supervise and in order at least to justify their existence they have to see that the work is up to the specification.

Note.—If desired literature on this subject giving opinions of competent authorities can be produced.

Failure of Back Bay mainly due to "Departmental" method

3. In our opinion the failure of the Back Bay is mainly due to deviating from the sounder method of "Contract System". Had the work been let by "Contract" the obvious mistakes that are now known committed by the Development would not have been made. If a contractor wants to dredge or excavate material from somebody else's property, it is impossible to imagine that he will enter into a contract without first ascertaining from the owner whether he would dispose of the material, as the Development Department have failed in first referring to the owners—in this case the Port Trust and the Royal Indian Marine. If a contractor is to tender for excavation or dredging he first investigates the nature of the soil he has to deal with. If a contractor is told that he will be paid on Section measurements of area reclaimed, the first question he will try to solve is the percentage of shrinkage to be allowed. If a contractor is to engage staff for execution the first qualification he would like to ascertain is the previous experience of the candidate of similar nature of work and as far as possible in the same locality.

Contention that even by "contract" same results repudiated

4. It is contended that even if the work were let by contract there would have been the same huge deficit which the contractor would not have been able to bear and either he would have abandoned the contract or become bankrupt with the result that the Government would have been in the same position as they are to-day. On the contrary, really speaking, Government would have been in a much better position than they are to-day.

If the work had been let to responsible contractors they would have completed the Scheme even with a deficit in which case the Government and the Tax-payer would have been profited. But this is just putting the cart before the horse. Had the work been let by contract, as stated above the obvious mistakes committed by the Development would not have been done, which would have avoided the deficit.

Responsible contractors available in India and Bombay

5. It is further contended that even if the tenders had been invited no responsible contractor would have come forward to undertake the scheme. But we say such a contention undervalues the strength of the contractors. In our opinion the Government need not have had to go out of India to find such contractors but they would have secured them at their doors—we mean in Bombay proper. In the year 1920 tenders were called for the construction of part of the sea wall, and it was stipulated that tenderers should state in detail the methods of construction they proposed to adopt. Out of the four or five tenders received at least two were local contractors who submitted bond false tenders with cash deposits, but no tender was accepted. The reasons for non-acceptance of any tender were not made known at the time; nor were they available to the Financial Sub-committee appointed last year. We would submit that local contractors can carry out such works from inception to finish complete in all respects. In 1921 the Bombay Municipality had to quadruple the Tansa Water Pipe Line, estimated to cost about six crores, about double the cost of original Back Bay estimate. Tenders were invited for the Scheme and more than half a dozen tenders were received, majority of which were from Indian contractors of Bombay. The Scheme was divided between two contractors who completed the same with their own plant and machinery in scheduled time and in the contract rates.
was no revision and re-revision except for change in design. The scheme required about six lacs brass of earthwork—the quantity equivalent to Block No. 2—not only in moorum but in hard rock, in a locality devoid of any facilities, bad rainfall, climate, and bulk of this quantity of earthwork was done only in thirty working months. There are several contractors in Bombay who can handle about thirty lacs Rupees worth of work every season and one Firm alone in Bombay has secured and carried out works estimated at four crores with all their own plant, machinery and capital and under the supervision of expert Engineers during the period the Development Department existed.

6. The Back Bay Scheme now mainly consists of earthwork reclamation. Several Firms of contractors have carried out five to ten lacs brass of earthwork in Bombay. One Firm alone has carried about forty lacs brass of earthwork—which is equal to about two-thirds of whole reclamation—in times when modern appliances which greatly help progress were not available. Even to-day the Development Department are conjecturing about the cost of dry filling and the possibility of procuring sufficient moorum in the vicinity of Bombay. But for the past several years there have been Firms of contractors who own moorum hills one or two with Broad Gauge Sidings. Reclamation with dry moorum hauled by bullock trains has been and is being done by several contractors. One Firm contracted in 1920 with a Public body—we mean the Bombay Port Trust—to surface with moorum to the extent of about six lacs brass of earthwork.

7. If, in the face of this situation, one chooses to make a statement that responsible contractors will not come forward to undertake the job, he does it because he is unfamiliar with local conditions.

"Experience of Sea Face Reclamation"

8. It is said that contractors with actual experience of reclaiming open sea face will not be available. It is superfluous to raise such a criticism since after all such schemes are not every day's business. But then what actual experience even the Government as a body had when deciding to carry out the work "Departmentally" and is it not a fact that they ventured to do it relying upon hired expert knowledge? Any contractor could have been able to purchase best expert experience available in the world; in fact good Engineers (who are the men required for this type of work) prefer to work for contracting Firms. Recently a Contracting Firm was entrusted with the work of driving a tunnel estimated at thirty-five lacs, which the Firm has contracted to do in only twenty-five months. Within two weeks of the allotment of the contract the Firms had on Works a Tunnel Expert from foreign lands.

Dry filling advisable, safer and cheaper than wet dredging

9. In our opinion dry moorum filling is economical, advisable and certainly a dependable method. There can be no doubt that moorum filling, besides giving better foundations eventually, is economically better. It can be developed and used immediately; time of filling is certain and can be done quicker than by dredging where material to be dredged is of such uncertain quality, quantity and deposition as in Back Bay or the Harbour. Broadly speaking, it should be possible to do dry filling between Rupees six to seven per brass. Of the cost of the dredging plant 80 per cent. must be written off to the work (Financial Sub-Committee took Rupees ten lacs as liquidation value). Plant depreciation assuming whole reclamation was by dredged filling would work out at over Rupees two per brass. It is therefore difficult to see how Sir George Buchanan in his estimate could have taken five annas per cubic yard or Rs. 1-2-6 per brass as the cost of dredged filling unless plant charge (more than a crore of Rupees) is put down as a separate item. Even as it stands the estimate includes a provision of top coat of one foot of moorum. This has been proved to be totally inadequate and five feet of moorum should be taken: Thus the amount of wet filling will be considerably decreased. Perhaps theoretically it might be possible to show on paper that wet dredging is cheaper than dry filling. But in contrast to dry filling there are so many unforeseen contingencies involved in wet dredging, viz., (1) nature and quantity of soil that will be available till the completion, (2) difference between quantity pumped and the quantity ultimately retained, (3) proper working of the dredger, etc., (4) time taken for drying and the consequental increase in interest charges—that one cannot definitely estimate the cost of wet dredging till the work is complete, as one can speak with confidence of cost of dry filling.

Progress by Dry filling—any quantity of moorum available in the vicinity of Bombay

10. It is contended that it is not possible to complete the work within reasonable period by dry filling. From the evidence lodged before this Committee by the Engineers of the Development Department and members of other Committees, it appears that they are yet doubtful whether sufficient quantity of moorum is available in the vicinity of Bombay. We definitely know far more than sufficient dry moorum is available within reasonable limits. In dry filling the progress is mainly dependant upon the quantity of rolling stock available for hauling and the number of trains allowed to pass on the main line by Railways one of which is quadrupled and the other is expected to be, shortly. If the Railways are persuaded to spare eight rakes of fifty wagons (16 to 20 ton capacity)
and allow so many trains to pass on their lines, even if each rake is assumed to make only one trip it means about 1,500 brass of consolidated filling per day or three lacs brass per season of 200 working days. Excavating, loading and unloading of 1,500 brass per day is not a difficult job as it means a work of only three to four thousand workmen. On the Tansa quadrupling scheme of the Bombay Municipality one Contracting Firm had maintained about ten thousand workmen in a locality notorious for a virulent type of malaria and difficult of access. Last season a contracting Firm had four thousand workmen on one work alone in the deepest jungle. This will show if sufficient rolling stock is available, Block No. 2 can be reclaimed in only two full working seasons. Procuring sufficient rolling stock is beyond the control of contractors as firstly, in India, Railways do not allow running of private wagons and secondly if the contractor is to write off cost of such huge rolling stock on a work of few seasons the price of dry filling will grow unnecessarily higher.

11. We are confident if tenders are invited sufficient bidders from Bombay and India will come forward. Tenders are already advertised for reclaiming Block No. 2 but in agreement form the conditions are all one sided which will frighten the bidders with a result that prices for dry filling would be unnecessarily high and there will be unfair comparison between dry filling and wet dredging in favour of the latter. To quote few instances contractors are asked to make their own arrangements with the Railways for Rolling Stock, etc., etc. Surely Government would receive better response from the Railways, instead of each individual contractor approaching the Railway. Secondly Government do not promise the help of land acquisition machinery if a contractor finds a moorum hill. If some land owners realise the position of the contractor they are bound to demand fabulous price or Royalty and the only course possible in such cases is for the Government to use powers under Land Acquisition Act.

12. We do not desire to express any opinion whether the Scheme was at all necessary for Bombay when it was launched or whether it should be completed in all respects or in part, as this is beyond our present intention and scope. But this much we confidently assert in conclusion:—

Summary

1. That had the work been given by contract these glaring mistakes would not have been made.
2. That if it is decided to execute further whole or part of the scheme it should be done by "Contract system". Sir Alexander Gibb and Sir George Buchanan agree on this point.
3. That dry filling is more advisable, surely safer and cheaper in the long run. Sir Alexander Gibb says the same. Mr. Neillson thinks this is not a dredging scheme.
4. That it is possible to procure sufficient moorum in the vicinity of Bombay.
5. That if the Railways are persuaded to spare sufficient rolling stock and allow necessary trains to pass on the main lines the progress of the work will be better than dredging.
6. And lastly reliable contractors would come forward to undertake the job.

13. We appeal to the Committee to spare a day or at least few hours to personally inspect the works carried out by the Contracting Firms in Bombay which will convince the Committee of the above statements.

14. If any further information is necessary Mr. Walchand Hirachand, Phoenix Building, Ballard Estate, Fort, Bombay, would be pleased to give personal evidence on our behalf.

Sir M. Vishvesvaraya.—You are a contractor and a Director of the Tata Construction Company?

A. Yes.

Q.—Have you any large contracts at present in hand?
A. —Yes. We are doing a big tunnel work for the G. I. P. to the extent of 85 lacs.

We have got a broad gauge railway 61 miles in length in which the earth work alone comes to 6 lakhs brass. It is the Kasibpeth-Balasas railway. Roughly we have got about one crores worth of work in hand to-day. During the last six years we have completed about 4 crores worth of work.

Q.—On what aspects of the enquiry do you propose to give evidence?
A. —That is summarised in my statement at the end that, had the work been given in the beginning, on contract, the Government would not have lost the money or come to the situation that they are in to-day. Leaving the past alone, even for the future I will strongly say that the work should be done by contract. Sir George Buchanan and Sir Alexander Gibb, as far as I understand, also say the scheme; that it is certainly possible to do the whole of the balance of the filling, if of course it is intended to be done by dry filling, with good moorum from round about Bombay. There are areas which will
give the necessary quantity. There are contractors who are organised enough in Bombay itself to undertake the work and undertake the whole responsibility, if necessary, themselves except for transport, which will necessarily have to be done by railways.

Q.—That is your general statement?
A.—Yes.

Q.—You say in paragraph 5 of your note "that if a contractor had been entrusted with the work he would have made preliminary investigations on a larger scale".
A.—Certainly. It is impossible to imagine that he will enter into a contract without first ascertaining from the owner whether he would dispose of the material. He would not, in his own interest estimate to excavate land without asking permission for it from the owners, Port Trust and the Royal Indian Marine or ascertaining about the experience from someone else who had experience about borings and what material was available. If a contractor had undertaken this work he would have been very careful particularly in a scheme of this magnitude.

Q.—Further on you say, "the first question he will try to solve is the percentage of shrinkage to be allowed". Do you think that a contractor would be able to think of all these points better than Government would?
A.—From the results of this case, certainly.
Q.—This is an unfortunate case?
A.—A contractor generally is much more thorough than a red-tape Government body can be.
Q.—Because he takes a personal risk?
A.—Not only that but he is not to call for sanction from Government to enter somebody else's property or for additional staff or anything else.

Q.—You further say that "tenders were called for the construction of a part of the sea wall and it was stipulated that tenders should state, in detail, the methods of construction they proposed to adopt. Out of the four or five tenders received at least two were local contractors who submitted bond fide tenders with cash deposits but no tender was accepted". Can you tell us why no tender was accepted?
A.—Personally till now I am in the dark why no tenders were accepted. The reason for first inviting tenders and particularly expecting the contractors to give the whole of his data as to how he expected to build the wall, from where he expected his material, and transport giving detailed cost, was to get information. The tender cost might be alone about Rs. 30,000 and it would have cost the other contractors. I believe about the sum amount. Our tender was accompanied by 29 plans. The Government said after all that the whole will be done by Government, we do not want to give it to anyone. We consider it most unfair.

Sir Frederick Hopkins.—Is that the Colaba wall?
A.—The tenders, as far as I am aware, were for portion of this wall.

Q.—Tenders were asked for 8,000 feet of Colaba wall. In what year was that?
A.—It was I think in the beginning of 1921.

Sir M. Visvesvaraya.—You do not even now know why they did not accept the tenders?
A.—I do not know.

Q.—Were you supplied with the specifications for the sea wall?
A.—The data were very scanty and we were asked to furnish our own design of doing it, our own idea as to how we wanted to do it, the estimate of cost. As regards transport and stone and cement, we went to the length of giving comparative statement of cost of steam driven lorries against petrol driven. We went into all these points thoroughly and one of our cables cost us Rs. 1,800.

Q.—You say "There are several contractors who can actually handle about 30 lacs worth of work every season and one firm alone in Bombay has secured and carried out works estimated at four crores with all their own plant, machinery and capital".
A.—Yes. This reference is to our firm, the Tata Construction Company.

Q.—Further in paragraph 6 you say "one firm alone has carried out 40 lacs brass of earthwork which is equal to about two-thirds of whole reclamation in time when modern appliances which greatly help progress were not available". That is ancient history?
A.—Not necessarily ancient. It began about 5 years ago when steam navvies or cranes were available or at least well known to us as they are to-day. Some of the contractors are acquainted to-day with the latest steam navvies.

Q.—You go on to say: "for the past several years there have been firms of contractors who own moorum hills with Broad Gauge Sidings". Can you mention one or two. We were inquiring about this a few days ago but we could not get correct information.
A.—For the last 18 years my firm has been owning huge areas of land full of moorum connected with broad gauge sidings from where lacs of brass of earthwork for the various public bodies has been brought into Bombay.
Q.—What is your brass?
A.—It is equal to 100 cubic feet. This area is situated about 17 miles from Bombay. The whole portion is about 600 acres in area and connected with the broad gauge sidings, reversing loops, steam navvies, which is capable of turning 3 to 4 rakes of brass every year easily. It contains 40 to 50 less brass of good moorum commercially excavatable.

Q.—Do you do any excavation by machinery?
A.—We have, as I said, two navvies of the latest model but for want of big orders we find it not much useful as manual labour is cheaper for the small output required.

Q.—Is the broad gauge siding you refer to on the G. I. P. Railway?
A.—Yes.

Q.—How far from here?
A.—17 miles.

Q.—What is the rate for moorum delivered at rail head?
A.—You mean what quantity can be loaded.

Q.—What is the rate at which you load trucks at rail head including excavating and loading?
A.—It depends on the lift and the load. If it is 20 feet from the wagons, it will be very cheap. It makes difference if the hill is too high.

Q.—What would it roughly cost per brass for excavating and loading without any overhead charges?
A.—It will be about Rs. 1/5 or 1/6.

Q.—What maximum quantity have you ever brought to Bombay?
A.—It has always been regulated by the number of rakes supplied by the railway. The railways could supply 6 to 7 rakes of about 40 to 45 wagons which we could easily load and unload at any time. This amounted in some cases to 800 or 1,000 brass per day. We could have done more had more rakes been placed at our disposal.

Q.—Assuming you have six rakes at your disposal, what quantity have you or any other contractor been able to bring?
A.—About 800 to 1,000.

Q.—That is 4,000 cubic yards roughly?
A.—Yes, roughly.

Q.—Would it be possible, if the railway authorities gave you proper facilities, to increase that output to 12,000 cubic yards?
A.—Easy.

Q.—Supposing you had to find your own trucks, would contractors be willing to provide themselves with their own trucks and come to some arrangement with the railway for the transport of material?
A.—The railways in India do not allow private wagons to run. They do not follow the system that is followed in England and elsewhere. I had put up that proposal in boom times (in 1920-21) and they refused point blank to run private wagons as a principle.

Q.—That is the reason why you want Government to make railway arrangements for the contractors if the work is given out on contract?
A.—Yes; the rate for railway material is 60 pies per mile per maund. The rate that the Development Directorate got for their Kandivli quarry works out to about the same or possibly cheaper. The rate for others or private companies is higher. The railway will never give that rate to any private party other than railways.

Q.—But the Development Department got it?
A.—Because this was a Government project. As regards supply of wagons and rates, Government got extraordinary concessions.

Q.—You want those concessions?
A.—Yes. Particularly the difficulty is that you invite tenders for block 2 and on the second day you make a statement to the pros that no tenders are intended to be accepted or we are only enquiring. In these circumstances we go to the railway for concessions and different contractors put forward different proposals but the railways say why bother your head over it when they do not mean business. When you put it in a serious advertisement, the contractors think that they do not mean business but want to enquire. Therefore there is no chance of the railways considering the question seriously, and there is not the slightest chance for the Development Directorate to get a reasonable tender in response to their advertisement, and particularly with that peculiar form which is unreasonable.

Q.—Have you got a copy of the form?
A.—Not just now. We have studied it thoroughly. It is very unfair to dry filling and invite tenders with such a very one sided inequitable conditions where naturally the contractor will put on various contingencies to meet these conditions, the result being that comparison between wet filling and dry filling will not be fair.
Q.—Will you be able to work the dredgers? You say there will be contractors forthcoming to take up the whole work.
A.—I was primarily referring to the completing of the wall and the filling by dry filling, but contractors will be prepared to take the working of the dredgers.

Q.—If proper facilities are afforded? Is that what you say?
A.—Yes. If the dredgers are handed over to them to work. As a matter of fact the Development did hand over one of their dredgers to my firm. This is the dredger for sand. And that had been handed over to my firm for working at Mumbra in the creek.

Q.—Is that a suction dredger or a bucket dredger?
A.—That I cannot tell you. I am not an engineer.

Q.—But you are managing Engineering works?
A.—I am a contractor but not an Engineer, and that dredger was worked by contract by my firm. As there is no demand for sand it is doing nothing at present. We have made an offer to take it over for working.

Q.—You say broadly speaking it should be possible to do dry filling between rupees six to seven per bush?
A.—Yes. I am purposely putting it on a very liberal basis primarily in view of the way these tenders are drafted, although I might cite one instance in exactly similar circumstances. To-day I am doing a similar work, wherein sidings at both ends are maintained during the rains as we give complete work on sectional measurements. Rs. 4-4-0, it might be 3 piee more or less, the railway haulage being about 7 to 8 miles as against the 20 that might be here, and the stuff deposited not in water as in block No. 2. A straightforward plain contract will give you a much cheaper quotation.

Q.—Would it be inconvenient to contractors to take measurements on the sea shore here before it is tipped into the blocks?
A.—No. I think it will be unfair to big contractors as also it is open to unknown liabilities to the Government. I would not advise it for a public body to do it.

Q.—There will be uncertainty about shrinkage, is it not? You will not be able to follow the progress of the works.
A.—Taking measurements over in wagons or stacks will affect the progress. It is also liable to be abused. A respectable contractor would like to avoid that even by accepting some risk in sectional measurements.

Q.—But if delivery is given at site on the sea shore your responsibility ceases there. You have no responsibility for any shrinkage.
A.—That is true, but that uncertainty will be only between 5 and 7 per cent., at most 15 per cent. If the Department says it will be 15, the contractor will take it at 25. But the figure of uncertainty will be between 5 and 7 per cent., at the most 10 per cent.

Q.—Can you get soil of any other kind for filling in besides moorum?
A.—I am not aware of any.

Q.—Any material should do for filling.
A.—You mean cheaper material? No, I am afraid round about Bombay you will find moorum throughout also comparatively cheaper.

Q.—You say, "We definitely know far more than sufficient dry moorum is available within reasonable limits..." Are you satisfied on that point?
A.—Yes.

Q.—From what locality?
A.—There is one hill belonging to us that alone should give the bulk of the quantity required if the whole were intended to be done. There are besides other areas of which I am aware, and which are within a reasonable distance, even nearer than Khadivli, which will give the required quantity.

Q.—If you can get at the rate of about 12,000 cubic yards a day, combined with dredging, you might be able to complete the work within 4 years.
A.—12,000 cubic yards per day of dry filling will give you 6 lakhs of brass a year with 200 working days in the year.

Q.—You take only 200 working days? Could you not work longer days?
A.—During the rains as far as possible earth-work is avoided. If there is urgent work or the contractor is compensated for he will try to work during the rains, but efficient economic earthwork is generally stopped in Bombay, and that is why we on an average take 200 working days in the year. It will give you six lakhs of brass of dry filling.

Q.—As regards land acquisition and railway facilities you want arrangements made by Government?
A.—Yes, in the case particularly of way leaves. The hill can be acquired by a contractor, but access from the hill to the railway may present difficulties. One small rice field comes in belonging to some widow who is not empowered to sell. The
contractor is absolutely stuck owing to that one acre of field. There the Land Acquisition Act must be and should be requisitioned.

Q.—Finally you say, "that dry filling is more advisable surely safer and cheaper in the long run. Sir Alexander Gibb says the same. Mr. Neilson thinks this is not a dredging scheme and that it is possible to procure sufficient moorum in the vicinity of Bombay. That if the Railways are persuaded to spare sufficient rolling stock and allow necessary trains to pass on the main lines the progress of the work will be better than dredging."

A.—This is a practical proposition. The Railways have done so in the past even when quadrupling was not there. Now there is quadrupling on one of the Railways and the other is expected to be shortly.

Q.—But we have to consider whether dredging would be cheaper or moorum filling. Do you care to discuss the rates? At what rates will it be possible to get material; assuming favourable conditions, what would be the cost of filling by moorum and by dredging respectively.

A.—As regards dredging I have got no data except as I read in the papers.

Q.—It is said that the cost of dredging will vary from As. 12 to Rs. 1-5-0, and possibly the average may be less than Rs. 1.

A.—But it does not take account of interest or depreciation. Is it fair then to compare? In my case it takes into account interest, depreciation and all charges. Depreciation alone according to my calculation knocks out wet filling altogether. A crore and a half worth of plant to be distributed over this whole quantity absolutely washes it out.

Q.—But this expenditure has been incurred.

A.—Is it logical because that expenditure has been incurred to take it at zero.

Q.—We have to see what is to the utmost advantage of the works and not of contractors.

A.—Even then the uncertainties having been particularly seen, and observing the behaviour of that wet filling which requires more than five years to dry (I am told you are allowing one year to dry. With my personal experience I tell the Committee I have tried to walk over that filling after five years and it was unsafe).

Q.—Where is it?

A.—In the Mazagon-Sewri reclamation. For five years the land did not dry, sufficiently dry for building purposes or other purposes. I have myself done bulk of the topping in the Mazagon-Sewri reclamation. In many places as much as 6 feet of surfacing has to be done. If the Committee would care I would like to show the bulk of that portion which shows that 4 to 6 feet of topping is required. I believe you have taken 1 foot in the estimates. That will upset the cost of wet filling certainly.

Q.—We have to consider all these points before making our recommendations. We want your views as to the comparative cost.

A.—Mine are, in the absence of authentic information about the working of your dredgers, if you allow five years, interest charges will absolutely change the whole data. Then 1 foot of topping has been allowed, which I consider is not only insufficient, but will also change the whole of the wet dredging estimate. Then there are the uncertainties about the working of the dredgers, from what I have seen or heard of the performance of the "Jinga" or the "Kalu", an average of 6½ to 7 hours working per day was attained by the detention caused by breakdowns.

Q.—There is some improvement now?

A.—It may be rather nominal.

Q.—They propose to work 24 hours in three shifts?

A.—For 4 years they did not. The Fort Trust for 6 years did not. Their average was about 7 hours or something of that sort. Why should you now take 24 hours or 22 hours I do not understand. Add to this the breakdowns. The "Jinga" I believe is even now under repair for 8½ months in dry dock. If you provide for all these and where interest charge is such a big item, to depend on these uncertainties is unsafe! We are not sure of the quality of the material in Back Bay nor of the quantity for dredging, nor of the performance of these dredgers. These three uncertainties will certainly upset all calculations as to costs, particularly owing to interest charges and various other considerations. In wet filling you cannot start earning revenue till the whole block is filled, dried and topped with moorum. In dry filling you can start almost straight off. You leave the last 10 feet or 20 feet strip and make your roads and possibly buildings on the area. Your interest charges will therefore be small and you will be earning revenue if there is a demand for your building area.

Q.—Will you forget for a moment that you are representing the interests of contractors, and give us your independent opinion about the origin of the scheme, the conduct of the scheme and your own view as to how the works should be completed? First of all about the origin of the scheme. They say it was begun in a hurry and the estimates were
not prepared in sufficient detail. Have you studied the project from the commencement?

Q.—Have you gone into the details?
A.—I have been a close student of the scheme from the very beginning.

Q.—As a business man you might be able to give your own views about the conduct of the scheme?
A.—As regards hurriedly undertaking the scheme there cannot be a difference of opinion.

Q.—What was the object with which Government rushed the scheme? Why were they in such a hurry at that time? Was it because of the boom or the atmosphere around them?
A.—Yes, boom in land prices.
Q.—They also expected large profits?
A.—On the data or figures given to them, yes.
Q.—Were they justified in starting the scheme on the figures given to them?
A.—Not on the insufficient data.
Q.—We know now the data are insufficient. Had they opportunity of doubling the data then?
A.—Certainly.

Q.—What makes you think so? There was Mr. Kidd’s estimate of 1912, and this was an advance on that?
A.—A responsible body like Government should weigh and make sure of their data. The Consulting Engineer is guided by the data placed before him. Government takes the data of a contractor who took only wash borings and the Government do not go to the Port Trust who are there for 60 years or the Royal Indian Marine, both of whom have got as far as I am aware very full and elaborate information, and who I understand would have welcomed any enquiry (I know the then Chief Engineer, Mr. Muscat was extremely annoyed when he saw no one approached him. He said: “We are the people who ought to know, and no one comes to us”) particularly in placing orders for crores worth of dredgers they did not go to their neighbours who had almost exactly similar machine, they did not go and ask them for its performance, price or anything! If I want a motor car I ask my next neighbour what she is on petrol, etc. One public Department does not care to go to another public Department and certainly the only qualified Department to give the information. And particularly in a local scheme wherein detailed knowledge of Bombay conditions was essential to studiously avoid all Bombay engineers directly or indirectly connected with Bombay. They studiously brought out men who never knew what Sewri was, where Back Bay was. They began studiously avoiding Bombay men, whether it was the P. W. D., or another. public Department and certainly the only qualified Department to give the information, and who I understand would have welcomed any enquiry (I know the then Chief Engineer, Mr. Muscat was extremely annoyed when he saw no one approached him. He said: “We are the people who ought to know, and no one comes to us”) particularly in placing orders for crores worth of dredgers they did not go to their neighbours who had almost exactly similar machine, they did not go and ask them for its performance, price or anything! If I want a motor car I ask my next neighbour what she is on petrol, etc. One public Department does not care to go to another public Department and certainly the only qualified Department to give the information. And particularly in a local scheme wherein detailed knowledge of Bombay conditions was essential to studiously avoid all Bombay engineers directly or indirectly connected with Bombay. They studiously brought out men who never knew what Sewri was, where Back Bay was. They began studiously avoiding Bombay men, whether it was the P. W. D., or Port Trust or any Department. Even for a quarry which is nothing else but a study of the formation of rock in the vicinity they brought out men who had never been near Bombay.

Q.—You mean in the selection of men to operate the quarry?
A.—Yes.
Q.—Have you any defects to find in the conduct of the works since they were started? And would you suggest any modifications in the way the work should be carried out in future?
A.—Even leaving the contractors’ interest alone, I think as a citizen I would insist, and I think the Legislative Council also want the same, that the balance of the work must be done by contract. I think both the Consulting Engineers say the same, and curiously enough that is the only point they agree upon, Sir Alexander Gibb and Sir George Buchanan who differ on almost every point except this that the work ought to have been done by contract.

Q.—What are your recommendations for the future? Would you complete blocks 1 and 8 or not?
A.—I would like to have more information before I can say anything about that,

Q.—You have not read the interim report of the Advisory Committee?
A.—Since then we were promised the Neilson Report and the Kay Committee’s Report. Until the Neilson Committee and the Kay Committee’s Reports (costs in the Kay Committee will be based on the Neilson Committee’s report) are received, I will not be able to give an opinion.

Q.—Speaking generally, are you in favour of the completion of the work or do you wish to go slow?
A.—From the point of view of the community’s financial standing I go slow. I would not dump the land market yet with a big quantity of land in a short time of 10 years or so.

Q.—Lastly, assume your own conditions and give us a rate for mororum at which contractors could supply in future. At present the rate calculated by the Development Directorate is Rs. 1.57 per cubic yard.
A.—Of that I am doubtful. It does not allow for any overhead charges.
Q.—It allows 15 per cent. shrinkage?
A.—I think it does not. My impression of what Sir Lawless said here was without shrinkage 4/98, with shrinkage 5/79 or something, and even then overhead is not allowed in 5/79. If overhead is 15 per cent., that rate will come to Rs. 6-5-0. With a responsible contractor the overhead will be reduced to a small amount.

Q.—Suppose including shrinkage the rate is Rs. 1/37 now, what reduction would be effected by employing a contractor? Give us the rough idea of the cost.
A.—I am doing the work on a basis of Rs. 4/4 the only difference being in the haul. My haul is 7 miles as against your 19, and there is a little difference in the shrinkage. Rs. 4/4 is Rs. 1/1 roughly per cubic yard. An extra 12 miles should cost about as. 11 or 12 per brass.

Q.—In the first instance would a contractor bring it from a short lead?
A.—Certainly if he got a hill and a siding he will.
Q.—Is he likely to get then?
A.—Yes.
Q.—Assuming that the total quantity required is about 22 million cubic yards, and say about 12 million cubic yards have to be done by moorum filling, at what rate could that moorum be delivered here. Give us a rough figure. You do not commit yourself, it is not a tender. You make your own calculations and give us a figure at the end.
A.—The contractor will save a rupee to the Department, a saving of about a rupee equivalent to 15 per cent., or 16 per cent. on the present costs of the Development as I understand them and therefore no exposure to unlimited liability for the Government.

Q.—I want a figure.
A.—If Rs. 6/6 is the Development Department figure, being Rs. 4/98 and 15 per cent. overhead, my figure is Rs. 5/6.
Q.—Is same for a lead of 18 miles?
A.—I am basing it on existing quarries as they are.

Sir Frederick Hopkinson.—I have seen for the first time a few minutes ago this document inviting tenders for doing the work and gather from the remark that you made that this might almost be described as a tender to get a high price and not a low price?
A.—Exactly.
Q.—I see the cost of all the settlement of the moorum not in itself but into the mud below is to be upon the contractor. That settlement might be 100, 200 or 300 per cent. Well, I think I should be inclined to agree with you that is a way to get the very highest possible price. Now you said something about tendering for the Colaba wall, and having been put to a great deal of expense in making the tender, and the tenders, so far as you know, were not considered. Can you tell me a little more about that? Did they ask you to find all the materials and plant for that?
A.—Everything.
Q.—Did they ask you to lay a railway from Marine Lines to Colaba point or leave you to get in any way you could?
A.—They left us to give our own design and the method of execution in very elaborate detail.
Q.—They gave a schedule of quantities, did they not?
A.—If those tenders are traced they will furnish very valuable reading. They were carefully prepared. Two contractors sent men all the way from England. Each of them must have spent thousands of pounds on them, and it was all scrapped without giving any reason.
Q.—Did they at the same time ask you to deliver them in detail how you proposed to do it in detail?
A.—In the most elaborate detail. We even went into the comparative cost of a steam lorry and a petrol lorry. They asked us where we intended to transport stones from.
Q.—What did it matter to them how you transported it. They were going only to pay for the finished work?
A.—I do not know whether they wanted to get information at anybody else’s costs. It was no consequence to them. They stipulate you must do so and so, and the moment you deviate, your tender is thrown out in India. There is difference in the treatment to contractors in America or England or any other civilized country and India. A contractor is treated worse than a coolie.

(Sir Frederick Hopkinson.—You have my deepest sympathy.)
Q.—You spoke just now about wash borings. Did you ever know of wash borings made in the clay?
A.—I am not an engineer, but this is what I am told by people who know. I am not responsible for the details of it, nor am I aware of the technical details.
Q.—Have you ever heard of any one making wash borings in solid clay?
A.—I could not answer that question.
Q.—You have had a wide experience of prices of materials and labour during the last 10 or 20 years?

5
A.—Yes.
Q.—Can you tell me the approximate rise in the value of labour, materials and plant between the years 1912 and 1919 in Bombay? Before you answer that question can you say if the year 1919 was somewhat a peak?
A.—Rather 1920. 1919 was below the peak.
Q.—Much or little?
A.—It depends much on imported materials.

10
Q.—I am asking you now generally as a contractor. Was there a considerable rise between the years 1912 and 1919 in prices of labour, plant and materials?
A.—There was a rise in labour and a decent rise.
Q.—Plant?
A.—You will possibly be in a better position to say. If you could give me some time I will send the information about the others later on.

(Sir Frederick Hopkinson.—Thank you very much.)
Q.—You know the district of Bombay very well?
A.—Yes.
Q.—Do you think it would be at all difficult to find sufficient material within reasonable distance for the purpose of completing the work?
A.—There will be no difficulty whatsoever.
Q.—You said that moorum filling is cheaper than dredging?
A.—Considering all the factors.
Q.—But moorum costs Rs. 1.57 per cubic yard, i.e., Rs. 1/8 roughly. We have been told that the actual dredging cost for the last year from the harbour was a little over 8 annas. That does not include depreciation or interest, but the actual working cost. How could you reconcile that with your estimate of moorum as cheaper?
A.—I want to allow interest and depreciation which I think should be allowed.
Q.—When you deal with the plant you have got depreciation going on all the time, unless a god-father comes and is prepared to give you back its original price?
A.—Yes.
Q.—Your interest similarly is bound to go on, whether the dredger is working or lying idle?
A.—Yes.
Q.—Therefore, if you could do dredging at 8 annas, it is far cheaper than moorum filling?
A.—If that figure is correct and dependable.
Q.—Therefore that would invalidate your remark that moorum is cheaper?
A.—If the 8 anna figure, which Sir Alexander also seems to doubt, is correct. There are also other uncertainties involved and the saving of interest. You must also allow the land to dry.
Q.—Do you agree that one year is sufficient for that?
A.—No, it will take five years.
Q.—But you can put a sufficient tipping of moorum in order to make it possible of being used?
A.—You should wait until it dries.
Q.—The buildings can be put up on piles?
A.—I could not answer that question.

(Witness.—Will you do the same thing for sewers, drains, etc.?
(Sir Frederick Hopkinson.—Oh, yes.)
Q.—You said just now that you have got 200 working days in a year’s work. Surely you would not do that if you have got a large and expensive plant?
A.—My plan is for dry filling. It is not an expensive plant that I have to find.
Q.—You would think of working only 200 days?
A.—This has to be done, or else work during the rains will have to be done.
Q.—In any case you may have to hang up the completion of the scheme on account of the monsoon?
A.—Generally we knock off all the work. The wagons which are required for earth work are supplied by the railways and two months are employed in overhauling, and so only two months are wasted.
Q.—Assuming that you are working the whole year, how many working days could you count upon?
A.—Not more than 280. On some of the days we find that there is incessant rain.
Q.—A figure of about 280 days has been given to us by somebody. Do you think it is excessive?
A.—Unless extra rates are paid as for urgent and immediate work. Normally we take 200 days.
Q.—Not when you have to keep expensive plant lying idle?
A.—No. You have 52 Sundays too and the monsoon days count for a 100 days idling.
Q.—That means the number of days that you could work is 265 days?
A.—If we are not idling during the rains.
Q.—Suppose you are pressed to do the work. For how many days can you do the work?
A.—250 or 260, not more.
Q.—Can you tell me if the B. B. & C. I. Railway Company or any other railway company can supply a large number of empty trucks for the purpose of bringing down morum?
A.—I made some enquiries before this tender was out, and I was told by the G. I. P. Railway Company that it was possible, but they would not commit themselves until I wrote to them giving a definite proposition. When the tender came out we did not do anything.
Q.—You are not going to put in a very low tender?
A.—Not on the basis of this form.
Q.—You suggest that you are prepared to take the work and to complete the whole work?
A.—Yes.
Q.—Have you done any harbour work?
A.—As I have said the bulk of the work is only reclamation work, besides a small piece of wall to be done.
Q.—You know of that, because you have seen it done?
A.—Not only that. We did tender at the very beginning before we had this experience. Therefore we can now do it.
Q.—In that tender for the Colaba wall did I understand you to say that they asked you to supply detailed costs of the work you were going to do for them?
A.—Yes.
Q.—It is difficult to find a polite word to describe that?
A.—We were so polite that we never raised even a word of protest.
Q.—On page 2 of your statement you say "Had the work been let by contract the obvious mistakes that are now known committed by the Development would not have been made ". Don't you think you might alter that to "might not have been made ",? I am sure you are subtle enough to see my point, because this is a suggestion that the contractor never makes mistakes.
A.—We are speaking comparatively. As compared to the Development Directorate the contractor is a very superior creature.
Q.—You think he could not possibly make as many mistakes as the Development Directorate?
A.—No. he cannot make such obvious mistakes.
(Sir Frederick Hopkinson.—I will rather privately give you my answer to that. Witness.—After all, this is an Indian contractor's English and not that of an Englishman.)
Q.—I am only suggesting the alteration of a single word. You say on page 5 that any contractor could have been able to purchase best expert experience available in the world. A man of your experience does not require surely to purchase any expert experience?
A.—Possibly I think the word " purchase " is wrong. Hired or employed would have been better.
Q.—But even then he would not hand himself over to an expert?
A.—It depends on what the state of the work is: how much of local knowledge is required and how much exactly of technical knowledge is required.
Q.—The business of a contractor is to take all those roads radiating to one point, and that point is the contractor. And if he does not understand one of those roads, he would probably have to end up in the bankruptcy court. I am afraid I should get into hot water if I say nothing about your paragraph No. 9. Has not Sir Alexander said something of that sort, possibly in some cases in stronger words? Generally speaking, looking at this work as a whole from the beginning, would you describe it as risky or difficult work?
A.—No.
Q.—Would you call it rather commonplace, simple, easy?
A.—Yes.
Q.—Nothing to prevent a contractor of experience from giving a close price for?
A.—Nothing.
Q.—So simple and easy that he has not got to put on a large margin for risks and contingencies?
A.—I agree.
Q.—Can you see any risk in the work as originally started: can you see any big risk as in this proposed tender for the supply of moorum filling? Don’t you think that the risk in this last tender is greater probably than the risk originally shown for the entire contract? You have got a risk of one, two or three hundred per cent?
A.—Yes.
Q.—That is a greater risk you are asked to take in a limited contract for moorum than a contractor would have originally had for the entire scheme?
A.—He would have made his enquiries then and even now the same way. The contractor would go and see things for himself.
Q.—The risk of taking the entire work is a probably much smaller risk than in taking this small contract for moorum filling?
A.—Yes.
Q.—And that is why I describe your answers as a suggestion that they were trying to get as high a price as possible in framing the estimates?
A.—Possibly for the wet filling to be shown as cheaper.
Q.—Now as to the difference between departmental and contract work, which would you say is the more economical?
A.—Work by contract certainly.
Q.—And which is the speedier?
A.—Work by contract.
Q.—In taking a contract if the contract is properly drawn up, the contractor is told exactly what he has to do?
A.—Yes.
Q.—If variations are made afterwards, they are almost invariably variations that increase the cost?
A.—Generally there are changes in designs which generally increase the cost.
Q.—But that does not matter to him, because there is the schedule of prices and he is paid for any alterations that are made?
A.—Yes.

Mr. Bullimore.—Assuming that a sufficient quantity of moorum, as you say in your report, is available within reasonable limits, from a contractor’s point of view would it not be safer and desirable to undertake the filling in of one or more blocks, watch the result and compare the estimates of cost, before undertaking a huge contract for the completion of the work?
A.—That might be right for an amateur contractor or a contractor coming from foreign lands who has no experience of Indian or Bombay conditions. But a contractor who knows his job and who has the experience, as some of these contractors I am referring to have, will not mind, and would rather like to put in a bid preferably for the whole.
Q.—Would it not be in the interests of Government not to place a large area of land on the market with a view to realise a better price from the sale of land?
A.—Yes. It will be undesirable to dump on the market a big block of land to be sold.
Q.—If small beds are reclaimed and the whole reclamation spread over a number of years, would there not be a considerable saving of interest and prospects of better prices being realised?
A.—That is the beauty of dry filling. You can stop at any time. With wet filling you cannot, unless the whole block is complete.
Q.—You prefer the work being given to contractors?
A.—Yes.
Q.—You yourself belong to a firm of contractors and as such in a way are an interested party, are you not Mr. Walchand?
A.—I was prepared only to give evidence as a contractor and the other questions I did not come here for.
Q.—You also told us that tenders have been invited?
A.—Yes.
Q.—You are likely to be one of the tenderers, and as such have a proportionate interest also in the future as a tenderer?
A.—To that extent.
Q.—Did you on a previous occasion submit any tenders to this department?
A.—You are not referring to big tenders? I had tendered for the wall.
Q.—Because you had spent some money and did not get the contract, you now make a grievance against the department as a disappointed contractor?
A.—Any other contractor would have got it. Every day we get tenders after tenders and disappointment after disappointment and we have no grievance against this department at all.
Q.—Your grievance is not because you did not get a tender?
A.—No.
Q.—You told us that you know of some hill or property that can produce a sufficient quantity of moroom. Naturally you would be anxious to get rid of that property?
A.—I would like the moroom to be utilized.
Q.—Then you said that between your property and the railway line if there was some one else’s property you would ask the Government to acquire it by a notification?
A.—This does not apply to my property. In the interests of some competitors I am giving this tip to Government.
Q.—For whose benefit would you recommend the Government to spend money at the expense of the poor landlord?
A.—The landlord gets full compensation. I recommend this in the public interest and so long as he gets compensation there should be no grievance.

Sir Frederick Hopkinson.—I have no doubt that this Committee in giving recommendations to the Government will fix the prices for the various works. And these prices, whatever you or anybody else may say, will be based upon what the Committee thinks the Government ought to pay, having regard to doing it in the very best possible and most efficient way.
A.—Yes.

28th witness

Mr. H. P. Mody and Mr. B. G. Horniman (Representatives of the Bombay Municipality)

Messrs. H. P. Mody and B. G. Horniman, representatives of the Corporation of Bombay, were examined.

Written Statement put in on behalf of the Municipal Corporation of Bombay

The Corporation have no desire to go at any length into the past history of the Back Bay Reclamation Scheme. The second ad-interim report of the Advisory Committee and the disclosures which have been made during the last few days before the Back Bay Enquiry Committee are sufficient condemnation of the reckless manner in which the scheme was launched by Government, and of the ineptitude shown by the Department in carrying it through. In common with other public bodies at the time the scheme was announced the Corporation were anxious to be placed in a position to criticise the details of the scheme and to have a share in the shaping of it. But the opinions of the Corporation as expressed in their resolutions and in the speech in the Legislative Council of its Representative were ignored by the Government with the same indifference which they displayed towards the representations of other public bodies. It was confidently proclaimed that the scheme was a very sound proposition both on its financial and technical side and all the warnings conveyed to Government by representative public men and bodies were ignored. It is true that in response to the insistent demand for a voice in the administration of the project an Advisory Committee was constituted, but its functions were so circumscribed and its opinions were so persistently discarded that the Advisory Committee had no utility as a controlling body. For all practical purposes the Development Department was absolutely autocratic and unrestrained in the exercise of its functions. The result has been a failure unparalleled in the history of any important undertaking in this City since the hectic days of the Share Mania. Even worse than the mismanagement of the Department has been the way in which it has continually sought to mislead the public until exposure became inevitable. Reassuring statements were made from time to time by the Department even when it knew that all was not well with the scheme and that it was ultimately going to prove a ghastly failure both on its financial and its engineering side. What is even more regrettable is that the Government were quietly looking on while the Department was deluding the public, and from time to time they themselves attempted to throw dust in the eyes of the public. All this can be amply demonstrated by the reports of the Development Directorate and by the statements made by Government in the Legislative Council. No condemnation can be too severe for a proceeding of this character and the Corporation hope that the Back Bay Enquiry Committee will take strong notice of the method in which the public has been deceived in connection with the scheme.

In view of all this the Corporation are strongly of opinion that the Development Directorate as at present constituted should not be allowed to carry on the scheme any further
towards completion. They reiterate the demand put forward, by the Indian Merchants’ Chamber as far back as 1921 that the Development Department should be a Transferred Subject so as to make it more amenable to popular control. The suggestion is not only that the Development Department should be a Transferred Subject henceforth, but also that the Advisory Committee attached to it should have powers of effective control at every stage and should not be merely a farce as it has been in the past. There should be a large preponderance of representation of the Bombay Legislative Council, the Bombay Corporation and other important public bodies on this Committee. It is only when effective popular control is achieved in the conduct of the activities of the Department that there will be any reasonable prospect of retrieving the Province from the financial disaster which has overtaken it through the policy of both the Bombay Government and the Development Directorate.

As regards the prosecution of various portions of the scheme which are now under consideration, the Corporation cannot commit themselves in advance to approval of any one of them. There are two Committees sitting at the present moment deliberating on the financial and technical aspects of the scheme and until they have made their reports it is not possible to express a definite opinion. The Corporation reserve to themselves the right of representing their views when the reports of these Committees are published. Subject to this reservation it would appear as if the completion of Scheme No. 8 should be proceeded with, as it is understood that a large part of it has been completed and there is a buyer ready at hand. What the Corporation feel, however, is that in view of the fact that the agreement with the Military Authorities was entered into at a figure much under the ultimate cost of the undertaking, as far as can be ascertained at present the price fixed with the Military Authorities was more or less approximated to the cost of Scheme No. 8 and it is submitted that it would be unfair that the Military Authorities should be presented with a large area of land in the best part of Bombay at a figure much under the ultimate cost of the undertaking. If the reports of the two Committees show that the completion of Scheme No. 1 can be accomplished at a reasonable figure, then in view of the work that has already been done on it the Corporation think it would be advisable to complete it. In order to guard, however, against any possibility of further miscalculations it is suggested that tenders should be invited for the work to be let out on contract at a reasonable and definite figure to some firm of repute and strong financial position.

The Corporation have also another suggestion to make and that is with regard to the adjustment of the respective liabilities between the Government of India and the Government of Bombay. It seems that over and above the Development loans there have been various advances made by the Government of India to the Bombay Government in connection with the scheme. The Corporation submit that the Government of India should seriously consider the question of relieving the provincial finances to the extent of these advances. It might well be argued that the Government of India are partly responsible for the financial disaster which has overtaken Bombay, by the light-hearted manner in which they accorded their approval to the scheme which had been turned down repeatedly by competent opinion for more than a decade and with regard to which they themselves had taken up a strong attitude of disapproval all these years. It must be remembered in this connection that the Government of India’s sanction was obtained on an original estimate of 4 crores of rupees which was doubled within a very short time and yet the Government of India do not seem to have worried over the financial prospects of the scheme but seemingly allowed the Bombay Government to have a free hand in the matter.

Under these circumstances it is not too much to suggest that the Government of India should bear some share of the loss which has accrued.

In conclusion, whatever scheme is undertaken, the Corporation reiterate their demand that the execution of it should be no longer left in the hands of an autocratic body which has shown itself incapable of discharging its responsibilities nor should the Government of Bombay retain the control of the undertaking in their hands in the same irresponsible way in which they have done hitherto, ignoring not merely public criticism but misleading the public into thinking that all was well with the scheme and that the fears loudly expressed on all sides with regard to it were idle and arose from interested motives.

Messrs. H. P. Mody and B. G. Horniman, representatives of the Corporation of Bombay, were examined.

Sir M. Visvesvaraya at the outset expressed his regret that the Chairman (Sir Grimwood Mears) could not be present, owing to indisposition, to meet the representatives of the Corporation.

Sir M. Visvesvaraya.—What is your full name, Mr. Mody?

A.—H. P. Mody.

Sir M. Visvesvaraya.—What is your full name, Mr. Horniman?

A.—Benjamin Guy Horniman.

Q.—Are these your own views or those of the standing committee or any particular committee?

A.—Mr. Mody.—These are the views of the committee appointed by the Corporation at a recent meeting; they were asked to formulate a statement and appoint representatives to give evidence before this Committee.
Mr. Horniman.—I would like to add that the statement represents the views of the Corporation; we have full authority to represent the views of the Corporation. It has been drafted and approved by the Committee.

Sir M. V. Visvesvaraya.—In this statement you have expressed the views of the Corporation as regards the origin and conduct of the works and you have also made some specific recommendations for the future?

Mr. Mody.—Yes.

Q.—You say that the opinions of the Corporation as expressed in their resolutions and in the speech in the Legislative Council of its representative were ignored by the Government with the same indifference which they displayed towards the representatives of other public bodies. Do you wish to mention any particular instances? We want facts chiefly.

Mr. Mody.—When this scheme was first announced the Corporation represented to Government that they wanted a share in the administration of the project, and in particular they wished the scheme to be submitted to them for their views, with full details. That was in 1920.

Sir M. V. Visvesvaraya.—Before the scheme was submitted for sanction?

Mr. Mody.—First of all, Sir, before the scheme came to the Corporation, there were speeches made by the representative of the Corporation on the Legislative Council, Mr. (as he was then) Chunilal Mehta and by Mr. (as he was then) Pheroze Sethna who, though not a representative of the Corporation on the Legislative Council, still was a prominent member and therefore could be expected to know the mind of the Corporation.

Q.—Any other instances in which Government ignored your views?

A.—I am coming to that. On the 19th of August 1920, the Corporation pass a resolution in which they say amongst other things that they are vitally interested in the matter, an opportunity should be given to them of expressing their views on the various schemes under consideration.

Sir Frederick Hopkinson.—I wish you to remember that our enquiry is confined to this one scheme, the Back Bay Scheme.

Mr. Mody.—But this resolution refers to all those schemes.

Sir M. V. Visvesvaraya.—Your representation refers to all the schemes?

A.—The present representation deals with only the Back Bay scheme. In the same resolution, the Corporation say that the President be asked to request His Excellency the Governor in Council to submit the detailed proposals of the Government for the consideration of the Corporation. Then on the 27th August 1920, the Corporation met in Committee. The whole House was then in Committee. At this meeting, Mr. Chunilal Mehta, as the representative of the Corporation, reported what transpired at the meeting of the select committee and the following mandate was given to Mr. Mehta: That the representative of the Corporation on the Legislative Council should be asked to request Government for an assurance that the Corporation should have a fair representation on any agency or board that may be constituted to carry out the various development works that are now under the consideration of Government. At this committee meeting of the whole House, Mr. Chunilal Mehta said, amongst other things, that when he asked certain questions in the select committee about reclamation he was actually ruled out.

Mr. Billimoria.—This was at a very early stage when the operations on the reclamation had not yet commenced?

Mr. Mody.—Quite right.

Q.—In what directions were the questions asked?

A.—To elicit information.

Q.—About the details of the scheme?

Mr. Horniman.—The Governor had already made his speech indicating that the reclamation project was to be begun and the Corporation representative endeavouring to get information about it in the select committee was ruled out.

Sir M. V. Visvesvaraya.—Was it after the speech in the Indian Chamber?

A.—I am referring to the speech introducing the first reading of the bill.

Q.—We want only points to confirm the statement that your views were ignored.

A.—What I want to say is we repeated this request several times through our representatives in the Council; our accredited representative Mr. Chunilal Mehta and prominent members like Mr. Pheroze Sethna and Sir Dinshaw Petit, repeated on several occasions, that the Corporation as the body primarily concerned in the development of Bombay should have a voice in the shaping and the execution of the scheme; and an executive committee was also suggested amongst the measures which would achieve that end. I may remind you, Sir, in this connection of the reply given by Sir George Lloyd. He said that it was apparent from
the speeches made that there was an idea that there should be representation of various public bodies on this Development Directorate that he was contemplating. He (Sir George Lloyd) was to point out that that was a total misconception of what this body was going to be. These are the words which he has used—(Bombay Government Gazette, Page 698): “Honourable Members went on to suggest that the Municipal Corporation should be represented on the Development Directorate. It was that request or suggestion which drew my attention to the obvious fact that Honourable Members had entirely failed to appreciate what form of body this was going to be.” And this is the paragraph to which I invite special attention “No Corporation or outside authority can be represented on Government as such. What I have stated is that we merely desired our own authority to be as expeditious and efficient as possible. Instead of dealing with any overworked highly charged department, we are creating a department of our own, new and up-to-date, to deal solely with these matters with no additional powers of interference of any kind.”

Mr. Billimoria.—That was in connexion with the formation and the establishment of the Development Department which was inaugurated in connexion with this scheme?

A.—Right.

Q.—And was the opinion of the Corporation not regarded or disregarded, as you say?

A.—This Department, as you know, deals both with the housing schemes in the north of the island and with the Back Bay reclamation. The department was formed for both these purposes and for other schemes, which were then under contemplation. The Corporation wanted in the first instance the detailed proposals before them; they also desired a direct representation on the department; and their representatives further pressed, as I have pointed out, for an executive committee. All these representations, I say, were turned down and the department was created subject to no control of any sort except that of an advisory committee constituted later on in response to public opinion.

Sir M. Visvesvaraya.—What do you think were the weak points of the advisory committee?

A.—The advisory committee was advisory, that is to say, in the sense that it had a legal right to tender advice but there was no legal obligation on the part of any one to listen to it.

Mr. Billimoria.—Mr. Mody, will you give us the date of the speech of His Excellency Sir George Lloyd to which you referred now?

A.—I have not got the date just here.

Mr. Hor imm an.—It was at the time of the second reading of the bill.

Mr. Mody.—I can send it to you later on. It is on page 698 of the Government Gazette, 1920.

Sir M. Visvesvaraya.—Then you go on to say, “For all practical purposes the Development Department was absolutely autocratic and unrestrained in the exercise of its functions.” Can you give us specific instances? We are collecting facts for study.

A.—I can recall two instances, one of which was a notice of motion sent by Dr. Sukhia, one of the representatives of the Corporation on the advisory committee. Of course, I am bound to admit that his motion was of a sweeping character; but it was ruled out on the ground that there should be representation of various bodies. Sir Frederick Hopkinson.—What was the motion?

A.—“Whether the Back Bay Reclamation Scheme should not be abandoned for the present or postponed for at least 5 years.” That was on 20th June 1921. Then, Sir, another instance of that is given in the representation, which I believe is now before your Committee, of the Indian Merchants’ Chamber and Bureau and in that representation it is said that Mr. Lalji Naraj’s statement that he also asked certain questions but he was ruled out.

You would like to know the reply which Sir Lawless Hepper gave to Dr. Sukhia’s notice of motion “Whether or not the policy adopted by Government in regard to reclamation of Bombay should be reversed is not therefore a matter which can suitably be discussed by the advisory committee.” You will find this in the dissenting minute of Mr. Manu Subedar; and if you ask me why I say that the Development Directorate conducted operations just as they liked,—it is all in the minority report and other papers—I say that in all those matters that they placed before the advisory committee no sanctions were taken and no estimates were placed.

Q.—What are the instances of “Unrestrained”? A.—Well, all the Estimates were never placed before the Advisory Committee by the Director of Development.

Q.—So no estimates were placed before the Advisory Committee?

A.—None that I know of.

Sir M. Visvesvaraya.—Well, this is important.

Mr. Billimoria.—I find that there was not a single engineer on the Advisory Board?

A.—What does it matter? We know that vast schemes are often handled by men who have no engineering knowledge, but whose business capacity is certainly most useful.

Sir M. Visvesvaraya.—There was no advice about any of the estimates?

A.—No estimates were placed before the advisory committee.

Q.—What were the sort of matters that were placed before the advisory committee?

A.—I could not tell not being a member of the Advisory Board, but I should imagine, precious little.
Mr. Billimoria.—What would be the function of the Advisory Committee? You expect the estimates to be submitted to them and their function would be to advise.

A.—The functions of the Advisory Board, theoretically speaking would be to advise on all matters pertaining to the activities of the department of which they were the advisory committee. I don’t say that means really that their advice should be accepted, but I do say that they have a right to be consulted on every aspect of the department’s activities.

Q.—In your opinion, the non-submission of the estimates to the advisory committee was a great mistake on the part of the Government. Do you suggest that?

A.—Yes, I certainly suggest that.

Q.—Would Government have been wiser for submitting the estimates to the advisory board.

A.—I think they would have been.

Q.—Because of the constitution of advisory board as it consisted of business men?

A.—Because there were business men on the Board, and in any case there were fresh minds on the Board not altogether wrapped up in the speedy execution of the scheme.

Mr. Horniman.—And exempt from bias.

Q.—Why was there no engineer on the advisory board who could have advised Government as to the project?

Mr. B. G. Horniman.—Because they didn’t want any.

Mr. Medly.—I look at it not merely from the engineering or technical aspect of the question; experience shows that vast schemes are handled by men who have no engineering knowledge themselves but whose advice has been found most useful. As a matter of fact we are laymen in the Corporation, and yet we handle large projects.

Sir M. Visvesvaraya.—If there were prominent business men on the advisory committee their advice would have been useful?

A.—Certainly.

Sir M. Visvesvaraya.—Then again you say “Even worse than the mismanagement of the department has been the way in which it has continually sought to mislead the public until exposure became inevitable”? 

A.—Yes.

Q.—You say they tried to mislead the public; probably you mean they withheld information from the public?

A.—That is misleading if they deliberately withheld information which they thought would be very inconvenient to give out.

Q.—They may be matters of policy which Government have to decide. The department has only to carry out the orders of Government.

A.—Without entering into any considerable details, I would refer you to the evidence given by Sir Lawless Hepper himself; in answer to Sir Frederick Hopkinson, Member of your Committee, Sir Lawless Hepper admitted that there were large omissions in his report.

Q.—Yes; he did.

A.—He said that he conveyed all the information to the Government, and when tackled further on the point by Mr. Billimoria he readily admitted like a gentleman that his report did contain material omissions. In the minority report of the sub-committee, there is a statement about what Sir Lawless Hepper said in 1925 (page 8 of the Advisory Committee report). “In February 1925, he (Sir Lawless Hepper) assured Mr. Baptista on the eve of the interim report that all was well and this assurance was conveyed in the report in these terms.” These are the actual words: “In regard to the possibility of financial loss the expenditure has up to date approximated closely with the forecast, the total including interest charges up to 31st March 1924 being Rs. 412 lakhs against the forecasted figure of Rs. 421 lakhs.” Now this is the comment of the minority report on the statement. “This obviously meant that the work done kept pace with the money spent according to programme.” Now, Sir, it was no use making a statement that the expenditure had approximated closely with the forecast, when there was this cardinal factor that the work accomplished was nothing like the estimated output.

Sir M. Visvesvaraya.—Then you proceed to say “What is even more regrettable is that the Government were quietly looking on while the Department was deluding the public and from time to time themselves attempted to throw dust in the eyes of the public.” Is that not a very strong statement?

A.—I admit it is a very strong statement; but it has not been made without justification. I am very sorry to have to make this statement, but facts must be faced.

Q.—Government might not have been correctly informed?

A.—Sir Lawless Hepper in his statement said that he conveyed all the information to Government.
Q.—He said that they might not have been correctly informed on the larger aspects of the question?
A.—Let Government say that they were not correctly informed; so far as the evidence has gone at present—that is, before you—Sir Lawless has stated that he informed Government from time to time and his duty there ended. I do not wish to make a point of it, but I regard the various statements made in the Council—if you desire me to go into those.

Q.—Have you got any specific instances?
A.—One of these was recently mentioned in the Council by Sir Leslie Hudson when he referred the member in charge to a question which was asked in the Council in August 1925.

The question was “Will Government be pleased to state whether it is a fact that this process of dry dredging has hitherto proved a complete failure?” The answer was “No.” This was made a point of by Sir Leslie Hudson who also—it is in the Council proceedings—charged Government with misleading the public.

Q.—That may be the case, because the dredging was being improved from month to month; it was experimental at first. I merely putting the opposite side
A.—I venture to differ from you.

Q.—What date is that?
A.—August 1925.

Q.—I am just putting the other side of the case?
A.—Quite right; but I am putting my case. What I say is Government had or ought to have had the results of the dredging of two seasons. And whatever might have been said by Sir George Buchanan about the inadvisability of placing undue stress on what was achieved during the first season, there was the second season in which, according to the figures, the dredger did even worse. Then there was also a statement of Messrs. Meik and Buchanan—I read it yesterday or the day before—dated 23rd July 1924 in which it was stated that at the rate at which the dredging was going on it would take 35 years to complete the scheme. And in any case, Sir, even Sir George Buchanan, when in December 1924 he advised the Government to await the next dredging season and not to come to a hasty conclusion about the matter, even then he said, “I think it is safe to assume that we shall not get the full output of 2,000 cubic yards per hour, and that fact must be faced. If we get two-thirds of the total output we shall be doing well, but naturally the time required to complete the work and the cost of pumping will be increased.” That statement at least goes to show that whatever was expected of the dredger in the subsequent seasons, the dredger was not expected by the principal man concerned in its ordering and working to go beyond two-thirds of its estimated capacity.

Sir M. Vinayakaraya—That is true; but it is improving from season to season and there were some mistakes made in the beginning which he admitted. In the second season they threw the stuff into the basin and all escaped into the sea through the foundations of the sea wall.

A.—Is it possible for Government to say that the dredging so far as it had gone was not a complete failure. The crux of the situation was dredging, and for one reason or another, either the silt or clay not being available or because there was not a competent staff to look after it or because it could not be worked with three shifts or because some of the staff put into the reclamed area escaped for one reason or another, the dredger had failed; therefore a categorical denial of this character was certainly not justified. I also want to refer you in this connexion to the fact that in March 1925 the Member in charge, at the end of his speech on the Budget, said, “I leave this Budget in the hands of the House, with the full confidence that it will find reasons for satisfaction in this year’s administration of the Development Department.”

Sir Frederick Hopkins—Has this Committee anything whatever to do with the Government not consulting the Corporation of the City of Bombay as to the progress? We are here to enquire into the origin and conduct of the scheme.

A.—I am not concerned with that; you are asking me questions and I am answering them wherever I can answer. I am not volunteering any statement of my own.

Sir Frederick Hopkins—Has this Committee anything whatever to do with the Government not consulting the Corporation or anybody of the city of Bombay? We are to enquire into the inception and the conduct of the carrying out of the scheme.

A.—Mr. Mody.—Well, Sir, I am not concerned with the view you take of the functions of your Committee. I am only answering questions put by the Committee. I am not volunteering any statement of my own. We have given evidence to corroborate the statements we have made. The best thing I can suggest is that you ask us to deal with only so much of the representation as you think relevant, and the rest of it may be cut out.

Mr. Horniman.—Because I understand this Committee is to enquire into the inception and the conduct and the responsibility of the scheme, we say that if public representative bodies like the Bombay Corporation, which is in charge of the Government of
the city, had been consulted properly, it is possible and probable that the disaster would not have occurred. We are here to give evidence. We shall give whatever evidence we are asked to give.

Q.—We cannot possibly deal with it as it is outside the terms of reference.
A.—Mr. Mody.—I am prepared to take that from you. It is up to you to say whether it is outside the terms of reference of the Committee or not. I shall say no more about it.

Mr. Horniman.—It is very interesting to hear the explanation which the Honourable Member in charge gave in the Council, that it had not proved a complete failure. He admitted that the answer was drafted a day after he had the Chief Engineer’s report of a very unsatisfactory character. The reason was given that the Chief Engineer’s statement had to be submitted to the Committee.

Sir M. Visveswaraya.—You say, “No condemnation can be too severe for a proceeding of this character and the Corporation hope that the Back Bay Enquiry Committee will take strong notice of the method in which the public has been deceived in connection with the scheme.” Isn’t that very strong?
A.—Mr. Mody.—It may be couched a bit strongly, but it is a statement of facts and we can substantiate it.

Q.—The work is a very big one. Had the dredgers proved successful, it is probable that you would not have had any complaint to make, and if the work had proved profitable, you would have pocketed it and said nothing.
A.—Very likely.

Q.—So you have got to bear in mind that aspect too.
A.—When a thing goes wrong there is always somebody to find fault with. The dredgers had proved a failure; the estimates went up owing to the failure. Is it not reasonable to suppose that the Government would take the public into their confidence fully and that they would not deceive and mislead them. There is nothing to show in the “Reports on the Working of the Development Department” that they met with very serious failures in those two seasons. With reference to Sir Frederick Hopkinson’s objection, I may say that we put in this statement because of the assurance that this Committee would enquire fully into the working of the scheme. Public bodies like the Bombay Corporation had asked to give a statement. We also considered that terms of reference were of the widest character. We also considered that the terms of reference were of the widest character.

Mr. Billimoria.—We do want the facts as far as any charges that you can lay at the door of any person or party concerned. But what we want is details. So far there are no specific charges against anybody.
A.—In support of my statement, I have given you data, I have given you figures, I have given you quotations, and I am prepared to give you any number of additional facts and figures if you want them.

Q.—You ought not to carry away any impression that we want to shut out any evidence. We want some definite facts or data on which we can come to a conclusion when we are making our recommendations to the Government.
A.—It is up to you to ask what you want.

Sir M. Visveswaraya.—You know that the Development Directorate authorities say that they have not exceeded the estimates under any head except dredging?
A.—That is so, I have seen that.
Q.—The failure of the dredger is answerable for the whole blame?
A.—Very largely.
Q.—That may be their misfortune and not their fault.
A.—I hope so, for their sake.

Mr. Horniman.—We think it is a fault.
Q.—Particularly because some of the specifications were not—

Mr. Mody.—Proper investigations were not carried out before the dredger was ordered.

Q.—You say “it is suggested that tenders should be invited for the work to be let out on contract at a reasonable and definite figure to some firm of repute and strong financial position.” How can this be done with dredging?
A.—If the idea is to dry-fill instead of dredge, then I suggest the advisability of inviting tenders so that you may limit your liabilities. In any case, you know exactly where you stand and can provide against future uncertainties. Besides, you then have a definite assurance that, so far as the public is concerned, the work is going to cost you a certain figure.
Q. — You say that it might be well argued that the Government of India are partly responsible for the financial disaster which has overtaken the Presidency. I suppose you want constitutional checks for that?
A. — I want reparation for the past.
Q. — They were not consulted about the revised estimate.
A. — Mr. Horniman. — The Government of India were sanctioning loans and making advances to the Government of Bombay to carry out the work. They should have made enquiries as to how the estimates were going up and should have exercised some check.
Mr. Mody. — I go a little further than that and say that the Government of India, in view of their pronounced views about the Back Bay Reclamation, should not have given a carte blanche to Sir George Lloyd, and should not have accorded their sanction to the scheme in the desperate hurry in which it was given.
Q. — It must be remembered it was a boom period and the Government would not have wished to be left behind.
A. — That might have been so, but at the same time there should have been some control over the scheme.
Sir Frederick Hopkinson. — All the papers show how the Government of India were reluctant to consent to the scheme for years. It was only left to the Bombay Government to carry out the scheme and not to the Government of India.
A. — Mr. Mody. — My point is this: for years together the Government of India were extremely reluctant to countenance any Back Bay Reclamation. But when this particular scheme emerged and Sir George Lloyd pushed it forward, then the Government of India, in view of the fact that previously they would not sanction even a modified scheme of 229 acres, should have hesitated before they sanctioned a scheme of 1,150 acres.
Sir Frederick Hopkinson. — Which Government do you blame?
A. — Primarily the Bombay Government.
Q. — Do you blame the Government of India for the carrying out of the scheme?
A. — Not one bit.
Q. — Only for approving it?
A.- Mr. Mody. — Yes, I am very, very impartial and blame both.
The Corporation did not charge the Government of India with anything more than carelessness in respect of approval of the scheme. All that we say is that here is a fair case made out for relieving the Provincial finances, because, if the Government of India had looked more closely into things, when they sanctioned the loans and advances, such a state of things would not have come about.
Q. — Really they are not to blame?
A. — They should have intervened when the 367 lakhs was increased to 702 lakhs.
Q. — You mean they ought to have intervened? May I correct you? You know that under the Reforms His Excellency the Governor of Bombay had all the full powers and the Government of India had no right of interference.
A. — I know that.
Q. — And when the estimate was increased to 702 lakhs it was sanctioned by the Government under the Reforms.
A. — It was not sanctioned by anybody, as a matter of fact, but the Government of Bombay. They did not refer to the Government of India or to anybody else.
Q. — It was sanctioned in October 1922 by the Bombay Government.
A. — But much previous to that, in 1921, Sir George Lloyd announced at a meeting he had with the Indian Merchants' Chamber that the estimates had gone up to 702 lakhs.
Q. — With regard to the question of liability and responsibility of the Government of India that you raised, the Government of India could not have come in there under the Reforms, because the powers were vested in His Excellency the Governor in Council. How could the Government of India intervene?
A. — Considerable loans were raised by the Government of Bombay, and the latter had to get the sanction of the Government of India for financing this project, and I submit that there was a case for intervention by the Government of India. The Government of India should certainly have asked the Bombay Government to look more closely into the scheme.
Q. — Is there anything to show that they did not?
A. — I have no evidence that they did.
Q. — If you have no evidence what is the good of saying it?
A. — I have not got access to Government dispatches. There is nothing on record however to show that the Government of India at any stage after the sanction put in any word of protest or warning.
Q. — But, according to Mr. Billimoria, the Bombay Government was independent?
A. — Yes, but the Government of India were sanctioning loans and advances, and when making them they ought to have seen how the money was being spent, well-spent or not, and we contend that the Government of India should have made some enquiries into the extraordinary way in which these estimates went up. We want evidence to show that it was done. In the absence of that, we would blame the Government of India.
Mr. Billimoria. — With regard to the point raised by Mr. Horniman, I may say that the Government of India, while making the loans and advances, did not definitely make any advance in connection with the Back Bay Scheme. That was in connection with the Scheme for the Greater Bombay and it was not specified as to how many crores were required for the Reclamation. That is why the Government of India merely sanctioned it.

Mr. Mody. — It included the Back Bay also, but the point is that at the time the estimates went up the Government of India should have intervened.

Q. — When advances were made they were made generally to the whole Presidency.
A. — Yes.

Sir M. Viveesvaraya. — Probably the Government of Bombay thought that the Municipal Corporation were not directly concerned in the scheme, because it was being financed from Provincial funds.

A. — The advertisements which were broadcasted in those days said the money was to be spent by Bombay, for Bombay and in Bombay. Speaking as a member of the Mill Owners' Association, I say that they are getting from us at least 10 lakhs a year and they are getting from the rest of the Cotton trade, another 25 lakhs. Bombay is contributing substantially to these schemes of Development.

Q. — Not the Corporation?
A. — Yes, they are contributing to the improvement of the City.

Q. — If the dredger had worked all right nobody would have said anything and probably the work would have been completed. At the same time, the increase of estimate was an extraordinary event?
A. — Yes.

Q. — From the investigations we have made if the work had been done by moorum filling only, that is, earth filling, it might have been done cheaper than 7 crores.
A. — Perhaps, yes. The Government were certainly told by the Indian Merchants' Chamber that the work should be let out on contract. That aspect does not seem to have received attention at that time.

Q. — What was the object of the Government in starting the work? Is it a productive public work or was it needed by the public or was it that a Government House was required or demanded by the business of the city?
A. — The conditions about the time the scheme was conceived were such that it was felt that there was no room for expansion so far as the business quarters were concerned. There was a considerable congestion in the Fort, public buildings and Government offices required more spacious accommodation, and it was generally felt, at least by the authorities, and not without some justification, that more room was needed.

Q. — It was a boom period?
A. — Yes.

Q. — In some of the communications it is stated that the Bombay Government wrote to the Government of India that there was a danger arising from discontent if the scheme was not sanctioned.
A. — I have not noticed that. So far as the housing of the workmen was concerned I must say that the scheme was largely in response to public opinion. I want to make our attitude clear. In spite of the fact that the Housing Scheme has also been a gross failure in many of its aspects, so far as the housing of workmen was concerned the Government were right in undertaking it. But so far as the Back Bay Reclamation was concerned, in spite of the fact that it was a boom period, many people and important public bodies warned the Government and told them that development was not wanted here; I will refer to the statement of the Indian Merchants' Chamber. In 1921 they said that the Back Bay Reclamation was not required.

Q. — There was a public demand for it?
A. — No, not from any quarter.

Q. — It was passed unanimously in the Council?
A. — Yes.

Q. — Coming to the future working of the scheme, you state that the Development Directorate as at present constituted should not be allowed to carry on the scheme any further towards completion. If that is your view, whom would you substitute in its place?
A. — We do not want to substitute any other agency for the carrying on to the completion of this project for the simple reason that it would disturb the organisation very considerably.

Q. — The question of the P.W.D., taking it over has been suggested?
A. — I do not agree with it for this reason that the Public Works Department however efficient has its hands full, and short of a reorganisation it could not straightaway get hold to this scheme and run it.
Q.—The fact that it has control on a department does not mean that it cannot undertake the scheme. A Chief Engineer will be appointed.
A.—My point is that there is no real necessity for the change. The agency is there. It should be properly controlled.

Q.—Would you also recommend a Committee of the type of the Port Trust?
A.—Yes.
Q.—You want to maintain a separate department or form part of the existing department?
A.—So far as the Directorate is concerned we want to continue it until this work is finished?
Q.—And you want this to be treated as a transferred subject?
A.—Yes. Our suggestion is that the Advisory Committee should have powers of effective control at every stage. If you can constitute a Committee of this character without any needless delay I certainly would recommend it.

Q.—How many members would you have on the Executive Committee?
A.—I am not particular about the number. About 9 or 10 members or a dozen.
Q.—What bodies to be represented?
A.—I suggest the Bombay Corporation, the Legislative Council, the Mill Owners' Association, the Indian Merchants' Chamber and the Bombay Chamber of Commerce, a representative, if you like, of the labouring classes also.

Q.—You say, "It must be remembered in this connection that the Government of India's sanction was obtained on an original estimate of 4 crores of rupees, which was doubled within a very short time and yet the Government of India do not seem to have worried over the financial prospects of the scheme." You say, "it is submitted that it would be unfair that the Military Authorities should be presented with a large area of land in the best part of Bombay at a figure much under the ultimate cost of the undertaking." Will you get a purchaser for such a large area of land if you refuse their offer? You want a higher rate?
A.—I would not be prepared to take that risk. I am putting it forward as a fair proposition.

Q.—Has the Municipality been consulted as regards the lay out of the new area of 1,145 acres?
A.—I cannot say. I think that all public bodies were sent a plan of the new area, and to our amazement we found the Municipal buildings figuring on the Reclamation though none of us knew that it was ever intended to change our present habitat.

Q.—Originally the Government House was there?
A.—Yes.
Q.—Sir Vishwanathya.—Mr. Mody, has the Municipal Corporation been consulted by the Development Directorate about the 1,145 acres?
A.—I am not sure, but I think all public bodies were sent some plans and it was then we saw the Municipal Corporation Building figuring on the Back Bay Reclamation, though we never knew of it.
Q.—How much of the area would you set apart for building purposes leaving out the part taken by the Military Department?

Q.—I would provide a fairly large amount of room for open sites and roads.
A.—I suggest the Bombay Corporation, the Legislative Council, the Mill Owners' Association, the Indian Merchants' Chamber and the Bombay Chamber of Commerce, a representative, if you like, of the labouring classes also.

Q.—Incidentally the Corporation do not touch the pockets of the whole presidency?
A.—No Sir.
Q.—And why not?
A.—For the simple reason that if we had the money we would rather take up the congested areas in the city and provide much needed open spaces.
Q.—In the case of open spaces in the City, does the Corporation pay for them?
A.—When an open space belongs to the Corporation they pay for it; but when it belongs to the Government, the Corporation do not pay for it.

Q.—The Corporation directly pay nothing for the scheme, but it represents the millions whose pockets are touched.
Q.—Of course the pockets of the whole presidency are touched?
A.—But Bombay's primarily. The contribution of Bombay to the Provincial finances is overwhelming.

Q.—On the area of 1,145 acres would you like to have public buildings or residential area? Would you like to remove some public buildings there?
A.—I think some of them might go there, but there are no definite proposals for such removal.
Q.—As regards the completion of the project I understand No. 8 is nearing completion and No. 1 is partly completed, others have not been begun yet. From the information you have from the reports of the Sub-Committee what is your view? Would you leave it absolutely incomplete or partly complete?
A.—It all depends on the state of the Committee which is sitting at present but from the data which are available at present I would say that it might appear desirable that Plot No. 8 should be completed because there is a ready purchaser and because it is nearing completion but I would like certainly to see the figures of the additional cost that would be incurred in connection therewith.
Q.—When the whole thing is completed and the building sites are available for sale, what rate do you think would be obtained?
A.—It's an extremely difficult question to answer; it all depends on the circumstances, but at the present moment the values would be between Rs. 30 and 60 a square yard.
Q.—The total area reclaimed comes to about 55 lakhs of square yards or 1,145 acres; out of that 6 lakhs square yards have been completed or nearly completed when No. 8 is finished and there will be 40 lakhs of square yards and out of 60 lakhs it is proposed to provide 52 lakhs...
square yards for buildings, now these 32 lakhs of square yard set apart for building purposes might fetch about Rs. 40 per square yard, and if the same be reclaimed at Rs. 10 per square yard, would you complete the whole scheme or would you leave it incomplete?

A.—It’s a question which must be viewed from all points. The financial condition and the period required to dispose of the land must be considered.

Q.—Sir Frederick Hopkinson.—Is the Bombay Municipal Corporation paying something towards the completion of the scheme? Why should they have a voice in this scheme?

A.—Because the Bombay Municipal Corporation is a Local Self-Governing body and it has a vital interest in the expansion of the city. When the City Improvement Trust was started, it was one of the blackest periods in the history of Bombay, but even then the feeling was that there should not be a separate body.

Q.—If the Corporation is paying nothing for the scheme why should they have any control or management of the scheme? Or why should they have any share in it?

A.—Because the Corporation is intimately concerned with everything that touches the welfare of the population.

Q.—It seems to me that the shortest way out of the difficulty was for the Government to say: if you want responsibility you share half the expense. Would it settle the difficulty?

A.—It would settle your difficulty but not ours.

Q.—You said in the afternoon that this scheme should be carried out under the guidance of the Bombay Corporation. Has the Bombay Corporation any members who are especially experienced in works of this kind? Has it got any one?

A.—Nobody is especially experienced, except Mr. Arbuthnot.

Q.—Would you then have a member of your Corporation on a Committee who has no experience of this work?

A.—Not always.

Q.—Then whom would you appoint on an Advisory Committee from the Corporation? A.—There are businessmen who would deal with the business side of the problem and see whether the work is properly done or not.

Q.—That’s a question of policy but what about the question of work?

A.—Certainly very many questions of policy can be dealt with by businessmen apart from the engineers who are specially required for the job.

Q.—Supposing you would let out by contract you cannot alter that contract?

A.—That’s another matter altogether. If you understand what I really mean, the Advisory Committee would have scrutinised the whole thing very closely when the estimates went up from 367 to 702 lakhs.

Q.—Did the Corporation ever object to the construction of this work when it was at its first inception in 1919?

A.—The thing was not made public till 1920 but people were talking about it in 1919, and I think in the latter half of 1920 it was known that there did exist such a scheme.

Q.—Did the Corporation then object to the scheme being carried out?

A.—It was never brought before us.

Sir Frederick Hopkinson.—They were satisfied that it should be carried on?

Mr. Medly.—The position both as regards the Corporation and every other public body was that they were coerced into silence because there was a masterful man at the helm of affairs who was absolutely confident of the success of the scheme and because conditions were quite abnormal. Just as in 1897 the Corporation allowed the constitution of the Improvement Trust without any violent opposition they allowed this Development scheme to be pushed through without strenuous objection.

Q.—Did not the Corporation see that the reclamation was carried out it would increase the rateable value of landed property.

A.—Yes.

Q.—So it is not surprising that they did not object?

A.—No not from that point of view.

Q.—Your statement assumes from the commencement to its close that the whole thing is a ghastly failure; you have not waited until we have had an opportunity of forming an opinion.

A.—We are anxiously awaiting the reports of the various Committees.

Q.—It was generally stated that the profits on the schemes would be something like Rs. 60 crores. So you took the risk.

A.—Pardon me, Sir, we took no risk whatever. In 1921 Sir George Lloyd proclaimed to the world most emphatically that it was a very simple business and that he was very confident about it. He stated that it was an extremely easy proposition to reclaim the foreshore and that many of the businesses in Bombay could not possibly be compared with it as regards the ease with which it could be accomplished.

Sir Frederick Hopkinson.—Shortly you were prepared to share the profits but were not prepared to share the loss.

Mr. Medly.—Well, if the Bombay Corporation had made a similar muddle they would have received the same treatment.

Sir M. V. Venkataraya.—Then it is a misfortune.

A.—Yes, it is a misfortune all round!

Sir Frederick Hopkinson.—If the facts turned out to be different would you revise your opinion?

A.—Very possibly. After all, Sir, we are reasonable men, even though we are members of the Corporation.
**Sir Frederick Hopkinson.**—You say that is would be unfair that the Military authorities should be presented with a large area of land in the best part of Bombay at a figure much under the ultimate cost of the undertaking. It is a very desirable locality as regards value of land?

**Mr. Mody.**—Not from the material point of view because it is away from the business centre. But considering its amenities as a residential area it is one of the best parts of Bombay.

Q.—Do you think it is reasonable to ask the Military authorities to revise the agreement? You have made a bargain to supply a certain area of land at a certain price.

A.—We are not saying that we are legally entitled to it.

Q.—Why do you ask for it?

A.—The way I would put it is that I would go to the Military authorities and say "we reclaimed the land on the understanding that we would be able to supply a portion to you and make a little profit over it according to our estimates. But the figures have gone all wrong and we ask you if you would reconsider the question of the price."

**Mr. Horniman.**—It is not an uncommon thing in connection with the Improvement Trust contracts. People who have taken leases of the Trust land come to the Trust if they are in difficulties and ask for some concession or revision.

**Sir Frederick Hopkinson.**—You say that the Military authorities are taking a large area of land in the best part of Bombay at a figure much under the ultimate cost of the undertaking. What figures have you got in support of that statement? I suggest that the Military might well be argued that the Government of India are partly responsible for the financial disaster which has overtaken Bombay, by the light-hearted manner in which they accorded their approval to the scheme which had been turned down repeatedly by competent opinion for more than a decade.

Can you give us any facts about that? All the papers I have seen go to show that the Government of India was extremely reluctant to agree to this scheme. It was only on the insistence of the Bombay Government that they ultimately agreed to it?

**Mr. Mody.**—That is not the point I have brought forward.

Q.—Then about the "light-hearted manner in which they accorded their approval although it had been turned down repeatedly by competent opinion"?

A.—I must make this point clear. What we mean is that the Government of India who prior to this had all along taken up an attitude of extreme caution and discouraged all the venturesome projects of the Bombay Government, agreed light heartedly and waived all objections and allowed the Bombay Government to do what it liked when the present scheme was put up.

Q.—It did so because, so far as I understand, everybody in Bombay was delighted to start because they were going to make a solid profit on it amounting to as much as 50 crores.

**Mr. Horniman.**—If you turn up the files of the *Bombay Chronicle* at that time you will find that it was strongly dissenting about it.

Q.—Does it not go to show that the *Bombay Chronicle* does not represent the public opinion. It was everybody's opinion in Bombay that they were delighted to go on with this scheme.

**Mr. Mody.**—I dispute that entirely.

**Sir M. Visvesvaraya.**—Were the Indian Merchants' Chamber in favour or against the Scheme?

A.—Emphatically against it. They protested from the very beginning and all the way through. It is not correct to say that public opinion was unanimous or even overwhelmingly in favour of the scheme.

**Mr. Horniman.**—In the proceedings of their confidential meeting which were not published (I have not got the date of that) they protested very strongly against it. Even when the scheme had proceeded, I mean in 1931, they also protested and said that the scheme was not wanted.

**Sir Frederick Hopkinson.**—Is it the intention of the Bombay Government to recover from the Bombay Corporation any amount towards the open spaces?

**Mr. Mody.**—I do not think so. The Improvement Trust never asked us for any payment for open spaces provided by them.

**Mr. Billimoria.**—Mr. Mody, you are here, I take it, as a representative of the Bombay Corporation and not in your individual capacity?

A.—I represent the Bombay Corporation.

Q.—In the written statement which you have submitted to us you say: "the reckless manner in which the scheme was launched by Government." That is a very harsh expression against the Government. Have you got anything definite to say in what manner the scheme was recklessly launched by the Government?
A.—It is simply proved in evidence that has been given before your Committee that nobody was consulted. I think it was Sir Frederick Hopkins's question : "was any expert in the world of any sort consulted." The answer was, "No."

Q.—That is what you refer to?

A.—That is not all. The dredger was ordered long before even the scheme was made public, let alone the execution of the scheme. The dredger was decided upon as early as November 1913. The point is, when the scheme had not been decided upon, and that the project of Bombay asked the Government of India's sanction for the dredger in anticipation of the Secretary of State's sanction. These are just two points. There are a great many more. No borings were taken of any sort and it means they must have relied on the borings made earlier by Messrs. Lowther and Kidd. The most curious thing about dredging from a certain area without ascertaining—which was so easy to do—from the Port Trust whether that area was available, and that upset the calculations of Sir George Buchanan a great deal. This obliged them to resort, if I am not mistaken, to reclamation from the Back Bay. Then another point is that dredgers were bought without taking the least trouble to find out what they were capable of doing. Here are the Port Trust authorities who had a very long experience but they were not consulted. Without consulting public opinion one particular man is fished out to advise Government, no other man is called in, and everything hinges upon the opinion of one expert. A definite plan is decided upon when the scheme has not even been made public. If that is not recklessness what is recklessness?

Mr. Billimoria.—With reference to this ground, I think it would interest you to know a short history of the scheme. It was in 1897 during the period of Lord Lamington's Government that a Committee was appointed to consider the reclamation scheme which had been prepared in the Secretariat for an area of 1,975 acres costing 167 lakhs, which was subsequently increased to 320 lakhs. The Government of Lord Sydenham urged that the scheme was a productive public work of the highest utility. The Government who were hesitating greatly, agreed to give their approval to the scheme. It was also informally agreed that should it eventually be decided as a result of this Committee's report that the scheme of reclamation in the Back Bay was desirable, a beginning might be made in this direction. Then Mr. Kid was asked to prepare and submit an estimate. He submitted an estimate for 1,145 acres in the Back Bay costing 325 lakhs.

Mr. Mody.—What year was that?

Mr. Billimoria.—That was in 1912. I am giving you a brief history in answer to your charge of reckless manner in which the scheme was launched. Then the Committee's recommendations were as follows. "If the reclamation is practicable as they believe it to be, it should be undertaken immediately in order to prevent the possibility of such a contingency arising. The strongest point in favour of the reclamation being taken up immediately, is that Government will be able to provide a large area of land for residential purposes near business quarters at a reasonable rate." Then the conclusions at which the Committee arrived at are: "In conclusion we wish to lay stress on the fact that the scheme is not only financially sound but that it adds to the beauty of the City and will alter some years add considerably to the resources at the disposal of the Improvement Trust in its efforts to reclaim insanitary areas."

Mr. Mody.—Is that a unanimous report?

Mr. Billimoria.—There does not seem to be any dissentients. Again in December 1917, before the scheme was launched, a very powerful syndicate was formed in Bombay consisting of the late Sir Shapoorji Bhaourcha, Kt., Mr. (now Sir) Lallubhai Samaldas, the late Sir Vithaldas Thakersay, Kt., Sir Sassoon David, Bart., and Sir Fazalbhoy Currimbhoy, Kt., and addressed the Government on the subject of the Back Bay Reclamation Scheme and asked for concessions. Shortly after that Sir George Lloyd succeeded Lord Willingdon as Governor of Bombay on the 16th of December, so that when this scheme was launched, long before that, ever since 1907 from Lord Lamington's Government, there were various proposals before the Government that the scheme was going to be a productive one. Even as far back as 1913, the Government of Bombay appointed a Committee whose report has since been published, and I find on page 25 of that report some comments made by you or written statements by you before that Committee. That is dated 27th of November 1913. I find that in your written statement you have expressed views different from those conclusions which the Committee arrived at. In order to do you justice I will read some portions "I may state at once that I am altogether opposed to any scheme for reclaiming the foreshore of Bombay as ample land is available within the present limits of the city." You go on "it has not been financially a sound proposition."

Mr. Mody.—I will give you another extract from my Statement of 1913:

"Another objection to the scheme is on the score of its not being a financially sound proposition. There are reasons for apprehending that the official estimate of the cost of the undertaking and the area of land which is expected to be taken up annually by the public are unduly optimistic, and in view of the notorious uncertainty attaching to all schemes of reclamation this aspect of the question must be carefully examined."

Mr. Billimoria.—That is the opinion that you expressed before the Committee.

Mr. Mody.—Yes.

Mr. Billimoria.—In spite of the fact that the Committee's conclusions arrived at were strongly in favour of the reclamation of Back Bay.

Mr. Mody.—I do not know if that was a unanimous report.

Mr. Billimoria.—Do you still adhere to the opinion that you expressed in 1913?

A.—Yes, with this exception that if at any time, whether now or hereafter, it is possible to reclaim 1,150 acres at a cost of 367 lakhs, I might be disposed to say that it is not altogether a bad proposition; but my point is that the thing cannot be done. You just read a report of 1912 which stated that at a cost of 395 lakhs it was estimated that an area
of 1,125 acres could be reclaimed. These are practically the same figures which were finally decided upon in the estimates of 1920; that means that between 1912 and 1920 no account whatsoever has been taken of the rise in the cost of living, in the cost of material and labour which had taken place, let alone the accuracy of the original figures.

Sir Frederic Hopkinson.—That has already been brought out by the Committee.

Mr. Billimoria.—After having gone on with the scheme since 1907 would you still call it a good business proposition?

A.—Merely cogitating over the scheme and considering it year after year does not absolve the Government from the charge that they launched it recklessly. recklessness would come in in the way in which the final estimates were prepared, in the way in which they were finally decided upon and in the manner in which all the points had been investigated. You may consider a scheme for 50 years but if at the final stage you rush it through without taking into consideration all the data that are available, then I say you are reckless.

Q.—Will you, Mr. Mody, say whether at the time the scheme was launched, it was not considered as a very good business proposition at 367 lakhs? If it was considered a very good business proposition then it was not reckless. If it was considered a sound business proposition, you cannot accuse Government of being reckless?

A.—But the whole point is that these figures should not have been put forward. If the Government had stated a 100 lakhs, we would have said it was a still better business proposition but the question is whether you can do it with that sum. We had been told very authoritatively that the scheme had been very carefully investigated, that there was no possibility of its going wrong, that it was a very simple proposition from the engineering point of view, that they were allowing an ample margin when they allowed 10 per cent, and estimated the whole thing would cost about 4 crores.

Mr. Billimoria.—If upon that basis the area was completed and the date had not been extended it was a business proposition; Government is not to be blamed if ultimately the figures are exceeded. When Government made that announcement, they had certain material or data before them on which they had to form an opinion. On the basis of these various reports submitted to them, they considered it was a good business proposition and they went to the public and said so?

Mr. Mody.—They did not consult anybody. They consulted only one expert and that was Sir George Buchanan. Now I remember one more point. Even the appointment of this expert was typical of the hurry with which the whole scheme was decided upon. If I remember rightly, the Secretary of State recommended some other firm, I forget the name and the Bombay Government could not wait for them. They wanted a man in Bombay by May 1918. They could not even afford to wait for the expert suggested. They got hold of a man whom they thought to be an expert. Was it good business to rely on one man to get out all the details of a scheme like this?

Sir Frederic Hopkinson.—Let me tell you that it is invariably the practice for one man or one firm to do the whole work.

A.—I do not know, but so far as our Corporation is concerned, we have sanctioned and carried into execution schemes worth crores of rupees. In all cases we have the estimates prepared by our own Department. These estimates are shown to our consulting engineer and the report of the consulting engineer again submitted to experts. Take this vast drainage scheme we have in hand. We have 3 of the world’s best experts as advisers on it ever since 1921. I certainly admit that in all cases the first calculations must be done by one man but in a scheme of this magnitude, I certainly would not place blind reliance on the opinion of one man.

Sir Frederic Hopkinson.—It is invariably the practice.

A.—I bow to your great experience in these matters. I will not say anything more than that I was speaking of conditions in this country. May I ask if the Public Works Department is conducted on the same principle that vast schemes are undertaken without consulting experts?

Sir M. Visvesvaraya.—No engineer likes to have his plans scrutinised by another but I think the owners take the precaution of having schemes examined by other men. There is always wisdom in a multitude of counsels.

Mr. Mody.—Very often. I think it is necessary that there should be more than one expert in such cases.

Before you finish, Sir, I would like to say that if it is a charge against us that we are here merely to rake up the past, I may say that that is not the intention.

Mr. Billimoria.—We want you to rake up the past otherwise the question cannot be considered.

Mr. Mody.—If you want our concrete suggestions we have made some suggestions here. The practical suggestion is that when the reports of these various Committees are out, they should be submitted for opinion to public bodies and sufficient time given to them for consideration. So far as the Corporation is concerned, I may say, that the report will receive the most anxious consideration of the Corporation, so that it might not be said that we are merely concerning ourselves with what has been done and do not want to take a long view of things and do not want to show how the city can be rescued from this huge financial loss which has overtaken it.

Mr. Billimoria.—From your suggestion may I take it that you do not want that the work should proceed any further until the Committee’s report is out?

Mr. Mody.—February or March of this year that nothing should be decided about proceeding with any portion of the scheme until these various Committees which have made their reports, The Minority Report says “We have no confidence in the forecast that is now submitted.”

Q.—Don’t you think that on the huge sum of money which has already been spent on the scheme, interest will go on piling up month by month until the reports of these various
Committees are out? Would you allow the interest to pile up or would you proceed with the work to curtail the loss by making some progress?
A.—But you may progress in the wrong direction!
Q.—Do you not want to leave the work incomplete or half done?
A.—When you are inviting the reports of expert Committees, certainly you ought to wait for them before proceeding further. In view of your past indisputable record. The impression of the mind of the public would be that you are making up on the work before the Committees' reports are out, and that you had decided upon carrying to completion certain portions of the scheme regardless of what any Committee would say. That would be the impression left on the mind of the public.
Q.—According to your suggestion at present you do not object to block No. 8 being completed and you do not want the total abolition of the scheme?
A.—Yes, but we would like to know how much remains to be done and what it is going to cost. The portions that have to be done are not very much, the additional expense which need not frighten us, I say by all means go on with block No. 1, as well.
Q.—With regard to block No. 1, if you have seen the work that is being carried out from both ends, from one end it is dry filling and the other dredged filling, you would like it to be completed rather than leave it in the way in which it is. Don't you think that it is advisable to complete it?
A.—I think it would be, unless it is at a prohibitive cost.
Q.—With regard to other blocks you would await the results of these present undertakings and see what the land would fetch and then proceed with other blocks. Isn't that your suggestion?
A.—I would see what it would cost and I would watch how the land made available by the completion of block 1 is selling. I would await the result of that.
Q.—You would not recommend the prosecution of the scheme in respect of blocks 2 and 7?
A.—Nothing, not until block No. 1 has been entirely disposed of. At any rate not until 1 and 8 have been completed and we know where we stand.
Q.—By "completed" do you mean filled in, or disposed of?
A.—First of all filled in, so that we know exactly what it is going to cost to reclaim the area, and secondly, to allow a little time to elapse and see in what manner this land is being taken up by the public and what the public are prepared to pay for it.
Q.—In the meantime do you suggest the dredger should remain idle and overhead expenses run?
A.—In order to keep the dredger active I would not reclaim at a prohibitive cost; no business man would, Sir.
Q.—Then you refer to some notice of motion by Dr. Sukhia in one of the questions asked by Sir Visvesvaraya that on the 20th June 1921 he had certain views and he gave a notice of motion. In the evidence that Dr. Sukhia gave the other day before us he said he had changed his views. He is now in favour of completing the scheme.
A.—I cannot help the change of his views. He is no longer our representative, besides.
Q.—It was this gentleman who was responsible for the notice of motion, that notice of motion which you emphasise?
A.—I do not emphasise that notice of motion at all. All I say is, this is the way in which the advisory body was allowed to function, that the members were ruled out whenever they suggested anything as regards policy or details.
Q.—Then in one of your answers you have stated that in August 1925 Government made a statement that the dredgers were working satisfactorily. Will you kindly mention names of whom you mean by Government?
A.—I was referring, Sir, to a question which I read out, etc. "Will Government be pleased to state whether it is a fact that this process of dredging has hitherto proved a complete failure?" and the answer was "No." That was by the General Member in charge. My point is that that answer ought certainly to have been qualified in view of the fact that there was the experience of 3 dredging seasons and that in January of that same year Sir Lawless Hepper had put up the estimate to 860 lakhs. I say the answer ought certainly not to have been in that cryptic and emphatic form in which it was couched. I think I can give other instances, but I do not want to take up your time.
Q.—You said something about a public meeting held under the auspices of the Chamber in 1921. What did the Chamber then suggest or what were your views in 1921?
A.—As regards the Chamber the position was this, that public opinion, Indian commercial opinion and so on. Bombay was getting very restive both as regards the ultimate outcome of the scheme, what it was going to cost and the veil of secrecy which had enveloped all the activities of the Department. So the Indian Merchants' Chamber was constantly corresponding with the Government of Sir George Lloyd, and Sir George Lloyd did the Chamber the honour of according it an interview where he explained the policy of Government. Then a requisition was received from the members of the Chamber calling for a public meeting, and a very largely attended public meeting was held in the Town Hall; I had the privilege of moving the principal resolution at that meeting, which demanded that the Development Department should be a Transferred Subject. We did not want it to be a Reserved Department which the Government could manipulate in any way they liked, and we had grave doubts about the outcome of the scheme.
Q.—But you did not condemn the scheme by that resolution?
A.—Not by the resolution I moved, but there were other resolutions, and there is ample material to be found in the representations made by the Indian Merchants' Chamber.
Q.—Do you call that public opinion?
A.—I maintain the Indian Merchants' Chamber represents Indian commercial opinion.
29th Witness

Mr. C. J. Hansoti

Mr. C. J. Hansoti of the Ghatkopar Municipality.

SUBSTANCE OF EVIDENCE

Inception of Back Bay Reclamation Scheme

It appears that the Scheme was not carefully considered in all its bearings and especially in its estimated cost, and financial outlook. A Scheme of such magnitude and cost should have been worked out in detail and its estimates and financial forecasts carefully prepared and cautiously considered before it was launched. Neither the expert departments of Government—the Public Works Department and the Marine—nor the Port Trust that had experience in such dredging and reclamation, appear to have been consulted. It would appear as if it was rushed through without due scrutiny.

Conduct of the Scheme

It would appear that the dredger Sir George Lloyd was either not properly and suitably designed for the work it was required to do in the Bombay Harbour or was defective in construction and did not give the expected result. It would be natural to expect that for machinery of such size and cost, proper guarantees for its suitability and performance were obtained from the manufacturers and suppliers before the order therefor was placed with them.

The dredger seems again to have been ordered out much in advance of the time it was required to commence its operations. The construction could perhaps have, in the case, been so arranged as to get a certain length of the sea wall at the Colaba end completed as fast as possible, so that the dredger could be put to work earlier in filling some area at that end, thereby saving some of the time and money wasted by the dredger lying idle.

Future operations

Block 8 is said to be nearly completed.—Blocks 1 and 2 should be taken up if they can be filled within the cost estimated by the Sub-Committee. The rest of the work should stand over until improved conditions set in and there is a demand for land.

Sir M. Visvesvaraya.—You are residing in the suburbs?
A.—Yes.
Q.—You were Superintending Engineer in the Public Works Department?
A.—Yes, Superintending Engineer.
Q.—You were also a member of the Advisory Committee?
A.—Since December last year.
Q.—And you signed the majority report of the Sub-Committee?
A.—Yes.
Q.—You say here, "It would appear that the dredger Sir George Lloyd was either not properly and suitably designed for the work it was required to do in the Bombay Harbour or was defective in construction and did not give the expected result. It would be natural to expect that for machinery of such size and cost, proper guarantees for its suitability and performance were obtained from the manufacturers and suppliers before the order therefor was placed with them." Can you give us any further details?
A.—When machinery of that sort was ordered from any firm we would ask the firm to guarantee the performance of that machinery and that it was manufactured according to specifications and so as to be able to do the work.
Q.—You would like the plant to be tested on the spot?
A.—That would be better.
Q.—What was the cost of earth filling and moorum filling up in Bombay when you were Superintending Engineer, in the locality where reclamation is carried on now?
A.—I am afraid I cannot give the figures. It depends upon the lead, the quantity you want.
Q.—They are getting it from Kandivli and it is costing Rs. 1-97, that is, Rs. 1-9-0 per cubic yard. Is that a fair price or do you think a reduction is possible?
A.—I think it is fair.
Q.—On what aspects of the scheme are you inclined to give us your views?
A.—I do not follow you.
Q.—On what aspects of the scheme are you inclined to give an opinion? Is it about the origin of the scheme or the conduct of the scheme?
A.—I have given a sort of a general opinion.
Q.—You went through all the details about the rates. Did you not?
A.—I was not a member of the Neilson Committee and I have not gone into the rates for moorum filling and dry filling.

Q.—Have you any particular defects to point to in the present conduct of the work, and any remedies therefor to suggest?
A.—I do not know much about the method of construction adopted.

Q.—Are you satisfied that a separate department of Government should do it, or would you like it to form part of the Public Works Department?
A.—I would prefer it to form part of the Public Works Department because of the methods of procedure of work established in it.

Q.—There are lesser chances of error and better scrutiny of estimates?  
A.—Yes, certainly.

Q.—It has been suggested that in future an Executive Committee should control the operations of the Department, formed of the representatives of public bodies.
A.—What technical knowledge will that Committee have?

Q.—Those bodies would put in men with knowledge of engineering, would they not?
A.—If the Committee comprise some men with technical knowledge like that, that would do.

Q.—It has been suggested that an Executive Committee or Trust should be formed like the Port Trust or the Improvement Trust. Are you in favour of that or do you want the work to be administered by the Government direct?
A.—I think it should be administered by the Government direct and not by a Committee.

Q.—Do you wish the work carried out by contract or departmentally as at present. If the former, is the whole thing to be given out to a single contractor or cut up into sections and given to separate contractors? Which would be better? You have large experience of works in Bombay. You were Superintending Engineer in Bombay itself.
A.—All the same we should have the expert Department. So it would not matter if you divided the contract or gave it to one. Only the contractor should not be left to himself. There should be supervision. I will not give it to one contractor simply to do as he liked.

Q.—Now in what order would you complete the blocks?
A.—The Advisory Committee decided upon having block 8 first completed, and then 1 and 2 if the work in block 8 showed it worth while to do them. I just see from the reports that 8 is nearly completed and work is going on in No. 1. So if the cost of No. 1 shows that No. 2 can be done within the estimate by the Sub-Committee we can take up No. 2.

Q.—It is seen that No. 7 is shallower than No. 2.
A.—Yes. It is shallower but the cost is nearly the same, and the value of the land in No. 2 will be much higher than in No. 7. We were told in the Sub-Committee that the value of the land in No. 7 will be Rs. 20 whereas in No. 2 it may be anything like Rs. 80. So taking the area of land that will be reclaimed, the value of the land in No. 7 would be 3:3 crores whereas in No. 2 it will be nearly, 4 crores.

Q.—You have not considered whether it would be cheaper to carry out the work by dredging or by moorum filling, if the expenditure already incurred is ignored.
A.—I have got no figures.

Mr. Billimoria.—With regard to the future operations you have given your conclusions in your statement that block No. 8 which is nearing completion may be completed and blocks 1 and 2 should be taken up if that could be available within the cost estimated by the Sub-Committee. With regard to the rest you do not want that work to be taken in hand, but will let it to stand until conditions improve generally?
A.—Yes.
The Committee met at the Legislative Council Committee Room at 11 o'clock on Friday the 20th August 1926. Sir M. Visvesvaraya, after announcing that the Chairman was suffering from a severe attack of malaria and expressing the hope that he would be back very soon, occupied the chair.

Mr. Hooseinbhoy Lalji, M.L.C., and member of the Bombay Municipality, was examined.

Written Statement of Mr. Hooseinbhoy Lalji, M.L.C.

I do not wish to go into the past history of the Scheme. I would only like to draw the attention of the Committee to the opinions expressed by Officials and Non-Officials in 1918 and which have been published in the Second Ad Interim Report of the Advisory Committee (1st edition) on pages 42, 48, 44, 43 and 46 and would say that even to-day those opinions hold good. My own opinion at that time was as under:

"I therefore simply wish to record without any comment that my views as regards the subject-matter the Committee has under its consideration and my reasons for the same will be found to be in concurrence with those of the majority of the non-official witnesses who have been examined or have submitted their views, for example I am opposed to Reclamation Scheme and that Building space and ground for all our needs and requirements of the present and of the near future could be supplied by:

(a) Utilising the Hornby Vellard and Mahim Woods.
(b) The doing away with the B. B. & C. 1. Railway from Grant Road to Colaba.
(c) By removing the Cotton Green at Colaba.
(d) By the removal of the present Government House at Malbar Point if desired.
(e) By filling up all the low lying lands in Bombay and in its vicinity.
(f) By acquiring under the Land Acquisition, Improvement Trust or Town Planning Acts such other suitable lands as may be wanted or necessary.

There is no demand for accommodation near the Fort and specially since the Cotton Green has been removed from this locality and is now at Sewree, I am of opinion that gradually all interested in the Cotton Trade of this city will be moving towards Sewree, namely, Cotton Exporters, Cotton Brokers and Muqueda, the Mill Company's Offices and the large number of Insurance Offices as also a very large number of Mill Store Material Dealers and even the Banks will have to open their Branches there in order to give facilities to their constituents, because firstly Cotton Green is there, secondly Mills are situated near that site, thirdly because large Godowns will be available cheaper there and will be nearer to the Docks as also to the Mills, and fourthly the value of land being much less than in the Fort the rents will be cheaper. It is necessary to mention that about 50,000 people were employed in Cotton Green out of which about 10,000 people were remaining there and have now removed to Sewree.

I am further of opinion that if at all there was any justification for any reclamation scheme the same entirely disappeared as soon as it was decided that the Cotton Green was to be at Sewree and therefore those responsible for Reclamation Scheme are responsible for neglecting to appreciate this important change in the situation. The area that was occupied by the Cotton Green in Fort is a large one and the site is as healthy as any in Bombay having open sea on both the sides; I will humbly submit to the Committee to see this site if they have not already seen. This site has been lying vacant and is likely to remain so for sometime and as long as this site remains vacant there is no prospect of any Reclamation Land fetching any fair price.

I have been a Member of the Bombay Municipal Corporation for more than 12 years; I have been a member of the Rent Act Committee and I can say that there was a time when some people did feel that more accommodation was needed, but that was for lower middle class people and poor people who were living in the heart of the City and it was for that reason that the Rent Act was extended and recently it has been amended and extended making it applicable to those who pay rent of Rs. 85 and downward while all business premises have been entirely excluded. The Municipal Development Scheme at Mahim and the Improvement Trust Scheme at Matunga, King's Circle and Chawls have been more than sufficient to meet the demand. The Suburban Scheme especially Bandra, Vile Parle and Khar have also to a certain extent been useful. The Scheme at Trombay, Chembur and Ambernath have been useless and ought not to be taken in hand.
The Reclamation site would only be purchased by well-to-do people and for this class of people there has been and there is still lot of accommodation available and there has been never any scarcity felt for them. A plea has been put forward that open spaces and playing grounds and Marine Drive will be available. I ask, for whom? All the middle class and the lower middle class and the poor people live in the heart of the City, even the Maidans are not fully availed of by them owing to their distance from their residences. Open spaces are necessary so also playing grounds but they must be in different parts of the City. The Municipality has been providing a few open spaces in the different localities for these people and Mahim Development Scheme and the King's Avenue now opened out will provide ample open space for these poor people. It must be borne in mind that the Municipality has recently spent Crores on large Schemes of Development which they have in hand in Mahim and in the Fort and a very large area of open land and land for building sites is and will be available and will be for sale sometime in the market. Besides the Improvement Trust has also spent some crores and have a very large area of open land and building land sites prepared and ready for public use and for sale on hand. Therefore there is and will be a large area of land for open spaces and for building site available for all the classes and will be specially suitable for those classes who may be said to be in need hereafter. The Municipality as also the Improvement Trust are at present suffering heavy losses on account of these lands having on their hand and while the City is the most heavily taxed City in India it is feared that unless these bodies are able to dispose off some of their lands fresh taxation will have to be resorted, to which will in these depressed times entirely be unbearable by the public. If this the position there can be no justification of any kind for adding more land under any plea.

As regards the work to be carried out in Plot No. 8, Plot No. 1 and No. 2, I must once say that I am strongly of opinion that nothing should be done in Plot No. 2. I feel that if it is the intention of any one that Plot No. 8 and subsequently the whole Reclamation Scheme should be forced upon to be carried out then Plot No. 2 may be touched because if Plot No. 2 is taken up it will be necessary then to take No. 8 and so on. Plot No. 2 has a much larger area and has more deepness and will cost a great deal more. I had only recently put a question in Council whether any filling up has been done in Plot No. 2 and the reply was in the negative. I had put that question because I am sorry to say I feel there is the tendency still after all this waste of money to drag in Plot No. 2. As regards the work to be carried out in Plot No. 8, Plot No. 1 as a lot of money has been spent over it I would not object to it being finished. As to Plot No. 8 the same thing applies, but I must say here that the Government of Bombay has given this land to the Government of India on basis of its cost which were approved and sanctioned by the Government of India. If therefore there was a flaw in the cost and if the cost have exceeded it must be also borne by the Government of India. I will here also add that not the Government of India has paid the money freely and had they exercised that supervision which they usually do the local Government could not have gone on in this way. I would therefore ask that in fairness the Government of India be asked to contribute towards the cost as much more as has been incurred for the above reason and also for the reason that between the two Governments there cannot on principle be a deal which would be profitable or otherwise to one or the other because after all both the Governments are one and the same and they are not and cannot have dealings like those of a mercantile business firm.

I have also to urge that towards the total deficit the Government of India must also contribute because they are equally responsible for supervision to public and in fact the Financial Adviser was provided by the Government of India and they went on making advances which amounts to that they provided money freely for this speculative work. One thing of course I must say that is I believe the Government of India were allured by the very large amount of Income Tax which they receive and have been receiving
from Bombay, i.e., nearly six Crores out of 16 Crores for the whole of India. And they now thought that they would reap still more Income Tax if this fanciful project turned out to be so very profitable; if that is so even then as the Government of India were out for it and that was the consideration for which they supplied large sums freely I think in fairness they will write off some of their advances and reduce the load on Bombay which if it becomes little prosperous hereafter will shortly make up the amount written off by way of greater returns in the Income Tax.

Coming to the working of the Back Bay Scheme, I am of opinion that a lot of undue haste was done. The order for the George Lloyd Dredger was placed before the Scheme was even sanctioned and it is quite clear that at the persuasion of the Government of Bombay, the Government of India without getting any estimates from any one allowed the Government of Bombay to contract its purchase.

The purchase of Dredger "Kalu" was also made in 1919 and in the like haste.

The proceedings of the Legislative Council, if referred to and specially of the 16th and 17th March 1926 will prove how in the exercise of its functions, the Development Department was virtually untrained and absolutely autocratic. The result of such working was that it ended in a dismal failure ever known in the history of any important undertaking. The public was absolutely kept in dark about its doings and was even misled. In spite of such disastrous working of the Department, the Directorate made all sorts of glowing accounts about the working and the Government encouraged such ways of deluding the public by allowing its own officers to make re-assuring statements when they knew too well that all was not well with their department and that failure was inevitable. The public have protested emphatically against such criminal negligence of duty towards the tax-payers, and the way in which the public's money has been wasted.

My submission therefore to the Inquiry Committee is that they should take a note of the ways and procedure followed by the Department throughout its existence.

The past conduct of the Department brings vividly the conclusion that it is incapable of doing the work in future and if at all any completion work is to be taken in hand it must be entrusted to one of the Transferred Departments or carried on by Public Works Department but the Committee which would be attached to it should have greater powers and should not be a mere non-functioning body as the Advisory Committee to the Department was. It must be fully representative of all the important public bodies and should have powers of effective control over the activities of the department at every stage. It is only under such safeguards that the public confidence may be restored, which may result in a reasonable prospect of retrieving the Province from financial disaster.

If however the Advisory Committee is appointed like the present Advisory Committee for the matter of fact like the Excise Advisory Committees which are at present in existence, only in name, then as the general impression is that they cannot do any useful work it will be difficult to get the right sort of people to serve on it; therefore if an Advisory Committee is to be appointed as is very essential in this case it should be one as stated above and the Government must undertake to place all the matters before them and should not do as was the case with the present committee. The Director used to place before them only such matters as he thought fit to place. Further the members should be allowed to make public all matters that come before them except such as are of confidential nature. Sir George Lloyd in his speech while introducing the Bill had said that the Advisory Committee will have Press behind them which will make them powerful but unfortunately that has not been allowed to happen and hence I make the suggestion. Coming to the detailed working of the scheme as far as I have been able to make out, I am of opinion that dredgers were ordered out and large quantities of stores were indented in the first instance by Sir George Lloyd as the head of the Administration without inviting any offers or estimates. Of course he did that probably at the advice of Sir George Buchanan and the whole affair was done in hot haste for which there was no justification.

The Administration of the Back Bay was carried out by the Government according to the desires of Sir George Buchanan or his nominee, Mr. Lewis, for a long time, and I am of opinion that the Director of Development did not care to bother himself with the work, except arranging for bringing down material for building Sea Wall, although he was responsible for the whole work. Of course it must be said that the Director of the Development would do too much for this work, kept himself pretty busy with the other works such as Chawla and Development Schemes but I regret to say which work has also not been carried out in the manner it ought to have been. The Indents made of stores were also very carelessly made; often it has been said they have been found unnecessary. The work that was carried out at Bombay and at Kasauli of loading and unloading the waggers of rubble, murum, etc., was done in a most unsatisfactory manner. No regular tenders were invited for a long time and the rates that have been paid were much more. There was no care taken to find out reliable contractors and none of the well-known contractors of the Bombay Municipal Corporation, the Improvement Trust and
the Port Trust had been given any opportunity although it is a well-known fact that they carry out works of creases of Rupees annually for these bodies. At times tenders were invited but invariably a large number were rejected; a close scrutiny of the tenders invited, tenders accepted and tenders rejected is bound to tell a sorry story of, to say the least, utter carelessness. Stores were often purchased and minor works of painting, etc., were given out without any care and there was no regular check. Cement and other articles were also sold without much care and it is doubtful whether anyone was responsible as to why there was surplus and for what price such surplus was sold. One of the Contractors who carried out various kinds of Contracts for sometime was a person whose antecedents were of a very doubtful character, and this party carried out Contract, the drain work in the Back Bay right up to April 1926 when questions were put in the Council and debates followed thereon and as a result of which he was ultimately removed.

The rates that were invariably given to the Contractors in the whole Development Department whether it was Back Bay or Chawls, have been considered by the public to be always higher to the extent of 25 to 50 per cent. I can give instances and sometimes much more than that and in many a case just under the nose of Officials, sub-contractors were carrying out the Contracts for their principals who held the contracts. It is a fact and an important fact too that the labour wages from 1920 to 1926 are the same in Bombay, i.e., Re. 1 to Re. 1.1-0 to a man Cooly and As. 0.10-0 to a female Cooly and as all work that was given out mostly depended on labour wages which are the same as at present prevailing, I am sure if the rates that have been paid from 1920 right up to 1924 were compared to those of 1925 and 1926 a vast difference will be found and this has added to the heavy loss.

There were, I am told, no estimates prepared as are done by the Public Works Department, or the Municipality, nor were any enquiries ever made of the Municipality, Improvement Trust or the Port Trust as to the rates prevailing at which they were employing labour and the rates at which they were carrying their contract. The Municipality, the Improvement Trust as also the Port Trust have, thanks to the driving force of the Government of Sir George Lloyd, all been saddled with enormous Development Schemes all throughout and around the City and therefore this class of work that was going on and the class of ordinary labour that was employed by them and the general price of labour employed on the Back Bay, the drainage work in the Back Bay and other Development Schemes. In short it has now been made out quite clear that it was never expected of the Government to do all this kind of work and what the Bombay Government have done ought never to have been allowed by the Government of India. The public were helpless because they were not only not kept informed of the true facts but misleading facts were given out which did not justify them to create more noise than what they have done. If Government is out to keep matters secret from its taxpayers none can find out all the facts. Lastly I would like to bring to the notice of the Committee the following facts as well.

It has been said that first year Dredgers were not able to work satisfactorily as the anchors sent were not as were required. Who is responsible for this? If makers, they must be made to pay. It has been said that the material in the harbour was not sufficient but in one of the Administration Reports it has been said that the second line of pipes were to be laid for Dredger "Kalu" besides that for the "George Lloyd". This fact is very important. It is also said that Dredgers were found to be unsatisfactory since 1924. Well, it is a well-known fact that Government kept this fact very secret and even in February 1925 when Councillors were taken to see the Reclamation Work this fact was not mentioned. It has also transpired in a question put in last Council held in August 1926 that about a year and half back the Government has purchased "Jinga" for about Rupees one and a half lac. Why was this old vessel purchased? It is still to be reconditioned. "Kalu" was bought for £75,000 and an equal sum was spent on reconditioning it. This "Jinga" was bought 1½ year back it is still lying to be reconditioned. One does not know how much it will come to. It seems there was no purchaser for this vessel for so many years and if so, then when scrap steamship of 5,000 to 6,000 tons are being sold now a days at Rs. 25,000 to 30,000 why was this price paid? It is said that the structure and the material used in building the Colaba are of poor quality and although it is not yet made public it may be that this "Jinga" has been purchased to replace "Colaba". If this is the case it is a serious matter. If the structure work and material are of poor and inferior quality surely makers are responsible for the same. The Colaba has cost nearly 95 lacs and such a defect will be a clear defect on which I think makers could be made liable. There is nothing to show when the construction of "George Lloyd" as also the "Colaba" was taken in hand and when they were launched and the Government have not provided these facts up till now while it is commonly believed that they are not brand new machines specially built and launched for these works, because both these vessels have required repairs and specially as "Colaba" is said to have laid up very often, and heavy repairs have been done to it.
I also wish to place before the Committee that for a long time dredger "Kalu" was said to be lying in the harbour and it is said that Rs. 200 per day were paid to the Port Trust for several months. The dredger "Kalu" was working only a few hours every day for a long period in the Back Bay. It used to work during the high tide and went away during the low tide which clearly shows that the "Kalu" was bought to work in the Back Bay without any soundings having been taken as to whether with its draft she could work there regularly. The "Kalu" was bought in 1919 and it took several months for reconditioning it, and as she was to work in the Back Bay, I think it was sheer carelessness that no care was taken that the vessel should be able to work regularly and the heavy cost of its working may not be wasted.

It has been said that bonus was offered to the dredging staff as an inducement, and that no bonus was earned, but it is being said that while such a statement has been made, it is as a matter of fact that bonus has been actually paid not only to the dredging staff but also to the Chief Engineer and others whose duty was on the land; and further, that the bonus was made payable over the outturn which was put down at 25 per cent. of the guaranteed quantity, while actually the dredger was putting out an outturn which was between 25 to 30 per cent. of the guaranteed outturn. I mention this for the information and inquiry.

It has been said in the Director of Development's report of 1924 that a double line of pipes were being laid for "Kalu" to work side by side by "Sir George Lloyd". Nothing has been said as to how much sum was spent on this line of pipes and whether it was ever possible to work the "Kalu" together with the "Sir George Lloyd" from the same place. If the double line was laid which appears to have been done, then it must have cost a very large sum and all this money seems to have been wasted and it further points out that not only "Sir George Lloyd" but even "Kalu" was thought to be able to work there when as a matter of fact it has been found that the Port authorities as well as the Admiralty were never consulted.

Sir M. Visvesvaraya.—Mr. Hocesinhboj Lalji, you are a member of the Legislative Council and also of the Municipal Corporation?

A.—Yes.

Q.—You have given us a statement expressing your views. We want as many facts and figures as you can give us regarding the origin and conduct of these works. If you could give us particulars of any of the alleged objectionable features of the scheme when it was started, it would be of some help to us. Here you say, "I am sorry to say I feel there is the tendency still after this waste of money to drag in the Director of Development's report of 1924 that a double line of pipes were being laid for "Kalu" to work side by side by "Sir George Lloyd". Nothing has been said as to how much sum was spent on this line of pipes and whether it was ever possible to work the "Kalu" together with the "Sir George Lloyd" from the same place. If the double line was laid which appears to have been done, then it must have cost a very large sum and all this money seems to have been wasted and it further points out that not only "Sir George Lloyd" but even "Kalu" was thought to be able to work there when as a matter of fact it has been found that the Port authorities as well as the Admiralty were never consulted.

Sir M. Visvesvaraya.—Mr. Hocesinhboj Lalji, you are a member of the Legislative Council and also of the Municipal Corporation?

A.—Yes.

Q.—You have given us a statement expressing your views. We want as many facts and figures as you can give us regarding the origin and conduct of these works. If you could give us particulars of any of the alleged objectionable features of the scheme when it was started, it would be of some help to us. Here you say, "I am sorry to say I feel there is the tendency still after this waste of money to drag in the Director of Development's report of 1924 that a double line of pipes were being laid for "Kalu" to work side by side by "Sir George Lloyd". Nothing has been said as to how much sum was spent on this line of pipes and whether it was ever possible to work the "Kalu" together with the "Sir George Lloyd" from the same place. If the double line was laid which appears to have been done, then it must have cost a very large sum and all this money seems to have been wasted and it further points out that not only "Sir George Lloyd" but even "Kalu" was thought to be able to work there when as a matter of fact it has been found that the Port authorities as well as the Admiralty were never consulted.

Sir M. Visvesvaraya.—Mr. Hocesinhboj Lalji, you are a member of the Legislative Council and also of the Municipal Corporation?

A.—Yes.

Q.—You have given us a statement expressing your views. We want as many facts and figures as you can give us regarding the origin and conduct of these works. If you could give us particulars of any of the alleged objectionable features of the scheme when it was started, it would be of some help to us. Here you say, "I am sorry to say I feel there is the tendency still after this waste of money to drag in the Director of Development's report of 1924 that a double line of pipes were being laid for "Kalu" to work side by side by "Sir George Lloyd". Nothing has been said as to how much sum was spent on this line of pipes and whether it was ever possible to work the "Kalu" together with the "Sir George Lloyd" from the same place. If the double line was laid which appears to have been done, then it must have cost a very large sum and all this money seems to have been wasted and it further points out that not only "Sir George Lloyd" but even "Kalu" was thought to be able to work there when as a matter of fact it has been found that the Port authorities as well as the Admiralty were never consulted.
in the Legislative Council in the debates I have stated that it was regrettable that the Government had stopped the suburban area schemes, especially those like the Bandra and Khar Road schemes. I am not in favour of Trombay and Chenabur schemes. I will speak about this later on. I believe that those schemes have been delayed or have been put off, not so much because the land was not salable, but because Government must have felt that they were spending a very large sum on the reclamation and they cannot go on borrowing money from the public or from the Government of India. That has been my impression. I stick to it and even now believe that, in view of the fact that the mill industry is towards that side—nearly three lakhs of the population are residing in E, F, and G wards and the clerks, the managers and the engineers would find it very very economic to be near that side rather than this side—if at all there is any need for development, it is in the suburban area. I believe now, after going into the figures of the Improvement Trust Scheme at the King's Avenue, Dadar, and Matunga, there is still a large area to be occupied. It means that even for the requirements of these people we have got a large area almost ready at hand.

Q.—This is the area intended for business interests and for public institutions. It is in the vicinity of what may be called the civic centre of the city, and there was no doubt at the time, i.e., in 1920, there was much pressure on the accommodation then available?
A.—I do realise, sir, that it was said that it was near the business part of the city and as such there may be necessity of accommodation for offices; but to that plea, one has to bear in mind that the whole trade of Bombay is mostly dependent upon the cotton trade, and once it was decided that the Cotton Green should go over to Sewree naturally the great bulk of the business in the Fort has gone and will go there. Rather it is bound to go there. The facilities provided there, the fire-proof godowns, the exchange for the cotton, the docks near by, the mills near by, have really tended to this migration. Even the insurance companies have sent their branches there or are sending them.

Q.—You are now referring to the reasons why this reclamation was not necessary?
A.—Yes.
Q.—The transfer of the Cotton Green was decided recently?
A.—I believe the decision to remove the Cotton Green has been pending from 1918. Actually the land was acquired and the reclamation was begun in the year 1918-14. Therefore it was an established fact that the transfer of the Cotton Green was a question of the land being ready. And this is why I say that if there was any real need for the offices it had really gone down. I must also, say, sir, although I have not referred to it in my statement, that even the grain godowns have gone to Sewree. Large grain godowns have been made, and if an enquiry be made it will be found that in Samuel Street a number of offices have been opened in the residential houses because of the muccadam and brokers who are living there. They are not so much changed as to come and take the sea breeze. They more or less go there about half-past-three or four and return at eight. I know that even my three properties at Samuel Street which are residential buildings and which were fetching Rs. 40 to 50 for a flat are now fetching Rs. 100 to 120, being occupied by offices of brokers and muccadams. I also believe, sir, that even banks will have to be opened there.

Q.—You are leading to the conclusion that it was not necessary to complete this reclamation?
A.—For business purposes it is not necessary at all. Even in our Ballard Pier Scheme I know that so far buildings are incomplete.
Q.—But over-crowding is acknowledged?
A.—I was paying at first a rent of Rs. 850 for my office in the Fort. When during the boom some people came down to Bombay and expected to do business, the rent went up to Rs. 700. Then all at once the rent has gone down, and I am now paying for the same place Rs. 250.
Q.—There was unusual demand for land at the time?
A.—That was more or less speculation. There is no real need for it.
Q.—You are in favour of the minority proposals?
A.—I differ a little bit. I think that block No. 1 and block No. 8 must be completed. My reason is that on block No. 8 we have spent a lot and very little is required to be spent now. Also the Government of India is prepared to buy it up, and so we should not let it go. But when I say this, I wish to make a point, and that is that the Government of India in this bargain have dealt with the Government of Bombay in a manner as if the cost at that time was the cost price for this reclaimed land. That is to say, a price of Rs. 30 was fixed as if it will cost only Rs. 20. Between two Governments, I understand, no Government is allowed to make a profit. But I do feel at the same time, Sir, that the area that the Government of India are getting is seven times the area which they are prepared to sell out, because they have taken this area. I should like to give you those figures, sir.
Q.—They have got vacant land in some other place?
A.—Yes. The vacant land that the Government of India is prepared to sell is about 171,000 square yards, and the land that they will get in block No. 8 is nearly 1,100,000 square yards in area. The approximate value that the Government of India wants paid for this 171,000 square yards was at the rate of Rs. 150 per square yard, which comes to Rs. 2,55,00,000. But the Government of India are getting seven times more land for Rs. 24,00,000. I will give a few more rough figures. Up to July 1929, nearly 5,90,00,000 have been spent and about 15,00,000 will be spent on No. 8 and 15,00,000 on No. 1 plus the interest about 60 lacs. I have taken the date as 31st March 1929 assuming that to be the time when the Military will have the land quite right. I have made that figure to be 6,88,00,000. Because I have made the plea, sir, that the Government of India are contributing on the actual cost, I have worked out those figures. And No. 8 which the Government of India will get will be about 1,100,000 square yards while No. 1 if it is left to us will be 486,000 square yards, the two together totalling 1,500,000. If we work the figure at 45, it comes to about the same value. In that case it will be said that the Government of India at present are required to pay only 21 crores while under this estimate they will be required to pay 6 crores. But I may say, sir, that I do believe that the Government of India for more than one reason ought to be prepared to meet us.

Q.—They are taking up a large block of land which you cannot otherwise dispose of yourself?
A.—That is a bargain made. And after all we do not know whether they have taken it without requiring it. It may be that they want all these lands. I cannot say that they have taken it for the sake of inducing the reclamation scheme. On the other hand I think that they have taken all this land because they thought they are getting seven times more land than they are going to sell.

Q.—That was the expectation then in 1920, in the boom time. Probably they may also be disappointed?
A.—I admit it. The thing is that the burden of taxation that will fall should be on both the Bombay Government and the Government of India; because, after all, the Government of Bombay are also contributing to the Government of India. Then further more it is the fact that the Government of India did not observe those strict rules of sanctioning the whole scheme. If our Government has made a haste, which I contend they have made in this case, then the Government of India have also been rather slack.

Q.—In what way?
A.—I shall give you the figures. They have been very very slack.

Q.—They approved of the scheme for 867 lakhs, and the scheme for 702 lakhs does not seem to have been sent up for approval. It was approved by the Bombay Government.
A.—That is the very fact upon which I want to base my argument.

Q.—Do you mean to say that they should have insisted upon the 702 lakhs scheme being sent up for sanction?
A.—It is an ordinary fact that when the local Government wants funds from the Imperial Government they must put up a case. Even the taking of loans the local Government cannot do of its own accord.

Q.—They do not go into the details of the scheme when they appropriate money. Generally when a scheme is approved, they take it that it is all right?
A.—It is a usual thing when three crores are sanctioned and money up to seven crores are required. They will not give sanction to loans being taken for municipal purposes. Even twelve months ago we sent up for sanction certain proposals for taking a loan and they would not sanction it unless they were satisfied that it was really required.

Sir M Vishwanarao.—It usually depends upon the recommendation of the Local Government.

Wit ness.—This was required for the municipality; but when the Local Government was concerned, the Government of India must be careful.

Mr. Billimoria.—You are under a misapprehension with regard to the sanctioning of these variations. Originally when the scheme with regard to greater Bombay was submitted to the Government of India, it was contemplated that the Bombay Government would require 30 crores, and nothing was specially earmarked as so much for the Back Bay and so much for the other part of the town and island of Bombay. That having been approved by the Government of India, namely the total requirements in respect of the improvement of the city to the tune of 30 crores, the Government of India would be perfectly justified in advancing money as and when a demand was made.

A.—I have seen that the Government of India are not so very easy. When they say that the requirement of Bombay is 30 crores, they always keep a watch, and when high officials come down to Bombay they make it a point to see how money has been spent. Invariably you will find that when the Finance Member or the Viceroy comes down to
Bombay they often see the reclamation scheme. When 80 crores are required by the Improvement Trust, the Port Trust, the municipalities and other public bodies, I humbly submit that the Government of India knew very well what was going on.

Sir Frederick Hopkinson.—Are you suggesting that the Government of India, when they know that the scheme is for 702 lakhs, should say to the Government of Bombay "we cannot approve of this any longer"?

A.—What I mean is this. Unless they are satisfied how this cost has gone up, it is the duty of the Government of India not to advance any money. As far as I know the Government of India had their financial adviser here. I remember very well that when we floated a loan of 2 crores for the Bombay Municipality, Mr. Nixon, the adviser of the reclamation scheme had come to us. He then told us that he was the representative of the Government of India. I believe from the Administration Report of the year 1924-25 also it appears that the Government of India had their own financial adviser to the Government of Bombay. I can only say that the Government of India are never a careless body. It may have been that because of our local Government being so much powerful.

Sir M. Visvesvaraya.—The Reformers had come in by that time. The Local Government thought that they had power to sanction the scheme.

A.—They are quite right; but they are getting the money from the Government of India and the latter should have some control.

Q.—Once the financial portion of the scheme has been settled, the Government of India do not go through the details of it every time.

A.—Again I repeat that for 2 crores for the Bombay Municipalities the Government of India sent down their expert.

Q.—That may be because the Local Government did not agree.

A.—That is not so.

Q.—There is also the question of the money market?

A.—I do presume that the Government of India should contribute something towards this. And I say between two Governments, in fairness to both, there should not be any profit and loss concern, and if block Nos. 1 and 8 are decided to be finished, the cost would be about Rs. 45 and the Government of India should bear the cost at this rate.

Sir Frederick Hopkinson.—At the top of page 5 of your statement you say that "the Government of Bombay has given this land to the Government of India on basis of its cost". Is that correct?

A.—I think so. That is what my enquiries in the Council have led me to.

Q.—It was stated yesterday that the Government of India were paying half the value for reclaiming the 1,145 acres, and they were only getting 265 acres for it?

A.—That is another thing; the open spaces the Government of India will keep for their buildings, and for recreation.

Q.—You say here "that the Government of Bombay has given this land to the Government of India on basis of its cost." I suggest that cannot be correct?

A.—I think it is correct.

Q.—My suggestion is this; that the Government of Bombay then thought that the whole area that they are giving to the Government of India would cost them a certain amount and that they calculated at about Rs. 90 a square yard as the price?

A.—That cannot be right.

Sir M. Visvesvaraya.—The understanding is that Rs. 20 a square yard be paid for the area. The area was fixed and the rate was fixed, and the local Government have to stand by that?

A.—I admit they have to stand by that. If it is the question of a mercantile firm, of course they are legally bound to carry out according to the contract. But it is a question between two governments as to what really is the cost. The impression is that the Government of India would not have gone in for all this had it not been for the big area, and the price for which they were selling the small area. In my statement, I have said "the Government of India have been liberal to the Government of Bombay many times because the Government of Bombay has been contributing nearly one-third of the income tax, i.e., 6 crores". I remember an instance which I must quote. When we wanted to tax heavily we were told that the Government of India did not like the idea as then the club were incurring the heavy expenditure and it would affect the income-tax a great deal. All this income-tax during the boom amounting to 8 crores and 6 crores includes profiteering on the land. To my mind the Government of India has not done well in encouraging it. They have become like business men. They expected seven times more land besides they expected more income-tax.

Q.—If they are going to get land at cheap rates, they will say: Why don't you compare reclaim and get the money for yourselves?

A.—I say they went for all this because they thought that it was good in their own interests. That was why I appealed to them to contribute more. After all, 24 crores to the Government of India is hardly one-third of the income-tax. In Bengal they have reallotted 66 lakhs for reasons they know best.
Q.—On page 6, you say "the Government of India without getting any estimates from any one allowed the Government of Bombay to contract its purchase". That is with regard to the dredger "Sir George Lloyd". Have you anything to say on that? If you will kindly give us further particulars, it will be helpful for our inquiry?

A.—On the 9th April 1919, the question went to the Secretary of State; on the 25th April, a reply was received. On the 26th May 1919, Sir George Buchanan was asked to prepare this scheme, although no sanction from the Secretary of State had come. These are all in the proceedings of the Council. Then the report seems to have come to the Government of Bombay in September 1919. On the 4th December 1919, the Government of Bombay asked the Government of India to allow them to purchase the dredger, because they said "their offer is open for a very short period". I do not know who the other purchasers were and wherefrom. We asked for copies of the contract. We have not received it up till now. We asked whether tenders had been invited, whether estimates had been called for, and I asked for a copy of the agreement. I clearly made a statement about this in the Council and the Honourable General Member could not deny it. "We have a statement here that 'Sir George Lloyd' was purchased; up to now the Government of Bombay have not got a true copy of the contract!"

Q.—Who said that?

A.—I said that and the Honourable Member accepted the statement. It is on page 1928 of the proceedings of the 16th March 1919.

Q.—Have you anything further to say on that point?

A.—Then we were told that Sir George Buchanan's report was received in September 1919. We find in the proceedings that a letter was written by Sir George Buchanan to Sir George Curtis on the 24th July 1919 recommending the purchase of "Kalu", and the "Kalu" was purchased on the 12th November 1919. This clearly shows that neither the Government of India nor the Government of Bombay heard anything from Sir George Buchanan. Before that a letter has been sent by him to Sir George Curtis and the purchase of "Kalu" was undertaken from the Government of India. Without anything in their hands, without any estimate even from Sir George Buchanan. But some explanation of what the report contained was sent by the Government of Bombay to the Government of India only on the 4th December.

Mr. Billimoria.—Who said there that the "Kalu" was required for the Back Bay Reclamation?

A.—I will give you the exact wording, if you please. The letter that was sent by the Government of Bombay to the Government of India giving some details of the scheme was dated 4th December 1919. The purchase of dredger "Kalu" was recommended by Sir George Buchanan in his letter of 24th July 1919 to Sir George Curtis in the following terms: 'I think your Government ought to ask the Government of India not to sell the "Kalu" at present, because with new pipe lines it will do very well for reclamation on the east of the Colaba between the Apollo Bunder and the Sassoon Dock which work might go on almost at once'.

Q.—You are making some mistake. It was not for the Back Bay Reclamation.

A.—I believe that it was for the whole scheme of East Colaba Peninsula that Sir George Buchanan was asked to report.

Q.—The Back Bay scheme was entirely different from the other one.

A.—The details were sent in September 1919 to the Government of Bombay, not before that.

Q.—If you will look at the Report, you will find there is a separate report regarding the Back Bay Reclamation.

A.—This scheme was sent to the Government of India.

Sir M. Viesnoraoje.—They seem to have purchased the "Kalu" for the East Colaba Scheme and then transferred it to Back Bay?

A.—As regards that, the General Member said it was bought in November 1919.

Q.—That was purchased for some other work, and transferred afterwards to the Back Bay.

A.—It is a statement which the General Member made in 1936, disclosing all these facts. In fact I want to say that the real sanction of the Government of India was received in October 1939, and those orders for 1.86 lakhs were placed before that. Mr. Billimoria.—Were not any reasons given to you why an order was placed in advance? The makers would want some time to have the dredgers built. Of course the scheme required the official sanction; but if they had to wait till the scheme was officially sanctioned, then it might take a considerable time before the dredgers were built and got ready for operation. Would that satisfy you if that was the explanation?

A.—No, it does not. Who is to judge whether the dredger was necessary or not without the scheme being sanctioned; without the scheme being approved of who is entitled to say that a dredger at a cost of 1.86 lakhs should be ordered out? Assuming the Government of India had turned down the whole scheme what would be the position?
Sir M. Visvesvaraya.—They obtained the sanction of the Government of India.

Mr. Billimoria.—If it was approved, sanction was a matter of formality.

Witnes3.—I go back to my point whether the Government of India would sanction such a big scheme without looking into it.

Q.—On the recommendation of the local Government.
A.—It may be; without going into the details, if the Government of India sanctioned it, as you put it, both the Governments are responsible to the taxpayer.

Q.—I am afraid you are mistaken. The Government of India were very, very careful. They did not want to embark on this scheme without a very exhaustive enquiry. In fact, ever since 1907, when various proposals were submitted to the Government of India, they were all turned down and the Government of India set their face positively against the reclamation scheme. It was only in 1919, under the strong recommendation of Sir George Buchanan, supported by the Government of Bombay, that the Government of India gave their approval to it. So, you cannot blame the Government of India.

A.—I quite concede that point. I do know that the Government of India did not give light-heartedly their sanction or approval. But I have maintained from the very beginning that the Government is responsible because after the three crores budget having some up they ought to have stopped.

Q.—There is a misapprehension in your mind, which if you allow, I will correct. Under the Reforms it was not part of the business of the Government of India to interfere with the provincial Government’s powers. It is left to the reformed council. It was the reformed council that permitted the estimate to go up to 702 lakhs. Even there the Government of India did not come in.

A.—I differ from you.

Sir M. Visvesvaraya.—These things are very uncertain and have not been definitely settled.

A.—Absolutely uncertain.

Q.—Have you anything else to say about the purchase of the dredger?
A.—I am not an expert or an engineer, but I can say this much, usually it is the thing that particulars are forthcoming, but up to now Government have not given any. I am interested in one of the steamship companies. I am a director for the last 14 years. We want particulars as to when the order was passed, when the ship was launched and so forth. Up to now there has been a general impression, because there has been lots of work for the “Colaba”, that these two dredgers were not quite intended for this very purpose. I do not know whether it is a fact or not.

Q.—You have a suspicion that they are not giving you the facts?
A.—The Government would not give us the facts.

Sir Frederick Hopkins.—You may take it from me that they are meant for this purpose.

A.—Yes. It may have been that the Government of Bombay are unaware of the facts. As they have not got the contract they did not care to find out the information. But there is another thing which I should like the Directorate to be responsible for. I had been about four times with the Director of Development and the General Member on the Back Bay. Once the whole Council went there. We were then given a glowing description of the state of affairs going on. At that time “Colaba” was not working, and they said there was some structural defect. I maintain that if a vessel has got some structural defect or the steel or mechanism is defective then surely enough the makers are responsible. I am not going into the details. That is another question. As to whether the material is hard or soft, I cannot say. I am not an expert, but as the director of a steamship I know very well if there was a structural defect or some material defect in the engine or the boiler defective, if that is the reason. We have paid 30 lakhs for the Colaba and she requires a lot of repairs and has not been working as well as the George Lloyd, the Committee will kindly enquire what is the real defect.

Q.—Have you a steamship built under the supervision of a naval architect to be paid for when your naval architect is satisfied with the contract and when your naval architect gives you a certificate that it is in accordance with the contract, you have to pay?
A.—Quite right.

Q.—It is the same case here. If your naval architect has made a mistake, that is between you and him. It has nothing to do with the builders.
A.—I quite realise that, that is the real principle, that is the legal position. If you appoint a representative and if he has taken charge of the work, then it is all right. But assume that the steamship builder had contracted for a certain kind of steamship and if it is found that the steamship was not built as contracted for, I think it is not quite legal.

Q.—That is fraud.
A.—Yes
Q.—Do you make a suggestion that there is any fraud in connection with the construction of these dredgers?

A.—I don’t make that; I only wish to draw the attention of the committee as far as the "Colaba" was concerned, not with reference to the "Sir George Lloyd".

Q.—Then you make no suggestion of fraud?

A.—I don’t make.

Sir M. Visvesvaraya.—You say on page 6: "The proceedings of the Legislative Council, if referred to, and especially of the 16th and 17th March 1926 will prove how in the exercise of its functions, the Development Department was virtually unrestrained and absolutely autocratic." What are the points that you wish to draw our attention to? You say "unrestrained and absolutely autocratic".

A.—I am sorry I have to use the words. I say it is a fact. First of all, you will see that we were never given any information as to how the position stood from time to time. The first time that we were given any of these particulars was in 1926, although the Government knew that trouble had arisen in December 1924, and of the unsatisfactory working of the dredging plant. In March 1925 they took us from the Council Hall round the works and they told us that it was going on very well. Not only that, but one finds that in fact the General Member and the Director had in February 1925 some strong fight with Sir George Buchanan when he was here as to the satisfactory working. Still in March 1925, in their budget speeches they did not tell us what really happened. We warned them in our preliminary canter that we are spending much more, that the dredgers are not turning out the right output, that the costs are going up and so on. But they said "No"—that was the statement made in March 1925—the dredger was making a preliminary canter.

Sir Frederick Hopkinson.—They had a preliminary canter the year before?

A.—Yes.

Q.—It is a long canter?

A.—Yes. We were taken in a special train, and we saw the 3 delivery pipes, one in block 7, and two in block 8, with 42" delivery pipes. I asked as to how these three were working together from the dredger. My view was that they were going to show that all these things were going to be done.

Q.—You must look at it from another point of view, that ultimately three would be required; a wise man makes provision before-hand. How many pipes were working at the time?

A.—When I went there they had all these three pipes.

Q.—There might be bifurcation from one main; that was quite possible?

A.—I have got my own pumping plants, pumping out nearly 10,000 gallons a minute. It is quite possible that the sluices may be closed on one and put on the other. That is quite possible; but they were telling us—that all the three were working as if we could not understand.

Q.—But you could check that yourself. You knew that the 3 dredgers were at work?

A.—But it may be like this the statement is made in the Director of Development’s report that another line of pipes was laid for “Kalp” to work from “George Lloyd”.

Q.—That will be only two?

A.—I do not know. It costs roughly 150,000 to lay pipes from that end to this. I am not an expert. I asked the General Member and the Director but they have not given the figures. But if it is a fact there was another pipe then the money has been wasted. The advisory committee asked for the information, but they were not furnished.

Q.—Would you mind remembering this? We had all this from several people. We fully understand the point about the advisory committee’s powers; therefore if you won’t misjudge me it is not much good repeating it again.

A.—I must justify what I have stated. I read the proceedings of yesterday and Mr. Mody has justified this.

Sir M. Visvesvaraya.—That is one of your statements—that the advisory committee’s request was not complied with?

A.—Nor information given to the members of the Council on several questions from 1924, 1925, and 1926.

Sir Frederick Hopkinson.—You say, “the Directorate made all sorts of glowing accounts about the working’. Can you give us any indication of such glowing account I do not think I shall call it a glowing report, but glowing expectations.

Sir M. Visvesvaraya.—Some of the subsequent reports were glowing?

A.—Yes.

Q.—Referring to page 7 of your statement, what are your suggestions as regards the agency methods?

A.—I would suggest that the work should be carried out by the Public Works Department.
Q.—Do you think it should be done by contract or departmentally?
   A.—By contract under the supervision of the Public Works Department. I am in favour of contracts.

Q.—What other changes would you suggest?
   A.—If it is the Public Works Department I believe it will be a transferred subject, as the department is at present transferred. Then I desire an Advisory Committee.

Q.—But an Executive Committee has been recommended by some witnesses.
   A.—My difficulty is with regard to the constitution. Unless an Act is passed and the whole department taken away from Government there cannot be an Executive Committee under our Constitution. That is my reading of the Constitution of the Government of India Act. There could be an Advisory Committee with powers to advise the Ministers and ask for all particulars.

Q. You want an Act like the Improvement Trust or the Port Trust?
   A.—I don’t think it is necessary for this work now. I should be content with an Advisory Committee working with the Public Works Department and the business can be done by contractors by inviting tenders, the estimates being made by the Public Works Department. I want in this Committee that everything should be placed before them.

Q. You want certain executive powers of approving estimates, contracts, etc.?
   A.—Yes, that is all.

Q.—On page 8, you say, “he did that probably at the advice of Sir George Buchanan and the whole affair was done in hot haste for which there was no justification”’. You refer to the purchase of dredgers?
   A.—Yes, I think I have said so.

Q.—You say, “it is a fact and an important fact too that the labour wages from 1920 to 1926 are the same in Bombay, i.e., Rs. 1 to Rs. 1/1 to a male cooly and As. 10 to a female cooly and as all work that was given out mostly depended on labour wages which are the same as at present prevailing”’. You think that the labour wages have kept up?
   A.—Yes, Sir. If you want I can give you some figures.

Q.—Were the rates reduced by the Corporation and other bodies?
   A.—Yes, not only they, even the Development Directorate themselves. If you will kindly see the rates that were given for the unloading of rubble stone, moorum, the loading of the moorum at Kandivli, the unloading of the dry-filling at Churchgate, at Colaba, the rates given by the Director of Development in 1924-26 vary to the extent of 25, 30, 50 per cent.

Sir Frederick Hopkinson.—Where are these rates given?
   A.—The thing is like this. We have not been supplied by the Government with information.

Q.—I understand you to say that these were the rates given by the Director of Development.
   A.—Yes Sir, given to the contractors by him. These are the rates which I have got from the public by making enquiries myself.

Q.—You are sure they are right?
   A.—These rates were mentioned in the Legislative Council debates.

Sir M. Visvesvaraya.—You want to say that this should be enquired into by the Committee.
   A.—Yes.

Sir Frederick Hopkinson.—Have you asked the Director of Development what rates he is paying so that you can compare?
   A.—I did ask him and I asked the General Member. But they did not give the rates.

Q.—You could not get them?
   A.—I could not.

Q.—Will you tell me some of these rates?
   A.—Yes, I will.

Sir M. Visvesvaraya.—What were the local rates then and what rates are paid at the present moment?
   A.—As far as labour was concerned the rates have been throughout Rs. 1 to a male cooly and annas 10 to a female cooly. I will give you concrete instance. I am told that at Colaba the unloading of the moorum was first done at Rs. 4-8-0 to 4-12-0 per wagon in the first instance.

Q.—What was the correct charge to pay?
   A.—Rs. 1-12-0. Then in 1920 the rates were reduced to Rs. 3-12-0 per wagon and the present rates are working out at Rs. 2-8-0 per wagon.
Sir Frederick Hopkinson.—Is this very high?
A.—According to the labour charges, it comes to Rs. 1-12-0 as I have worked out.

Sir M. Venkavesa Rao.—What is the rate usually paid now for cooly labour?
A.—Re. 1. If you want the detailed working of it I can give you. Usually 2 men and 2 women are employed to unload 2 wagons and their cost comes to Rs. 3-4-0 for 2 wagons, and if you add 7 per cent. supervision charges the rate would come to Rs. 1-12-0, or 1 anna 7 pies per ton or for a wagon Rs. 1-12-0.

Sir Frederick Hopkinson.—Is that the price that they ought to pay?
A.—This is the cost at present, at which all the contractors are carrying out their contracts.

Q.—What is the cost at present?
A.—Rs. 1-12-0.
Q.—That is what the Development Department is paying?
A.—No, it is paying Rs. 2-8-0.
Q.—They ought to pay Rs. 1-12-0?
A.—This is actually the cost of the contractor who is carrying out at present. As the Development rate means 42 per cent., the contractor will be willing to do their work for 20 per cent. Former contractors used to get 100 or 50 per cent. more. The same thing applies with regard to the Churchgate filling, which comes from the city. They are paying higher rates. The former rate was Rs. 3-8-0, 3-4-0 and Rs. 3. The present rate is Rs. 2-9-6. I have said in my statement that sub-contracts were given. I am quite prepared to prove these facts also, because at the present moment even the dry-filling brought to the Churchgate street from the city is being purchased by these contracts at Rs. 1-4-0 to 1-8-0 per brass. They are getting rates at Rs. 2-2-0 from the Development Department.

Q.—Do they purchase it and transfer to the department?
A.—They arrange with the motor lorry people who buy the debris in the city. The rate every day varies from Rs. 1-4-0 to 1-8-0 and the contractor pays for it in hard cash and they get a contract with the Development Department for Rs. 2-3-0.
Q.—What is the material at present given to the contractor?
A.—He brings motor lorries .........
Q.—Does he pay for it; the person who takes the motor lorry does he pay for the rubbish?
A.—At the present moment these motor transport companies purchase debris from the city .........
Q.—Do the motor lorry people pay for it?
A.—They get something from the people who are breaking down their property to carry it away. They get Re. 1 per brass.
Q.—How far is this brought?
A.—Sometimes it has been taken a mile, sometimes 2 and sometimes 2½ miles.
Q.—What does it cost them?
A.—They say it costs them about Re. 1 per brass.
Q.—I do not believe it. It can't be done.
A.—There is another thing also. They get from the Back Bay Contractor Rs. 1-4-0.
Q.—You say that the cost of transport is Re. 1 per brass to convey it to the site of the reclamation. Who unloads it?
A.—The motor lorry drivers.
Q.—Who pays him?
A.—His master.
Q.—Is that all included in the Re. 1 per brass?
A.—No.
Q.—What is the amount?
A.—Unloading and loading cost 8 annas for loading and 8 annas for unloading.
Q.—That is about two annas or a little over a cubic yard?
A.—I don't know. I have not done this business.
Q.—It is a little over two annas per ton for loading and unloading and carry it to a certain distance. Isn't that an extraordinary price?
A.—It may be, but the question is this, that every day 100 lorries are being sold at the Churchgate at Rs. 1-9-0 and the contractor purchases it, pays it hard cash. He supplies to the Development Department at Rs. 2-3-0. The Department is paying one more rupee. The Department has got its own motor lorries for which they pay Rs. 2-8-0 to bring this debris.

104-460
Sir M. Venkataraya.—Own means hired by them?
A.—No, they have got their own motor lorries. They go to a contractor and pay him Rs. 2-8-0 and he brings the debris from the city. Now the thing is he gets Rs. 2-8-0 from the Development Directorate, Re. 1 he gets from the party who sells this.

Q.—Do you suggest it is a bad bargain?
A.—I do not say it is a bad bargain. If the Development Department were to put themselves in communication with the Municipality and the Improvement Trust who break down buildings for reclamation they would really have placed a contractor who would bring this debris from those places. They might get it cheaper. Of course, that is a limited quantity. That can be used for filling block 1.

Q.—In any case it is a trifling matter.
A.—Well, 100 brass every day, almost the dry moorum you want.

Q.—We want 60,000 cubic yards in all, and your quantity is little.
A.—The former rates that were given for the unloading of the moorum were terrible: Rs. 4-8-0, 8-12-0, while at present it is Rs. 2-8-0.

Sir Frederick Hopkinson.—(Addressing the Secretary of the Committee) Would you ask the Development Directorate to show what they actually paid for this.

(Amounting witness) After all what you are telling us is not your own knowledge.
A.—No. The rate before 1924 was Rs. 4-8-0 and then in 1925 Rs. 8-12-0. I should also like that you should kindly ask the rates for unloading of rubble and the loading of moorum at Kandivali.

Sir F. Hopkinson.—(Addressing Secretary) You may ask for a list of the prices for loading at Kandivali and unloading at Reclamation.

A.—In page 9 you say, "I am told that no estimates were prepared as are done by the Public Works Department or the Municipality, nor were any enquiries ever made of the Municipalities, Improvement Trust or the Port Trust as to the rates prevailing at which they were employing labour and the rates at which they were carrying their contract."

"We are told that estimates exceeding Rs. 65,000 are sent up to Government and those within that amount are prepared by the Chief Engineer and the Development Directorate?"

A.—I have put many questions as to the estimate of throwing dry filling in No. 8 block. No figures were given. They have not given us any figures. So I conclude there was no estimate. The Improvement Trust, the Port Trust and the Municipality get big contracts.

Sir M. Venkataraya.—(Addressing the Secretary of the Committee) We might ask them to send up sanctioned estimates for perusal. It will be well to have some of the estimates to see the procedure adopted.

Sir Frederick Hopkinson.—Are you suggesting they did not understand their own business?
A.—The Heads of Department do not care much and their subordinates do it carelessly and I would even say they have not interested themselves; they have been grossly negligent, lax, to a very great extent. Really speaking even all our well-known contractors whom the Municipality had employed or the Port Trust or the Improvement Trust had employed would have carried out this dry filling.

Q.—The reason might be that the prices may have been too high?
A.—Their prices are very low. They have received contracts for crores of rupees.

Q.—Some of the prices you mentioned to me I have a very great difficulty in believing.
A.—This is in 1926. If you compare them with those of 1924, you will find the difference. The unloading of wagons in 1924 cost Rs. 4-8-0 and now it is Rs. 2-8-0. These figures are not very big and the quantity is also small. But the real difficulty is with regard to the unloading of stones, of moorum which was carried on from 1921-25.

Q.—Again, "it is a matter of fact that bonus has been actually paid not only to the dredging staff but also to the Chief Engineer, and others whose duty was on the land, and further that the bonus was made payable over the cutturn which was put down at 25 per cent. of the guaranteed quantity, while actually the dredger was putting out an cutturn which was between 25 to 30 per cent. of the guaranteed cutturn". Have you any reasons for thinking that bonus was being paid irregularly like this?
A.—The statement that was made to us in the Council that no bonus was earned. The suggestion made by Sir George Buchanan was that the quantity that was probably fixed
was not approached, but as a matter of fact I have got information, which I cannot say
is a fact, that a bonus was paid.

Q.—We know it was paid and I should say it was properly paid in order to get better
results.

A.—I do not see any objection if they can turn out good work.

Sir M. Visvesvaraya.—Do you know who made the indents? You are referring to it
on page 6.

A.—I do not know.

Q.—Do you have a copy of them?

A.—No, we could not get information.

Q.—Why do you think it was carelessly done?

A.—Because many times they invited tenders for the purchase of surplus stores.
They must have indented for such a large quantity that the surplus stores were saleable.

You and I would not do it.

A.—The thing is we should be very careful to indent. Once it was said in the Council
that surplus stores to the value of Rs. 6,00,000 were sold.

Q.—Who stated that?

A.—I remember that the Director once admitted in the Council that certain steel bars
valued at Rs. 2,50,000 were indented of a wrong size.

Q.—That might have been the mistake of the draftsman. Mistakes will happen,
A.—But to the extent of indent being made of steel bars valued at Rs. 2,50,000?

Q.—There is probably an explanation.

A.—There may be. In 1925 they bought some pipe lines probably for these dredgers
and they did not report to the Council or anybody and a year after they came for sanction
from the Council. I don't know how payment was made and why a sanction was obtained
a year afterwards.

Q.—They may have been very necessary for the works.

A.—I admit it. They indented for pipes and paid for them. They forgot to obtain
sanction and a year afterwards they ask for it from the Council for making the financial
statement. This was not a small item: Rs. 1,50,000 worth of pipes.

Sir M. Visvesvaraya.—It sometimes happens?

A.—That's how things were managed.

Q.—Rs. 1,50,000 worth of pipes?

A.—Yes, Sir.

Sir Frederick Hopkinson.—What you really mean is that the formality of getting the
estimates is not complied with?

A.—Yes.

Sir M. Visvesvaraya.—Did you not ask for explanation?

A.—We did ask the explanations. Take the example of the Port Trust, the Public
Works Department and the Bombay Municipal Corporation, they have been doing business
of crores of rupees. I am also a Member of the Standing Committee, where we had very
large stores and once Mr. Billimoria's firm were asked to check the stores.

Sir Frederick Hopkinson.—If it was due to any alteration made by the Government
in the progress, then you cannot blame them? Can you?

A.—No, I cannot blame the Executive.

Q.—If the Government wished to alter it, you cannot wish to blame the Executive?

A.—Of course I cannot blame the Executive, but I am doubtful who is responsible
between the Executive and the Government, but you will find lot of cement being sold
though were ordered out at a very heavy cost.

Q.—(Turning some page). The total receipt up to 25th March 1925 were 79,000.
How that would cover all the sales? It's very difficult to find out whether the Director of
Development says this item relates to Back Bay or building of chawls or one of the other
schemes.

A.—That's why we were in difficulty. At one time one of the well-known contractors
of Bombay (that gentleman's name I am not permitted to say out), submitted his tender?
Q.—Did they not consider that tender?
A.—I maintain it very strongly that none of our well-known contractors were being given this work though they are taking contracts of crores of rupees. It is not my only contention that because they were unsuccessful in getting the contracts, they are considering the Directorate to have accepted higher rates, but that there was gross carelessness.

Q.—The prices might be higher? Do you know what the prices were at that time?
A.—Yes, I know, and I am not in a position to say whether tenders were not accepted although tenders of several contractors were very low.

Q.—Had these low tenders been then accepted?
A.—I have already told you that you will easily find it out from the tenders receipt file, the tenders accepted file and the tenders rejected file.

Q.—There might be a specific reason for it?
A.—If you will, Sir, kindly tell me the names of the contractors who have carried on the work I will tell you that they were not men worth giving contract for Rs. 100 and that's the class of men who have carried out the work in preference to several other well-known and reputed contractors who were not given any contracts.

Q.—What do you suggest?
A.—I suggest that there is something very wrong about the management.

Q.—There might be very adequate and sound reasons?
A.—I am prepared to submit that their prices were lower than those of the contractors and tenders accepted as I have made personal inquiries in the matter.

Q.—Can you give the name or any date of such contract by which we can more easily get at it?
A.—The trouble is this that that gentleman has not authorised me to give out his name and I again as a gentleman cannot give you his name.

Mr. Billimoria.—This is a public inquiry, why should names be kept back? If people who have information cannot put forward it before the Committee and simply make allegations and accusations against the Government, why should they not come boldly and give out the information?

A.—You will find out that name from the files. He is not a man of Bombay and he is again not a big contractor. I am not ordered to give that man's name and I cannot do so as I have already told you. I do not blame anybody because the Committee is there to attribute the blame to whosoever deserving.

Q.—But how is the Committee to find out without materials before them?
A.—I have given you materials namely you have to take out the letters of the contractors wherein you will find some 80 to 40 tenders which were simply invited, while only one man got the contracts all the time, in preference to several other well-known big contractors though their rates were low.

Sir Frederick Hopkinson.—That is a very serious charge to bring against the department? Is it not?
A.—I would really point out to the Committee to find all these out.

Q.—Would you not consider this a very serious charge against it?
A.—It is so and I do maintain that with regard to the Back Bay contracts several contracts of higher rates were accepted in preference to contracts of big firms quoting lower rates.

Q.—We have no facts in this connection?
A.—You have got facts. If you were to make inquiries in regard to rates and other factors, you would.

Q.—Perhaps rates would have gone high?
A.—You will find from the tenders.

Mr. Billimoria.—Do you expect this Committee to go through a mass of papers, tons and tons of papers and files? There might be some questions on which we require definite and clear information and if nobody were to come forward boldly to give all that out, how are we to make out?

A.—Sir, I have given you everything, the rates, etc., and I see no justification in accepting the extraordinary rates.

Sir Frederick Hopkinson.—Well, if you don't give us any specific instances and names, I conclude that you have based your estimates on hearsay gossip.

A.—I think Sir, I have not made myself quite clear, but I do feel that I have given you sufficient data to make inquiries about.

Q.—No, you related everything on gossip. That might be, as it's nothing but gossip. You refer to cement sold without much care from the surplus, you mean cement was sold to any of the contractors?

(Mr. Billimoria.—His name is not given.)

A.—His name is Mr. Balkishendaa Damodardaa.
Q.—Why didn’t you mention it?
A.—It’s business morality.
Q.—Well I don’t call it that, I am very sorry there are no facts. There is not a single fact. These are only statements that somebody has told you?
A.—What somebody has told me is true, because I am not a contractor. There was the case of a contractor who was given contracts at a rate 150 per cent. more than the prevailing rate and the lucky fellow got contracts to the tune of about 9 lakhs.

Mr. Billimoria.—150 per cent. more?
A.—Yes.
Q.—You are thereby insinuating that somebody distinctly gave this contract to him or was sharing profits with this man?
A.—It amounts to that unless he was a fool.
Q.—Is this the insinuation? I want to get at it here?
A.—I should certainly insinuate, unless the man who was in charge of that work was a big fool.

Sir Frederick Hopkinson.—On page 11, you say that the structure and the material in Colaba are weak? Who says that?
A.—I have made it clear. We were told during the debates that the Colaba structures were weak even during the council debates, not only that but that the Colaba structures required a lot of repairs.
Q.—On page 11, structural material must be weak. What evidence have you got with regard to that?
A.—Because Government have admitted that the structure is weak.

(Sir Frederick Hopkinson.—That does not say that the structure is weak; it might be badly designed.)
Q.—Suppose you order out some machines, do you always get good machines, perfect?
A.—Not perfect always, but if it’s a defect of a small character we do not mind.
Q.—What you seem to mind is that you were not told anything in the Legislative Council?
A.—I do feel that.
Q.—And then you go on making this statement that it is commonly believed that these two dredgers are not new and so on? I don’t accept your statement and I want to judge why should I take any notice of other statements?
A.—Sir, you may or may not take it, we don’t mind.

Mr. Billimoria.—Mr. Husseinhboy, how long have you been a Member of the Legislative Council?
A.—Three years.
Q.—You were not a Member of the council at the time the scheme was launched?
A.—No.
Q.—May I inform you that at the time the scheme was launched no member of the council criticised the scheme but that on the contrary they commended the scheme and congratulated the Government on the courage shown in undertaking the scheme?
A.—Yes.
Q.—Now because the scheme had turned out to be a failure and unworkable that criticism is being made?
A.—I want to tell you once again what others have said that the estimates have gone high and before that time nobody complained about it.
Q.—Of course nobody complained at that time, Mr. Husseinhboy, in your evidence you have stated that the Government of India, accepted 270 lakhs for the Marine Lines area for the military and that they are paying only 240 lakhs for an area in Colaba 7 times as big. Do you know Mr. Husseinhboy, that land on Queens Road near the Church Gate Station is much more valuable than land at Colaba?
A.—Yes, prices ruling in Colaba are about 20 a yard whereas those in Church Gate are expected to realise 100 per yard.
Q.—Is it not fair then for the military to acquire more area and pay the same price?
A.—I quite agree with you.
Q.—If you refer to page 7 of your note you state “that ‘Kalu’ was bought for £75,000 and an equal sum was spent on reconditioning it”. Have you got any facts and figures to show that? I am afraid it is not an accurate statement.
A.—I quite realise that.
Q.—We expect responsible gentlemen in your position, when they come to give evidence, to make statements which are supported by facts?
A.—But the question is, I would make it clear, I have come down not as a prosecutor, but the question is, I would make it clear, I have come down not as a prosecutor, I have come here to help the Committee and I have tried my level best to do it. I am not here as an accused person or a prosecutor.
Q.—We do not want any impression left that there are accusations against the Government which are not true.
A.—I have cleared the position. I think I have put down "about the equal sum".
Q.—On page 4 of your statement you make recommendations. You say that block 2 should not be taken in hand because it would be very difficult to dispose of land in that area. You adhere to that view?
A.—Certainly.
Q.—You go on and say that there is no need for accommodation for Government offices?
A.—Yes, I say that.
Q.—Perhaps you are unaware that there is a great congestion in the building where we are sitting. Government requires some more accommodation for Government purposes?
A.—Government may require it but they must cut their coat according to their cloth. I do not think we want it. This is my own personal view.
Mr. Billimoria.—The other questions have already been asked and I shall not cover the same ground again.

(The witness withdrew.)

31st Witness

Mr. D. D. Rodrigues

Examination of Mr. D. D. Rodrigues, Member of the Advisory Committee, representing the Kurla Municipality

Sir M. Visvesvaraya.—You are a member of the Advisory Committee?
A.—Yes.
Q.—You represent the Kurla Municipality?
A.—Yes.
Q.—Are you a signatory of the minority report?
A.—Yes.
Q.—Have you anything to say regarding the conduct of the scheme in the way in which the scheme has been administered?
A.—For the present I can say that the Development Department should be abolished.
Q.—Do you still adhere to the recommendations in the minority report?
A.—Yes, I do. On some of them I have changed my mind.
Q.—The working of the dredgers has improved since if any improvement is shown, you will be willing to modify your views?
A.—I do not think there will be any improvement.
Q.—You recommend the abolition of the Development Directorate; do you still adhere to that view?
A.—Yes.
Q.—Why?
A.—Because they are unable to manage it.
Q.—What would you replace it by?
A.—Partly, for the Back Bay Reclamation portion, by the P. W. D., and for the building portion, I would recommend the Improvement Trust, and partly for land, the Bombay Collector of the Suburban Districts.
Q.—We are only concerned with the reclamation?
A.—Then I recommend the P. W. D., I would say that block 8 should be completed and this work should be transferred to the P. W. D.
Q.—Block 8 will have to be completed for military purposes. That will be completed in any case.
A.—It should be done.
Q.—Then an immediate declaration should be made regarding the abandonment of the rest of the scheme?
A.—I consider that blocks 1 and 2 should be taken when the reports of the other committees are out. Till that time it should wait.
Q.—If the committee's report is favourable; then you are in favour of blocks 1 and 2?
A.—Other blocks should be abandoned for the future.
Q.—No. 7 is shallower than 2 and is much cheaper to reclaim?
A.—That is my own opinion.
Q.—Have you heard that block 2 will be costly?
A.—I cannot tell you.
Q.—You say 'the re-examination of all the schemes that arose from and were affected directly or indirectly by the Back Bay Reclamation'... which are those schemes you refer to?
A.—Like the building of the Salsette scheme.
Q.—You mean the railway terminus from Marine Lines and Colaba should be abandoned?
A.—Yes.
Q.—No. 7 is shallower than 2 and is much cheaper to reclaim?
A.—That is my own opinion.
Q.—Have you heard that block 2 will be costly?
A.—I cannot tell you.
Q.—You say 'the re-examination of all the schemes that arose from and were affected directly or indirectly by the Back Bay Reclamation'... which are those schemes you refer to?
A.—Like the building of the Salsette scheme.
Q.—You mean the railway terminus from Marine Lines and Colaba should be abandoned?
A.—Yes.
Q.—You live in Kurla, can you tell us if earth and moorum for filling can be obtained from that side?
A.—Yes.
Q.—In large quantity?
A.—Yes.
Q.—How far is Kurla?
A.—11 miles. At present the Improvement Trust get their moorum from there but they have abandoned their scheme.
Q.—Is it a very large quantity?
A.—Yes, there are about 3 or 4 hills.
Q.—Have they been tested?
A.—For the present Improvement Trust are bringing their moorum for filling from one or two hills.
Q.—Are you in favour of completing blocks 1 and 8?
A.—No. I am in favour of completing block 8. When the committee's opinion is out, then Nos. 1 and 2 should be considered.
Q.—You have no opinion about block 7?
A.—I am of opinion that work on other blocks should be stopped.
Q.—Do you approve of any scheme for a marine drive along the sea wall?
A.—Whatever is suggested in the minority report, I do not want to go beyond that.
Q.—The minority report represents your views?
A.—Yes.
Q.—Have you any reason to change it?
A.—No, except what I stated.
Q.—Have you any other facts or figures to give which should be investigated by us?
A.—I could have given sufficient facts and figures about Bombay suburban development but that does not concern you.
Q.—As regards the Back Bay Reclamation is concerned you have nothing more to suggest?
A.—I would say that the Back Bay Reclamation scheme should have been entrusted to private bodies like the Municipality. If they were unable to carry on their duties of course they would have been suspended or held unreliable parties. Of course in future the work should be done in accordance with the minority report.
Q.—If the P. W. D. is entrusted with the work, do you want an advisory committee?
A.—I would say independent advisory committee consisting of half officials and half non-officials.
Q.—Like the Improvement Trust?
A.—Yes.
Q.—Would not the Improvement Trust be able to carry on the work?
A.—Yes it would be better. It represents Bombay fully.
Q.—Who will be ultimately responsible?
A.—We have stated that in the report fully. Partly those who gave wrong estimates. It went up from 4 to 7 and then to 11 crores.
Mr. Billimoria.—Those persons who were responsible for framing the estimates?
A.—Yes, who were responsible for not looking into it properly.

(The witness withdrew.)
Written Statement of Mr. A. N. Surve, M.L.C.

History and Conduct

1. The launching of the Development Scheme of which Back Bay Reclamation forms but a part if judged from the following points, viz.:—

(a) Opening Balance.—Budget Estimates 1920-21 Rs. 4,24,58,000. (Revised Financial Statement Government of Bombay 1920-21, page 8.)

(b) Permission given to Local Governments to raise loans,

(c) Condition of Trade as reflected in the Revenue of Stamps—Budget Estimates 1920-21 Rs. 22,50,000 (Ibid) and Actual Rs. 1,58,66,287—the highest figure ever reached (Administration of Bombay—1920-21. Page 147.)

or

(d) In the Income Tax collected Rs. 8,17,58,870 (Nett collection as given in Administration of Bombay 1920-21 amounted to Rs. 8,80,89,116—vide page 147) on an income of 68 crores and over—out of which Rs. 1,40,08,792 and Rs. 22,45,67,690 represent respectively the income tax collected and the profits of Companies and registered firms (Income Tax Statistical returns of the Bombay Presidency 1920-21, page 8.)

(e) Chronic Demand for more land in Fort area as evidenced in various Government Schemes of 1911, 1912 and 1917, and proposals for reclamation by private enterprise.

(f) Appearance on the scene of Sir George Buchanan with his Song of Enchantment of reclaiming with dredged filling at a cost of 5 annas per cubic yard and at a total cost well within 4 crores.

(g) The condition of the City as described in the following words “For all that makes home life pleasant—light, air, space and cleanliness, it (Bombay) is indeed a city of Death—for the children it is a city of Death” (His Excellency’s Speech in Council on 3rd August 1920).

(h) The serious shortage in the Housing Accommodation available for the Working Classes (Ibid) then considered real but now represented as erroneous.

(i) The belief of Sir (now Baron) George Lloyd in the importance of housing on the general contentment of the people as manifested in the following extract:—

“Good houses mean the possibility of Home-life, happiness and health; bad houses spell squalor, drink, disease, immorality and crime and in the end demand hospitals, prisons and asylums in which we seek to hide away the human derelicts of society’s own neglect”;

and

on the opinion of 7 out of 8 committees of the Royal Commission appointed to inquire into the causes of Industrial Unrest—

“that insufficient and bad housing was one of the factors responsible for unrest.”

(Working Class Budgets—Bombay—1928, page 25.)

(j) The desire to make Bombay one of the most orderly cities in the world and worthy of the name of “Greater Bombay.”

would make it appear that it was justified. It was so considered by the Government and the Legislative Council of that time who were experiencing the conditions—mentioned above—then prevalent. To-day Back Bay Reclamation has proved a failure, in the light of later events and an attempt is being made in the present state of depression with depressed outlook of examining schemes which were undertaken when everybody—however humble or elevated—was riding on the crest of a wave of prosperity, when everyone was living in the exhilarated atmosphere which engendered speculation and when things were thought of and done in the foolhardiness begotten out of easy circumstances. Therefore the Back Bay Reclamation which was not the entire Development scheme but which formed only a part of it appeared sane, reasonable and remunerative to the mind of 1920 though if it appears to the mind of 1926, insane, irrational and disastrous, and it will prove more so because it has formed the subject-matter of the inquiry singly and as detached from the entire scheme of which it formed a part only. I therefore consider the Terms of Reference of the present Committee very narrow. I also consider it desirable that the whole of the Development Scheme should be examined as regards its
necessity, conception, execution, and its effect upon the well-being of the Bombay Presidency. (My views on the subject are given below in paragraph number 10).

2. The facts, that the Reclamation has been engaging the attention of Government for so many years—for over half a century since 1865; that they had been carrying it on small scale as experimental measures since 1910 (near Marine Lines Station) the chronic pinch for more space felt more severely on account of the pressure of increased population drawn to the city by the war operations and subsequent prosperity, the extensive operations carried out in execution of a co-ordinated Development Scheme by Public Bodies, e.g., the Municipality (Mahim woods, Tansa Water Works, the Eastern Avenue) the Improvement Trust (World Schemes) the Fort Trust (Managosa Sewri Reclamation) and when the Government who had financed and encouraged these bodies to undertake these works had done nothing themselves—it appears—all these facts drove them into instant action, which was accelerated by the conditions mentioned in paragraph 1. Circumstances other than these would have dictated greater caution, more and better regard for the financial interests of the Presidency.

It may also be that the mind of Government had exerted itself so long and so much that at the psychological moment when the decision was taken it was hardly capable of performing its function in a manner which the immunity of the scheme required.

3. The financial difficulties experienced by the Government in balancing their Budgets coupled with the power to raise loans on their own account led them to adopt the Unnatural Doctrine that the present generation owed no duty to the future generation of handing down to them a free and unencumbered heritage, if the latter cared to have it, posterity must be prepared to accept it with the burden which the prudence (or rather the lack of it) of the present generation has seen fit to impose. That is how the Government attempted to defend its Loan Policy. Its adoption made Government less circumspect and more unmindful of the seriousness of commitments which they were entering into.

4. The Inauguration of the Reformed Council's ushered a new state of things. The relations and Control over provincial matters which subsisted between the Governments of India and Bombay had undergone a change.

5. The Reformed Council—with its limited power over Reserved Subjects—raised its feeble voice now and again but without success in regard to the impracticability of the Scheme on account of its vastness, and against the imprudent Loan Policy adopted by Government.

6. The policy of reticence adopted by Government, which was broken only when compelled to give information which too was supplied insufficiently and evasively kept the Council in darkness as to the real state of affairs.

7. The highly coloured pictures of expected profits and advantages which the responsible government officers—whose high positions commanded implicit faith in their official statements—presented to the Council, threw it off its guard, and made it swallow stuff which was intrinsically unsalvable.

8. The constitution of the Legislative Council, its procedure defined as it is by its Rules and Standing Orders, the practice of allowing insufficient time for it business, weakness induced into the Council on account of existence of parties and divided counsels, did not allow its members to arrest the headlong career towards disaster which the Government had inherited from its predecessor, until the whole Presidency was faced with the impending catastrophe.

9. These briefly are my views on the first part of the Terms of Reference, viz.:—History of the Inception and Conduct of the Back Bay Scheme.

10. My views on the subject may be gathered from the following extracts from my Budget Speeches of the years 1922 and 1924.

The work undertaken by the Development Directorate is very large, and requires technical knowledge to judge it; therefore, I shall not venture to offer any remarks on it but I mention that some people are doubtful about its success. When I consider that 65 lakhs are to be spent next year for the purpose of acquisition of land alone, my heart trembles to think of the misery that would be entailed on those people who would be turned out of their hearths and homes and whose status would be reduced from that of cultivators to that of laborers. It is perhaps too late to express remorse, but I cannot help expressing it. I think we were promised more information; but so far I have received one report from that department. I think it would be well if Government took the public into their confidence, because that would silence interested criticisms, and remove doubts and misunderstandings from thinking minds.”

(Council Debates Volume V, Part I, Page 183.)

21st February 1922.
And again

"Coming to its being painted in very bright colours, I refer to the Development Department which is represented to be a very substantial source of future revenue. The very attractive and catching phraseology that is used in mentioning that matter reminds me of a very tempting cake behind a glass cover to which one is prevented access. Whether it will melt and disappear, we do not know."

(Council Debates Volume XI, Part III, Page 116.)

20th February 1924.

11. Turning to the second part of the Terms of Reference, viz. :- the recommendations as regards future operations, I beg to submit that the situation as it is presented to-day is serious and the present depression has only added to intensify its seriousness, but it should not unnerve us unless it is desired to court irretrievable loss. It is imperatively necessary to keep cool and to keep our wits about us. Our present duty is to proceed on the hypothesis that for many years to come Back Bay Reclamation Project of 1920 is a failure financially, that the expectations of gaining a profit of 50 crores has proved fabulous and is unrealistic; that the provincial exchequer has lost a vast amount of money—amounting to crores which at the present moment cannot be definitely predicated; that the Province is burdened with a debt on this account of over 5 crores and it is increasing every day both in principal and in interest until we decide upon our course of action.

12. Our next duty is to so shape our course as to retrieve our position as far as possible, to reduce our real loss and to turn our present seeming loss into gain—if we can.

19. In performing this two-fold duty we need not be interestingly alarming or depressing in our presentiments. Depression generates pessimism—but it is a passing phase, and past history will come—if appealed to—to our rescue. Bombay possesses the reputation—almost as ancient as the hills—for its Government possessing a weakness to play the role of "wonder makers" and for spending public money in its gratification on seemingly foolish reclamation which later experience showed were not really so. In this connection the following extracts from "Maclean's Guide to Bombay," 1895 Edition, may prove not only interesting but perhaps heartening also.

"Modi Bay Reclamation.—Modi Bay Reclamation, extending from Carnac Bridge to the Mint, was begun by the Government on its own account about 25 years ago, to obtain a good site for the Commissariat Stores and Offices, but was never used for that purpose. It has since been often strongly recommended as the best site for docks, and it might have been turned to good account in this way if the Government had not for reasons unknown, chosen to buy the less eligible adjoining site for 2 million sterling. It is pierced through the centre by the Frere Road—80 feet wide— which divides it into two nearly equal portions; the one next the harbour is vested in the Port Trustees; that towards the west still belongs to the Imperial Government. The area reclaimed amounts to 84 acres and cost about 30 lakhs. No other roads have been made, but the drainage has been partially completed. There is no place along the whole foreshore more convenient for traffic than Modi Bay; but although large sums of money have been spent upon it, no serious attempt has been made to provide a proper landing place for passengers and goods.

Page 271.

And

"Hog Island.—A gigantic hydraulic lift formerly existed there, and was an object of great interest, but now it is never used, and its remains must be regarded as constituting a monumental piece of folly. When in the year 1872 Government opened the hydraulic lift on Hog Island the immense machine was looked upon as the most gigantic affair of the kind that had ever been erected, and even now there are not to be found in the whole world many lifts as powerful, even although it lost much of its power by the neglect and ill usage it sustained when abandoned by Government as a failure. The story of the construction of the lift, its opening, its trial, and abandonment, though somewhat serious for Government, is interesting and almost amusing. It cost £350,000; and was originally meant as a dry dock for vessels belonging to Government—particularly troopships. But Government was very chary about it first, and it was not until after a heavy and careful test, they would take it over from the contractors. The lift, then being pronounced a success, was considered worthy to take its place amongst the wonders of the world, and bring the number up to ten. Therefore, one day towards the end of the year, the then Governor of Bombay, and a large number of guests were invited over to Hog Island to view this tenth wonder of the world. The party set sail from Bombay in a large vessel, with which the great power of the lift was to be illustrated to His Excellency. But the experiment, unfortunately, did not prove a success. It was the intention to run the ship right under the lift and raise it out of the water with the Governor and party on board. But instead of being lifted out of the sea, they were very nearly
all sent to the bottom, whether it was that some miscalculation was made in the direction of the current, or that the speed of the vessel was not slackened on approaching the shore, we cannot say; but certainly it is, the steamer, instead of floating neatly between the columns ran down two of the outer pillars with such force as to knock holes into them, and damage her own bows. There were no congratulations that day upon the tenth wonder, nor were the Governor and his party raised in their vessel on the huge pontoon. Shortly after this, the lift began to be looked upon with suspicion, not on its own account, for its power was not doubted but on account of the difficulty in approaching it. The water was deep enough, surely; but the currents were so troublesome that large ships could not be guided in without much trouble and even danger. Ultimately Government decided to abandon it; and they did. The pontoon was floated on shore, and left to go to pieces for ought any one cared. Time wore on, until about some years ago, the P. & O. Steam Navigation Co., finding they had not sufficient dry dock accommodation at Mazagon for not only their own vessels, but ships belonging to other companies they were asked to repair, turned their eyes to the neglected hydraulic lift at Hog Island. Negotiations were entered into with Government and an agreement was come to. The P. & O. Co. secured a lease of the lift, Government reserving to themselves the right, which they seldom take advantage of, of using the lift for any of their own ships when necessary.

When P. & O. Co. took over the lift, Capt. Newall was deputed to go across and superintend the opening arrangement. His first study was those currents. He spent two days watching, and having done so, the docking of the ships was commenced. This work was conducted for some years under the superintendence of Captain Newall, and so successful was he all along that there never has been the slightest accident. Pages 849–851.

14. The only recommendation I am prepared to make at this stage is the one which I did on the 17th of March to the Council (vide Council Debates Vol. XVII, part XX, pages 1578 to 1580). It may be summarised as:

(a) Concentrate all operations on Block No. 8 alone. Expedite its completion with all the means at present available, i.e., without making any further capital outlay. Hand it over to the Military Authorities as early as practicable, and with its proceeds liquidate in part the loan debt, so that further liabilities on interest charges are reduced.

(b) Inquire into and ascertain the effect of the reclaimed land upon the Development Schemes of the Public Bodies, e.g., Municipality, Improvement Trust, etc.

(c) Examine the reliability of the figures of cost given in the estimate submitted by the Chief Engineer, and if they are found unreliable obtain firm and reliable estimates.

(d) If the reclaimed lands will not have any adverse effect upon the Development Schemes of the Public Bodies which are financed by Government out of loans raised on the credit of the Presidency, and if the estimates indicate that blocks 1 to 7 could be reclaimed for the purpose of reducing the loss, then do so but with the sanction of the Legislative Council obtained after supplying its members with full and true information.

(e) If the inquiry indicates the desirability of proceeding with the work—I prefer she being carried out by contractors instead of with official agency—Development or Public Works Department.

(f) Adopt precautions to safeguard the health of the Public which the cessation—complete or partial—or postponement of the work may require.

(g) If Development is to be carried out it should become a transferred subject.

(h) Obtain revision of the Meston Settlement as early as can be obtained.

(i) Appeal to the Government of India to bear a part of the loss.

15. To conclude—the present state of our knowledge about the Back Bay Reclamation does not warrant us to make any specific recommendations. Only a formula can be suggested and it is “make your bearings certain, proceed with caution, try to reduce the present loss”.

Sir M. Viswanaraya.—You are a member of the Legislative Council?

A.—Yes Sir.

Q.—Your full name is Mr. Surve?

A.—Yes, Sir.

Q.—You were a member of the Advisory Committee also?

A.—Yes, I became associated with it at the beginning of 1925. I was not in it from the beginning.
Q.—Presumably you have not signed either Report?
A.—No, I have not.
Q.—Are you in favour of either of the reports or neither of them?
A.—I am in favour of neither. That is why I did not sign.
Q.—You have given your own recommendation now?
A.—Yes, and also to the Legislative Council on the 17th March.
Q.—Do you wish to specify in what respects your views differ from those of the two committees?
A.—Oh yes. The majority want that the work should be continued for two years more and thereafter they want to come to a final decision. My objection to that was that as we had exceeded our estimates it was not safe to go on the estimates prepared by the Chief Engineer. Therefore we should confine our attention and energies to block No. 8, complete it as quickly as we can, hand it over to the Military authorities and liquidate the debt.
Q.—On that point both Committees are agreed.
A.—To a certain extent they were.
Q.—And then?
A.—About why I was not in favour, we had actually about 86 lakhs, I think, of square yards of land available in Fort area, and if we were to go on with our reclamation work, whether 22 lakhs or 850,000, still we would be adding to the land that is already there, and we do not know what will be its effect upon the land values. Another point was that the Bombay Municipality is engaged upon its Hornby-Ballard Scheme and it has undertaken it, and at present as far as my knowledge goes it is considered a losing scheme. So if we throw more land on the market from the reclamation area the Municipality is also likely to suffer, and the Municipality has been financed by the Bombay Government out of loans. The Municipality at present also has to pay a very great part of its income on interest alone. Therefore if with the Bombay Government the local bodies like the Municipality and the Improvement Trust came to grief it would be very disastrous. And if the Municipality came to grief the whole public of Bombay is likely to suffer in the matter of its local needs, and the greater part of the suffering would fall on the middle and lower classes. Take for instance conservancy matters or other amenities. If the Municipality's revenues are not satisfactory, these services will be affected, and its consequences will have to be borne by the public in general, but especially by the middle and lower classes whose number is very great.
Q.—In what other respects do you differ from the recommendations of the other Sub-Committees?
A.—Well, I thought that the suspension of work pending the results to be arrived at by the Committee simply meant waste of time and by that time the interest charges were increasing. Therefore the only thing that could have been suggested was to go on with all their energies on block No. 8 and in the meanwhile to ascertain the reliability of all these figures and then to go on cautiously.
Q.—That is your view now?
A.—It was so from the time the report was under preparation.
Q.—With regard to the origin of the scheme you have said here and very rightly at the bottom of page 2 of your note, "Depression with depressed outlook of examining schemes which were undertaken when everybody—however humble or elevated—was riding on the crest of a wave of prosperity, when every one was living in the exhilarated atmosphere which engendered speculation and when things were thought of and done in the foolhardiness begotten out of easy circumstances." The times then were quite different from what they are to-day?
A.—Yes, Sir.
Q.—Then you go on to say, "Therefore the Back Bay Reclamation Scheme which was not the entire Development scheme but which formed only a part of it appeared sane, reasonable and remunerative to the mind of 1920 though it appears to the mind of 1926 insane, irrational and disastrous." Well, we are looking at it in an atmosphere of depression.
A.—Yes.
Q.—Some allowance will have to be made for the change of atmosphere?
A.—Yes.
Q.—What was the object of starting the scheme in such a hurry?
A.—I think I have stated it. The Government had the Development idea practically from the year 1910, and the other bodies, the Municipality for instance and the Improvement Trust were carrying on their work, whereas Government alone had not done anything, and naturally they were very anxious, because otherwise the other public bodies would have done their part and Government itself would not have done anything.
Q. — They feared they would incur reproach?
A. — I should think so.
Q. — For being unenterprising?
A. — Not so. The idea was a concerted one. The other bodies and Government
were to expand Bombay and develop it. The other bodies had done their duty. Government
had done nothing.
Q. — Then again at page 4 you say, "The policy of reticence adopted by Govern-
ment, which was broken only when compelled to give information which too was supplied
insufficiently and evasively—kept the Council in darkness as to the real state of affairs ".
Can you explain that? Can you give any facts?
A. — Well, I can only say this, that we were asking questions so often, but the only
thing Government would go on telling us would be in a very, I should say, reserved
manner. Take for instance, we asked the question only in the last session as to the
output of the dredger from the Back Bay into a particular block. Government at that
time only gave us the output from the Back Bay side and at that time I had to inquire
of them whether it was not possible for them to give the same on the other side of the
reclamation. The Honourable the General Member said it was possible but he did not
give it. I can explain it to you why it was given on the other side and not on the reclama-
tion side. It shows the larger output. It was very recent.
Q. — The larger volume was in the reclamation. That is, the quantity in the reclama-
tion was larger. It bulked larger than the quantity actually dredged. So the facts are
contrary to what you say now?
A. — What I have been saying is that when dredged from the water you would dredge
more, but actually the amount found on the reclamation area would be less. So
Government gave us the larger figure, not the smaller.
Q. — It was actually so last year? The quantity was larger? That is the reason
they told you so?
A. — I do not know. The question was asked in the last session only a fortnight back.
You asked me as to how the Government was answering the question evasively. This is
an illustration.
Q. — Was it not clearly explained to you?
A. — No.
Q. — They were formal replies?
A. — Yes. Of course I asked supplementary questions, because I knew there was
difference in the output on the two sides. That is why I put in a supplementary
question.
Q. — Did you understand the answer?
A. — He only gave me the answer that he could give the quantity on both sides, but
the figure on the other side was not ready. I knew it was less than the quantity shown.
Q. — The quantity that was dredged was thrown into the reclamation area. Actually
the quantity bulged. So it is not true that there was less quantity in the reclamation
area.
A. — No, my point is this. Government should have given us the figures on both
sides. They did it on only one side. They gave me the figure which was dredged.
Sir F. Hopkinson. — Therefore the Government understated the results. They did
not exaggerate:
A. — May be.
Q. — Again in paragraph 7 you say, " The highly coloured pictures of expected profits
and advantages which the responsible Government officers whose high position com-
manded implicit faith in their official statements presented to the Council ". Are there
any instances?
A. — Any number. I can give you the instances. I am quoting from the budget
speech of the Honourable the Finance Member for the year 1928. It is a small para-
graph, and I shall read it. I have not got the Council Debates here. I have got his
speech printed separately. The date is the 19th February 1928. I am reading a part of
the paragraph. " The total expenditure on the reclamation of the Back Bay and East
Colaba is estimated at 6½ crores and will be completed in 1930-31. Large returns may
be expected from 1927 onwards. In that year 5¼ crores are expected from the exchange
of military lands. By 1930-31 the returns will amount to 4 crores. And by 1935 the
whole expenditure will have been recouped. We shall have still in hand for future disposal
as net profit an area of some 6 lakhs of square yards, the value of which may be estimated
at several crores ". Now I shall explain this.
Q. — Who has made that speech?
A. — It is Sir Henry Lawrence. We were told that the reclamation will be completed
in 1930-31, that we might be expecting a return from the year 1927 and the other areas
will be brought into market from 1930-31 and in about 1935 we shall have 6 lakhs of
square yards on hand which will bring in crores of rupees as net profit.
Q. — Untold wealth?
A. — Yes. I can multiply instances. Some of them are worth taking down.
Q.—They are given in Mr. Mann Subedar’s Report?
A.—If you are satisfied with these I shall not say any further. Mr. Mann Subedar has not given these I am going to state. Then there is the speech of Mr. Cadell in 1924. The government states that the profit will be 50 crores. It is a very small paragraph of two lines. The paragraph reads as follows. It is really a speech of Mr. Lawrence, but as he was ill at the time, it was read out by Mr. Cadell, and in it he states, the second part of paragraph 23. ‘This figure 55 crores gives us a standard with which to measure the value of the additional area that is to be reclaimed from the sea.’ I shall give you the substance of what he led us to believe. What he said was this, that if the line were to be drawn from east to west near the Crawford Market you will find that the total area is about 1,450 acres, just as much as will be reclaimed if the 1920 project were fully carried out. He estimated the value of the land which is actually in existence in the Fort area at 55 crores of rupees. And he said they were reclaiming from sea land equal in area and in value, i.e., 55 crores of rupees at an expenditure of about 5 crores. Deduct 5 from 55 and you will get 50 crores. That is the impression I got from it.

Q.—On page 5 of your note you say, ‘On account of existence of parties and divided counsel’ you could not exercise any influence on Government?
A.—Yes, that is so. And you may add to it that during these times the Swarajya Party were staging their walk-outs. They were observing vows of silence. Practically the whole Council was in a demoralised state.

Mr. Bullmorris.—Is that the fault of the Government? Whose fault is that?
A.—I do not venture to give any reply to that. It is the business of the electors.

Q.—You have complained of there being splits in the party. You are complaining in this paragraph about party splits?
A.—No, it is not that. At present there are certain well-defined parties in the Bombay Legislative Council, and on account of that whatever is in the interest of a particular party is locked down upon by the others.

Q.—But this is a question in which all are interested?
A.—Well, they are certainly. But you see if you will observe vows of silence you cannot act together.

Q.—On page 6 you come to recommendations for the future. Now are you satisfied with the agency and the methods of administration now? If not, what changes would you recommend. You have given a list at the end.
A.—I want the work done by contract.

Q.—Do you want the present Development Directorate or would you like to have the Public Works Department take up the work?
A.—No, if you want to get the work done by contract supervising agency will always be required, but the Development Directorate need not be in existence.

Q.—You want some department of Government to control? Well, you can hand it over to the Public Works Department for instance?
A.—There will be no objection, but there is one point, and that point is this, that Government must not treat it as a reserved subject.

Q.—That is the second recommendation of yours?
A.—Yes.

Q.—You want to treat it as a transferred subject?
A.—Yes.

Q.—Then do you want any control by the public bodies in Bombay? It has been suggested that a Committee should be appointed, that it should be an executive committee. Do you want a Committee at all, and if so, what should be its character?
A.—Well, that would depend on what line of action you take, Sir. If you just make up your mind as to how you are to proceed, an Advisory Committee will no more be necessary, because the Advisory Committee is necessary to lay down only certain principles or policies. We assume that the Enquiry Committees that are working at present will come to some definite conclusions from which we can for some time to come draw up definite schemes, and if we adopt those schemes and give out contracts, and nothing remains.

Q.—They say that a Committee is required to give out contracts and to sanction minor estimates?
A.—Well, it is merely a matter of execution but I will not venture to give any advice.

Q.—Then about the order in which the blocks have to be carried out. First and foremost you would concentrate on No. 8 and complete it?
A.—Yes, Sir.

Q.—And then you next take up No. 1?
A.—That would depend upon the conditions precedent which I have imposed. If it is found that we could reduce our loss by creating land in block No. 1 or 2 or 7, whichever it is, then only we should undertake that work.

Q.—Do you think that further investigation is necessary?
A.—Certainly. At least so far, as our present state of knowledge goes, I think it is a counsel of prudence to have further inquiries made.
Q.—You refer to some precautions to be observed to safeguard the health of the public. What are they?

A.—Well, at present there is one Sanitary Committee, and their work has been satisfactory as far as I know. The health of the public has not suffered, and I attribute that satisfactory result to their operations. Therefore, until the Back Bay Scheme ceases to be a source of danger to the health, that Committee should remain in existence and they should carry on their operations.

Sir M. Visvesvaraya.—You say that the Government of India should be appealed to bear a part of the cost. On what grounds?

A.—The grounds are these. The Government of Bombay have since the year 1910 been submitting schemes of their own for reclamation and the Government of India have been turning them down every time. At the last moment they have sanctioned those very schemes. If they had given their sanction earlier, I do not think this disaster would have occurred. Therefore I hold the Government of India responsible for the very sorry state that has arisen now.

Q.—Do you say they were assured that the estimates were satisfactory?

A.—That is an official matter which goes on without our knowledge. What is passing on between the Local Government and the Government of India we do not know. But as outside public interested in the welfare of the presidency, we see that, if the Bombay Government were not authorised, to say that the Government of India sanctioned their scheme. ..........  

Sir M. Visvesvaraya.—The Government of India have not sanctioned the scheme. Witness.—I do not know, but that is what we are told.

Mr. Bullimore.—Where?

Witness.—I think it was in the Council of Sir George Lloyd in 1920.

Mr. Bullimore.—Can you refer me to the page of the proceedings?

Witness.—I should look up.

Q.—You say that the Government of India turned down the scheme three times. Don’t you give them any credit for that?

A.—No. At that time those schemes were very small schemes. The cost that was given appeared to be more reasonable than what it is to-day, I mean that of 1920. Therefore, if the Government of India had at that time sanctioned any of those schemes, perhaps there may have been vast profits, because the great war intervened and at that time there was a great demand for land in Bombay and all the land which would have been created could have been sold like hot cakes.

Q.—It is because the land does not sell like hot cakes and because the dredger has failed that everybody is at the throat of Government?

Witness.—Which Government?

Sir M. Visvesvaraya.—The Bombay Government.

A.—It is not so. It is because the Bombay Government did not treat us quite as fairly as they should have done. And therefore if the result turns out unsuccessful, the Bombay Government cannot claim our sympathy.

Q.—They did not take you into their confidence?

A.—No.

Q.—Are there any other facts or figures which you want us to go into as an enquiry committee?

A.—I have practically summarised everything in my last paragraph. I have nothing more to add.

Sir Frederick Hopkinson.—What proportion of the rates are paid by the lower and middle classes?

A.—I cannot give you the exact figures. But my idea is that all the properties in Bombay are occupied more or less by the lower and middle classes. The richer classes live in a few particular localities only. So if you exclude these areas which are occupied by the richer classes and the mill and other factory areas which pay general rates, then all that which remains is paid by the middle and working classes.

Q.—Is it the case that up to now the principal effect of the reclamation work has been to take away from the city of Bombay four miles of the present seashore?

A.—It is. Only a part is now available to us. I think I am the greatest sufferer by this curtailment because I am deprived of my walk in the evening along the seashore.

Sir M. Visvesvaraya.—You are anxious that it should not continue to be an eyesore for a very long time?

A.—I am not much after ornamentation. If we could do it at a small cost, by all means it should be done; but if the cost is going to be prohibitive, I should hold my hands and allow it to remain. I am perfectly sure that after the time of depression goes away, this thing will not remain in the state in which it is at present. I have quoted our past experience where that reclamation remained for nearly a quarter of a century, then
all at once the Alexandra Dock Scheme came into existence and that area has been occupied. This is only a passing phase.

Mr. Bilimoria.—You read some passage, paragraph 32, from the speech made by the Honourable the Finance Member in 1923, in which Sir Henry Lawrence made a statement that he expected to realise about 2½ crores from the reclaimed area to be allotted to the Military Department in or about 1927?

A.—Yes.

Q.—It was not quite out of the mark; it was a practical proposition that he made?

A.—If the dredgers had worked satisfactorily, he was quite right in stating that.

Q.—In spite of the dredgers having failed, is it not an impracticable proposition?

A.—In the present instance the question is not the failure in the output of the dredger alone but there have been several other things; it extends to the men working on the dredgers and also the area where the dredging operations had to be conducted. All these have combined.

Q.—You cannot blame Sir Henry Lawrence for a speech made in 1923. When he made that statement it looked all right, viz., that by 1927 an area would be ready and Government would realise about 2½ crores.

A.—I can give you a qualified answer; because since the Enquiry Committee has been conducting its work, fresh things have come to our knowledge. Therefore in the year 1929 Sir Henry Lawrence, if he knew the facts, was not justified in making such a statement, as he should have known that the dredger was not properly manned. He must have known also that the area over which dredging had to be done was curtailed.

Q.—If you have misconception of the facts, would you correct yourself? In 1923 nobody knew what was going to happen.

A.—If so, I stand corrected.

Q.—What is the general opinion of the members of the Council, whether the scheme should be pushed on or whether you should go cautiously?

A.—I have not sounded them on that point and that question never arose. The moment we received the second ad interim report the whole Council was greatly surprised, and if the Swaraj party had been there perhaps we could have taken some effective steps.

Q.—What steps?

A.—At least we could have cut down the total grant.

Q.—What would have been the result?

A.—The Government would have taken protective measures quickly. That would have been the only practical result. Even if the Council were to cut the whole grant, still it being a reserved subject Government could have restored it. But at least the Council could have recorded its opinion.

Q.—You would have made some noise?

A.—Not necessarily noise, but some practical effect too.

Q.—In your statement on page 8 you say "concentrate all your energies in filling in block 8". Does that suggest that the energies in the other directions have to be abandoned altogether?

A.—As far as the reclamation is concerned—yes.

Q.—You want only block 8 to be constructed and you want to leave the rest?

A.—For a time only. I am asking you to ascertain the reliability of estimates. If they are correct, then the second step should be taken, viz., to ascertain if this fresh land would affect the development schemes of the public bodies. If they will not be affected and if our estimates are correct, then by all means proceed with the work.

Q.—Do you know that in block 1 some work has already commenced? Would you leave it in that stage or would you like it to be completed?

A.—If it would not compete with the lands actually in existence and which are owned by the public bodies then by all means create that new land. But if it is likely to compete, then hold your hands.

Q.—Would you like to complete block No. 1 now?

A.—I would like to leave it at the present stage.

Q.—And let it be washed out?

A.—There is the wall.

Q.—And leave it in that unhealthy state?

A.—There is the Sanitary Committee working.

Q.—You want the Sanitary Committee to devote their attention the whole time to that block?

A.—The Sanitary Committee is actually doing that now.

Q.—That is your idea?

A.—Yes.
The Committee met at 11 a.m. on Saturday, the 21st August 1926, with
Sir M. Visvesvaraya in the Chair

33rd Witness

Mr. K. F. Nariman, M.L.C.

Mr. Nariman's Written Statement

(Note.—Certain passages from this statement have been omitted on the ground that they relate to matters outside the Committee's terms of reference. The omissions have been marked by asterisks.)

In response to the invitation from the Back Bay Inquiry Committee, I submit the following written statement.

I propose to treat the subject under three sub-heads : Constitutional, Financial and General including Administration and Management.

As regards the Constitutional aspect of the question, even before I entered the Council and began to study the subject, I strongly felt that the creation of a special Development Department and giving it certain powers and functions under a special Act, was a serious encroachment upon the ordinary constitutional rights and privileges of the local Council under the Government of India Act, 1919.

If it were not for the special Department under a special Act, most of these activities would have ordinarily fallen under Public Works or Industrial Matters, both of which sub-heads are under the Devolution Rules transferred subjects, and as such would have been directly under the financial control and supervision of the Council and without its specific sanction no expenditure could have been incurred. When introducing the Bill and creating the special Government Department, the then Governor Sir George Lloyd had openly declared that the object was to remove the trammels and control of the House so that the work may not be hampered but proceeded with expeditiously. Even the persistent request of the Municipal Corporation to allow one of their representatives on the Directorate, associated with its Executive, was consistently refused though the Corporation was made to contribute by raising a special tax called "Cotton Cess".

Thus whatever the intention of the principal organiser, Sir George Lloyd, from the record it is clear that from the very inception, the desire was to keep every public body and institution out of its secret chamber and not allow either the legitimate or constitutional control of the Council or any interference by the Corporation and the subsequent policy of hush-hush and secrecy adopted by that Department is quite consistent with their original desire.

As soon as I entered the Council, my first effort was to restore the control of the Council on the finance and I accordingly gave notices of resolutions requesting the Government to abolish the Directorate and transfer its activities to P. W. D. which being the transferred subject all the items of expenditure would have to be submitted to the vote of the House, but that resolution was unfortunately never balloted and hence there was no opportunity to move it.

The question is whether a local Government can by a special legislation overrule the provisions of the Government of India Act which is an Imperial Act, and remove from the control of the Council certain Government activities which under Devolution Rules, are legally assigned as transferred subjects. The reason for this unconstitutional departure was that the Reformed Council being considered raw and inexperienced, it was not considered fit to be entrusted with such a huge and novel project. Hence the experiment was tried with the Executive and the results have proved disastrous. Therefore my submission is that the first recommendation should be to deprive the Executive of these special and extraordinary powers and transfer the rest of its activities to P. W. D. and thus restore the supervision and control of the Council.

When I failed in getting the Directorate abolished, my next effort was to get a Resolution passed in the Council in October 1924 as under:

"This Council recommends to Government—

(a) That a Committee consisting of 12 non-official and elected members be appointed to inquire into the whole administration and working of the Development Directorate,

(b) That the Development Directorate be requested to co-operate with the said Committee and afford all facilities and help in conducting the said inquiry and in making the said report;

(c) That an independent officer or expert be appointed to help the said Committee."

Government ignored this resolution of the Council, and instead of appointing an Inquiry Committee as recommended by the Council, invited some members only to join the Advisory Committee. I was one of the members thus invited but I refused to join till the Advisory
Committee was also given the power to investigate in accordance with the terms of my resolution. That condition was not accepted and the correspondence on this subject between me and Government is before the Committee.

Thus not only would the Government not allow even responsible members of the Council to inquire into the administration and working of the Department that had cost crores of rupees to the public, but every effort on the part of every one to get correct information on important details was also defeated by irresponsible and false statements by responsible members of the Government in the Council. Numerous instances of such misleading statements to the public have been already exposed by the Committee, but I will add a few more glaring instances which will satisfy the Committee that a deliberate and persistent method had been adopted not only to keep the public entirely in the dark but worse still, to mislead, by inaccurate and false statements.

Referring to the purchase of Dredge " Kaln", Sir Lawless Hepper said to the Council on 24th October 1924, "I submit, Sir, that in purchasing this dredger at the price they did, the Government of Bombay did not make at all a bad bargain". When questioned as to what was the original and the revised estimates of the scheme, the reply given to both was seven crores. When again specifically questioned "Was not four crores the original estimate"? The Honourable Mr. Cowasji Jehangir, "That was not the original estimate. It was seven crores. The estimate the Honourable Member has in mind is the estimate which Sir George Buchanan first placed before Government" (vide Council proceedings, 15th October 1924, see answers on page 266).

Now it has transpired that the original estimate on which Government of India's sanction was obtained, was four crores (vide Government of Bombay's letter to Government of India dated 4th December 1919), and that was subsequently raised to seven crores without any sanction of the Council or Government of India. That was admitted by the Honourable General Member himself; still in October 1924 in reply to a specific supplementary question, he definitely stated that four crores was never the estimate of Government but was only submitted by Sir George Buchanan.

Another instance of contradictory statement is furnished by the record of the Council as regards the date of appointment of Sir George Buchanan. Two different dates are given by the General Member. On 13th March 1924 he said "that the agreement was actually signed in March 1921 but was agreed to by Governor in Council on 31st March 1920 subject to the sanction of the Secretary of State". According to this statement this appointment commenced from 31st March 1920. Whereas according to the statement made by the same General Member in the Council on 17th March 1924 a telegram was sent by local Government to Secretary of State on 20th May 1919 "The Government decided to employ Sir George Buchanan who is at present engaged upon work". Apparently the first statement that his appointment was agreed to on 31st March 1920 is not correct as immediately after his appointment Sir George Buchanan was asked to report on 30th May 1919.

But the most glaring false statement is contained in the Interim Report of the Advisory Committee published so late as 17th February 1925. Sir Lawless Hepper was the Chairman of that Committee and is the first signatory to that report. The following is an extract from the said report:—

"It would appear, therefore, that the Back Bay Reclamation Scheme, having reached the stage it now has, should be proceeded with unless it can be established that there are serious grounds for believing that the scheme is unsound from an engineering point of view, or that it is likely to result in an ultimate financial loss greater than that which would be entailed by closing it down. As regards the first point, the work has proceeded smoothly according to programme, and its stability has been tested by several monsoons. Whatever apprehensions, therefore, the public may have had on this score the Committee see no reason to suppose that the Project cannot be successfully completed.

"In regard to the possibility of financial loss, the expenditure has, up to date, approximated closely with the forecast, the total including interest charged, to 31st March 1924, being Rs. 412-39 lakhs, against the forecast figure of Rs. 421-16 lakhs." This statement is made and signed by the Head of the Department in February 1925 in an important report for the information of the public and Council and on the strength of that statement, several members even recommended completion of the scheme.

It now transpires that this was a deliberately false statement intended to mislead the public and Council with the object of hushing up the bungle.

According to our information, in a departmental letter to the Government written about the same time, viz., 27th January 1925, a few days before he signed and published this report, Sir Lawless Hepper has painted quite a different picture and apprehended a serious loss, and even in his evidence before the Committee he has admitted that long before this, i.e., in May 1924, he had first realised that the misdescription of clay in Sir George Buchanan's report was one of the mistakes which had proved disastrous; still in February 1925, as a responsible Chairman of an important Committee, he misleads the whole Committee, the Council and the public by an absolutely inaccurate statement that the work was progressing smoothly, that public apprehensions are false and there was no doubt about the success of the project. I submit that
he owes an explanation to the Committee and the public for these apparently inconsistent statements. Besides these, the Committee has already referred to misleading statements in the annual Reports. I have only given a few glaring instances, simply to show that these misstatements are not the result of mere innocent mistakes or "error of judgment", but only represent part of a policy of secrecy maintained by the Government throughout.

In its inception, as shown above, the legitimate constitutional control of the Council was removed by what I consider to be a manoeuvring in legislation. Then again, not even informally consulting any public institution of importance in the city such as Port Trust, Royal Indian Marine, Indian and European Merchants' Chambers, etc., resisting the request of the Municipal Corporation to allow one of its representatives, ignoring the resolution of the Council for a public inquiry; and added to all that deliberate, false and misleading statements to the public even after the bubble had burst; all these series of circumstances naturally make one suspicious about the bona fide intentions of Government in launching this huge scheme in this extraordinary manner and proceeding with it in a most unusual and unbusinesslike way.

Perhaps it is already brought to the notice of the Committee that in the year 1910-11 the Tata's, a private firm of great repute and standing, considered this question of reclamation and one of their representatives, Mr. Ratan Tata, consulted the best available experts, Messrs. Jacobs and Davies of New York. Mr. Hewett, a representative of that firm, came to Bombay and had surveyed the situation from various standpoints and considered different methods of reclamation.

Mr. Hewett made a first report in May 1910 and Mr. Charles M. Jacobs, President of the firm, submitted another report on 21st March 1911, wherein he states: "In my opinion this huge scheme is unnecessary and chimerical to the last degree. We think that Government has got hold of the Reclamation idea and has run it to death without fully balancing in all its aspects what benefits and what harm will accrue to the city by this gigantic piece of meddling with the natural situation. We have spoken our minds quite unreservedly on this matter, and perhaps more forcibly than we would have done in an official and formal report, believing that what you desired was not such a report, but merely a personal and thoroughly frank expression of opinion."

I herewith attach a copy of these reports hoping that they may be of some use to the Committee.

These reports are embodied in the Bombay Development Committee's report, 1914, at pages 199 and 185. That report is in the possession of the Government. It is not known whether Government, before launching this scheme, took into consideration these important reports recently made on the very subject by a firm of Engineers who were reputed to be one of the best on questions of reclamation. If these reports that were so easily available to Government were not considered before finally launching this scheme, it discloses a further piece of negligence on the part of Government.

But more important than these reports is the opinion which was expressed about the Dredger working in the Port Trust Reclamation and which was subsequently purchased by the Directorate for the Back Bay Reclamation. Mr. Billimoria of Messrs. Tata's, while giving evidence before the Development Committee on 12th December 1913, stated that in the opinion of these experts (Jacobs and Davies) the life of the Dredgers was not very long and the Port Trust Dredger was also coming to the end of its usefulness. Mr. Hewett was of opinion that the Port Trust Dredger would not last long for the purpose of the Reclamation (side pages 320 and 321, Bombay Development Committee's Report, 1914).

Though the Government had in their possession valuable opinion of reputed experts that the Port Trust Dredger would not be of any use for further reclamation, still some years after they buy it at an enormous price even after it was further worn out by some work at Basra. Government did not consult the Port Trust that had actually experienced its working nor did they refer to the record in their own possession which gave a definite opinion that it would be useless.

This also incidentally shows the amount of care and caution exercised by a private firm before launching a scheme as contrasted with the negligence and ignorance displayed by Government.

Responsibility

It is rather amusing to find, when the whole muddle is exposed, the two principal parties concerned each attempting to throw the responsibility on the head of another. Sir Lawless Hepper attempts to shift the whole burden on Sir George Buchanan and Sir George Buchanan in his turn throws the whole blame on Government. When in the Council, members criticised the expert or questioned his competency the Director always stood up to defend him and even described these attacks on a gentleman who was not present to defend himself, as cowardly.

My submission is that Government and the head of the Department cannot and ought not to be allowed thus to exonerate themselves entirely from blame by shifting the whole responsibility on the expert. First and foremost, Government or the individual who was responsible for
appointing Sir George Buchanan on the post is primarily to be blamed. The circumstances under which this most important and lucrative appointment was made, are most extraordinary and certainly call for a thorough and searching inquiry. The question is whether Sir George Buchanan's appointment was made on merits or personal considerations. This may appear to be rather an unpleasant job, but the Committee will have to probe into it in order to fix the ultimate responsibility.

The following are some of the extraordinary and unusual circumstances in connection with the appointment of Sir George Buchanan:—

(a) Although the post was of very great responsibility and on the selection of the man practically depended the success or failure of the scheme, the post was not advertised in British or European or American papers but the choice immediately fell on Sir George Buchanan. This is contrary to the usual practice particularly for an appointment of an extraordinary expert. The terms offered were so tempting and the remuneration so lucrative that a public advertisement would have attracted most capable, competent and experienced candidates from all parts of the world. Even when such an unimportant post like the principal of the Elphinstone High School was to be filled in, Government advertised it in papers in England inviting applications, and it seems inconceivable that for such an important appointment the choice should at once have fallen on one man and none else given an opportunity to have their claims considered.

(b) It is admitted that Sir George Buchanan had no previous experience of such huge reclamation in open sea nor had he any special training for the same. His previous record shows that he was only a Port Engineer and Chairman of the Second Class port of Rangoon and on his retirement, is alleged to have done similar work in Mesopotamia. How was he then qualified to be the sole adviser and consultant for such a gigantic scheme?

(c) His appointment was made in such hasty haste that the Government of Sir George Lloyd did not even wait till the scheme was finally sanctioned. The scheme was sanctioned in June 1920 whereas the appointment was made several months before, i.e., in May 1919, and the agreement was actually entered into in March 1921. It again raises a constitutional question whether any appointment could be made with regard to a scheme before it is sanctioned (vide Council Report dated 17th March 1926).

(d) The agreement made with him offered him the most generous and unusual terms. The offer of 2 per cent. commission on all purchases made on his own recommendations is, to say the least, most unbusinesslike and almost inequitable. On an average the firm was drawing nearly fourteen to fifteen thousand rupees a month (vide annual Budget figure), i.e., even more than the salary of the Governor, besides drawing large amounts in big purchases such as Dredger, etc. According to the statement of the General Member, Mr. Cawasji Jehangir, on the transaction of Dredging Plants alone the commission earned by Messrs. Meik & Buchanan came to eight lakhs ninety-four thousand rupees (vide Council Report dated 13th March 1924, page 1157). This agreement was not even known to the members of the Council till about two years ago when the members in the Finance Committee came to know about it and subsequently it was disclosed to the Council.

(e) But the most objectionable part is that, in order to preserve the secrecy of these dealings and to avoid discussion about these large amounts paid as commission, this important item of commission was treated by Government as non-votable although under the rules all allowances and commissions are votable and must be submitted to the vote of the Council. This irregularity continued till 1924 when the objection was raised, it is believed, by the Auditor-General and hence Government was compelled to make it votable, i.e., submit it to the vote of the Council. (Council Report March 13th, 1924, page 1155.)

Another circumstance in connection with Sir George Buchanan which the Committee may be interested to know, is the fact that his name has been recently removed from the Society or Association of Engineers in England of which he was a member. When questioned about it in the last March session of the Council the General Member first stated that he had no information on the subject but in the course of supplementary questions he admitted that his name had been removed but it was not known for what purpose.

There are some of the points that appear to a layman as needing investigation in connection with his appointment; as it is now tried to be made out that he was solely responsible for this disastrous failure and it was due to his incompetency and ignorance, it becomes important for the Committee and the public to know as to who was primarily responsible for entrusting him with duties and responsibilities which he is now alleged to have been incompetent to discharge.

The Committee will also take into consideration the fact that he had just retired from Rangoon Port Trust service. By a lucky coincidence, this most lucrative post was created just at a time when he was relieved from his other duties and must have been on the look out for
some decent appointment. Nothing is known, so far as this scheme is concerned, about his other partner Mr. Meik, and the connection of Sir George Buchanan with that firm must have commenced shortly before or after the scheme was started. Did this firm crop up, as some others, along with the Development Directorate, or was he taken up in an old firm on account of his good fortune in securing this appointment as expert? The name of Jacobs and Davies of New York must have been before Government as the experts of high repute who were consulted by Tata's and who had already studied this question. These reports were in Government files. Why were they not approached and why did the choice fall on an ex-Port officer of Rangoon? Was it because the Government of those days were so keen upon starting this scheme regardless of the results or consequences that they did not want independent and competent experts apprehending that their reports may be unfavourable and the scheme may have to be dropped? Was it with the same apprehension of receiving unfavourable criticism or adverse opinion that Government declined to consult any other public institution in the city or Presidency? All the steps which might have hampered a hasty launching of this scheme were carefully avoided.

The public sincerely hopes that the Committee will carefully go into the question of appointment of Sir George Buchanan and fix the responsibility on proper head for this primary false step that has led to all this subsequent disaster and also pronounce an opinion about the scheme which read more like a contract with commission agents than with a consultant expert.

The point next in importance to the appointment of Sir George Buchanan as an expert, are the transactions about the dredgers "Sir George Lloyd " and " Kahu ". Enough evidence has been adduced before the Committee to expose these transactions which the Director once had the audacity to describe as a good bargain.

As in the appointment of expert, so about this purchase most indecent haste betraying some hidden motives is again exhibited. According to the information recently given by Chief Engineer Mr. Kerr, " Kahu " was purchased in November 1919, i.e., about eight months before the scheme was sanctioned.

About twenty months after the purchase she was lying idle costing several lakhs of public funds on account of interest charges. Thus it is difficult to understand why Government was in such great hurry to complete this transaction even before the scheme was sanctioned. Like the appointment of expert, this was another unconstitutional and illegal step. According to the ruling of the President of the Council (vide Council Reports, Volume VI, Part II, 26th to 31st July, page 499) " Schemes must be brought before the Council before proceeding': that is constitutional way ".

Even the Port Trust authorities that had recent experience of its working was not consulted and what is worse still, that the experts Jacobs and Davies had already given their opinion that Port Trust Dredger would not be of much use for further reclamation as it had exhausted its usefulness (vide Billimoria's evidence, Development Committee's Report, 1914). The Dredger was admittedly not in working order as large amount had to be spent to get it reconditioned; the negligence betrayed is almost criminal and there is no doubt that if Directors of a private company had caused such waste of share holders' funds, they would have been made personally liable and would have been made to pay damages.

No tenders were invited for such costly and important plants, although the success of the whole scheme entirely depended upon their efficient working. In the course of the proceedings of the Advisory Committee, it transpired that in America more efficient Dredges are available for cheaper price, still no effort was made even to enquire from other countries or even from all the reputed firms of Great Britain. Still these transactions alone have brought a huge fortune to the Consulting Engineers, which perhaps Sir George Buchanan was not able to earn during his whole life. If " Kahu " was bought before the appointment of expert, is he entitled to any commission on this sale? The following dates show that the local Government had committed itself to great responsibilities with regard to the scheme long before the final sanction of Government of India or Secretary of State was obtained—

The appointment of Sir George Buchanan by local Government, May 1919;

" Sir George Lloyd " purchased in December 1919;

" Kalu " in November 1919;

whereas the Government of India and the Secretary of State finally accorded sanction to the scheme on 4th May 1920.

Further information about Dredgers " Kalu " and " Zinga ":

(For verification and use by the Committee)

Dredgers " Zinga " and " Kalu " bought by Bombay Port Trust from Simon and Co. in 1907. Cost of two dredgers Rs. 17,61,700. Spare parts Rs. 67,380. Guarantee given.
That they should be subject to a fine of £20 per cubic yard for any deficiency. That is, with 2 dredgers if the quantity of soft clay pumped, say, is 3,000 instead of 4,000 cubic yards per day, they will pay £200,000 fine. Soft clay does not mean liquid mud.

Actual maximum output was not more than 400 cubic yards per hour.

Both dredgers sold to Military for Mesopotamia in November 1915 for Rs. 7,80,000.

If this information is correct, Military bought “Kalu” and “Zings” in 1915 for Rs. 7,80,000 and four years after that “Kalu” alone was bought by Government for £75,000 plus a large amount was spent for reconditioning.

After four years the value must have considerably depreciated. Still Government paid much larger amount for one only.

Had Sir Lawless Hopper anything to do with this transaction as the head of the Ministry of Munitions? As such, was it his duty to dispose of surplus military stores, and was “Kalu” part of such store disposed of by Military through the Minister of Munitions? Port Trust had taken a guarantee even when Dredgers were new. No such guarantee taken by Government for either of the two dredgers. Another grave neglect resulting in great loss.

Was any inquiry made from the Port Trust about the price they had received from the Military?

The Committee will be pleased to investigate as to how and through whom the final transaction took place between Military and Government (final cable, vide Council report, 17th March 1926, page 1387). This shows an absolute disregard to rules and constitution.

As regards the technical aspect of the scheme, it is difficult for a layman like me to express any opinion, still, having studied various records on the subject, some apparent defects even appear to an ordinary man in the street without any special professional or technical knowledge.

A study of the procedure adopted by the Port Trust in carrying out their reclamation gives a good opportunity for a layman to have an idea of the subject. It appears that the method adopted by them was that in the first instance a very capable and practical engineer having experience of the particular branch of project is appointed for a thorough investigation and survey of the whole area by first taking what is known as preliminary or wash boring and then further attempts are made to get more information about the exact nature of the sea beds by taking true or pucca borings, by even taking out material from the depth of the sea so as to enable them to find the nature of the plant required for the purpose of dredging. It is after this that the expert prepared a report and an estimate and submitted it for the consideration of the Government or the institution that has engaged him. So far as this scheme is concerned, all the Government and the expert had to go upon, was a few hundreds of what are known as “wash borings by Mr. Kidd in 1914”. It is admitted that no pucca borings or survey was made nor was there any effort made to find out the nature of the material in the sea bed without which it is extremely risky to order out any expensive plant.

On this preliminary survey of Mr. Kidd, Sir George Buchanan is alleged to have prepared his report and estimates which were so readily and hastily accepted by Government and without knowing the nature of the stuff that would be dredged or the distance of the pipe line that would have to be laid, how can it be possible to know the exact type or strength of dredger to be ordered out? And when the mistake was discovered, instead of taking the public into confidence and confessing the great error they had already made, Government began a campaign of misrepresentation and tried to hoodwink the public by starting a false propaganda with the result that the original estimates first raised by 100 per cent. have now gone up to nearly 500 per cent., increasing proportionately the period of completion.

But leaving the engineering and technical points to be dealt with by competent experts on the Committee, I shall now endeavour to place before the Committee what I consider the proper sphere of a non-official witness, namely, criticism on internal administration or rather on mal-administration and the internal working of the scheme.

Even before I became a member of the Legislative Council, I had been directing my attention towards the various objectionable points that were adopted by the administration in working out the scheme. The Committee will appreciate the difficulties under which a layman like myself had to struggle in order to have a peep behind the veiled screen, and my position will now be better appreciated in view of the fact that the Department has all along tried to maintain strict secrecy, not allowing what they consider to be departmental secrets to leak out of the happy family arrangement. Still by various means, by correspondence in press, by resolution in the Council, and by criticism during budget discussion, I have made every endeavour to lay before the public some of the grave irregularities in the procedure, which I have even characterized in the Council as well as on the public platform, as great public scandals. The Committee will also appreciate that allegations of this description, unless vigilantly investigated into immediately and promptly after they are made, it is not practicable and possible to detect the alleged frauds. When allegations are openly made, all parties concerned would naturally take all the necessary steps and precautions to destroy all the valuable materials in the shape of
documents and private records that would, in case of an immediate investigation, throw light on the subject.

It is a pity that public appeals to the local Government to start an investigation immediately after the allegations were made, and even a resolution of the Council to the same effect, fell absolutely on deaf ears and Government paid no heed to public demands or to the Council resolution. It is now nearly two years since that resolution was passed when these allegations were made and most of the officers concerned have left the service, as well as some of the firms have also severed connections, and hence it is extremely difficult to make an investigation at such a late stage to trace the facts.

In the course of a debate in the Council in March 1925, I had stated "without any reserve, with all the responsibility that I can command I openly make a charge that there has been a serious mal-administration of public funds and there has been a serious wasting of public funds. There have been instances in which I can go to the length of calling frauds and I make this charge to the Chamber of the public and on behalf of investors of Bombay who have invested nearly 30 crores in this work. I say that if Government shirk an inquiry, suspicion in the public minds will be confirmed ". I further stated " I only want to know what is being done of the public funds: I want to know whether these funds are honestly and legitimately applied or whether they are misapplied. I may tell the Government quite frankly and openly that there are ugly rumours in the city and the whole of the Presidency that higher staffs and officers have been receiving secret commissions from manufacturers and this is the reason why in this instance the department has incurred a loss of Rs. 3 lakhs. That is the reason why stores are incident in large quantities than are necessary and stores that are not required are also ordered out. If you go to the Surplus Departruimt of Rs. 6 lakhs or more are lying undisposed of ". The last statement was re-echoing the ugly rumours that were prevalent throughout the city. As stated above if Government had conceded the public demand and started an immediate and prompt enquiry, there and then perhaps most sensational revelations might have been disclosed. But even at this late stage, I can place before the Committee all the materials that I have been able to find out the truth and in connection with this, statement on this subject may be taken in anticipation of this extension; if not the Committee is perhaps along my scope and purview of the Committee, the other activities of the department also. Thus my statement on this subject may be taken in anticipation of this extension; if not the Committee may eliminate that part of the statement which does not come strictly within the purview of the limited reference.

First and foremost, I wish to bring to the notice of the Committee a serious complaint that with regard to the working of the Development Directorate, particularly with regard to the works extending to lakhs of rupees carried out in connection with the reclamation and other activities, the Department did not observe the ordinary procedure of business and up till very recently did not invite tenders but favoured a few individual contractors with contracts of the said work at rates very exorbitant and very favourable to contractors but causing financial loss to the public.

I give you one important instance with regard to greater portion of the work of filling in. One Balkishan Seth alias Damodar Seth was the most favourite contractor on this work, and as it now transpires, his previous record and history is rather interesting. This gentleman was formerly a clerk in a railway company in Upper India from which he was dismissed after being convicted for a very serious offence of fraud and cheating and sentenced to a long term of imprisonment. After serving his term, he came to Bombay to try and make a living as in his own province in Upper India, after the stigma it was difficult for him to earn a living. Luckily for him, just about the time, this work was started, and it is not known how, but by some means or other, he got himself ingratiated in the good books of the officers who exercised absolute discretion of giving tenders or contracts of the work of filling up. This gentleman accordingly became a great favourite of all the officers from highest to the lowest and in course of time, practically enjoyed the monopoly of this particular work and the works connected with it at rates which for want of competition were practically dictated by him and accepted by the staff. A good instance was tender charged by him in the days no tenders were invited and the rates charged along with the tenders of others will clearly show my point.

As far as information goes this gentleman was once given Rs. 10 or more per truck of 19 or 20 tons for Colaba section filling in which was then reduced to Rs. 6 and then to Rs. 4-6-0. But after criticism in the Council it appears that circulars were issued in the Department directing that public tenders should be invited for all this sort of work, as a result of which this gentleman was reduced to 108-49.

385
manufacturers at Home for a large quantity of mild steel bars for concrete piles for the reclamation
already elicited to the Superintending Engineer into.

In the course of proceedings, the Committee in cranes, nearly three lakhs of rupees. The indent
began. Which were not required and not capable of being of exhausted
day you have heard the surprising statement from the officer in charge that the quarries were
materials from Kandivli quarries. In connection with the quarries, it was also elicited that the
original estimate was for one lakh of rupees. It was ultimately raised to six lakhs and the other
rates were not work, etc.. The Committee
lapse or what appears to be a clear case of favouritism for reasons or considerations best
Balkishan Seth. The allegations of the contractors were that Balkishan Seth contractor
amongst the tenders and the another tender
was
proceeding and these contractors came in
and excluding others, the least tender was of another gentleman which was Rs. 2-8-0
and the another tender at the same rate was by strange coincidence of the same contractor
Balkishan Seth. The allegations of the contractors were that Balkishan Seth was secretly informed about the lowest rate when the tenders were opened and was allowed to put in a tender with rate newly inserted.

Since then it is reported that the said Balkishan Seth has been struck off the list of contractors and is not allowed to put in any tender. The discovery is made too late and on account of this lapse or what appears to be a clear case of favouritism for reasons or considerations best known to the officers concerned, the public have lost large sums of money and an individual is allowed to profiteer at the cost of the public.

Similar favours were shown to the same contractor with regard to other contracts of painting work, etc. The Committee may inquire whether it is not a fact that when a circular was issued only about eighteen months ago directing that public tenders be invited for all works, thus admitting that before that all the work was monopolised by a few persons and competitive rates were not obtained.

Similar favouritism existed in connection with the Kandivli quarries when one Mr. Palkar, a petty contractor of the Suburbs, was fortunate enough to get monopoly of contract for unloading materials from Kandivli quarries. In connection with the quarries, it was also elicited that the original estimate was for one lakh of rupees. It was ultimately raised to six lakhs and the other day you have heard the surprising statement from the officer in charge that the quarries were exhausted and that further areas would be required although the work of filling in has just commenced.

Similar scandals existed with regard to purchase of stores, and I will give some of the instances that have come to my knowledge. In the course of proceedings, the Committee has already elicited a good deal of information on this subject which supports my allegations made in the Council that superfluous stores and plants costing lakhs of rupees were ordered out and which were not required and not capable of being of use, such as huge and costly navvies, cranes, etc.

In one instance, an Executive Engineer had prepared an indent to be forwarded to Manufacturers at Home for a large quantity of mild steel bars for concrete piles for the reclamation work and the size mentioned in the original indent by the Executive Engineer was 5/8". This figure was subsequently altered after the indent was prepared but before it was despatched by the Superintending Engineer into 1/4". The quantity required was about 1,200 tons, costing nearly three lakhs of rupees. The indent thus altered was sent by the Superintending Engineer to the Home firm and the bars arrived of the size and dimensions of 3/8" which were not required.
for the works. They were deposited in Matunga Surplus Depot and a fresh indent had to be sent with correct specifications and fresh consignment arrived, and the amount of nearly Rs. 3 lakhs of the first consignment was purely wasted. When a question was raised about it in the Council, in the course of debate, the Development Director admitted it but stated that the said alteration was due to a trifling error. No effort was made to explain how such a trifling error could have occurred, particularly when the indent was originally correctly prepared by one Engineer and deliberately altered by the superior and no explanation was forthcoming. (Vide Council Report dated 24th October 1924, page 861.)

Further, in order to pacify the Council and to show that this trifling error had not cost any loss, the Director stated that there was no loss to Government and he gave the Council to understand that they were utilised in some other works and had caused actually a saving. As I know that these bars which were recently indented were still lying in the Matunga Depot, I caused enquiries to be made some months after the statement was made and sent an intending purchaser to make enquiries from the Matunga Depot, as the result of which, the Executive Engineer, Housing District, wrote back offering these and other steel bars for sale and inviting the purchaser to the Depot to have an inspection of the same. At the same time, the Stores Department also supplied the said purchaser with a list of the bars available for sale and which list were also included some bars in question of Rs. 3 lakhs. This letter of the Executive Engineer inviting the purchaser for an inspection is dated Matunga, 26th January 1925. Further comments on such an attitude are needless, and I leave it to the Committee to draw its own conclusion.

Now coming to the establishment, the Committee will find that this Department was one of the most extravagantly paid departments of Government, and apart from the number of superfluous posts, the salaries as compared with similar offices in the Public Works Department were greater. At the time of the introduction of the Bill in connection with the work of the said scheme, it was stated that the scheme would be carried on by monies raised from Bombay, which will be spent in Bombay and for Bombay, whereas if you look at the list at a particular time of the high-salaried officers, at one time it was elicited in the Council that out of 20 posts carrying salaries of Rs. 2,000 and upwards, there were 19 Europeans and foreigners and only one Indian. Though several Indians with English and better qualifications were available and though they were willing to serve on lower salaries, their claims were set aside in favour of foreigners.

In this connection, it would not be out of place first and foremost, to mention about the Director himself who carried a salary of Rs. 6,000 which was the highest salary next to the Governor in the province and is provided with a Bungalow which cost 3½ lakhs. As a result of repeated protests, the salary was only about two years ago reduced to Rs. 4,000. How was he qualified to be at the head of the largest work of reclamation in the world? Had he gained any experience or knowledge on this special subject in the course of his duties as an agent, G. I. P. Railway, or as Controller of Munition Board? He disowns all engineering responsibility, hence his duties mainly were only administrative, i.e., similar to those discharged by the Chief Secretary, Public Works Department, with some additional autocratic powers. The Secretary’s salaries usually do not exceed Rs. 2,000. Then why was he favoured with such an extravagant salary of Rs. 6,000 with a commodious palatial bungalow worth 3½ lakhs? Even the General Member who was supposed to be the head and controlled several other departments besides, got a salary less than the Director. Similarly, one Mr. Thomas, who has already given evidence before the Committee, but who did not inform you of his engagement prior to his being taken up by the Development Department, according to the information received, was a mere draftsman or foreman, carrying a salary of Rs. 400 to Rs. 600 in one of the local firms, probably James Fowler & Co., and from there through some influence, he was elevated to the very high salaried post and in a short time came to occupy the most responsible and well paid post of Deputy Director. It would
also be interesting to note and find out whether James Fowler & Co. were amongst the list of firms who supplied stores to the Department.

Similarly, with regard to several other posts, gentlemen with meagre or no qualifications were provided with fat and high salaries either as deputy or assistant engineers. It would be interesting to find with regard to most of the officers carrying salaries of Rs. 2,000 and upwards as to what appointments they held immediately prior to this and what were their salaries.

It is stated that Mr. Harvey, the Superintending Engineer, was formerly getting only about Rs. 800 in Delhi and Messrs. Sykes and Lewis and one Mr. Lowe all came from the same place at the same time. It seems the whole group was bodily transferred from Delhi to Bombay. One Mr. Mitchell getting Rs. 2,000 and his sole business was mostly to test cement, if this work required a special officer of a large salary and could not be entrusted to any other Engineer. Deputy Chief Engineer Mr. O'Rorke, drawing a salary of Rs. 2,100, was stated to be a lieutenant Port Trust Officer at Mesopotamia drawing a salary of Rs. 700 or Rs. 800. Executive Engineer Mr. Gardner, similarly highly paid, was a captain in Mesopotamia on a salary of Rs. 500. One Mr. Roberts, getting a fairly high salary, was stated to be a policeman in Wales during War time and thereafter engaged in some State quarry work on a very low salary.

These are some of the instances how this Department was used as a dumping ground for providing fat salaried posts for a number of officers at the cost of public funds. Government seems to have treated the Department as a convenient asylum for retired gentlemen. Sir George Buchanan, retired Port Engineer, is accommodated as a Consulting Engineer. Sir Lawless Heppen, retired agent to a Railway Co. and retired Controller of Munitions, becomes Director with a fat salary of Rs. 6,000, and a Bungalow worth Rs. 4½ lakhs. Other batch of gentlemen come from Delhi perhaps retired or their services terminated on completion of works. Some Military gentlemen are awarded with high salaried posts perhaps in return for valuable services during the War. And to complete the list, the Dredger "Kalu," superannuated and exhausted is dumped on to the Department, a retired plant to be worked by retired gentlemen.

Another transaction of the Directorate which has resulted and will continue to result in very serious annual financial loss is the agreement with four different cement companies giving them under certain agreement contract of supplying all the cement required for the various works including reclamation, the combined output being up to 60,000 tons per annum.

The said agreement is made by the Development Directorate with four cement companies Katni, Bundi, Jubbulpore and Dwarks Cement companies whereby these companies are given the sole monopoly of supplying all the cement required up to 60,000 tons per annum for ten years commencing from 1st September 1922, at a rate equivalent to 80 per cent. of the actual cost of cement in the financial year of the company concerned preceding the season in question plus 15 per cent. According to this term, cost to the Government of cement came to from Rs. 40 to Rs. 70 per ton.

Shortly after the agreement was executed, the price of cement began to fall considerably till in 1923 it came at one time to Rs. 40 per ton and in 1924 even from Rs. 40 to Rs. 30 per ton and the rates were particularly low for large quantities. At a difference of Rs. 30 per ton the total difference for 60,000 tons, the full requirement of the Directorate would come to Rs. 18 lakhs a year and if the rates remain the same or go lower still in the course of ten years, i.e., the full period of the agreement the total loss would be one crore and eighty lakhs. Besides this, annas 14 per ton are spent for testing the cement supplied. Thus in one transaction alone the Directorate would sustain a heavy loss of 1½ crores rupees and to that extent the four companies concerned will be benefited at the expense of the public. This agreement binding the Directorate for such a long period was made at a time when every shrewd man of business in this line knew that there was bound to be a slump in trade in this particular commodity and even from the year 1921 the slump had commenced in Europe and America and the prices were rapidly going down.

About two years ago, one of the contracting companies expressed its inability to continue the terms of agreement and by an arrangement with the Directorate, the benefits accruing to that company were transferred to another company for consideration. Thus the Directorate instead of availing itself of the opportunity of reducing the liability, again deliberately renewed the agreement with another company.

Another way of saving enormous loss to public funds was to allow contractors to buy cement cheap from the market as there was nothing in the agreement to compel private contractors to buy cement under that agreement; still, it is reported that the Directorate compelled the contractors also to buy at these rates from the four companies alone. Thus in this case too, as in other instances previously mentioned, greater solicitude is shown for the interest and benefit of private companies or individuals regardless of the consequential loss to public funds.

Another query from the public raised through the press and which has yet remained unanswered is to the effect that in beginning large consignments of plants and machinery intended for the Development Directorate used to arrive in the name of Sir George Lloyd, the Governor personally and not in the name of Government of Bombay or the Development Directorate, thus raising a presumption that orders were sent in his name. A well known
publicist of Bombay had repeatedly asked these questions through the press whether that was a fact and if it was, what was the explanation for it.

These are some of the materials and information that I had with difficulty gathered from various sources and considering these materials prima facie sufficient merely to start a public investigation either to have them verified or falsified, I moved a resolution in the Council in October 1924 demanding a public inquiry. That resolution though passed by the Council in spite of strong Government opposition, was completely ignored and the issue was sought to be side-tracked and clouded by inviting some members to join the impotent and powerless advisory Committee. The next occasion to discuss the subject was March 1925, when I strongly criticised the attitude of the Government in not even permitting an investigation on behalf of investors who had invested thirty crores of rupees and repeated the charges of mal-administration and waste of public funds and described in some instances as frauds. I also frankly warned the Government about ugly rumours that were current in the city with regard to extravagant waste of public funds by ordering out plants, machinery and materials valued at lakhs of rupees that were not required and could not be used for the Department. The letter dated 29th January 1926 from Stores Department shows that on that date these unused mild steel bars were in the Matunga Surplus Depot of the value of about 

40 lakhs of rupees for sale. Before that, how they were disposed of is not known. This is only one instance with regard to which an admission is accidentally obtained from the department. Similarly, other large stores of the value of lakhs of rupees were lying in the Depot unused and getting rusty.

The question naturally arises, as to why such large quantities of superfluous stores ordered when admittedly they were not required and not used? And who ordered them out? Coupled with that, will the instance where an Indent is altered by a Superintendent Engineer. Other grave scandals were, favouritism and patronage shown to particular contractors, who were given rates five times as much as competitive rates secured by open tenders for the same work, and the very contractor is subsequently prepared to carry out the work at that extremely reduced rates. Why were such huge profiteering intentionally allowed to particular favoured individuals causing enormous loss to public? It could not be merely on account of friendship as no friendship could exist between an Indian convict and high European officials. Then what was the other consideration for such favouritism?

The Committee while dealing with these questions will realise the grave financial loss not only to the city but to the whole Presidency. This mad and chimerical venture has practically mortgaged the resources of the Presidency for at least a generation to come. All other schemes of public utility, even such as primary education and medical relief must be suspended till the huge gap in the Bombay treasury is filled up.

According to the last Budget, three crores are to be funded, i.e., twenty lakhs every year for the next thirty years are going to be set aside for paying the loss on the Back Bay Reclamation. This is no doubt a modest estimate to prevent a scare and panic in the public; ultimately it is bound to be much more and all this on a Province that is already most heavily taxed and most heavily burdened with loans. The incidence of taxation per head of this province is higher than other provinces and the debt charges are more than two or three other provinces put together.

In connection with this investigation, before closing my remarks, I may be permitted to refer to some of the sections and rules laid down in the Government of India Act that appear to me to be relevant and useful in fixing the responsibility. Under Auditor General's Powers, Part II, Duties and Powers as regards Audit, the following cases are laid down (page 141, Government of India Act, 1919):—

10. (1) Every public officer should exercise the same vigilance in respect of expenditure incurred from Government revenues as a person of ordinary prudence would exercise in respect of the expenditure of his own money.

(4) Government revenues should not be utilised for the benefit of a particular person or section of the community.

Thus the standard laid down to be observed by a public officer when dealing with public funds is whether the officers, from the highest to the lowest, concerned have exercised same vigilance as a person of ordinary prudence in respect of his own money. In view of the revelations and disclosures made before the Committee during the last few days, there could be only one reply to the above query.

Further rule 37, Devolution Rules, lays down the function of Finance Department:—

37. The Finance Department shall perform the following functions, namely:—

(a) It shall in charge of the account relating to loans granted by the local Government and shall advise on the financial aspect of all transactions relating to such loans. (b) It shall examine and report on all proposals for borrowing by the local Government; shall take all steps necessary for the purpose of raising such loans as have been duly authorised; and shall be in charge of all materials relating to the service of loans;
It shall be responsible for seeing that proper financial rules are framed for the
guidance of other departments and that suitable accounts are maintained by other depart-
ments and establishments subordinate to them;

(g) (iii) It shall examine and advise on all schemes of new expenditure for which it is
proposed to make provision in the estimates and shall decline to provide in the estimates
for any scheme which has not been so examined.

Therefore under the circumstances disclosed, the Finance Department of the Government of
these days cannot entirely be exonerated and further Section 124 of the same Act (Government
of India Act) also defines certain Acts which constitute misdemeanours on the part of any
person holding office under the Crown:

(2) If (except in case of necessity the burden of proving which shall be on him) he
wilfully disobeys or wilfully omits, forbears or neglects to execute any orders or instruc-
tions of the Secretary of State; or

(3) If he is guilty of any wilful breach of the trust and duty of his office.

If these wholesome provisions of the Imperial Act, introduced for the safety of public
funds and to secure due discharge of public duties, are not merely ornamental dead letters, but
are intended and meant to be used on proper and fitting occasions, then my submission to the
Committee is that there never was, nor ever will arise a more befitting case for the operation and
application of these sections to this most cruel act of vandalism on the part of the Government
of Sir George Lloyd. That course alone will satisfy public demand and restore both public
confidence and Government's prestige.

If private trustees had played such havoc with funds
entrusted to their care, there is no doubt that they would have been made to answer in a Court
of Law and compelled to make good the amount. Public also expect a higher standard of
morals, vigilance and prudence with regard to public funds.

Extracts from the Report of the Bombay Development Committee, 1914

Extract from the Statement of Cowasjee Jehangir (Junior)
29th November 1913.

From the above it will be seen that I am of opinion that any reclamation scheme is at present
premature. Such a scheme, if decided upon, would only provide residential quarters for the
better classes. From figures already before the public, if the big scheme is carried out as
proposed by Government, land will cost Rs. 20 a square yard. I would ask the Committee to
consider what the rents for the houses would be, if the reclamation is not to become a huge
flat-land. I think they would be somewhere near Rs. 300 a month. I have already
mentioned above that a certain percentage of flats in and round and about the Fort are always
vacant. I therefore do not consider that there is any great demand for flats of this rent.

I am strongly of opinion that looking to the way in which investors have burnt their fingers
on the Cuffe Parade, where I believe, there are some plots still unlet the public will not come
forward in any numbers to build on the proposed reclamation. I admit that having an
extensive park and recreations grounds is the only tempting part of the scheme. But before
Government decide upon launching upon so ambitious a programme, I trust they will seriously
take into consideration whether the development of other parts of the island would not suffice
for our needs, for at least a couple of generations to come. If the efforts of the Corporation
in mitigating the nuisance of the Love Grove Pumping station be unsuccessful, the question
of removing the pumping station must seriously be taken into consideration, or perhaps a reclama-
tion scheme in Section 124 might become advisable.

Page 185

Letter from Jacobs and Davies (Inc.) to Ratan Tata, Esq.
March 21st, 1911.

RATAN TATA, ESQ.,
Hotel Winter Palace Menton, France.

Dear Sir,

We must thank you for your courtesy in allowing us to see the latest Government scheme
for the increase in the available area at Bombay by reclamation. The pressure on the available
area at Bombay is in our opinion somewhat severe; and yet we are inclined to think
that local opinion rates this pressure as more severe than it would appear to be to a disinterested
outside observers. In illustration of this we have prepared the following table, giving a comparison of the density of population in a few large cities chosen for their general familiarity:

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>Population per sq. mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bombay</td>
<td>5,60,000</td>
<td>38,100</td>
</tr>
<tr>
<td>Calcutta</td>
<td>1,037,000</td>
<td>42,800</td>
</tr>
<tr>
<td>London (Country)</td>
<td>6,300,000</td>
<td>46,700</td>
</tr>
<tr>
<td>Paris</td>
<td>2,800,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Berlin</td>
<td>2,100,000</td>
<td>95,000</td>
</tr>
<tr>
<td>New York (Manhattan)</td>
<td>2,365,161</td>
<td>105,000</td>
</tr>
</tbody>
</table>

Although this was not known when choosing the examples it is seen that Bombay has the lowest density of population of any, even though the great bulk of inhabitants are natives of the country, who can live in comfort under conditions of crowding that would be intolerable to persons of other nationalities.

In our opinion land values in Bombay do not really reflect local conditions of congestion, and we believe there is still plenty of room for expansion within the present city limits. Very few cities in America where land values are higher than at Bombay, and whose populations are increasing at a vastly higher rate than Bombay’s, have gone to the expense of adding to their areas by reclaiming land from the water fronts on which they usually lie and which are also the sources of their importance and growth.

To add a few acres here and there as opportunity serves and in places where exceptionally favourable conditions exist, is one thing; but at one fell sweep to alter entirely the whole layout of an important city and add large acreage in the way proposed serves only to dislocate and depreciate present land values of numerous land owners and to create chaotic general conditions which are likely to do much more harm than good. In our opinion this huge scheme is unnecessary and chimerical to the last degree.

All this is entirely beside the question of whether the work can be done for the sum estimated by the Government Engineers, which from the data collected on the ground last year by our representative we consider is in the highest degree improbable and we may even say impossible.

During the progress of the work, which it is safe to say will take much longer than the estimates would lead one to believe the extremely unsightly appearance of the whole area undergoing reclamation will spoil the entire appearance of the city in which her more enlightened citizens take so much just pride and will defeat its very object until Nature has had time to cover up the traces of man’s handiwork.

As pointed out to you in our report of last May the large Sewree Reclamation will remove from Colaba much of the objectionable business now carried on there, leaving this section free for its orderly and natural development as a residential locality.

We think that Government has got hold of the Reclamation idea and has run it to death without fully balancing in all their aspects what benefits and what harm will accrue to the city by this gigantic piece of meddling with the natural situation.

We have spoken our minds quite unreservedly on this matter, and perhaps more forcibly than we would have done in an official and formal report, believing that what you desired was not such a report, but merely a personal and thoroughly frank expression of opinion.

Yours faithfully,

Jacobs and Davies (Inc.)

(Signed) CHARLES M. JACOBS,

President.

Report on Reclamation Scheme in Bombay

Per B. H. M. Hewett.

Bombay, May 1910.

Sir,

In accordance with your request I have the honour of submitting the following report upon the abovementioned subject on behalf of and subject to the approval of Messrs. Jacobs and Davies of New York City.

8. These facts, though no doubt familiar to you, are set out here to show that suction dredging in the Back Bay Area itself with a view to setting the shore line further into the bay has several local features somewhat against it, viz., the dredges could only work in certain places and even so until they had cut channels of sufficient depth and width to give themselves room.
for flotation and handling work could be done only when the tide was high enough to float the
plant; also the depth of fill averages 20 feet, so that not only is there a considerable head
against which to pump but also a comparatively large quantity of fill is required for every
unit of area reclaimed. The fact that a rise and fall of tide of some 16 to 17 feet is found here
also has a bearing on this question. The south-west monsoon which lasts four months a year
also comes directly into this bay, which faces due south-west.

9. Keeping these facts in view, estimates have been made on the basis of obtaining the
filling material from elsewhere for the purposes of filling large areas and depositing it in several
different ways which will be described later.

10. Some attention was given to a proposal to dredge the filling material from the flats
of Uran on the eastern side of the harbour, tow the excavated material round in barges, deposit
it in the Back Bay and repump it, by suction dredges, behind sea walls previously built to
retain it.

This Scheme appeared attractive at first but there would be many difficulties connected
with the towing of the barges into the Back Bay. The low-water difficulty would still have
to be got over and it is likely that many delays would arise owing to the difficulty in entering
the bay, as there is a reef extending from Colaba point to Malabar point with only one
narrow entrance near the Malabar point.

Another scheme which has been worked out is to dredge the Uran mud flats, as before,
bring the material to the Sassoon Dock, elevate it and repump it across the spit and along the
present shore front and finally discharge it at the required point, behind retaining walls previously
built. This is perhaps a more practicable method than the first mentioned one, though the
expenses of the relay pumping is high.

11. Yet another plan has been considered as an alternative to the Back Bay Dredging.
This is to obtain earth from hills (such as those at Andheri) near the B. B. & C. I. Railway.
This earth would be excavated by steam shovels, loaded direct into wagons and brought down
on the Railway diverted on to a specially built siding and then dumped by means of automatically
acting "brudges" or other such contrivance. This scheme has several points in its favour.
The work need not be stopped altogether for the four monsoon months and the work in general
is free (except for the bulk head wall) from the uncertainties of marine work.

12. There remains yet the question of dredging the Back Bay itself and making the fill
with the dredged material. There is no doubt that if the supply is sufficient (which it would be
for the moderately sized reclamation) the quality of the material is excellent, far better than any
thing which would be got from Uran, as the latter is a thick black sticky mud which would
need mixing with something more solid and probably a liberal topping of murum before the
filled in area could be used, while the Back Bay material is a good fine sand which would need
much less finishing off. As a result of borings taken in the Back Bay it is estimated that there
are 12,500,000 cubic yards of materials which could be dredged.

13. The different methods of making the fill have been worked out as to cost and it appears
that they all seem to give figures which closely resemble each other and seem to be (for compara-
tively small areas) about Rs. 20 per square yard of area recovered. Small areas are relatively
more expensive than large as the wall work then begins to take up a greater percentage of the
whole cost.

14. The wall work is not the smallest part of the problem and in the estimates it has
been assumed that it would be necessary to provide a temporary dam wall round the site to
be reclaimed. This wall would keep out the water and the work of building the permanent sea
wall would go on inside this dam which would not be removed until the fill was finished and
would protect the work before it was completed against the monsoon. This makes the wall work
comparatively expensive and it might be cheaper if there were a sufficient depth of sand (as
there is at Chowpatty) to drive steel sheet piling or concrete piles as a core and build the permanent
wall direct around this core. A great deal would depend on the depth of rock below the present
sand surface on the wall line. The depth of sand is greatest at Chowpatty where the borings
went to 25 feet without trouble and gets less and less as one gets further south. At Church
Gate only 8 feet is found; to south of that the wall would be on rock. Reliance cannot be
placed on steel alone for the wall, as experience shows that its decay is extremely rapid in the
water of Bombay.

15. Several different schemes of reclamation, i.e., different as to the area to be reclaimed,
have been worked out for the Back Bay District and the best method or combination of methods
which it would be best to adopt would depend to a great extent on what area was to be reclaimed
and the locality of the area. For example, a large area of reclamation at Colaba would need
different treatment from a small area at Chowpatty.

Page 320-321

12th December 1912.

Examination of A. J. Bilimoria of Messrs. Tata Son & Co. (Questions by Honourable
Mr. Phirozshah M. Mehta.)

Q.—Now I come to what I consider the most important part of the evidence. The Chairman
has told you we are not considering the Reclamation scheme, but still there is a lot of evidence
on record giving opinions one way or another. Mr Bilimoria, you have had a very long acquaintance with the landed property in the City as you were managing from very early days all the properties of the late Mr. Tata and not only were you managing them but you were instrumental in acquiring and leasing several properties?

A.—Practically all the buildings were erected after I joined.

Q.—So you are thoroughly conversant with land transactions in the City of Bombay?

A.—Yes, fairly.

Q.—Now Mr. Tata, as you are already aware, always looked at a thing very thoroughly and made careful enquiries and he was always in the habit of employing the best of experts he could get. As regards the Hydro scheme, the Iron and Steel Co. and so forth, he always laid stress upon employing the best experts on any particular subject. I suppose in the same manner, he employed competent people to study the Reclamation scheme.

A.—These particular people were not employed by the late Mr. Tata but by Mr. Ratan Tata.

Q.—And they were very eminent people?

A.—I suppose they are the best firm of reclamation Engineers in the world.

The Chairman.—Who were they?

A.—Jacobs & Davies of New York City.

Q.—I see that you go so far as to say, Messrs. Jacobs & Davies. They sent in their report after considering all the facts laid before them. Mr. Hewett turned out all the schemes in three months.

Sir Pheroshah.—Those schemes related to the whole of the western fore-shore?

A.—He took them by bits; Chowpatty for instance was taken in two or three ways for reclaiming. Then he took Marine Lines to Back Bay Baths. Then he took Marine Lines in another way. So it was worked in different ways.

Q.—I see, Mr. Bilimoria, when you say different schemes, some of them you mean were schemes working on the same basis but on different methods?

A.—Not one full scheme, but in certain sections and by different methods of reclamation.

Q.—Then you are able to say from the reports which the firm you employed made that the figures in their estimates and those put forward in the Government estimates differ very largely?

A.—Yes. They very considerably differ, and we sent them the Government estimates too later on, and we had report from them again.

Q.—I see that you go so far as to say that when the Government Engineers' estimates were sent to them, they thought it was almost improbable or even impossible to do it within their estimates?

A.—Yes.

Q.—They were of opinion that it would take a very much longer time to perform the work by the Government Scheme?

A.—Not only reclaiming. For instance, the life of the dredgers, they said, was not so very long. As a master of fact they told us that the dredgers of the Port Trust were coming to the end of their usefulness. Mr. Hewett told us that the dredgers of the Port Trust if utilised for the reclamation would not last long, they would not go on for ever.

The Honourable Mr. Sprott.—No, I don't suppose they will last for ever. Was it their opinion that the Port Trust Dredgers would not have a life sufficiently long if they are employed?

A.—They said they could not be utilised for the proposed new reclamation scheme.

The Honourable Mr. Sprott.—They also referred to the Port Trust dredgers. Was it their opinion that the Port Trust Dredgers would not have a life sufficiently long to carry out the work which, I may say, they have already done?

A.—We had been told that it was considered that these dredgers might do for some other purpose.
Mr. NARIMAN’S Supplementary written statement dated 23rd August received on 24th August 1926

As desired by the Chairman in course of my oral evidence to supply further particulars about irregularities, etc., if within my knowledge, I beg to submit the following supplementary statement.

Besides the instance of dry filling in contract given at page 19 of my written statement, I had referred at page 21 towards the end that “similar favours were shown to the same contractor Balkishan Seth, with regard to other contracts of painting, etc.” I beg to submit the following further particulars:

Last year or year before contract for painting pontoons was given to the same contractor, Balkishan Seth, and the cost on that item came to over a lakh of rupees. This year, tenders were invited for the same work and the cost came to about Rs. 53,000. Thus about half a lakh of rupees were paid extra for the same work without tenders.

Again at page 22 of my written statement I have stated that “similar favouritism existed in connection with Kandivli quarries where one Mr. Patker, a petty contractor of the suburbs, was fortunate enough to get monopoly of contract. . . . . . . .” With regard to that I beg to submit the following further particulars:

That in or about September 1922, Mr. Patker’s tender for 13 annas per ton for quarrying rubble, etc., was accepted although there were other tenders of lower rates and the lowest of under 9 annas per ton was rejected. Since then Mr. Patker enjoys the monopoly of the work.

Similarly, in March 1925 Mr. Patker’s rate for excavation only was Annas 10 per ton and subsequently on account of the agitation it was reduced to Annas 8 per ton. The present rate after public tenders for excavation as well as freight, is Annas 10–8 pice per ton. The freight costs about 50 per cent., hence the excavation alone, according to the present tender rate, comes to about Annas 5 per ton, whereas Annas 10 were given for the same work to Mr. Patker. The total amount of contract work done by him comes to Rs. 5 or 6 lakhs.

Besides this, the contractor was allowed free use of plants and tools of the Department such as Cranes, etc., and according to my information the working and maintenance charges, even during the period the crane and tools were used by contractor, were paid for by the Department. These charges alone came to about Rs. 14 lakhs.

This irregularity of giving work to Mr. Patker without tender was also brought to the notice of Government, but I am given to understand that Government condoned this irregularity on the part of the Chief Engineer but issued memorandum in November 1925 directing that tenders should be invited in future. There was a memorandum also with regard to the use of plant and tools free of charge by the contractor.

That Mr. Patker has made huge profits on account of this monopoly, is evidenced by the fact that recently, i.e., after these contracts, he has bought several valuable properties at Bandra including a bungalow at Bandra Hill worth about a lakh of rupees and another for about Rs. 80,000 besides two or three other smaller properties. Before that, he was a small contractor in the suburbs.

I hope you will place these particulars before the Committee supplementing my written statement.

Hoping to be excused for the trouble.

(Mr. Nariman’s oral evidence)

The Chairman.—What is your full name?
A.—Khurshed F. Nariman.

You have discussed the subject under three heads, Constitutional, Financial and General (including administration and management)!
A.—Yes.

Q.—“Constitutional and Financial” refer to the origin as well as conduct of the scheme!
A.—Yes; Constitution does affect the conduct.

Q.—Our terms of reference, as you know, are to enquire into the history of the inception and conduct of the Back Bay Reclamation scheme, and secondly, to make recommendations as regards future operations. You have made a few casual statements regarding the recommendations you have in view. Before we close the evidence we might want you to specifically state the recommendations you wish to make.
A.—Very well, Sir.
Q.—You have given us a large number of instances of alleged irregularities and neglect. We should be glad if you would give us some further details with your explanations where necessary.
A.—You want me to confine myself only to the Reclamation scheme?

Q.—We have no instructions to go beyond our terms of reference.
A.—With regard to that I must make my position clear. I understand that the Director was questioned with regard to the allegations made by me as to what was his opinion about the allegations and he said that according to his opinion they were false. I understand that reference was to my allegation with regard to the whole management of the work. I have never made any separate allegation with regard to the reclamation. I have always dealt with the Directorate as a whole.

Sir Frederick Hopkinson.—You are doing in this statement?
A.—In this statement I have referred to several irregularities.

Q.—To the Back Bay?
A.—To the Back Bay also.
Chairman.—We will only ask questions about the Back Bay.
A.—May I point out the particular irregularities which in my opinion relate to reclamation alone, leaving out the rest?

Q.—In your statement, don’t devote many pages to the other irregularities?
A.—There are several instances, particularly with regard to chawl contracts and stores; I suppose I cannot go into them.

Q.—I believe the stores are included?
A.—Partly.

Sir Frederick Hopkinson.—We want to hear nothing but what refers to the Back Bay.
A.—That very much limits my scope, but if that is the ruling, certainly I have to confine to that alone.

Mr. Billimoria.—That is the scope of the enquiry; we cannot go beyond that.

Witness.—May I point out the Corporation has passed a resolution, at my instance, requesting the Government of India to extend the scope of your reference. If, in anticipation of the extension, you are prepared to take my statement as a whole.

Chairman.—We cannot go into that as a whole.

Witness.—I must tell you frankly that that very much limits my scope so far as the statement is concerned. I must confine myself according to the ruling of the committee.

Q.—You began with a statement on the constitutional aspect of the question. You were opposed to the creation of a special Development Department?
A.—Yes.

Q.—As you thought it was a serious encroachment on the constitutional rights and privileges?
A.—Yes.

Q.—Why should not Government start a separate department for a separate work?
A.—I think that is against the constitution as laid down under the Act. Under the Act, as I pointed out, certain activities of the Government are made transferred subjects and as such they would come directly under the control of the Council so far particularly as finances are concerned. In this case, the financial control of the Council which constitutionally is the privilege of the Council, is taken away by what I have described as a manouvring in legislation.

Q.—Did you raise that question in Council?
A.—I was not there when it was introduced, but the first effort of mine when I joined the Council was to have this department abolished and have it transferred to the P. W. D.

Q.—I am not asking about the abolition of the department; I am asking whether the legal point you are raising was raised by you as a member in the Council?
A.—It was raised in the course of the several discussions, I believe in my resolution about the general enquiry into the activities of the Directorate. I have referred to these points. I have also sent resolutions about this question which were not balloted. You know when you send in resolutions they have to be balloted; certain resolutions only can be discussed, the rest cannot be brought in; and only a few days are allotted for discussion.

Q.—What makes you raise this question of constitution at this stage when you did not raise it in the Council?
A.—I did try to raise it. But this is the first opportunity that Government has given us to raise this question at all. We have been clamouring for an opportunity. There was a resolution in October 1924. Even that might cover this question also. It was as under:—’This Council recommends to Government that a committee consisting of 12 non-official and elected members be appointed to enquire into the whole administration and working of the Development Directorate, to suggest ways and means of effecting retrimencments and to report on the advisability or otherwise of continuing the schemes taken in hand; that the Development Directorate be requested to co-operate with the said committee and afford all facilities and help in

\[ 160-600 \]
conducting the said enquiry and in making the said report." To my mind, we could have brought this question even if the Government did not give effect to the resolution in spite of the Council passing it by a large majority; that opportunity was also lost. This resolution was passed in October 1924 and was not given effect to by Government in spite of repeated requests and demands.

Q.—You mention certain constitutional irregularities in the inception of this scheme?
A.—Yes; I would like to ask, if it is within the purview of this Committee, whether this creation of the department, under a special act, was not ultra vires, if the Government of India Act gives constitutional rights to the Council.

Q.—You could raise that question; we have noted it; we cannot say what recommendation we will make on it. You think, when introducing this bill to create a new department, the object was to remove the trammels and control of the legislative council?
A.—That was what His Excellency Sir George Lloyd said while introducing the bill. I think it was referred to in the Corporation statement, "that a project of this description in order it may be expedited should be as little hampered by outside control as possible, and in order to remove that control we want a special department and thus make it a reserved subject". That was in His Excellency's first speech. And he has referred to it subsequently too.

Q.—And then you end that recommendation on page 2 of your notes, "My submission is that the first recommendation should be to deprive the executive of these special extraordinary powers and transfer the rest of its activities to P. W. D. and thus restore the supervision and control of the Council"?
A.—That is my first recommendation. I should say now that both on constitutional grounds and on point of expediency, and in view of the experience we have gained, I do not think that the department should be entrusted any more with the conduct of the scheme.

Q.—Was there a public demand at the time the scheme was originated? Were the public in favour or against it?
A.—So far as the Council report shows, there was not any serious opposition, and that was due to the misleading figures and very tempting profits being shown by responsible Government officials, and the gentlemen who did not oppose the scheme in the Council, when questioned subsequently, explained that their conduct was due to the fact that they were misled by very tempting calculations and reports of huge profits that the scheme was going to make, and they took it for granted that what was stated by responsible officials was correct. If they had doubted it then, they would have opposed it.

Q.—But the scheme was expected to prove a productive undertaking! The public also had great hopes?
A.—According to the Government statement. On that statement the public were taken in, I would say.

Q.—You are judging the conduct of affairs in a year of boom, after years of adversity?
A.—That is true.

Q.—The conditions are different from what they were then?
A.—I make allowances for that.

Q.—The Government also went with the public?
A.—I do not agree; the public were duped by Government. If it was not for the statement of Government officials and responsible members that after calculation and meditation they have come to the conclusion that the scheme was going to be a huge success, had it not been for the statement of these officers there would have been opposition in spite of the boom.

Q.—You know people went crazy for land in those days?
A.—I think that craze came a little later on, not at the time the scheme was introduced.

Q.—There was no inclination on the part of the public to disown the scheme?
A.—Not at that time, disown in the sense that the public had nothing to do with it. It is all a Government affair, the public were not consulted, the public were not associated in it.

Q.—Before the Reforms the public were not consulted?
A.—Even after that. In 1919 was the Government of India Act, and in 1920 was the scheme introduced.

Q.—It was discussed informally before?
A.—Yes; after that came the public demand of various associations to be associated in the scheme.

Q.—You have made a large number of allegations. You ought to remember the main cause of failure; in considering the details we may forget the main issues.
A.—Yes.
Q.—The chief reason according to you was that the usual checks, constitutional, financial and technical, were set at nought, that is your main contention?
A.—Yes; if these checks were allowed to exist, probably this disaster might not have happened.

Q.—That is your contention. You also say that the responsibility was not definitely fixed; it was not known whether the Development Directorate or the Consulting Engineer or engineers were responsible for it?
A.—So far as the Council was concerned, it was disclosed that the whole thing rested with the Consulting Engineer till a very late stage.

Q.—You also complain that the technical supervision of the regularly constituted department was withdrawn?
A.—Yes.
Q.—That was another drawback and one of the causes of the failure or partial failure?
A.—Yes.

Q.—You say the chief causes are two, the failure of the dredgers to give the required output and the fall in land values. If the price of land were very high now, your criticisms would have been in a very different tune?
A.—Possibly; I do not agree that the failure was due to these two causes. I think the main cause of the failure was the appointment of what now at least turned out to be an incompetent gentleman for this post. That is my first complaint, that the gentleman who was responsible for the appointment is responsible for this failure.

Sir Frederick Hopkinson.—You are going on the assumption that it is a failure?
A.—As the matter stands, I don't think there is any doubt, unless things take an entirely different turn in the future. At present there is not a single individual to say that it is not a failure.

Sir M. Vizemoraya.—You say, "I will add a few more glaring instances which will satisfy the Committee that a deliberate and persistent method had been adopted not only to keep the public entirely in the dark but worse still, to mislead, by inaccurate and false statements."?

A.—I say so.
Q.—Is it not a strong statement?
A.—Perfectly justified.
Q.—We have not got the facts before us. We are collecting them.
A.—I will produce my facts, I will particularly refer to one fact.

Q.—You refer to the dredger "Kalu" in the first place?
A.—Yes. It was reported to be a good bargain. The actual expression used by Sir Lawless Hepper is that "the Government of Bombay did not at all make a bad bargain" in October 1924. It was made with a view to remove scare or panic.
Q.—It was purchased before the scheme was sanctioned?
A.—That is admitted now. I may add one thing which is not in the statement I submitted. It is, that even the Government of Bombay through the Director of Information has made a statement with regard to the purchase of the "Kalu" and given a different date. They say in a letter that the dredger "Kalu" was bought by the Government of Bombay in direct communication with the Government of India, Marine Department, in February 1920. That is signed by Mr. Clees, Acting Director of Information. It is published in the Bombay Chronicle of 31st May 1924 in reply to a question raised by me.

Sir Frederick Hopkinson.—Just let me have that. What are you reading that from?

A.—This is a letter published by Mr. Clees, Acting Director of Information, in reply to a correspondence sent by me. It was a very short letter: "With reference to Mr. Nariman's letter on the Development Directorate, which appeared in your issue of the 27th instant, the following facts may be of interest to your readers."

"Sir Lawless Hepper relinquished the post of Controller of Munitions, Bombay Circle, in August 1918, and did not take up the appointment of Director of Development until November 1920."

"The dredger, 'Kalu', was purchased by the Government of Bombay in direct communication with the Government of India, Marine Department, in February 1920." This was the query raised by me whether Sir Lawless Hepper, as the Controller of Munitions, Bombay Circle, had anything to do with the sale of the "Kalu" as it was sold by the Military Department. In reply to that, in order to show that Sir Lawless Hepper had nothing to do, they gave us various dates.

Q.—Are you making any suggestion of anything wrong in the sale or purchase of the "Kalu"?
A.—I do,
Q.—What was it?
A.—With regard to the sale of the "Kalu", my contention is that according to information obtained, it was sold by the Port Trust to the Military Authorities.

Q.—That was long ago.
A.—The amount of the purchase is important.

Q.—We have got all that in your statement. I rather gather from it that you are suggesting something sinister in the actual dates about the sale and purchase of the "Kalu".
A.—Considerable amount of surplus stores were lying unsold and the Government did not know what to do with them. It was dumped on to the Development Directorate simply to dispose of them.

Q.—Was anyone interested?
A.—The Military Department was certainly interested in having the stores disposed of, and as there could not be any other buyer available, it was dumped on to the Directorate.

Q.—It was a public transaction between two public authorities?
A.—Of course, it is.

Q.—And no one individual can be interested in it. What is it you suggest?
A.—I suggest that the surplus stores of Government which were lying idle and could not be disposed of were dumped on to the Development Directorate and the public made to pay for it from public funds.

Q.—You suggest it was an improper price?
A.—I say it was.

Q.—Who agreed to pay this price?
A.—Apparently Sir George Lloyd’s Government.

Q.—What you suggest is that the Government made a bad bargain?
A.—Very bad bargain in order to relieve the military stores.

Q.—In order to relieve solely?
A.—I won’t say solely, but that was one of the considerations.

Q.—I know you make that statement. But it is only a statement.
A.—After all it cannot be anything more than that. What else do you expect?

Q.—I suppose there was a willing seller and a willing buyer.
A.—Certainly, who would not be willing to get rid of . . .

Q.—You suggest that the Bombay Government was not a willing buyer?
A.—If the Bombay Government looked to the interests of the public and not the military stores, they should not have bought it. I don’t say they were compelled against their will. This dredger, they knew or had ample means of knowing, was useless for the purpose of reclamation and therefore they should not have bought it without due enquiries for such a large sum.

Q.—You are putting yourself in the position of an expert.
A.—I gather from the evidence of experts and not from my own knowledge. I refer to the statement of Messrs. Jacobs and Davies. I have attached a copy of it which clearly shows that long before the Government bought this plant or dredger there was material which the Government could have consulted which would show that this was useless. If you will permit me to refer, Mr. Billimoria of Messrs. Tata’s, while giving evidence before the Development Committee on 12th December 1913, stated that in the opinion of those experts (Jacobs and Davies) the life of the Dredge was not very long and the Port Trust dredger was also coming to the end of its usefulness. Messrs. Jacobs and Davies are considered to be a reputed firm of Engineers.

Q.—When were they built, in 1914! This is 1920.
A.—My position is this that the Bombay Government were in a position to know the exact conditions of this dredger because in the record of the Development Committee of 1914, at page 321, Mr. Billimoria gives evidence. There he says they (Jacobs and Davies) said that the life of the dredger was not very long.

Q.—What was the date of this evidence? The dredgers were new in 1914.
A.—They were bought in 1907 from Simons & Co. and they were used by the Port Trust for reclamation till they were sold in November 1915.

Q.—Eight years old. When the report was made they were only 6 years.
A.—According to the experts they were being used when it was said that they were coming to the end of their usefulness and Mr. Hewett was of opinion that the Port Trust dredger would not last long for the purpose of the reclamation. They should not be utilised for the proposed new reclamation scheme. That is the definite opinion of an expert, which was available for the Government before they went in for this dredger. One instance only will do to make the Government cautious.

Sir M. Visvesvaraya.—They transferred it from one Government department to another.

A.—That is admitted. If you will permit me to refer to Mr. Cowasji Jehangir’s statement in the Council, he says that 9 lakhs worth of stores were taken from the military including the
dredger. This was in reply to the question raised by me as to whether the Consulting Engineers earned a commission on that.

Q.—Are you sure about that?
A.—Yes.

Q.—Have the Government acknowledged that anywhere?
A.—I raised the question in the Council, to which the reply was given by Mr. Cowasji Jehangir that the total amount was 9 lakhs of which the price of the "Kalu" was part.

Sir Frederick Hopkinson.—I have got now to give you an expert’s opinion. We have a dredger built in 1898 doing first-class work.—pump dredger?

A.—May be, there are dredgers and dredgers and experts and experts.

Q.—That is a fact for you?
A.—May be. There are exceptions to every rule.

Sir M. Visvesvaraya.—As regards the "Kalu" you say that the Government of India transferred it to the Development Directorate?

A.—That is so. Mr. Cowasji Jehangir was asked whether any stores from the Government surplus stores. Mr. Cowasji Jehangir said that stores worth about 9 lakhs including the dredger "Kalu" were purchased and that the Consulting Engineers earned a commission on that although it was transferred from one department to another. I raised the question as to whether they were entitled to it.

Sir Frederick Hopkinson.—Mr. Nariman, perhaps I can help you about the value of these things. The "Kalu" built in 1907 pre-war was sold after the war. The prices of such dredgers were trebled and quadrupled in that period and therefore the price paid for the dredger in 1907 would not bear any reasonable comparison with its value in 1920?

A.—I quite agree with that. At the same time, I might say that when you are going to buy a plant which is to be used for a particular purpose, it is no use buying it if it is not useful and efficient for that purpose.

Q.—The prices were very high?
A.—I know.

Sir M. Visvesvaraya.—But it was difficult in those days to get makers of machinery to supply plant at short notice.

A.—They should not have bought it at all, knowing the condition of it, the previous history. It is no use buying it as it would be useless. If the public funds were to be properly protected, some enquiries should have been made knowing that its previous history was next door to Government.

Sir Frederick Hopkinson.—Unless you give some evidence to the contrary the presumption is that the dredger, built in 1907, which was taken care of for some time ought to be a good dredger in 1920?

A.—My submission is that there was evidence to the contrary: the Port Trust has working experience and prima facie the statement of those experts, that should have at least warned the Government.

Q.—That statement is of no value?
A.—To laymen it has very great value. Besides that, there is the working experience of it with the Port Trust.

Q.—We had no complaints about its working?
A.—The fact is there. Its output was much less.

Sir M. Visvesvaraya.—The output is usually less, though the dredgers work up to maximum output?

A.—As it suggested that the statement given by the manufacturers as regards the output is usually inaccurate. It does not come up to their statement.

Q.—If they work under ideal conditions?
A.—That is a matter for experts.

Q.—Next you come to estimates?
A.—Yes. Mr. Cowasji Jehangir never told us the original estimate. In reply to a specific question that I asked, he said that the sanctioned estimate was never 4 crores, that it was only the estimate made by Sir George Buchanan and that it was never accepted by the Government.

Q.—Was not the 4 crores announced at any time?
A.—No, it was never known. When questioned there was a misleading statement about it. They only announced that the estimate was increased from 4 crores to 7 crores. We wanted to know how it took such a big jump without any sanction from the authorities.

Sir Frederick Hopkinson.—It has been never mentioned. How do you know it was a big jump?

A.—We came to know that when a statement was made by the Governor before the Indian Merchants’ Chamber wherein it was stated that the estimate was raised to 7 crores. It was made long after. That speech came into my possession and I asked a question whether that was so, but it was denied.
Mr. Bullimoria.—That was in 1921. You are talking of this in 1923.

A.—The question in the Council was long after. That was after I went into the Council. My most serious complaint is regarding the statement in the *Ad Interim* Report. That is a very serious matter. The Advisory Committee had consented to make false statement in February 1925 when the bubble had absolutely burst, that the project was undoubtedly successful. As a matter of fact, in 1924, Sir Lawless Hepper paints a different picture.

Sir M. Vineswarayya.—Probably he must have thought that if the dredgers had worked some time longer the operators would have improved.

A.—There is no question but it means that he knew in 1924 that on account of the different nature of the clay the disaster was certain. He says that in evidence, which I read in newspapers. In 1924 he knew it was a failure, still in November 1925 he gives a false impression.

Q.—He had hopes of improvement?

A.—It is not that he said that in the future he expected. He might have thought of the future but that was not the case.

Q.—You consider that 7 crores was excessive?

A.—From the original figures, certainly. They told us that the estimate was placed before the Government. I am doubtful if the Government would have so meekly sanctioned the scheme. They wanted to raise loans which would not have been raised. If money was not raised the scheme could not have come into effect, a very serious matter. The Advisory Committee has made a false statement in February 1925 when the bubble had absolutely burst. As a matter of fact, in 1924, Sir Lawless Hepper paints a different picture.

Q.—Then you refer to the circumstances attending the appointment of Sir George Buchanan.

A.—I shall read an extract from the proceedings of the Council.

"After receipt of a telegram from the Secretary of State another telegram was sent by the Government on the 26th May 1919:—"A reply to the Secretary of State’s first telegram was postponed in view of impending discussion with Sir Claude Hill and his return to England. This Government were opposed to employment of Mr. Cameron and in view of difficulty of getting Palmer out before October decided to employ Sir George Buchanan, who is at present engaged upon the work, and will probably after concluding the preliminary investigation, proceed home and make further enquiries regarding the dredging plant and material."

That is the telegram of the Government of Bombay to the Secretary of State dated 26th May 1919, which we take as the date of the appointment by the Bombay Government. Then he was asked to make a report on the 30th May 1919 and the subjects he dealt with are stated in the Council proceedings for 17th March 1926.

Q.—You refer to incorrect statements of responsible public officers?

A.—Yes. I have given an instance.

Q.—"The work has proceeded smoothly according to programme"?

A.—That is what Sir Lawless Hepper says.

Q.—"And its stability has been tested by several monsoons. Whatever apprehensions, therefore, the public may have had on this score the Committee see no reason to suppose that the project cannot be successfully completed." That was on 17th February 1925?

A.—Yes.

Q.—"In regard to the possibility of financial loss, the expenditure has up-to-date approximated closely with the forecast, the total including interest charged to 31st March 1924 being Rs. 412-39 lakhs, against the forecast figure of Rs. 421-16 lakhs". It may be that he thought that the dredgers were being worked under improved conditions. Was that probably his idea?

A.—That should have been put in if it were so.

Q.—Upon that statement the members of the Sub-Committee recommended the completion of the scheme!

A.—Some of them. Others were more cautious. The Committee proposed to appoint a Sub-Committee to examine the financial prospects of the scheme in detail who recommended that the scheme should be proceeded with.

Sir Frederick Hopkins.—Have you given a copy of the statement to the press?

A.—No.
Q.—I am wondering whether it would not save time if they could deal with it and pick up parts of it to publish.
A.—I understand it was given just now. I did not think it right to give it before I was examined.

Sir M. Visvesvaraya.—"In its inception the legitimate constitutional control of the Council was removed by what I consider to be a manouevring in legislation."
A.—I mean regarding the creation of a special department. That is the constitution we want and financially the control of the Council should be exercised over it.
Q.—A body was constituted by an Act?
A.—Yes.

Q.—You come to the general conclusion that, all this makes one suspicious about the intentions of the Government in launching this huge scheme in this extraordinary manner.
A.—Yes. I have referred to the opinion of Messrs. Jacob & Davies on the scheme who were absolutely against it.

Q.—That is the opinion of one firm on behalf of a private.
A.—On Mr. Duggan’s evidence, which I read in the newspapers, I understand that Mr. Kidd was very doubtful about it.

Q.— Doubtful about which?
A.—About the success of the reclamation.

Q.—It is on Mr. Kidd’s report that the work is being carried out.
A.—I understand from Mr. Duggan’s evidence that Mr. Kidd at a certain stage expressed doubt.

Sir Frederick Hopekinson.—Then the newspaper report is wrong. The scheme submitted by Sir George Buchanan is Mr. Kidd’s revised.

Sir M. Visvesvaraya.—In 1914 circumstances might have been unfavourable but in 1920 when the land values went up probably they considered that the scheme would prove profitable and so the consideration of the scheme was taken in hand?
A.—Certainly consideration, but my complaint is that all the necessary precautions which are usually taken before undertaking such a huge project were not observed.

Q.—But at the boom time everybody lost his head and naturally Government might have thought that the scheme would prove profitable?
A.—Government cannot be expected to lose their head and if they did certainly they are to be blamed by the public. I can understand the Government considering the scheme because it was a boom time but I cannot understand their neglecting precautionary measures which had nothing to do with boom time. It was an absolutely engineering matter.

Q.—You say that Government did not consult the Port Trust?
A.—They did not consult the Port Trust nor anybody else.
Q.— Then you go on to refer to responsibility?
A.—I mean the responsibility of the appointment of Sir George Buchanan.

Q.—Not for the responsibility for the conduct of the work?
A.—I think the whole responsibility could be considered from the first responsibility. Who was responsible for the appointment of Sir George Buchanan and if that gentleman did not turn out to be up to the mark so far as this scheme is concerned, then the responsibility must rest on the gentleman who made that appointment?

Sir Frederick Hopekinson.—Who was that gentleman you mean?
A.—Sir George Lloyd.

Q.—Sir George Lloyd alone or his Government.
A.—It should be the Government but subsequent events show that he was certainly bossing the whole show, but I do not mean any insult.
Q.—Would you not like a Governor to be a boss?
A.—Not from the democratic point of view.

Sir M. Visvesvaraya.—You say, “the first and foremost Government or individual who was responsible for the appointment of Sir George Buchanan on the post is primarily to blame!”
A.—Yes.

Q.—You say “the circumstances under which this most important and lucrative appointment was made are extraordinary and certainly call for thorough and searching enquiry”. In what respect do you consider they are called for?
A.—They did not invite any application for such an important post carrying a very great remuneration.
Q.—But you have to search a consulting engineer, ordinarily they do not offer themselves?
A.—Unless they know that their services will be required how can they offer themselves. How should the best engineers know that such a huge project was in the mind of Sir George Lloyd and unless advertisement is given nobody is supposed to come forward. As I have
mentioned in my statement that for a post of a Principal of a school they advertised in English papers. There was a complaint about this that unless you cannot get such a man in this country you should get him out of India. Such posts were advertised but this post was offered without advertisement. If it was advertised you would have got the best man available and the whole scheme would not have been in this position.

Q.—You say the appointment was made in hot haste?
A.—The appointment was made in anticipation of the sanction of the Secretary of State. There was no necessity of such extreme haste. It was after all a business agreement with a firm of engineers and the man who made that appointments is responsible for the disaster that followed because he made a mistake. In the case of such an appointment every care should have been taken before selecting a man. I do not wish to say against him, particularly when he is absent, that his previous record does not show that he was qualified for this huge task of reclamation. He was only a Port Trust engineer and, according to my information, he was at Basra doing some dredging at Buraphatis on a much smaller scale but his efforts there also were not successful. “Kalu” was also there and he had seen the working of the “Kalu” at Basra.

Q.—Then you say “the fee paid was non-votable.” What were the particulars of that translation?
A.—All allowances under the Government of India Act are votable items, that is, they must be put to the vote of the Council before they are sanctioned or spent. Any expenditure on votable item without the vote of the Council is illegal expenditure. This allowance of Sir George Buchanan coming to about 1,60,000 a year, an annual expenditure, was treated as non-votable until 1924 till the Auditor General found out the mistake and refused to sanction on that particular date. Then the Government were obliged to bring it before the vote of the Council. My complaint is that by putting it as a non-votable item they evaded discussion because that was the only item on which the whole thing could be discussed. They did not disclose the agreement to the House. If this item had been treated votable, the public would have known the facts much earlier. It was disclosed at a very late stage by a mere accident.

Mr. Billimoria.—Even if a project was sanctioned for the full amount this should have come before the Council?
A.—All large items of expenditure, if they are votable, must come before the Council and the non-votable items are included in the budget we are not entitled to discuss them. In the annual budget all items which are votable must be put up to the vote of the Council and every Member has a right to move for the reduction of any votable item.

Sir M. Visveswaraiah.—When once you are committed to a scheme and when a gentleman is allowed a fee or commission for certain work under that, you cannot change it; you are legally bound to continue to pay?
A.—But before the agreement is made, you must have consulted the Council, and therefore I say the agreement was not constitutionally valid.

Q.—The work was started in the pre-reform days?
A.—It was started in 1920 while the reforms came in 1919 and this agreement was made after the reformed councils came into existence. That is our complaint that this should not have been done.

Q.—Then you go on to the purchase of dredgers. About “Kalu” we have already referred; what do you wish to say about “Sir George Lloyd”?
A.—About “Sir George Lloyd” I may point out that at one stage the price was shown to be 117 lakhs and it was subsequently raised to 134 lakhs.

Q.—You mean the total estimate?
A.—No, I mean the purchase price. A complaint was made about it in Council by Mr. Lalji Narainji.

Mr. Billimoria.—I suggest that it may be due to difference in exchange?
A.—Such a large amount as 17 lakhs. I only want an explanation about two different figures being given.

Sir Frederick Hopkinson.—We cannot give you.

Mr. Nariman.—Then it was purchased many months before it was required and interest charges were paid from the public fund. No tenders were invited for such a costly and important plant.

Q.—How do you know that?
A.—From the Council proceedings. When we asked for information about this, the Government had not even the contract which was made (by whom, I do not know) for the purchase of “Sir George Lloyd” and it was not shown to us.

Q.—It may have been in London?
A.—The Government is supposed to have a copy.

Sir M. Visveswaraiah.—No copy of the agreement was ever disclosed?
A.—No, the Government said they are not in a position to do it.

Q.—Then your allegation is that Sir George Buchanan was paid commission on the “Kalu” also?
A.—Yes, commission was paid on all stores locally bought from the Military surplus stores.
Mr. Billimoria.—If you refer to the agreement you will find that it is a matter of interpretation.

A.—It may be but it seems to me as a layman rather strange that when stores are transferred from one Department to another even then the engineers have earned a commission. So far as I understand, commission is paid because he has to labour to select the plant and take the responsibility but when stores are transferred locally, I do not think he has earned his commission.

Sir M. Viswanaraya.—What do you wish us to examine on this point? The Committee will be pleased to investigate if you made a definite statement.

A.—My point is that Sir Lawless Hepper as Controller of Munitions was in charge of this “Kalu” at any stage and as such must have known its condition. Then of course it was his duty to dispose of it. Admittedly “Kalu” was in the possession of the military for about four years from 1915 to 1919 and Sir Lawless Hepper was the Controller of Munitions, according to his own statement, till August 1918. For three years he was in charge of that store and he must have been aware of its condition but when he came here as Director of Development he bought it. So he was a seller as Controller of Munitions and buyer as Director of Development.

Sir Frederick Hopkinson.—Do you suggest it was a good or a bad bargain?

A.—You know that from the results.

Q.—How do you know it was a bad bargain?

A.—Stores worth 9 lakhs were purchased among which “Kalu” costing about 7 lakhs was included and from the working of Kalu I can say it was a bad bargain.

Q.—What about the other portion of the purchase?

A.—It was a very small item of about 2 lakhs but the dredger costs 9 lakhs.

Sir M. Viswanaraya.—Again under “technical aspects” you refer to insufficiency of preliminary investigations. I suppose you mean investigations about the material available?

A.—Yes, that is my point. Compared with the precautions taken by the Port Trust on their own admission, sufficient investigation was not made and borings of 1912 were depended upon. No pucca borings were taken in order to ascertain the real natural of the seabed and what kind of material was available for the dredger to work upon. As an engineer you can appreciate this point better than myself.

Q.—Again you refer to a campaign of misrepresentation and say that “the original estimate was first raised by 100 per cent. and again by 300 per cent. increasing proportionately the period of completion”.

A.—As the figures stand now it is certainly 300 per cent., because I understand the latest estimate is for 11 crores and the original estimate was for 3 crores.

Q.—I may tell you that the present estimate is about 10 crores without taking into account interest charges.

A.—Interest charges have to be paid ultimately and so it comes to 11 crores.

Q.—You refer to “criticism on internal administration or rather on maladministration and the internal working of the scheme”. I believe you mean the administration of the Department?

A.—Yes.

Q.—Are your contentions confined to the Back Bay Scheme?

A.—That would be covered by the three instances I have given. I have referred to a number of others but as they do not come within the scope of the Committee, they may be left out.

Sir Frederick Hopkinson.—You cannot escape from what you have put down?

A.—I do not wish to escape.

Sir M. Viswanaraya.—What are the three instances?

A.—First is about favouring a contractor, Balkishan Seth, second is about mild steel bars when the indent was changed and the third about the cement contract.

Q.—About No. 1, do you wish to add anything to what you have already stated in your written statement?

A.—I have nothing more to add to that statement and I have drawn my conclusions on that. The second is about the alteration in the indent which was also admitted in the Council.

Sir Frederick Hopkinson.—I have read your document and perhaps all it implies is that a mistake was made by somebody in ordering 3% bars instead of 1%. What would you say?

A.—I cannot take it as a mistake, I take it as unnecessary superfluous order which was not required.

Q.—What do you suggest it was ordered for?

A.—They were ordered to be dumped in Matunga Store Depot. Five-eighths bars were required but 5 was changed into 7 by the Superintending Engineer and 2% bars which were not of course required and were dumped into the depot and a fresh indent was sent for 2% bars.

v 163-515
Q.—But I suggest that a mistake was made?
A.—I do not agree that a mistake was made. It was not made in the original preparation of the indent but in a properly prepared indent figures were altered subsequently.

Q.—But even that may be a mistake because it is not a difficult thing to write $\frac{1}{2}$ instead of $\frac{1}{2}$ and the Superintending Engineer had nothing to do with the indent?
A.—The Executive Engineer prepared it and it was submitted to the Superintending Engineer who altered it?

Q.—Again that might have been a mistake? Do not you make mistake? Have you never made a mistake?
A.—Not of this description which is unaccountable which has cost so much, and I shall never make a mistake of this kind.

Q.—You do not say it was intentional?
A.—I say it is intentional. From the circumstances I can say that it was not a mistake.

Q.—We wish to get at the bottom and would like to know why he should make such an intentional mistake?
A.—These surplus stores were ordered in order that certain manufacturers might make some earning out of this order. As far as I can see, there is no other explanation, otherwise these stores would not have been ordered to be used as scrap iron. When I asked a question in Council they said there was no loss, those bars were either disposed of or used otherwise. In order to verify the statement I found a bogus purchaser who wrote a letter to the Matunga Depot Office. The Executive Engineer in reply wrote on the 25th January 1925, "In reply to your letter of the 24th instant, I write to inform you that your representative can obtain information for concrete piles for the reclamation work and the letter of the 24th instant, I write to inform you that your representative can obtain information on any week days from my Assistant Engineer of Stores whose office is also at Matunga. The mild steel bars can also be inspected at Matunga." He also received a list of mild steel bars available for sale to the value of $\frac{1}{2}$ lakhs and amongst it were included these bars which were ordered by mistake and were supposed to have been used by the Department and no loss was caused.

Mr. Billimoria.—You have stated in your statement that some of the mild steel bars were indented for by the Executive Engineer, to which year do you refer?
A.—This was in 1921.

Sir Frederick Hopkinson.—Perhaps this might be for housing contracts?
A.—Well, Sir, it was meant for housing contracts or for the development directorate, but the instance is there.

Q.—You say that this was altered, by whom was it altered? By the Superintending Engineer?
A.—That's for the department to answer.
Sir M. Visvesvaraya.—Will you please give the date of that letter?
A.—The letter is dated 26th January 1925.
Mr. Billimoria.—How do you know that he altered the indent? It might be a slight error?
A.—My charge in the council was that the indent prepared by an Executive Engineer to be forwarded to Manufacturers at home for a large quantity of mild steel bars for concrete piles for the reclamation work and the size mentioned in the original indent by the Executive Engineer was $\frac{1}{2}$ which was subsequently altered after the indent was prepared but before it was despatched by the Superintending Engineer into $\frac{2}{3}$. The quantity required was about 1,300 tons costing nearly three lakhs of rupees. The altered indent was sent to the home manufacturers by the Superintending Engineer and the bars arrived of the size and dimensions of $\frac{2}{3}$ which were totally useless for the work.

Q.—But there can't be any dishonest motive, it might be a slight error of judgment?
A.—Whatever that might be, Sir, but it's for the Committee to decide whether this was a waste of the public's funds or not.

Q.—By whom was the indent altered?
A.—The Superintending Engineer.
Sir Frederick Hopkinson.—Have you seen that altered indent?
A.—How can we? We were not shown that.
Mr. Billimoria.—Do you suggest any alterior motive?
A.—Yes.
Q.—And you are not in a position to give the name of that gentleman?
A.—I have mentioned the name of the Superintending Engineer.
Q.—Was he alone or several others were associated with him, or any particular party?
A.—Well that's very easy for the Committee to find out. If you will refer to the Development Department they will tell you.
Sir M. Visvesvaraya.—Can you give us any idea of the magnitude of loss caused by this transaction?
A.—This one transaction alone caused according to the information given to us a loss of about 2 lakhs as the original indent was based for 2,50,000 which we came to know only in January 1925.
Q.—This is said to be due to a clerical error?
A.—Whether it is due to error or at anybody’s intention, but the public moneys were wasted and it’s for you to decide.

Mr. Billimoria.—Perhaps they would not have required this afterwards?
A.—Well, it’s for them to explain.

Sir M. Vivekanaraya.—You say again on page 21 that tenders were not open to the public!
A.—Well, at first no public tenders were invited but after about eighteen months public tenders were invited. Mr. Thomas who opened the tenders, was in charge and he asked all the contractors to clear out of his room when he opened the tenders. The merchants naturally protested and desired that the tenders should be opened in their presence but he paid no heed and allowed only one contractor to enter the room whenever he liked.

Mr. Billimoria.—Who was that man?
A.—Well, I have already mentioned his name, his name is Mr. Balkishendes, a man from upcountry.

Q.—Is there any proof?
A.—The fact is there and it is for you to find out. Of course you cannot expect where discrepancies of such kind turn up there can be regular accounts or passing or exchanging of cheques so that proper evidence might be recorded but as ordinary and reasonable persons would do taking all the circumstances into account you will find out that this man got contracts to the tune of about 9 lakhs.

Sir Frederick Hopkins.—Was that the amount of profit he carried?
A.—Not actually profit, because as far as information goes this gentleman was once given Rs. 10 or more per truck of nineteen or twenty tons for Colaba section filling in which was then reduced to Rs. 6 and then to Rs. 4-6-0. But after some objections that we took in the council it appears that circulars were issued in the department directing that public tenders should be invited for all this sort of work, as a result of which this gentleman got a rate to the last figure of Rs. 2-8-0 per truck making it at two annas per ton. Thus for exactly the same work and the former work was easier as the materials were directly emptied near the rails whereas here it is a bit expensive as the materials had to be carried to a little distance from the rails, the same contractor who had offered and obtained the rate of Rs. 10 or more per truck was now prepared to work at the rate of Rs. 2-8-0 per truck.

Sir M. Vivekanaraya.—What have you to say in regard to the cement contract?
A.—Well, Sir, I would not repeat that an agreement is made by the Development Directorate with four cement companies the names of which I have already stated in the statement, and these companies were given the monopoly of supplying all the cement required up to 60,000 tons per annum for ten years commencing from about September 1923 at a rate equivalent to ninety per cent. of the actual cost of cement in the financial year of the company concerned preceding the season in question plus 15 per cent. According to this term, cost to Government came about to from Rs. 60 to Rs. 70 per ton. Shortly after the agreement was executed, the price of cement began to fall considerably in 1923, it came to Rs. 40 per ton and in 1924, even from Rs. 40 to Rs. 30 per ton and the rates were particularly low for large quantities. At a difference of Rs. 30 per ton the total difference for 60,000 tons, the full requirement of the Directorate, would come to Rs. 18 lakhs a year and if the rates remain the same or go lower still, in the course of 10 years, i.e., the full period of the agreement, the total loss would be one crore and 80 lakhs. Besides this annas 14 per ton are spent for testing the cement supplied. Thus in one transaction alone the Directorate would sustain a heavy loss of 14 crores and to that extent the Indian Cement Companies will be benefited at the expense of the public. This agreement binding the Directorate for such a long period was made at a time when every shrewd man of business in this line knew that there was bound to be a slump in trade in this particular commodity and even from the year 1921 the slump had commenced in Europe and America and the prices were rapidly going down. About two years ago, one of the contracting companies expressed its inability to continue the terms of agreement and by an arrangement with the Directorate the benefits accruing to that company were transferred to another company for consideration. Thus the Directorate instead of availing itself of the opportunity of reducing the liability, again deliberately renewed the agreement with another company. Another way of saving loss to public fund was to allow the contractors to buy cement cheap from the market as there was nothing in the agreement to compel private contractors to buy the cement under that agreement, while it is reported that the Directorate compelled the contractors to buy at these rates from the four Indian Companies alone.

Sir Frederick Hopkins.—Were these local companies? Do you mean to say that they should not make profits, won’t you like to make profits?
A.—Certainly they should make profits but I should not like it to profiteer and allow public funds to suffer.

Mr. Billimoria.—You mention, that certain consignments were ordered out in the personal name of Sir George Lloyd?
A.—Yes, that’s true. Several large consignments in the beginning, of machineries and plants intended for the Bombay Development Directorate used to arrive in
the personal name of Sir George Lloyd, the Governor personally and not in the name of the Development Directorate, which raised a strong suspicion among the public and several publicists wrote articles in the papers to that effect.

Q.—How do you know that certain goods were coming in the personal name of Sir George Lloyd, perhaps you are aware that there was a dredger called “Sir George Lloyd” and the consignments coming in India might be pertaining to the said dredger called “Sir George Lloyd” and this doubt of the public might have arisen owing to similarity of names?

A.—Several publicists including Mr. B. F. Bharucha openly criticised the attitude of the Government.

Sir M. Visvesvaraya.—You refer on page 22 to Kandivli quarries and moorum supply?

A.—Well, I do not attach much importance to this as it’s one of the blunders of the department out of many more.

Q.—Then again you say that a large quantity of railway stock was ordered of entirely different standards from those required. That also refers to the housing department.

(Sir Frederick Hopkinson.—We have nothing to do with it.)

A.—That is only mentioned for your information so that you might ask the proper persons who have done this and that thing.

Q.—You say that in the establishment department out of 20 posts of high-salaried officials 19 posts were filled up by Europeans and only one by Indian?

A.—Well, I objected to this high-salaried officials who had no knowledge of such work and who were carrying such high salaries which showed a clear waste of public money.

Sir Frederick Hopkinson.—Were you ever told of the qualifications of these officials?

A.—Well, Sir, it won’t perhaps be out of place to mention that the Development Directorate paid a high salary of Rs. 6,000 to the Director Sir Lawless Hepper, a salary next to the Governor in this province and who is also provided with a bungalow of the cost of about 3 lakhs. We repeatedly protested against this in the council and as a result only about two years ago his pay has been reduced to Rs. 4,000. How was he qualified to be the head of the largest work of the world? Had any experience of the reclamation work? A man who has simply worked as an agent to a particular railway or as Controller to a Munition Board? From his evidence before you, Sirs, he has entirely disowned all engineering responsibilities hence his duties were only administrative, i.e., similar to those discharged by the Chief Secretary to Public Works Department, with some additional autocratic powers. My contention is that Secretary’s salary does not exceed generally Rs. 2,000, then why was he favoured with such an extravagant salary of Rs. 6,000 with a commodious palatial bungalow worth about two or three lakhs.

Sir Frederick Hopkinson.—If they received salaries, do you object to it? Don’t you like to receiving one?

A.—Of course if I deserved it, I would, why should I not, but God forbid I would not receive any salary as I have my profession. But apart from the above example, there are many I have stated in my statement. Many a men with meagre or no qualifications were provided with fat and high salaries either as deputy or assistant engineers. Perhaps your committee, Sir, I submit, will be able to find out, with regard to most of the officials getting salaries of Rs. 2,000 and upwards as to what appointments they held prior to this and what were their salaries. This is not the only carelessness and waste of public money but as I have stated already several consignments were also coming in Sir George Lloyd’s name.

Mr. Billimoria.—But Mr. Nariman, I have already made it clear that that name perhaps might have been put for the reason that these consignments must have been belonging to the said dredger “Sir George Lloyd”?

A.—Well, to tell you, it seems to me a very ingenious explanation.

Sir Frederick Hopkinson.—We have gone through this item, and why should you waste time over discussion of this nature?

A.—Well, if it’s a waste of time for the Committee, and if a witness is insulted like this, I would clear out of the hall. It’s your view and not the view of the Chairman and other members of the Committee. If they too say so, then I would leave at once and waste not a minute of mine here. It’s very regrettable that you don’t appreciate that I am on the contrary helping you.

(Mr. Billimoria.—Mr. Nariman, perhaps you have taken a wrong interpretation of Sir Frederick’s view.)

Q.—Finally, you point out that the transactions were conducted in opposition to the rules prescribed?

A.—That is what I say. That is also the strongest point. I have got all the rules and sections of the Government of India Act.
Q.—You have given us all the criticisms you have to offer. Can you tell us what you wish done in future if you had your own way? For instance, we had an Advisory Committee. Do you want a Committee or do you want the work to be carried out departmentally?

A.—I want first of all the Directorate to be abolished immediately, and their activities to be transferred to the Public Works Department and brought under the control of the Council, and it should be left to the Council to do what they think necessary. If they think there ought to be a Committee of citizens to watch this or an executive Committee to be associated with the Department, it is for them to decide. It is the function of the Council to decide as to how they should proceed further with the scheme.

Q.—It has been suggested that a board like the Fort Trust or the Improvement Trust should be appointed. What opinion have you as to a separate board for this?

A.—I am not in favour of that. I do not think it is necessary. I am more in favour of its being transferred to the Council in its ordinary original activity, I mean to the Public Works Department. The Executive Committee members may be associated with the Public Works Department for this particular scheme. It will be a matter of arrangement between the Government and the members of the Council. Supposing the Council passes a resolution that there is to be an Executive Committee and that members of the Council as well as outside advisers should be associated with this particular committee, and they should be advised constantly by the Department, that can be done.

Q.—Such a Committee you want to control, and to sanction estimates?

A.—Sanction estimates, internal administration, retrenchment, contract, everything.

Q.—Do you wish the work to be carried out departmentally or by contract or by sections?

A.—I do not want the whole work to be completed at all. Certainly not. And as regards the work that is in hand, the military land as well as opposite Churchgate, that may be done either by the Public Works Department or by contract, whichever is the cheaper and efficient method.

Q.—You want to finish that and leave the other portions incomplete?

A.—It is impossible to leave them where they are. That must be finished as a matter of necessity. There is no choice in the matter.

Q.—In your statement you have made certain definite charges of corruption against certain individuals in connection with Back Bay. There are several of them.

A.—I adhere to every statement made in that statement.

Q.—When did you learn about that corruption?

A.—Some time in the beginning of say 1923 or 1924.

Q.—Were not you offered in July of last year a judicial inquiry into those cases?

A.—No. I was not offered the inquiry which I had been demanding.

Q.—Were you not offered judicial inquiry into cases of corruption?

A.—No, I will tell you what I was offered. The terms which were offered to me are not a judicial inquiry.

Q.—I am dealing with charges of corruption. You have gone further than you did last year. You have given no names.

A.—I have given instances in my Council debates. In March 1924, I have given instances. Names I have not mentioned to-day. I have said, “Superintending Engineer” and if I was allowed to be associated with the Department and get information officially, I would have given all particulars.

Q.—In the statement you have given names?

A.—About Mr. Thomas you are referring. That was a subsequent event.

Q.—About Mr. Balkishan the contractor. That is a definite case. You declined to have that inquiry last July?

A.—I did not decline. I wanted certain conditions.

Q.—As a good citizen of Bombay, don’t you think it was your duty to do anything you could to prevent such things?

A.—Certainly, that was what I tried by having a resolution passed by the Council.

Q.—But you were offered a judicial inquiry?

A.—It was not a judicial inquiry.

Q.—An inquiry presided over by a Judge?

A.—With no opportunities given to me. I was asked to stand before it as an accused person, and I would be given only the documents which the Department thought it advisable to give me.

Q.—You did not mention any names last year. You were offered an inquiry presided over by a Judge in order that you may prove this case. Instead of that, you presumably allowed these things to go on?

A.—I was quite helpless.
Q.—You could have stopped it!
A.—I could not have, when the Government would not have an enquiry by the Council members.

Q.—Don’t you think a judge is better fitted for the inquiry?
A.—I could not have, when the Government would not have an enquiry by the Council members.

Q.—You had made direct charges of fraud, and the Government gave you an opportunity to have them proved.
A.—They did not.

Mr. Billimoria.—There are these letters to Mr. Nariman, letter dated 28th April 1925 and 13th May 1925.
A.—There are my replies if they are before the Committee. I have explained my position there. I adhere to the position to-day.

Q.—Your statement is full of innuendo. For instance, in the middle of page 17, you say, “It is now nearly two years since that resolution was passed when those allegations were made and most of the officers concerned have left the service.”
A.—Yes.

Q.—And then at the top of page 17, “When allegations are openly made...” Allegations are easily made, are not they if you had made general allegations and you were asked to convert those into specific allegations which you declined to do.
A.—No, I did not decline. I wanted the resolution of the Council to be respected. What was the objection in the Council members inquiring into the matter?

Q.—Have you any other cases than have appeared in this statement?
A.—About the corruption with regard to reclamation alone? No. I must make my position clear, that I am placed at a great disadvantage on account of the limited reference to this Committee. I have got instances which are really fraudulent, if you will allow me to go into them.

Q.—But you see we cannot do.
A.—I quite realize that. Therefore, I have applied the terms should be extended and I hope the Government of India would have granted the resolution of the Corporation.

Q.—Then at page 32, three-quarter of the way down you say, “It could not be merely on account of friendship as no friendship could exist between an Indian convict and high European officials.” You tell us who these European officials are.
A.—Those who had to deal with the contract to Balkishan Seth. How many officers had to do I cannot say. It is a departmental secret. I do not know who it was. I only say it could not be merely on account of friendship.

Q.—You suggest there must have been some other arrangement that the gentleman you have been speaking of as a fact has been corruptly giving commission to one of the Engineers?
A.—That is my submission. I cannot find any other reason for this conduct.

Q.—If that is the case, it is a matter for a criminal court to investigate far better than we can do it.
A.—Decidedly.

Q.—I presume Government will take some steps.
A.—I hope so, although it is too late in the day. They ought to have taken it on my resolution in 1924.

Q.—You did not give names.
A.—I wanted a committee of investigation. Why should they have refused it if their hands were clear.

Sir M. Visvesvaraya.—You see, this Committee is now sitting for an enquiry.
A.—I beg your pardon. I am talking about the Government of Bombay. The Government of Bombay has consistently refused investigation in spite of the resolutions of the Council and it is over the head of the Government of Bombay that the Government of India has appointed this Committee. I am talking of the Government of Bombay and I say they did not allow an investigation.

Mr. Billimoria.—It was at the instance of the Government of Bombay that the Government of India have appointed the Committee.
A.—The Government has changed. I know the present Governor’s attitude in the matter.

Sir F. Hopkinson.—When did the Government change?
A.—December 1923. The new Governor took time to study the question, and I think his attitude is satisfactory so far as the public are concerned.

Mr. Billimoria.—At page 9 of your note you are speaking of the responsibility of appointment of Sir George Buchanan. You say Sir Lawless Hepper attempts to shift the
whole burden on Sir George Buchanan. I cannot clearly follow what your argument is.

A.—At least so far as the public are concerned, so far as the reports in the newspapers go, Sir Lawless Hepper's whole trend of evidence seems to show that he wanted to disown all responsibility for this disaster. Sir George Buchanan writes in the papers trying to transfer it over the head of the local Government to the Directorate. If it had been a credit or a success each party would have been equally anxious to take the credit.

Q.—What do you attribute the failure to?

A.—I attribute the failure to absolute recklessness on the part of the Government from the very start, absolute negligence in a manner which is impossible to believe a responsible Government would have committed itself to.

Q.—It is a very strong statement.

A.—I adhere to it. I know what I am saying.

Q.—You suggest that the Development Department may be absolutely abolished. Do you suggest any other agency to undertake that work?

A.—The Public Works Department. Not the whole scheme. Only the military land and that opposite Churchgate. It cannot be left in the stage in which it is. I am not in favour of spending any more money.

Q.—Having done that?

A.—It is a matter for consideration. There is very little material to come to a decision on this subject and there is no necessity.

Q.—While you were talking about the "Kalu" you said it was dumped on this Government. Is it not natural that when this Department was created and when the work had been undertaken and when the department wanted some dredger it should be purchased. It may not be dumping.

A.—I call it dumping, because without knowing what material it was going to work, and without making any inquiry of the Port Trust or other authority it was purchased. If the cost of the dredgers was prohibitive, that is a consideration not to start the scheme. If the dredgers cost 2 or 3 crores certainly fresh consideration should have been given before starting the scheme.

Q.—Then you have made some statements regarding the appointment of Sir George Buchanan. But you perhaps seem to forget that the Secretary of State for India was approached by the Government of Bombay to recommend the name of a suitable Engineer.

A.—They did, but the Government of Bombay would not accept. That is what I read in the Council report of the 17th March. Because the Secretary of State did not or could not find another suitable man, Sir George Buchanan's services had to be engaged. Where was the hurry? It appeared as if without Sir George Buchanan and the dredger, Bombay was to go to rack and ruin.

Q.—We come to the question whether there was or was not immediate necessity.

A.—There was no necessity.

Q.—None of the honourable Members of Council at the time the scheme was launched raised any question. On the contrary as the papers before us go, it is stated here distinctly that everybody applauded it. I will read the exact wording. "None of the members of Council criticised the scheme at that time. But on the contrary they commended the scheme and congratulated the Government on the boldness and courage shown in the undertaking of the scheme. . . . . . . . The scheme was said to be a very sound one, and expected to yield a huge profit."

A.—Because of the statements of the Government Officers, and I must say if I had been a member probably I might not have swallowed all the Government did say. But it is rather a misfortune that the members did swallow and so we are in this position. They should have judged for themselves without regard to the statements of Government.

Sir M. Viveswaran.—But the atmosphere was different.

A.—I could understand the atmosphere when dealing with private funds of their own. They should be cautious when dealing with public funds.

Q.—Have you any other substantial instances of corruption?

A.—I have numerous, but not with regard to the reclamation. But unfortunately I have not been allowed to mention those.

(Mr. Bidimora.—Whatever instances you have quoted will be brought to the attention of Government.)

Sir F. Hopkinson.—With regard to your remarks about the "Kalu" you would be interested to hear that in March 1916 the "Kalu" was surveyed by the Chief Constructor and the Inspector of Machinery of the Royal Indian Marine Dockyard, Bombay, and the Surveyor to Lloyd's Register and certified by them to be in good working order.
Mr. Lalji Naranji, M.L.C., representing the Indian Merchants' Chamber was examined.

Written statement put in by the Indian Merchants' Chamber (Mr. Lalji Naranji, M.L.C.)

The various proposals for the Reclamation of the Back Bay and how it was turned down after time by the Government of India and the Secretary of State is given in the dissenting minute of Mr. Manu Subedar, the Chamber's representative on the Advisory Committee in their second ad interim report on the subject. It is there also shown how Government finally launched into this huge gamble and deluded themselves and the public with prospects of huge profits of 300 and 500 million rupees that were to be available for the benefit of the labouring classes and the poor. It is therefore not considered necessary to repeat it all here, and only matters arising after the launching of the scheme and which have formed the subject matter of correspondence between this Chamber and the Government will be noted in the present memorandum.

Early in 1920 the Government came forward with proposals for development of Bombay and floated a big loan which they emphasised was to be spent

"in Bombay, by Bombay and for Bombay."

Our Committee addressed Government on the 8th November 1920. In this they urged Government to carry out the promise implied in the above slogan to give preference to Indian contractors and pointed out that such men would prove successful in dealing with difficult problems of labour and local conditions than non-Indian contractors could be. They said further that they understood Government's intention to be to give such contracts on basis of cost plus profits and very strongly urged that this should not be done and that:

"an attempt should be first made to secure firm bids which they felt would be forthcoming at least from Indian contractors."

They further pointed out to Government that

"from the point of view of a public body it was extremely undesirable to render itself liable to large excesses on their estimate owing to the uncertainty of cost plus percentage basis and that even if it cost more public bodies should insist on limited liability, i.e., fixed prices, and not depend on a contractor's figures of expenditure."

They consequently recommended the calling for tenders at fixed rates.

In a subsequent letter (11th February 1921) my committee pointed out that they understood in specifications for the Development Department only British Empire products were required to be used in all contracts. They drew the attention of Government to the fact that Belgian steel was quoted at only £15 to £16 as against £22 to £24 for British and urged that

"Indian revenues or capital should not be thus penalised (by exclusive use of British goods) that definite instructions should be issued that where Indian-made goods were not available and the necessary materials have to be imported those should be imported from the cheapest markets."

The Government in their reply (16th February 1921) agreed to delete this stipulation from future contracts. My Committee were, however, surprised to learn from the same letter that

"Government approved on 14th February the Director of Development's proposal that none of the tenders should be accepted and that work should be carried out departmentally";

thus definitely ignoring the warning conveyed in my Committee's letter of 8th November 1920. This, in the opinion of my Committee, was a most fundamental error and must have led to a large waste of public funds.

In a letter dated 8th April 1921, Government asked the Chamber for suggestions as to what public buildings ought to be included in the general layout of the Reclamation. My Committee at once pointed out in their letter of 10th June 1921, that:

"they had great doubts as to the utility of reclaiming land from sea and consider that this scheme should not have priority to the other schemes before the Department, and this scheme of reclamation threatened to be of a stupendous character and suggested that the Development Department may well consider if it was worth going in for it when land of an immense area was lying waste and undeveloped."

Your Committee will better appreciate the position if we point out that at that date the removal of the Cotton Green to Sewri had already been decided on and the whole of the immense area at Colaba occupied in the storage of cotton was to become vacant and the further immense
area then occupied by the B. B. & C. I. Railway Goods Yard at Colaba was also to be vacated and the removal of the line from Colaba to Churchgate was being very seriously considered. Therefore, apart altogether from any land in the Suburbs, a very large area of land at the very door of the business quarter in the Port was to be very shortly made available, and there was no urgency whatsoever for prosecuting this disastrous scheme at all costs. They also began to feel that the arrangements for the control of these large schemes were entirely unsatisfactory and in a letter dated 14th June 1921 told Government that a mere advisory body without controlling powers would be useless and urged that a controlling body should be created and that the Development Department should be a Transferred subject in charge of a Minister instead of being treated as a Reserwed subject as Government proposed to do. In their reply of 4th July 1921 Government turned down both the above suggestions.

This anxiety on the part of Government to keep the expenditure of these large schemes out of the purview or control of an authority amenable to public opinion created great uneasiness in the public mind and a requisition was received by the Chamber asking for a public meeting.

Before taking action on this requisition the Chamber thought it advisable to call for information as to the financial aspects of the Reclamation. In their reply dated 18th July 1921, Government said that from details of figures recently prepared they were satisfied that:

(a) the developed land would be ready to be placed on the market by June 1929;
(b) the total outlay including interest throughout at 7 per cent. would not exceed Rs. 850 lakhs at the most;
(c) the cost per square yard would be less than Rs. 15.8-0;
(d) Block 8 would be handed over to the military department at Rs. 20 per yard undeveloped and payment received by January 1927;
(e) total reclamation area will be 1,125 acres of which roughly 239 will go for roads, etc., 250 will go to the military department, leaving roughly 641 acres for sale of which cost in June 1929 will be Rs. 19;
(f) if 167 further acres are left out for open spaces cost will be Rs. 28; and
(g) Government do not anticipate having to borrow more than Rs. 4 crores from the public including the 2 crores already borrowed for the purpose in 1920.

It was further added that it was beyond the powers of this Government to make this Department a Transferred subject even if it was considered desirable to do so.

My Committee were told that His Excellency the Governor and the Member in Charge would be glad to receive them if they wanted more information.

This interview came about on the 9th August 1921, when His Excellency made a long speech explaining practically laughing out the fears of the Chamber and the public as to the difficulties of the Back Bay Reclamation Scheme from either the technical or the financial points of view. Among other things His Excellency said:

1. that he might say without fear that this was the simplest reclamation from an engineering point of view of all the reclamations undertaken in and around Bombay;
2. that they had consulted the best experts they could get hold of;
3. that there was no conflict of opinion in regard to Back Bay and indeed there had been the opposite, i.e., a consensus of opinion and it was rare indeed for experts to agree; and
4. that he ventured to say that the Back Bay Scheme was a far safer piece of business than many of the solid businesses that were undertaken in Bombay City.

The whole speech is full of a tone of over-weening confidence which reads strangely in view of the fact as we know them today. There, however, seems to have been a glimmering already of the problematical character of the profits to be realised because while Sir Chinamal Sethavd, the Member in Charge, spoke in February 1921 with great confidence of profits of 30 to 40 crores of rupees that would be available to Government for the benefit of the working classes, His Excellency in August 1921 in the course of this speech spoke only of successful fruition of the enterprise “without loss and probably with a very considerable margin of profits.”

In reply to the grievance expressed by the Chamber on behalf of the public that Indian were not being employed in adequate numbers His Excellency said that “their first duty was to employ the best talent so that there should be the fewest possible mistakes.”

The event has unfortunately shown what Himalayan mistakes this talented staff was capable of.

In a letter dated the 18th August 1921 Government also gave details of the costs under various major heads which may prove of interest to the Back Bay Enquiry Committee. As already remarked the Government wanted to run the whole show according to its own sweet
will and had already rejected the suggestion for the creation of a statutory body to control these activities or to give the Advisory Committee any powers. His Excellency had, however, given the assurance at the interview above mentioned that my Committee “would find Sir Lawless Hepper grateful for their advice and assistance and he would be willing to give to bodies like this Chamber the fullest possible information and withhold nothing of the main issues of the question.” However, when Mr. Lalji Narani, the Chamber’s representative on the Advisory Committee called for information on certain points, it was refused on the ground that “such questions could not be said to be relating to the general development of Bombay and so could not be included in the Agenda of the Advisory Committee.” My Committee drew the attention of Sir Chimanlal Setalvad, the Member in Charge, to this breach of the assurance given by His Excellency and added that if this was the treatment to be accorded to the members of the Advisory Committee, no useful purpose would be served by its representative remaining on it. This was on 6th February 1923, and in spite of several reminders, no reply was received till 21st June 1923 in which Government claimed that the questions covered the internal working of the Directorate and its purely executive administration and so did not come within the scope of the Advisory Committee. My Committee replied on 10th July 1923 insisting that “in their opinion the questions were legitimate and within the defined functions of the Advisory Committee”, and added, “if the machinery of the Advisory Committee was not to be used for eliciting information without which it was not possible for a businessman to take a whole and connected view of the situation and without it the Committee strongly felt that the Advisory Committee became valueless.”

The questions referred to above were calculated to bring out certain serious irregularities in the working of the Department as will be seen from the following:—

1. How much money has been spent on experimental work on Worli Chawl constructions?

2. Whether the Superintending Engineer has had really any training and experience to undertake work of such magnitude before he was given charge of the scheme?

3. Was it at all necessary to appoint Superintending Engineer, No. 4 Project Division, when the work of the division could have been managed by any other man drawn from the other division?

4. Was it not possible to save a sum of about Rs. 80,000 on 16 floor centerings for the chawls at Worli Estate if the work had been given on contract at a rate which would have included the rate for centerings; whether any efforts have been made in this direction now?

5. Is it a fact that Superintending Engineer, No. 1 Project Division, is generally in the habit of using intemperate language towards the staff and others on the works and whether he used abusive language towards Mr. Odey Singh, one of the contractors, and his contract was cancelled and subsequently placed with Major Gammon & Co.?

6. Is it true that Superintending Engineer, No. 1 Project Division, permitted Major Gammon & Company to make their own designs and increased the tender rates when the tenders had been called for and accepted on the old designs and at much lower rates and whether any test was applied to the old designs before they were rejected in favour of Major Gammon & Co.’s designs, while some of the chawls were being built on the old designs. What has been the loss to the Government owing to this?

7. Is it a fact that Superintending Engineer, Nos. 1 and 2 Project Divisions, are given accommodation on nominal rents whereas the Executive Engineers and low salaried officers and other assistants have to arrange their own accommodation at higher rentals and what action is proposed to be taken by the Director on their behalf?

8. Is it a fact that Superintending Engineer, No. 1 Project Division, has permitted contracts to be given to one of his Executive Engineers in his division? If so, is this procedure in accordance with Public Works Department Rules?

9. What stores have been purchased through the India Office and what stores are purchased direct by the Development Department?

10. Why recently no such information is being placed before the Committee? Are no purchases made from abroad?

For the more recent stages of the controversy between the Chamber on behalf of the public and the Government we would refer to the Interim Report of the Advisory Committee issued in 1925 and in pursuance of which it was decided to stop work on the East Colaba Reclamation. Mr. Manu Subedar, the representative of this Chamber, was largely instrumental in bringing the Advisory Committee to see that this was the wisest course.

A Sub-Committee of the Advisory Committee was then appointed to go into the financial aspects of the Back Bay Scheme. It was composed of Sir Lawless Hepper, Messrs. Delve, Aiyar and Manu Subedar, the last being the representative of this Chamber.
members tried to put the best face possible on the state of things, but were compelled to admit that:  "the financial result, if the assumed conditions as regards disposal could be realised, would be to reduce the debt at present values to Rs. 336 or 337 lakhs.  

Even if the period of disposal is extended to 35 years the resulting debt at present values would be Rs. 435 lakhs which would still be substantially below the Rs. 488 lakhs that would be lost if the works were closed down now ".

They therefore recommended that "work on the sea-wall should be stopped for the present, and all efforts concentrated on the blocks 1, 5 and 8 ".

The absurdity of the above calculations will be seen from the following:—

"(a) They base their calculations on land being taken up to the extent of 60 to 80 thousand square yards a year in lots of 12,000 yards on which blocks of six flats could be built and an yield on capital at 6 per cent. obtained by renting such flats at Rs. 450 a month."

Taking only a sale of 60,000 yards, it means 50 blocks or 300 new flats to be let out every year at Rs. 450 per month each. That gentlemen conversant with conditions in this City should assume that there would be 300 additional tenants year by year capable of paying Rs. 450 a month passes the comprehension of my Committee as they consider it palpably absurd.

(b) These gentlemen talk of present values of the loss.

This is an ingenious attempt to tell the public that the loss is after all only of a few crores, but the argument is most misleading. The following examples will make this clear:—

If there was a debt of 100 crores payable at the end of 60 years and no interest is payable on it year by year and money could be invested at 6 per cent., then paying only Rs. 3·03 crores—its present value—will wipe off this debt. If, however, the debt is 100 crores and interest has to be paid on it, then the liability remains full 100 crores unless the debtor can find sufficient money not only for interest but something also against the principal. The absurdity of this talk about present values could be better appreciated by the lay mind if we mention the familiar instance of only one penny being laid out at 5 per cent. compound interest in the first year of the Christian Era. The total is so enormous that the present war debt of Great Britain is a mere bagatelle to it, but it is no satisfaction to the British taxpayer to tell him that he need not worry and that he has only to figure to himself that the British Treasury only lost a penny nineteen hundred years ago. We need not go 1,900 years back. A debt of 1,000 crores to-day would have a present value of less than Rs. 1,00,000 in the year 1726 on 6 per cent. basis, but to say that the public debt of India is insignificant because two hundred years ago it would have had a present value of only a lakh of rupees would be absurd.

Our representative, Mr. Manu Subedar, has taken the correct line and shown firstly that there was no warrant whatsoever for assuming that 350 additional new flats could be let in Bombay year by year at Rs. 450 a month and that apart from the period assumed the actual total loss to the Presidency will run into an enormous sum.

It was this exposure of the whole affair, largely due to the efforts of the representative of this Chamber, that has compelled the local Government to see the error of its ways, but work is still being carried on in spite of public opinion and it will be up to the present Enquiry Committee to recommend that the work be shut down altogether and an end put to further losses. My Committee are emphatically of opinion that if a controlling body had been created consisting of representatives of various bodies, their business knowledge and experience would have made them pause as soon as the 367 lakhs of Sir George Buchanan had to be raised to 702 lakhs. They would have considered it essential for the sake of their own business reputation...
to once more go into the financial aspects of the project and we have not the least doubt that they would have come to the same conclusion as the Advisory Committee's sub-committee. The Government of Bombay did nothing of the sort because they had already hopelessly committed themselves to the scheme and incurred heavy expenditure on dredgers, etc., months before the sanction of the Legislative Council. The position taken by them was even more reprehensible in that they had secured the sanction of the Government of India on the basis of the first estimate of Sir George Buchanan of only 367 lakhs and yet did not go up again to the Government of India when it was found that the figure was wrong by as much as one hundred per cent. Evidently the local Government was afraid that the Government of India might require the abandonment of this pet scheme of theirs. How far there was here a breach of constitutional practice we must leave it to your Committee to determine.

Not only was the public deluded with the glitter of fabulous profits to be made, but the correctness of their revised (and re-revised) estimates was emphatically asserted by responsible members of the Government. Thus as recently as 10th March 1924 the Honourable Mr. Cowasji Jehangir said emphatically that

"...the land when it was first ready for sale would cost Government Rs. 28 2 a square yard was a statement he repeated on that day and that he hoped he or his successor could repeat with confidence when the Reclamation was completed."

The Report of even the majority of the Advisory Committee's sub-committee is a sad commentary on this!!

Misrepresentation was kept up to the last because it was in February 1925 that Mr. Baptista on the eve of the first Interim Report, was assured that all was well in these terms:

"In regard to the possibility of financial loss the expenditure has up to date approximated closely with the forecast"!

without any hint of the important fact that the work completed for this amount of money was far below expectations. It was by such continual misrepresentation of the true state of affairs that work was kept up on the Back Bay Reclamation all these years and it might still have gone on for years to come involving this Presidency in further heavy liabilities but for the exposure the representative of this Chamber forced on them. It is for your Committee to consider what recommendations they should make to the Government of India to prevent a repetition of similar happenings in future. My Committee also strongly feel that the Government of India cannot rightly absolve themselves of all responsibility in this sad imbroglio. If they had not lightly permitted or overlooked the breach of constitutional safeguards and if they had insisted on the matter being submitted to them when the original estimate was found 100 per cent. too low, the scheme could have been thrown overboard at a very early stage and the loss to the taxpayer of this Presidency would have stopped at a far smaller sum that they are now faced with, and my Committee consider that the least that the Government of India can do is to advance the sum now estimated to be definitely lost as a loan to this Presidency without interest and repayable in, say, 60 years.

______________________________

Written Statement of Mr. Lalji Naravji, M.L.C.

The Development department owes its birth to the following amongst many reasons:—

1. Owing to the relaxations of the restrictions previously imposed upon the utilisation of borrowed funds on capital expenditure with reforms under Government of India Act, 1919.
2. Owing to the removal of the essential condition of the employment of the loan funds on the construction of any works of its being direct revenue producing character.
3. Owing to the unhappy coincidence of a combination of both the then Governor of Bombay and the Finance Member of this Presidency being very ambitious, optimistic, speculative, irresponsible and of the belief that no rules laid down any obligations on them and forgetful of the fact that under the reforms they had certain obligations to meet.
4. Owing to the false demand of land temporarily created during the war and as an aftermath of the war.

It is a great error to believe that there is any want at present of land in the city of Bombay. The Back Bay scheme was undertaken on the assumption that the area of the business quarters was not sufficient. I can conclusively prove that it was entirely a false belief. If it is argued that Bombay will develop further, without being charged of being pessimistic, if one looks...
ahead, he will find that there are no chances of developing Bombay any further. There are three things on which the further development of Bombay will depend:

1. More Trade,
2. More Industries,
3. Further expansion of Bombay Port.

I do not expect further development of trade for the following reasons:

Bombay in past had a monopoly of possessing a nice harbour well protected and well developed. Secondly, big boats visited as far as possible only the port of Bombay. In future, that monopoly will be broken in view of the development of Vizagapatnam, port of Cochin, Karachi which are already in hand. The western coast of the Kathiwar States are not slow in developing their ports and the beginning of the activities of developing their ports are also seen which should not be ignored when the further Development of Bombay is considered.

Mill Industry.—The only industry worth considering in Bombay is the textile industry and the condition of the textile industry can be judged from the statement submitted by the Millowners' Association to the Tariff Board. Cheap freights from foreign countries to the ports of Bombay, Calcutta, Madras, Karachi, Rangoon, etc., are competing with the heavy internal freights of the Railways of India. It is due to this reason that many textile mills are now being built in the upcountry centres and even in the Indian States where can save several forms of taxations and protection within the State by imposition of Import and Export duties.

The idea of further expansion of the Bombay port was conceived at a cost of about twenty to thirty crores during the regime of the same Governor and the Finance Member of this Presidency, but fortunately the port being under the guidance of business men has escaped any expenditure excepting the preliminary nature of examination. I should only refer to the members of the Enquiry the Port Trust Administration and also request them to examine the financial position of the Port Trust which will reveal the true possibility of the future expansion.

I should refer members of the Committee to the Census of India 1921, Volume 1921, No. II, Tables to the portion where there is the area, houses, etc., of the City of Bombay is given from which it will be seen that by the agencies of the Improvement Trust, Municipalities, and by the development of suburbs and by cheap and quick suburban service, the problem of the housing of middlings and lower classes will be satisfactorily solved.

Thus it will be seen that no further big demand either for business quarters or housing is likely.

Until, therefore, the circumstances are changed radically it will not be wise to incur expenditure on false anticipations.

The failure of the Development Department and particularly the Back Bay Reclamation Scheme is due to the following amongst many reasons:

1. The Honourable Sir H. Lawrence, the Finance Member of the Government of Bombay, has failed to execute his duties as a watch-dog of the Finances of the Bombay Presidency.

2. Instead of watching from the broad financial interests of this Presidency, this development and other such big capital schemes were undertaken by him without having paid any regard to the capacity of the finances of this Presidency which is to-day placed, in the words of the Auditor General as expressed in his letter No. 562 Admn./K. W. 48-36, dated the 7th June 1926, addressed to the Secretary to the Government of Bombay, Finance Department, in the following situation:

"The financial position in the near future will be serious. It is doubtful whether even the remission of the contribution to the Central Government will be sufficient of itself to ease the situation."

3. The Honourable Sir H. Lawrence instead of exposing to the Public the defects of the administration of the Development department, tried to minimise the Accountant General's strictures passed so early as 1920-21 and repeated in the next year 1921-22 about the working of the scheme of the Back Bay. Instead of taking the Accountant General's strictures in the proper light and protecting the financial interests of this presidency by thoroughly examining and taking actions on the strictures, he has disregarded the recommendations of the Public Accounts Committee made so early as 1921-22 of the necessity of the close financial control to be exercised by the Finance Department over the Development Expenditure.

4. The Finance Department under the Honourable Sir H. Lawrence has completely disregarded the repeated notices given by the members of the Council as well as by the Public Accounts Committee.

5. The Finance department should not have allowed the Development de artment to incur the expenditure according to the rules required by the Public Works Department Code
without insisting for the estimates being prepared. It appears that the expenditure to the extent of Rs. 1,90,64,766 was incurred without the sanction of the estimates as required by the Public Works Department Code. He could have stopped all this by insisting for a regular project estimate in the absence of which no effective financial control was possible. Regarding the huge Back Bay Reclamation scheme which had been in progress for 18 months, regular project estimates were begun to be made only after the progress of the work for 18 months. In the matter of detail working estimate for the Back Bay to start works, same want of sanction of the estimates was allowed to go on. I therefore hold the Finance department seriously responsible for all the losses that we have seen to-day.

6. The Finance Department, if proper enquiry is made, will be found to have allowed the expenditure to be incurred by a mere order of the then Governor of Bombay. They have failed in their duty for insisting on a right observance of the Government rules that were in existence. Finance department also has allowed the Development Department to keep big balances and thus cause a great loss by way of interest.

7. No attention was paid to the warnings of the mercantile bodies like our Chamber.

8. The demand of constitutional control being given over the affairs of the working of Development Department like the one enjoyed by Improvement Trust, Port Trust, and such other bodies was also disregarded.

9. The Advisory Committee was never given an opportunity of considering any serious matter about the working of this department.

10. The temporary speculative demand of the land was never fully gone into by those concerned.

11. The heads of the department fell victim to the unreal and speculative temporary demand for more accommodation for business as well as housing. The private adventures for want of other finance were prevented from continuing further losses but as this department and particularly the Back Bay scheme which was continued by unlimited finances at the cost of taxpayers of this presidency and particularly of this city and a free and full use of the finances brought the present condition.

12. The department was carried on without being responsible to the public or the Government. The policy adopted by the Government was not to give any information to the public as the Government of the Country should regarding the procedure and the conduct of this department.

---

**How to get best out of the worst Job**

Block No. 8 i.e. completed at an early date as we have got definite buyer for that block, viz.: the Military Department of the Government of India and as according to the reports supplied by the Department, considerable portion has been completed and at the further new cost of about Rs. 14 lacs it can be prepared as required by the Government of India which will bring to us 239 lacs for Block No. 8 within two years or earlier. Government of India be approached to at least forego interest on the advances made by Government of India to the Government of Bombay for the Back Bay Reclamation purposes.

Regarding Block No. 1, in spite of the public demand to stop the work as Block No. 1 was proceeded with and as it is said by the Department and confirmed by Nelson Committee that we can prepare the land of about 4½ lacs of square yards at a further new cost of 19 lacs of Rupees, I am in favour of completing the said block to get best of what has already been spent.

No further blocks be attempted until the mill industry prospers and the demand of the land is felt. If at any time such work becomes a necessity, it should not be done administratively but by inviting tenders from contractors.

The Dredger "Sir George Lloyd" has no more work and should be immediately disposed of and the whole of the Development Department should be abolished at an early date and activities of this department be transferred to the Public Works Department as soon as it is practicable.

The whole scheme be taken as financially unsound and the amortization of debts by providing for sinking fund every year be provided by further retrenchment from the cost of the general administration of the Presidency.

---

**The Chairman.**—Mr. Lalji Naranji, you are a member of the Legislative Council?

A.—Yes.

Q.—And resident of the Indian Merchants' Chamber and Bureau?

A.—Yes.

Q.—A merchant prince of Bombay?

A.—I am a merchant in a small way, Sir.
Q.—You have given us three statements, one by yourself, one on behalf of your committee by Mr. J. K. Mehta and a third entitled “How to get best out of the worst job” by yourself. On which of them do you like to be examined?

A.—All three of them. The statement prepared by the committee is a general statement, that by me personally is the result of my experience as a Member of Council and as a member of the Public Accounts Committee and the last statement I prepared after I signed the Kay Committee’s report which is still confidential.

Q.—You are a member of the Kay Committee? It has finished its report?

A.—Yes.

Q.—You begin your statement by saying that “the development Department owes its birth to the following amongst many reasons”. You have given four reasons and the first is,—Owing to the relaxations of the restrictions previously imposed upon the utilisation of borrowed funds on capital expenditure with reforms under Government of India Act, 1919.” Under the reforms there was a relaxation of the previous restrictions, because the reforms were introduced just at that time?

A.—Yes. These are not the words exactly of the Accountant General. As I have said, they have been confirmed by the Accountant General. The first Appropriation Report for the year 1921-22 that was submitted to the Council says so and these are all quotations from that. Every word of it is confirmed by the Accountant General.

Q.—“Owing to the removal of the essential condition of the employment of the loan funds of the construction of any works of its being direct revenue producing character”—what is meant by that?

A.—Before the reforms no local Government could take up any enterprise by borrowed funds without its character being revenue producing. I should in this connection like to refer to page 15 of the Appropriation Report of the Account of the Bombay Presidency for the year 1921-22. It is said very clearly here that “under the reforms the restrictions previously imposed upon the utilisation of borrowed funds on capital expenditure have been very materially relaxed.” Under the Local Government Borrowing Rules a local Government may now raise loans on the security of its revenues for certain purposes specified therein. Amongst those purposes is one of wide importance, namely to meet capital expenditure on the construction or acquisition of any work of a permanent or of a material character in connection with a project of lasting public utility, provided that the proposed expenditure is not so large that it cannot reasonably be met from current revenues.

“(2) If a project appears unlikely to be of lasting public utility and not capable of giving a sufficient return it should not be embarked upon”.

Paragraph 28 on the same page says “It will be seen from the above that the productivity of a work, that is its direct revenue producing character is no longer, as in the past, the essential condition for the employment of loan funds on its construction”.

Q.—So Government may start any large work of this character without reference to the Government of India?

A.—I do not say “without reference to the Government of India”. It may be that they may be required to refer to the Government of India; but the Government of India cannot insist under the Reforms Act on any enterprise being revenue producing.

Q.—This work was accepted as a revenue producing work at that time?

A.—When it was undertaken it was not a revenue producing work. It was only a prospective work with many assumptions of making huge profits of several crores.

Q.—It was taken up as a productive public work?

A.—Yes.

Q.—What is the extent of control exercised by the Legislative Council over such works under the Reforms?

A.—In the budget you have to sanction and to provide any money that is wanted by the Government for such purposes.

Q.—Here you say in reason (3) of your statement “Owing to the unhappy coincidence of a combination of both the then Governor of Bombay and the Finance Member of this Presidency being very ambitious, optimistic, speculative, irresponsible and of the belief that no rules laid down any obligations on them and forgetful of the fact that under the reforms they had certain obligations to meet.”

Sir Frederick Hopkinson.—Who is the Finance Member you refer to?

A.—Sir Henry Lawrence.

The Chairman.—This project was undertaken by the Governor of Bombay, because he wanted to push on big schemes?

A.—Yes.

Q.—Owing to the false demand for land temporarily created during the war and as an aftermath of the war! And the price of land was very high?

A.—Temporarily it appeared to the public and the Government that there was a big demand for land.
Q.—At that time the public thought that this would be a very profitable work! And was this approved by the Legislative Council?
A.—I was not a party to approving it in the Legislative Council. Since I have been there I have always opposed it.

Q.—We have noticed that your Chamber opposed it. The scheme was sanctioned for 702 lakhs, and if the dredger had worked successfully possibly the work might have been completed for 7 or 8 crores. Then you might have had no complaint to make?
A.—That was never possible. It was taken for granted without sufficient data. Government never cared to go into the details and never prepared accurate detailed estimates before actual commencement of work.

Q.—I admit they did not take care to secure guarantees for the performance of the dredgers. But had the dredgers been successful, had they given the required output, many of these difficulties would not have arisen?
A.—If Government had only taken care to get the benefit of that information they had before them, they would not have launched on this enterprise at all. So long ago as the 10th June 1921 our Chamber has expressed grave doubts about the success of this scheme.

Q.—Till then you were doubting the success of the scheme?
A.—Not only doubtful, but we opposed it very strongly in very clear and emphatic terms.

Mr. Billimoria.—Was it on the ground that the information was kept back, or was it based on any commercial knowledge that the scheme would not prove a success?
A.—I have always opposed it.

Mr. K. C. Gokhale.—Was the scheme sanctioned for 702 lakhs?
A.—That I have said in my separate statement and I will give my reasons.

Q.—You are afraid that the trade going to other parts of India?
A.—Owing to the developments in other parts of India, namely the development of the Vizagapatam harbour which will be completed in the next five years, the development of the Cochin harbour and Karachi harbour and the development of the Western Coast of the Kathiawar States, one could easily see that these ports would divide the trade of Bombay. Bombay has a monopoly of the trade of these ports and harbours only so long as they are undeveloped.

Q.—There will be an expansion of trade if there is going to be a greater expansion of agricultural products?
A.—Nobody would say that India is a manufacturing country. India does not supply its wants as regards manufactured goods; it is only an exporter of raw produce. If any reasons are advanced that there will be a greater expansion of the raw produce which will come to Bombay, I can give conclusive answers. The Bombay Presidency so far is fully developed so far as agricultural development is concerned according to my view. The Madras Presidency when that is going to develop, or Bengal or the Central Provinces will all be served by the Vizagapatam harbour. The further development of the Sind Sukkur Barrage scheme should also be taken into consideration, and the Karachi harbour also is going to expand.

Q.—It will be a formidable competitor! It has already taken a part of the cotton trade?
A.—It will be cheaper to export from Karachi.
Q.—Is there any prospect of more industries in Bombay?
A.—No, sir, for these reasons. I do not see that there is any industry worth the name in Bombay except the textile industry. The present depression of the textile industry I will leave out of consideration as a temporary phase. Still I do not see any chances of a further development of this industry for the reasons which I have expressed in my note. The reasons are that the internal railway freights are so high that Bombay will not be able to extend its business further by land, and as the ports round about India still further develop, Bombay cannot supply any more goods of the textile industry in such quantities. Another thing is that more mills are built in the upcountry. Even the upcountry mills are not in such a bad plight as the mills in Bombay owing to the very heavy cost that the latter have to incur. Living in Bombay is very costly, but everything is cheaper in the upcountry, and railway freights also will be cheaper. The present tendency is that the districts are going to be served by the different mills in the different districts.

Q.—Then you have to take steps to make living in Bombay cheaper?
A.—You can make to a certain extent, but there is always a limit. But I am not so optimistic as our Governor was from the speech that he made in the Associated Chamber of Commerce. One could easily see from that speech that he was very optimistic from the figures that he quoted during that speech.

Q.—Which Governor?
A.—Sir George (now Baron) Lloyd.

Q.—You do not think there is any prospect of the growth of Bombay trade in the near future?
A.—Unless something extraordinary happens. I have referred to a very important matter, namely the idea of incurring further cost for the development of one of the docks at a cost of twenty to thirty crores. For the very same reasons which I have stated I pressed the inadvisability of incurring this cost upon the Trustees of the Port of Bombay, and my committee agreed with me and the scheme was eventually abandoned. Another thing is the Bombay Chamber of Commerce in support of what I said have raised the question that the cost of the Bombay port would be very heavy as compared with the other ports especially Karachi and a full inquiry was made by the Port Trust Trustees and by members of the Chamber of Commerce, and they have come to the same conclusion that my fear is a real one and not imaginary.

Q.—You then go on to the case of the failure of the Development Department. The first point you raise is “The Honourable Sir Henry Lawrence, the Finance Member of the Government of Bombay, has failed to execute his duties as a watch-dog of the finances of the Bombay Presidency”. You have added a new point in the statement, namely, that the Finance Department did not do its duty and that is one of the reasons for the failure of the scheme. This is a new point.
A.—As your Committee has announced that you are going to examine Sir Henry Lawrence, I would simply say that all these troubles could have been avoided if the Finance Member had done his duty conscientiously.

Q.—The Accounts Department is controlled by the Government of India?
A.—No, Sir.

Q.—Any deviations from the Account Code are noticed by the Government of India?
A.—The Accountant General is not subordinate to the Government of India, but he reports to the Government of Bombay.

Sir Frederick Hopkinson.—Do you mean to say that Sir George Buchanan’s estimate for 367 lakhs ought to have received that scrutiny?
A.—I have developed that point further in the second part of my note. I do not hold the Finance Department responsible for any estimates. If he had followed the general rules which require him to keep a constant watch on estimates to see that they are not exceeded, this thing would never have happened. What I am stating now has been pointed out to me by the Accountant General, and I know it also as a member of the Public Accounts Committee where this was discussed fully.

Mr. Billimoria.—I wish you would explain clearly what you mean to convey by saying that the Finance Member did not do his duty?
A.—In the Audit Report of 1921-1922, page 14, under the heading (c) Bombay Development Works the remarks of the Auditor General will conclusively prove to you that what I say is a fact. The Honourable the Finance Member has not been able to give a reply to this. He has been found fault with, not for any estimates as Sir Frederick seemed to suggest, but quite otherwise. He is not held responsible for looking into any costs or estimates, and this paragraph 29 (c) says very clearly that “unfortunately there are a few instances in which the Financial Rules have not been strictly observed.”

“(c) The expenditure on several works in the Bombay Development Department has been held under objection for want of sanction to estimates as required by the Public Works Department Code, and this item is 1,90,84,766.

Y 163-636
Sir Frederick Hopkins.—Does it refer to the Back Bay Reclamation?
A.—Yes. I have ascertained it. Out of the 1 crore 90 lakhs about 1 crore 50 lakhs refers to the Back Bay. The heading of this part that I am reading is the Bombay Development Works. In this very part it is said "In the matter of detailed working estimates for the Back Bay a similar negligence has been exhibited. The officers have been allowed to start work in certain construction of residential accommodation for themselves without any attempt to get prior sanction to the estimates" and my report to Government I have stated that I regard these irregularities as sufficiently serious to be brought before the Public Accounts Committee, since no explanation is offered by the Reclamation Branch of this failure to observe the Financial Rules. In the meantime I requested the Government (Finance Department) to issue stringent orders to the Development Department that in future no works should be commenced before the estimate is approved and that, if possible, further expenditure on works in progress should be suspended until detailed estimates are sanctioned. The Government have directed that in future no new work should be commenced before the estimate for it is approved and any expenditure incurred on works in progress the detailed estimate of which has not been sanctioned should be reported with the least possible delay and the date on which detailed estimates will be expected to be ready should be stated.
Q.—Don’t you think that in a large work of this kind where a whole estimate of 702 lakhs has been sanctioned, the accommodation for the staff should be considered a subsidiary and necessary part of the estimate and that should not require a sub-estimate?
A.—It is only a part of it.
Q.—The housing accommodation for the staff is a part of the whole scheme which had been sanctioned.
A.—But the sum of 1 crore 90 lakhs is a very big sum and that includes the cost of the dredger.
Q.—In works of this kind it frequently happens that you have expenses to incur, the delay of which will amount to a delay of the work, and therefore works of this kind should not be held up for any official form of sanction. Otherwise you stand to lose far more than you are likely to gain. One crore and 90 lakhs is a totally different proposition.
A.—This is the period after the reforms began and this is the period in which I was a member of the Council. But I enquired about the previous year also, namely 1920 when the Development Department was started. The Accountant General and the Auditor General have pointed out that it was a very serious mistake to have borrowed 9 crores and 39 lakhs and to have kept the money without there being any want for it.

The Chairman.—There was account objection to the loan raised in the first year?
A.—The Accountant General objected that Government had not taken care to see the loss of interest. If the estimates were prepared, then Government would know what is wanted. It is the duty of the Finance Department to see what money is required for the different departments at different times during the financial year.
Q.—"The Finance Department has completely disregarded the repeated notices given by the members of the Council as well as by the Public Accounts Committee." Will you explain what you mean?
A.—In paragraph 3 I have stated that instead of exposing to the public the defects of the administration of the Development Department, Sir Henry Lawrence tried to minimise the Accountant General’s strictures passed so early as 1921 and repeated in the next year 1922-23. Paragraph 3 says that very clearly, and if you want to know why I have said so I will support it by the first report of the Public Accounts Committee which has been submitted to the House by the Finance Member. I imagine now you know the difference between the Public Accounts Committee and the Finance Committee. The Public Accounts Committee is only to watch what amount was sanctioned by the House and what, was actually spent and to criticise whether that amount so spent was properly sanctioned or if it was sanctioned without any observance of the rules. Then the Accountant General criticises and puts it before the members of the Public Accounts Committee which is a statutory body of 12 members of which 8 are elected. This was the first report. Sir Henry Lawrence was under the impression that the members of the Public Accounts Committee were not aware of their own rights in the committee. In the first place, he took upon himself, as he was accustomed to before the reforms, as if he was the only member of the Public Accounts Committee, to write the report. He held certain meetings, but at the time of submitting the report, the rules require that he should hold a meeting and consult the other members, this he did not do. This has been followed since; but I am taking the year 1921-22. I want to impress on this Committee that those rules were disregarded. In the first report that I am talking of Mr. (now Sir Henry) Lawrence took upon himself the responsibility of the whole of the Committee and never gave any opportunity to other members for which the discussion in the Council came in. In the report that Mr. (now Sir Henry) Lawrence submitted, he himself had to admit this much: that the committee on public accounts have considered the Accountant General’s remarks on the Development Department and are satisfied that in one instance referred
In paragraph 26-D of the Report the Accountant-General's strictures are based on a misapprehension of the facts. I took objection to this as soon as I had an opportunity when it came before the House. I was not a member of the committee that year, but subsequently I became a member. I must say that it was very cleverly managed by Sir Henry Lawrence. He was in the belief that he could go on with these accounts without bringing any thing to the notice of the members. Generally, these financial matters are so dry that people may not like to go into them at all. But I, a merchant took very great interest in them. This is only a report of 6 paragraphs of only one page. It was so arranged that it was brought in just before the Council was about to be prorogued. This was in 6th August 1923. It was then barely half an hour before the Council was to be prorogued by His Excellency the Governor.

He thought that we would pass it in five minutes, putting it as a formal matter. But he had an opposition from me. I would like to refer to that debate about Public Accounts Committee's report, 6th August 1923, p. 543. Mr. Lawrence then tried to raise a point of order that I was not in order in discussing that thing before the House. But the President ruled that I was in complete order and I could go on with my remarks, because it was the privilege of the House under the Reforms which the Accountant General has clearly pointed out. It was then pointed out by other members of the Public Accounts Committee that Mr. Lawrence never consulted them and he has taken all the powers of an autocrat himself and signed the report.

Q.—Was there a secretary ?
A.—No; this is signed by the Chairman (Sir Henry Lawrence) of the Public Accounts Committee. Why I refer to this debate is that the members of the Public Accounts Committee openly said that one meeting was held, that some of them differed, but he did not hold a meeting afterwards and submitted the report to the House, and he wanted to hush up these things and not to allow an opportunity to the House to discuss the thing fully. The Accountant General has done his duty. The Auditor General has done his duty very conscientiously in pointing out their duty to the members of the Public Accounts Committee. Usually, if any mistakes are committed, they will be the commonest mistakes, and these mistakes might be avoided if you took proper action at the beginning. But instead of taking any action, Mr. Lawrence went on like that not only that year but till the period of his office had expired. During the period of the five or six years, the result of his work was in two sentences. In this year, 1924-25, the Auditor General has given a distinct warning which was at once accepted by His Excellency the present Governor and a considerable portion of his speech was taken up in pointing out the financial position of the country. Here he says that "the financial position in the near future will be serious; it is doubtful whether even the remission of the contribution to the Central Government will be sufficient by itself to ease the situation". Even if the Government of India were to give up the 56 lakhs that we have to pay as contribution, our position of finance will still be strained.

Q.—In paragraph 6 you say, the Finance Department, if proper enquiries were made, will be found to have allowed the expenditure to be incurred by a mere order of the Governor of Bombay. Was the Government giving orders direct ?
A.—I have said that if you will make proper enquiries it will be found what the real facts are. I have reasons for it. Similar instances have occurred and I have noticed them. Of course your Committee is not concerned but if I am allowed, I can point out that the Governor has gone beyond his powers in allowing the incurring of that expenditure. The Finance Member was in the habit of doing so, and he must have done so. There was no reason why the Finance Department should have undertaken to make payments without the observance of the financial rule. This is not the only instance in which these rules have been broken, but they have been broken on several occasions, which have been reported to the public. They are no more confidential.

Q.—That may be just after the reforms ?
A.—They are not. But the Governor himself took autocratic powers, and these matters were reported to the Secretary of State.

Q.—The Legislative Council had not begun to control the actions of the Government?
A.—If the expenditure is incurred what is the control to be enforced afterwards?
Q.—You had not learnt to apply the constitutional checks in the beginning?
A.—Yes.

Sir Frederick Hopkinson.—You say that the Development Department were allowed to keep big balances; can you give me an idea as to what the balance was?
A.—About this, the Finance Department themselves have acknowledged more than once before me. But they have improved since last year.

Q.—Can you give me an idea as to what amount of balance they had? Any documents to show that?
A.—I can say. My idea is that two months' advance expenditure should be kept as balance because that is the Government of India's arrangement with the Government of Bombay when they are giving them the advances. Here, in the first place, there is no necessity for keeping any balance of more than two months' requirements. They anticipate their requirements
every month. If that was so, there is no reason why they should lose money to the extent of about 50 lakhs.

Q.—It is a business proposition. Can you tell me what the amount consisted of and what was the balance?
A.—It was more than a crore sometimes.

Chairman.—Allowing no interest?
A.—No interest; and the Development Department will be paying interest to the Government of India which is 6 per cent., it is now reduced in the Government advances account.

Sir Frederick Hopkins.—What is the rate of interest on which this loan is paid?
A.—There is one loan which bears 6% per cent. plus income-tax, which works out at 7 per cent.

Q.—Is the Government paying any income-tax?
A.—The Government of Bombay have to pay to the Government of India.

Q.—What is the income-tax?
A.—It works out at 6 to 7 per cent.

Mr. Billimoria.—1 anna 6 pies.
A.—Subsequently it was arranged that as they require money Government of India will advance them so Government of India are advancing on the rates ruling at present.

Sir Frederick Hopkins.—What is the ruling rate now?
A.—It may be 6 per cent.

Mr. Billimoria.—The present average works out at 6½ per cent.
A.—The Government of Bombay have to pay 6½ per cent. on advances from Government of India.

Chairman.—At present they are paying 6½ per cent.?
A.—Yes. They are calculating at 6½ per cent. because in the Kay Committees we calculated at 6½ per cent.; 7 per cent. we have to pay on 9 crores, out of which we get interest from other bodies to the extent of 4 or 6 crores, and we are paying 5 per cent. to others.

Sir Frederick Hopkins.—At the present time the Government of Bombay has been paying 6½ per cent. interest on the loan for the reclamations?
A.—On the average of the loan for reclamations and on the advances; on both.
Q.—That is, you have got a certain sum at present and that is given to you at 6½ per cent.?
A.—Yes.

Chairman.—Was any attention paid to the warnings of mercantile bodies like the Chamber?
A.—In regard to the conception of the scheme, in regard to its administration, in regard to its methods of working, in regard to all those details, we always protested.

Sir Frederick Hopkins.—We want to understand as far as we can, in a short time, when did the Chamber in fact make a warning to the Government about the administration and the conduct of the works?
A.—Just in the beginning; what they wanted was a very simple and reasonable demand and that was summarily thrown out. The demand was that this body should be conducted on the same lines as the Improvement Trust or Port Trust or such other bodies.

Q.—Advisory Committee?
A.—No Advisory Committee; they opposed the Advisory Committee. Our Chamber have been suggesting that this matter should be treated as a transferred subject instead of a reserved subject.
Q.—Would you explain that?
A.—If it is a transferred subject it is managed by a Minister and the Minister is responsible to the elected members, because he is one of the elected members of the House. He is responsible in this way, he being an elected member, after three years, he has to go to his constituency to seek re-election. But not so with Sir Henry Lawrence; he is quite sure of his pension.
Q.—What is a non-transferred subject?
A.—It is a reserved subject; and the Member in charge is responsible to nobody; he is sure of his pension; nobody can touch his pay or fine him. The Public Account Committee goes into the frauds and mistakes committed by certain officers; they can even stop the pensions of certain officers; they can degrade them. But in the case of an I.C.S. officer, they cannot do anything, they cannot fine him or stop his pension. What they can do is to stop his promotion. In the case of a high officer like Sir Henry Lawrence, the Finance Member, you cannot do anything. Sometimes—it is often so in many cases—it is reported that some other officer was responsible for the fault and that man has retired and so they cannot help but they will take proper action in future! Even the Auditor-General has for the last three years given repeated warnings on the slackness of the Finance Department in taking proper action. That is seen in the third year's report.
Chairman.—The next point is "the demand of constitutional control being given over the affairs of the working of Development Department like the one enjoyed by the Improvement Trust, Port Trust and such other bodies was also disregarded."

A.—You are aware of the constitution of the Port Trust. It consists of elected members with executive powers. They are mercantile people, and they go into all details. This is the instance I have quoted. In the Port Trust this conception of 20 crores dock was given up after a preliminary examination. They said that this was not the time that we should incur any expenditure. The Government have not stopped this thing even after incurring big losses.

Sir Frederick Hopkinson.—When do you refer

A.—Three years before.

Q.—You have incurred the worst of your expenditure; you have spent all the money on the dredging plant?

A.—We have been warning from 1921 when the plant was not purchased.

Q.—But it was ordered! You could not get out of that without payment; if you cancel the contract you may have to pay heavily.

A.—It is a very bad history—how it was ordered.

Q.—That is another point.

A.—Very little information was given to us.

Q.—Having sent for the dredger—it is a very large order indeed—you are more or less committed to the scheme?

A.—As to the method in which the order was placed, all those remarks that I have made about incurring expenditure without detailed plans and estimates will also apply to it.

Chairman.—The advisory committee was impotent?

A.—Absolutely impotent. About this my committee protested, and I can give you an idea of what these advisory committees are; they are mere farce, a deception, and very little power is given to them. I protested that the advisory committee was a mere illusion to the public; they have got no control; no facts are placed before them. Our committee raised the question. I will point out to you the correspondence that passed between the Chamber and the Government of Bombay in our report of 1923, Appendix 73. The whole correspondence will give you an idea of the advisory committee and its powers.

(At the request of the Chairman, the witness agreed to furnish a copy of the report to the committee.)

About the calculated payment of the loan, that was never gone into by those concerned. It is the usual practice, whenever any project is considered by Government or any adventure is launched for the benefit of the people of Bombay, invite the opinion of mercantile bodies and take their considered opinion.

Sir Frederick Hopkinson.—What was the actual demand of the land in 1919? Was it very large?

A.—It was never large. That is the question I have raised.

Q.—I am trying to get a few particulars. Was the demand in 1919 very great and urgent?

A.—It was not so great or so urgent that it could not be met. During the war and after it, when the troops were disbanded, Bombay was the port at which all these transactions took place, and that was the reason why there must have been an increase of population to the extent of 1 to 1½ lakhs temporarily. That was why a pinch was felt.

Q.—There was a pinch? But in your view, it was only temporary pinch?

A.—Yes.

Q.—And the disbanding of the army would have relieved that to a certain extent?

A.—Yes. But there was no pinch of the business.

Q.—There was no pinch of business or of ordinary residential requirements?

A.—There was not.

Q.—Can you give me an idea as to what extent there has been increase in population?

A.—To the extent of 100 to 150 thousand people.

Q.—How was this going to be met without a new area of land?

A.—But it was only for residential purposes; it may be met by the extension of the suburbs.

Q.—That is the answer I wanted. You think it was not necessary to take up this Back Bay Reclamation. You have got all the land you wanted by the extension of the suburbs and no member of the business portion of the Bombay City would require land on the Back Bay Reclamation?

A.—Yes.

Mr. Billimoria.—Even to-day there are 90 lakhs of square yards available in the city.

A.—Yes. We have a very large quantity under the Improvement Trust, the Port Trust, the G. I. P. and B. B. & C. I. Railways. All these are given in the majority report.
Sir Frederick Hopkinson.—You have got at the present time more land than you are in need of!
A.—Yes; much more land.
Q.—How long do you think that the present area will supply the future requirements?
A.—For at least 30 years, for the reasons I have given, if there was no development. I do not think there will be any demand for new areas.
Chairman.—Are many parts of the city not congested?
A.—Not after the operations of the Improvement Trust. If you can refer to the census reports—
Q.—But the population per acre is very large compared to other Indian cities.
A.—Yes.
Q.—So there is congestion?
A.—Yes.
Mr. Billimoria.—In which parts of the town is there congestion?
A.—Bhuleshwar and Mandvi.
Q.—Do you expect these people to come and live on the reclaimed area?
A.—Never; you can never conceive that such people will come to the reclaimed area.
Q.—What classes of people live there?
A.—Commercial Indians and mercantile classes.
Q.—Not merchants or princes?
A.—No. And I do not think there will be more merchants than now.
Sir Frederick Hopkinson.—You think they will not come and live on the reclamation when it is finished?
A.—No, Sir. When I am on this point I may say that the acting Chairman (of this Committee) can tell you better than anybody else whether you can afford or not if the income per head is taken into consideration.
Chairman.—The constitutional control was withdrawn and weakened, that is one of your complaints?
A.—Yes. It was never exercised. The department was all in all. I can tell you that my Chamber has drawn the attention of Government on the question of getting the work done not departmentally but by inviting tenders and giving it out on contracts. All this correspondence will be found in the report of 1920-21. You will be able to see there that our warnings were utterly disregarded. I shall read that portion of it: "My committee fears that the Development Department has not properly realised the gravity of the issues before the Government. The question of the development of Bombay is one of the biggest before the Government of Bombay and requires the co-operation of the people to make it a success." I have said these that it should be done after inviting and considering tenders from the contractors.
Sir Frederick Hopkinson.—That is a very small portion of it! Your Chamber wish that the whole work should be carried out by contract?
A.—Yes.
Q.—You still wish that?
A.—Yes. Whatever portion has to be carried out should be done by contract.
Chairman.—The next statement is how to get the best out of this dredger.
A.—I am rather in a very difficult position. I have just read a letter from the Secretary of the Kay Committee of which I was a member that this document (showing a report in his hands) is to be treated as confidential. When you are on this subject I may have to tell you my views. The report was submitted yesterday, and signed. The secretary writes to me that this report is to be taken as confidential.
(Chairman.—We have not seen the report.)
Sir Frederick Hopkinson.—If the committee wish it to be confidential, we certainly must respect their wishes—until we have time to consider it.
A.—But when you ask these questions I may give certain answers based on this.
(Chairman.—We want the truth.)
Mr. Billimoria.—Even if you differ you can express your views.
A.—Without referring even to the Kay Committee's views I can give my own answers.
Q.—You are in favour of completing block No. 8?
A.—Yes. That is the reason why I gave this heading 'how to get out of the worst job'.
Chairman.—This is after considering all the facts and figures with Mr. Kay?
A.—Yes.
Q.—You want to complete block 8, and if possible also block 1?
A.—Yes.
Q.—After completing these two, you would like to stop the work?
A.—Yes.
Sir Frederick Hopkinson.—Permanently or till further consideration?
A.—Permanently.
If after 30 years you want more land, there will be ample opportunities for it. If you calculate the interest you will find out that after 30 years it will be four times the sum you spend. There is no need to spend the money if you can get land even now at Rs. 15 per square yard.
Q.—If you can reclaim it at Rs. 15 a square yard?
A.—It is never possible, even according to the Neilson committee’s report. What I say is this, even if by any chance anybody can pay Rs. 15, if the demand is to come after 30 years it will really cost you 60 rupees. There is no need to spend money now.
Q.—What strikes me is that Bombay is losing four miles towards the foreshore, and you are going to get nothing but isolated block 8 and block I. Would you like this inconvenience for all time?
A.—For all time. What is your objection?
Q.—I have no opinion yet one way or the other. You know it would be a dreadful eyesore.
A.—No: Even if it is an eyesore, it is a question of whether you can afford all these amenities. I was a member of the Bombay Council for 3 years and I know the facts. We have already taxed the citizens of Bombay to the extent of 75 lakhs per year for launching on this scheme. If every year they have to pay this how are they going to improve? It is the taxation that drives away industry, that drives away trade. How can they have happiness when their future prosperity is thus mortgaged.
Q.—Could you tell me approximately what is the capital loan of the city of Bombay?
A.—About 56 crores, but we have reached the limit.
Q.—I am speaking of the Bombay City?
A.—There are no different accounts of the City. It is all included in the Presidency Accounts.
Q.—This scheme is estimated to cost 10 crores to finish.
A.—Eleven crores without interest.
Q.—What proportion is that going to bear to the total capital liability of the City of Bombay?
A.—The whole of it will be taken under the Presidency Accounts. So I cannot tell that. But taxation has been imposed upon the City alone. There are taxations which are differentiating. I make a distinction in the taxation.
Q.—What is the total capital liability of the City?
A.—We have not got separate accounts. The whole of it is included under Presidency Accounts.
Q.—I am wanting to get a relative idea of the two.
A.—There are two bodies here: the Municipality which is the owner of the land; and the Improvement Trust and the Port Trust. These have capital commitments to such an extent that half of their income is paid in the shape of interest. They are also heavily borrowing bodies. You, Sir, have complained about the capital expenditure of the Municipality, in the retrenchment report. You have impressed upon the Municipality the great necessity of acting on caution, that we should commit all the expenditure in expectation of development. Even if it is an eyesore we will have to bear as a sort of memory to the future generations.
Q.—Do you think it might be useful to future generations as a lesson?
A.—Yes. They will not launch on such a big scheme.
Mr. B tỉmoria.—Fifty-six crores. Then 11 crores will be 20 per cent. of the total capital debt.
A.—Yes.
Q.—It is a tremendous amount.
A.—Not only tremendous, but inconceivable, unproductive.
Sir Frederick Hopkinson.—It is not productive if you get the land and sell it?
A.—If you sell the land interest will accrue so much that you will get the price of the interest. I don’t think any man can say that you can sell earlier than 7 or 10 years.
Chairman.—At what rate would it pay you to reclaim land, the lowest rate from your knowledge of the value of land?
A.—As a manufacturer I cannot produce a thing for which there is no demand. So I won’t reclaim any land.
Q.—True. What would be the minimum rate per square yard you would be willing to pay if you wanted land?
A.—There is no demand.
Q.—It has a potential value. On that ground what would be the smallest rate you would pay down?
A.—On which side?
Q.—In the reclamation?
A.—In which blocks.
Q.—Taking the whole, an average rate.
A.—I cannot conceive. I don’t think there will be any demand for blocks 3, 4, 5, 6 and 7, for a very long time and it would only be a wrong conception to conceive that land should be prepared where there is no demand.
Q.—But the City is crowded. You want open spaces?
A.—By recommending block 1 we will get about 1,50,000 square yards for recreation. That is sufficient for 5 or 10 years. There is no necessity of any land if you finish block 1. It must be completed.
Q.—Bombay gets boom periods now and then. After 4 or 5 years you might get a boom period?
A.—Even if it comes I cannot think there would be a demand for land.
Q.—It will be a swing of the pendulum. You have had experience of 3 years of depression?
A.—It has come to normal. There was depression so far as industry was concerned, but trade must go on at a lower or higher price. I have explained the reasons why I don’t think large industries do not mean demand for land. I cannot conceive of any industry except the textile industry.
Q.—As regards the future, do you want the work to be done by the Development Directorate or transferred to the Public Works Department?
A.—I am strongly of opinion that the Development Directorate should be abolished. Not a moment should he lost in doing that. If the work is transferred to the Public Works Department, . . . I wonder that after the report that the whole scheme was conceived even so far back as 1863 the scheme was not entrusted to the Public Works Department. There was no reason why Sir George Lloyd should have thrown off the Public Works Department.

Sir Frederick Hopkinson.—Has the Public Works Department done Marine Works?
A.—It can do any work. Of course, they have not done marine works in the past.
Q.—Have you full confidence in the Public Works Department?
A.—I say that there was no necessity for a separate department for this reason that the Public Works Department would have followed all the rules of the Government Public Works Department Code and would not have gone so far wrong as the Development Department.
Q.—Has it ever been suggested that the Public Works Department could add marine works to their list?
A.—I do not know.
Chairman.—If they get an expert the Public Works Department could carry out any work?
A.—Certainly.
Q.—For any work in which they have no experience they might get experts?
A.—I can tell you one thing. When I read the evidence of the Director of General Stores in an enquiry held by the Secretary of State, the same question asked.
Q.—What was that enquiry for?
A.—It was about the reform of the Director-General of Stores Office, held in 1919-20. It was done in India and as I happened to work with him as a member of the Committee he submitted to us copies of previous reports and I saw that the same question was put to him, how he could purchase for all the requisitions for marine, army and Public Works Department. He replied that if Government wanted anything, say, a dredger, the order was sent to the Director-General of Stores. He at once appointed an expert on that line who consults and comes to a conclusion, just as everybody does in Bombay.

Sir Frederick Hopkinson.—If the Director-General of Stores is overbearing and thinks he knows more about what is required, the man who has to use it is very apt to go wrong.
A.—Yes. Because he has got experts he does not go wrong.
Q.—You have 3 navvies at Kandivli. Of course, that was cheaper, but not nearly so efficient?
A.—That may be so. I wish to add here that there is another advantage in transferring the work to the Public Works Department, as that Department is under the control of Transferred Ministers.

Chairman.—Do you wish a Committee to be associated with the Department? How do you propose to control the work in consonance with public opinion?
A.—On the same lines as the Port Trust and Improvement Trust.
Q.—You want some such Committee?
A.—An Executive Committee.
Q.—That Committee would have control as regards the sanctioning of estimates, contracts, etc.?
A.—I do not think that question will arise. My standpoint is “abolish the department. Let us be satisfied with blocks 1 and 8. As money has been spent, block 1 should be completed.”
A.-If you contract, because partly the work has been done by dredgers and you depend on the "Kalu" and "Jiling" to finish it. So if it could be finished now, it would be cheaper to do without contract. You should not go to the contractors unless it is cheaper.

Sir Frederick Hopkinson.—You speak here of the "Sir George Lloyd" and say that it should be immediately disposed of.

A.—The "Sir George Lloyd" was working on block 8. Now there is no great dredging required in block 1 and I am of opinion that no more blocks should be taken up and so I said that the "Sir George Lloyd" should be disbanded and sold.

Q.—I would not prefer you to decide a thing like that. The dredger would take 10 years to sell.

A.—Sell it for a scrap value.

Q.—I do not know whether it would be wise or commercial.

A.—If you will take it, I can give you my commercial experience. It may be commercial to sell it at any price.

Q.—Supposing the "Sir George Lloyd" is able to fill up the reclamation at 8 annas a cubic yard, that is going to make very cheap reclamation.

A.—The Neilson Committee has said that it could not do at 8 annas.

Q.—Call it 11 annas, that is comparatively cheap. You cannot do cheaper any other way.

A.—Yes.

Q.—And I doubt very much the wisdom of scrapping the "Sir George Lloyd". Supposing it can be shown that block 7 can be reclaimed at a price that will be very low. Is there any objection to filling up block 7?

A.—I have gone into that question and I know the figures very well and after considering it I have come to the conclusion that it could not be prepared at a further new cost at less than Rs. 25 per square yard, the cost of wall, the dredgers and interest included.

Q.—The whole cost in the future will be the actual cost of removing the dredger from one place to another. Your interest is going to be the same. It will take about 10 years for selling.

A.—I do not think there will be any people in the world to buy this dredger. In that case you would want to get anything. You can always get the scrap value.

Q.—I shall be satisfied to get even 5 per cent. to get rid of further expenses. I may tell you that block No. 7 is not a commercial proposition.

Chairman.—You have calculated that.

A.—I have calculated that.

Q.—Would it not be better to make block 7 a recreation field and fill up block 1 and sell that for building purpose?

A.—Recreation is not wanted in that locality. All people cannot go.

Sir Frederick Hopkinson.—You will have school children.

A.—Recreation ground is inconceivable in block 7 for school children. You cannot expect them to travel four miles, and it is even unsafe to send them there.

Q.—I have seen them on the sands beyond in block 1.

A.—It is just opposite the Prince's Street. School children can go there for playing. There are so many gymkhanas.

Chairman.—In the estimates the cost of development is put very high.

A.—We have not taken the rates at all. We have taken the cost only of dry-filling and prepared land without being developed.

Sir Frederick Hopkinson.—I do not think I agree with you. If you can fill it for Rs. 3-4-0 a cubic yard.

A.—This is not so.

Q.—That is what Neilson Report says.

A.—It cost you!

Q.—Eleven annas a cubic yard.

A.—The estimated expenditure to complete block 7 is Rs. 56,79,000. Twenty-six lakhs of square yards is taken for roads and drains. Even if you deduct that there will be 3,40,000 square yards building area. That will mean that undeveloped land will cost you about Rs. 2 per square yard.
Q.—It will not pay you to sell land at that rate?
A.—No. You will have to wait for 20 years when it will be Rs. 20 per square yard. If you will go into the cost by dry-filling it will be a plain thing. The dredger will be very costly.

Q.—Dry-filling is much more expensive,
A.—Even if you take that it would be better to do it after 30 years or 20 years, rather than now. It is not commercially sound to take block 7.

Q.—If you get the whole thing done by moorum filling it might cost you about Rs. 1 8-0 per cubic yard?
A.—Yes.

Q.—The average depth is about 5 yards and you require 5 cubic yards of stuff to reclaim on square yard. That means one square yard of land will cost you about Rs. 7-5-0.
A.—You forget the cost of interest.
Q.—The cost of roads and lighting are included?
Sir Frederick Hopkinson.—Your consideration is interest charge?
A.—Yes. Depletion, interest charge—all this is taken in this working cost.
Q.—Why do you say that the land cannot be sold at Rs. 50?
A.—There is the land of the Port Trust, of which I am a Trustee. Land which cost Rs. 15 was surrendered by leasers. They don’t want the land in that locality. You also know that the Cotton Green has been vacated. There is a big land. None of the people have been able to sell. It is about a lakh of square yards. The people there are anxious to sell it to-day.

Q.—That is all vacant land.
A.—And the Military also will vacate it.
Chairman.—Where are they going?
A.—Colaba.
Sir Frederick Hopkinson.—It is not good for residential purposes.
A.—People are residing—all Europeans.

Mr. Billimoria.—Mr. Lalji, do you think that in spite of the prosperity there will be any demand for land on the reclaimed area?
A.—Unless you imagine increase of population, and the increase of population can only be considered when there is more trade or industry. I do not for reasons that I have expressed any increase of trade and industry in the near future.

Q.—You don’t expect or look forward to it?
A.—I may look forward to prosperity, but I do not anticipate any demand for more land.
Q.—Even supposing there was boom you don’t expect there will be demand for 22 lakhs of square yards.
A.—Even if there was boom. Boom does not mean there is actual demand.

Q.—In the Chamber’s representation you refer to new tenants. Do you expect there will be 350 tenants every year to take up the land?
A.—If you want I can give you some idea. Plots of Improvement Trust each of which cost Rs. 200 in the best locality and which were never vacant are to-day vacant. I can tell you that there are 6 lakhs of square yards of similar land near Worli. They have not been able to sell even one plot, in all these years except in one case transferring plot to Pochkanwala. It is a very nice area. There is no demand for it. That is a practical proof of there being no demand.

Q.—If it is impossible to get 300 tenants for a number of years who would be prepared to pay Rs. 450 a month to make this a business proposition?
A.—That is the question. You can assume that, when there is an increase in income. But I do not see why income will increase, so much.

Q.—Those who can afford to pay Rs. 450 or thereabouts have already accommodation provided. There is no dearth of accommodation for this class of people?
A.—Certainly. Since you have asked me that question, if you will permit me I would like to invite the Committee’s attention to the general unemployment among the middle class people about which the Times of India has written to-day and the Government of India have also issued a press communiqué. That will give you an idea that hundreds of graduates are out of employment, not one or two of them, for whom we feel very keenly but we cannot offer them any service. In this condition of unemployment how can you expect there will be demand for those flats even when the rooms are vacant. There is a big loss in the chawls that we have built because there is no demand from the labourers. If there is no demand for labour because you expect to have your own prosperity from the efforts of the labourers where do you expect any more prosperity for this class who entirely depend on the profits of the labourers.
Sir Frederick Hopkins.—This time in 1919 was not peculiar to Bombay but it was all over the world. We in England suffered as much as you suffered here but you must not be too down hearted. You have gone on for so many years and we hope we shall go on longer.

A.—But you are your own masters, you can put your house in order but we cannot. That is the whole difficulty otherwise we could put our house in a very good order and there will be prosperity and then there is no reason to be pessimistic. If we were our own masters we could do it at once.

Chairman.—Are your pessimistic statements to-day coloured by your political difficulties?

A.—I think this is one of the replies in the Council but that is not a new thing. We were all along given to understand that matters were progressing satisfactorily until the report of one of the members of the Chambers representative, Mr. Mann Subedar, who emphasised in the minority report that information was kept back from him. It was due to the efforts of Mr. Manu Subedar who tried to expose it and went considerably deep into the transactions of the Development Department but he was not given all the facilities for which he made a complaint in the minority report. It is all due to that otherwise up till that time all the information was suppressed. It is due to his efforts that this Committee has been appointed.

Sir Frederick Hopkins.—I do not know whether we ought to feel grateful.

A.—No, you are doing your duty.

Mr. Billimoria.—We have asked Mr. Manu Subedar to come forward and tell us what his grievances are but he is not coming forward?

A.—He went to appear before the Tariff Board and returned only yesterday.

(Sir Frederick Hopkins.—I think we have got his written statement. He said that he had nothing to add to that.)

Q.—Do you not think that there is some fallacy in the method of working the cost? The Committee in working out this cost have not taken into account interest and depreciation charges and with them the cost may go to three times that amount.

A.—I quite agree with you. Mr. Mann Subedar has disclosed this mistake which the majority people have made. They say wind up the whole affair and write off the whole as loss at 543 lakhs or 560 lakhs. But that is a fallacy, if it was a private company we could say it went into liquidation but the Government of Bombay cannot write off in this way when there is nobody to repay. Even then interest charges will be perpetual and we will have to pay interest on these borrowings. But were the Government of India to write off we can certainly say that no interest will accrue. That can be if the Government of India were to write off this amount from their own books.

Sir Frederick Hopkins.—Even then India will have to bear it, it is a loss to India after all. If the Government of India writes it off it would mean that by transfer to India you are getting rid of it so far as Bombay is concerned.

A.—Yes. It has been a great disaster to India, somebody must pay it.

Mr. Billimoria.—If there is any chance of minimising the loss you would do it?

A.—Yes.

Q.—And having regard to that you might change your mind with regard to filling of some of the blocks which will probably reduce the loss?

A.—I have said so. No. 8 must be completed before there is a chance of reducing the loss. That is a commercial proposition because you have got a definite buyer. As regards No. 1 you have to spend 17 or 16 lakhs and that will bring you 4½ lakhs square yards of land. I take this view because I think when we have spent so many crores let us spend 18 lakhs further and finish this block so that you may have something.

Q.—You do not want to proceed further than blocks 1 and 8?

A.—Yes. I would stop there and see the demand for the land. If it is desired to go on because our dredgers are lying idle, I would say we should not incur any more expenditure.

Chairman.—I am asked by my colleagues to say that you have given very illuminating evidence and we thank you for it.
The Committee assembled at 11 a.m. on the 23rd August 1926

Sir M. Visveswaraya.—In the course of the examination of witnesses on Saturday last I remarked that what the Committee wanted was correct information and if reliable facts and figures are given by witnesses, the Committee will form their own conclusions. I want to repeat that statement to-day and to add that that is also the opinion of our Chairman who is prevented by indisposition from attending these meetings.

85th Witness

Mr. J. A. Kay, Chairman, Bombay Chamber of Commerce

Sir M. Visveswaraya.—What is your Christian name?
Mr. Kay.—Joseph Aspden Kay.

Sir M. Visveswaraya.—We received your Committee's Report on Saturday but have not been able to check any of the details but we shall only ask you questions about your general conclusions. You have based your conclusions on the recommendations of the Neilson Committee?

A.—We have based our conclusions on the figures and estimates of output but have not taken into account the actual figures of cost for reasons pointed out in paragraph 3 of the Report which is already forwarded.

Q.—But I suppose you have taken the figures as correct?
A.—Well, we have taken the figures as correct as arrived at by the Neilson Committee.

Mr. Billimoria.—Was there no independent inquiry?
A.—We were not called upon to make any independent inquiry on the figures. If you will refer to paragraph 3 of our terms of reference you will find from that all the figures to the Neilson Committee were given and prepared by the Engineers of the Development Department.

Sir Frederick Hopkinson.—If the basis of figures from the Neilson Committee's Report are in any way incorrect, then your conclusions are incorrect?
A.—That must be so, Sir.

Q.—And if we find that it is necessary to alter the figures of the Neilson Committee then your figures will be altered too?
A.—They must.

Sir M. Visveswaraya.—You have taken the rate of progress from the Neilson Committee?
A.—Yes, Sir, as indicated on page 3.

Sir Frederick Hopkinson.—That's also dependent upon the report of the Neilson Committee and if it is not materially correct to some extent then your report would also be incorrect to some measures?
A.—Yes, Sir.

Sir M. Visveswaraya.—Then the rate of progress must also be altered similarly?
A.—Of course, but in doing so one can attach importance to the figures given by some technical engineers who know this kind of work.

Q.—Can you say that moorum filling can be done at a cheaper rate than what the Neilson Committees has said?
A.—Well, I cannot answer such a question, as I have no knowledge.

Q.—Can you say from your personal knowledge that moorum can be brought down from Kandivali at a cheaper rate and more quickly than at present?
A.—It all depends upon the facilities afforded by the railway department but as to rate I am not prepared to express an opinion.

Q.—There are now two railways in Bombay and you can get moorum from both sides. From your own knowledge of that locality can you say that moorum can be brought down at a cheaper rate and more speedily?
A.—I have nothing to add to my previous reply.

Q.—With regard to establishment charges you have increased the percentage from 15 to 15 per cent?
A.—Of course, this higher figure is even now taken in the departmental estimates and we consider, looking to the fact that the actual programme of work which we recommend is a restricted one, being in most years considerably below Rs. 30 lakhs of capital expenditure which the Neilson Committee assume for next season, it is reasonable to suppose that the incidence of establishment charges will be somewhat higher.
Sir M. Visvesvaraya.—You assume rate of interest at 6 per cent. I think it is a reasonable rate?

Q.—We now come to page 6 with regard to present financial position. The total expenditure on all works including establishment, etc., connected with the Back Bay Reclamation Works, up to 1st July 1926, is Rs. 690.91 lakhs?

A.—That is a matter of fact.

Mr. Billimoria.—You assume that the realisable value of the plant if sold would be 25 lakhs?

A.—Yes.

Mr. Billimoria.—Do you remember that an original estimate for this plant as arrived at by the Advisory Committee was Rs. 75 lakhs, and you now reduce it to 28 lakhs?

Frederick Hopkinson.—Perhaps you have not gone into this matter, you are giving somebody else's figures?

A.—No, we discussed the matter with the Director of Development and had before us a list of the plant and in view of the difficulties in disposing of plant of the same description we assume first that it would be difficult to get a ready buyer and consequently we have to take its saleable scrap value as it is very difficult in these times to get a purchaser for the whole lot.

Sir M. Visvesvaraya.—Have you any personal opinion to offer as to what would be the price after 3 years?

A.—Well, my experience tells me that in these days of hard trade depression it won't give any return at all.

(Sir Frederick Hopkinson.—Perhaps it is a liability rather than an asset at times.)

Mr. Billimoria.—What do you think is the scrap value of these dredgers and the plant?

A.—I am not in a position to tell you as I am not an expert, but 25 lakhs also cover other plants and tools.

Q.—Taking everything into account that is a conservative figure?

A.—To my mind it is a reasonable figure to take.

Sir M. Visvesvaraya.—On 1st October the debt will amount to 590 lakhs after deducting the realisation from sales of plant, and then if the work is scrapped the total annual charge will be 45.14 lakhs, i.e., if nothing is done and the work is left incomplete as it is now?

A.—That is conditional, Sir. My reply to the previous question is on the assumption that the charge is made for sinking fund at 4 per cent, together with interest at 6 per cent.

Q.—You have not suggested how you want to liquidate this liability on the Presidency?

A.—We were not asked to do so.

Q.—How would you suggest it should be done? Can you give us your personal opinion on the point?

A.—I think the question of finance, of loss on the Back Bay scheme needs separate and careful consideration, because if it is going to result in a heavy interest charge on the general revenues of the Province, it is going to be a serious matter. Now we are faced in this province, or shall be faced in the near future with certain financial difficulties. We have no such revenue and there is an ever-increasing demand for money for nation building subjects. Some time ago the Chamber of Commerce addressed Government on this very important matter as to what effect the heavy borrowings in the Presidency for unproductive and productive works was having on trade. I might put the papers in, Sir. I shall give you 3 copies of the Chamber of Commerce's letter and the Government's reply. My point is that the Presidency is not in a financial position at the present time in spite of the fact that our credit is good to bear general revenue charges for interest on unproductive work. We have already had borrowings for unproductive works.

Mr. Billimoria.—You suggest that the Government of India should come in the way and help the province by way of remission?

A.—The Chamber of Commerce has asked on more than one occasion for certain revisions for the general finances of the province, and in view of the Taxation Committee's report, I do not think one can say very much more at the moment with regard to it.

Q.—But when the Meston settlement is set aside I hope you would be more happy?

A.—I do not think it would be possible to do so. These are certain parts of the Meston Award, say, for instance, Devolution Rule 15 which deals with Income-tax and if as the Hon'ble the Finance Member said this should be reversed we will get our proportion of expanding revenue.

Sir Frederick Hopkinson.—You would like to say to the Government of India that it is much more blessed to give than to receive?

A.—It all depends under which and what circumstances, Sir.

Q.—Coming to your main conclusions, you have come to the conclusion that if block 8 be completed 130.60 lakhs will represent the present value of the reduction of debt, and therefore you have no hesitation in urging that the reclamation of this block should be completed.

A.—It is so.
Q.—With regard to block 1 you have on page 12 given your recommendation. The sale of the building plots would result in a further reduction of debt of 23-24 lakhs, and...
Q.—And you say the filling of foreshore areas in blocks 5, 6 and 7 should be carefully investigated. May I ask what your object is in making this suggestion?
A.—I should like to explain this case more. You see, Sir, this is Cuffe Parade here. The foreshore here in Cuffe Parade is shallow. There is rocky foundation there, and there has been slitting up and leakage from block 8. The suggestion put before us by responsible men was that if further land is necessary there it is easy to reclaim from the end of Cuffe Parade to a line, say the middle of the suggested wall. It would give you, if the development goes on in years to come, an entrance to block 7, because at the present time the only road leading to block 7 would be the Cuffe Parade road.

(Sir Frederick Hopkinson.—There is a good deal in what you say. For instance, if you made up that shallow piece of foreshore there, those two recreation grounds could be used instead of that one on the sea front.)

Q.—As a rule the depths in these blocks 3, 4, 5 and 6 are greater than in others?
A.—Then you will have to make a further investigation to see whether from a short distance from the shore the depth is all right.

(Sir Frederick Hopkinson.—As a matter of fact I have arranged to go and examine the cross sections on Wednesday with a view to what you have just mentioned now.)

Q.—The blocks will have to be considered in parts, not as a whole?
A.—I think it could be considered as a whole.

Q.—The depths are greater here than in the blocks already reclaimed.
A.—I do not know, Sir. Near the wall, yes. Near the shore for a short distance it is all right.

Q.—Your conclusions at present are the present value of the net loss would be 400 lakhs. The reduction of debt on completion of block 8 would be 190-60 lakhs and further reduction on completion of block 1 would be 29-24 lakhs, and no further reduction in the cost of block 2, but there would be a slight increase. If block 7 is completed there would be a further increase of 11-33 lakhs. These are your general conclusions, and from this you say blocks 1, 2 and 8 might be proceeded with at once and 7 might be held in abeyance.

A.—We say work on No. 7 should not be commenced.

Mr. Billimoria.—What about the dredgers lying there. Don't you think rather than scrap the dredgers altogether it is better allowing them to pump in block 7 and keep that area available awaiting disposal?
A.—That all depends on what you think you could dispose of the land. You find in paragraph 30 that we discussed this and reported on it in a separate paragraph. To my mind a lot of the misconception in regard to this Back Bay Development scheme is due to the fact that too much attention has been paid to the costs of reclamation and not enough to the cost of development, and secondly to the all important matter of throwing land on the market and the period of years it is going to take to sell and the price. After all what is the good of creating land for sale if you are not going to be able to sell. Now if we go into the figures as far as you find it may be reclaimed for a certain amount of money. We considered whether it was possible to recommend it should be left as an open space. You know that money at 6 per cent. compound interest doubles itself in 12 years. If that costs say Rs. 30 lakhs and you did not sell any land you are saddled with a debt in 12 years of twice the amount.

Sir Frederick Hopkinson.—Surely if you pay interest on your capital every year, the capital does not increase?
A.—But you have to pay the interest.

Q.—Another way of putting it is that it costs you so much a year by way of interest. You have lost your original capital and the possession of this land costs you so much a year?
A.—But I think the correct way to state it is that money doubles itself in 12 years at 6 per cent. compound interest.

Q.—Suppose you borrowed money at 6 per cent. and bought a house with it. If the house lies unoccupied, it will cost you by way of interest 6 per cent. of the capital?
A.—Yes.

Q.—In that case you speak of it as an annual charge for so many years?
A.—Yes.

Mr. Billimoria.—When the property is to be disposed of the owner will expect to get both his capital and interest. If he does not get it, so much is lost.

Sir Frederick Hopkinson.—If you keep a property for ten years you cannot expect its value to be doubled by the more fact that you have had it for ten years.

Mr. Billimoria.—This land will not be valuable if it is kept for ten or twelve years.

Q.—With regard to the sentiment that is now prevailing as to the scrapping of the dredgers, in view of the fact that we have spent very nearly 14 crores, do you still feel that it is no good proceeding with block 7?
A.—We have not said so.
Q.—But what would be your conclusion?
A.—The question of what is going to happen to the dredgers brings up also the question of what is going to happen to the Development Department, and I am not prepared to express an opinion. It is not included in our terms of reference.

The Chairman.—If the working of the dredgers improves, you have no objection to their being used for two or three years more?
A.—If you read Mr. Neilson’s report you will find that the information is so scanty that I am not prepared to make any statement on an assumption that the dredgers will improve. I will only refer you to our report where we have considered the effects of what has happened in the various blocks. Beyond that I am not going to assume that the dredgers will do more or less. There has been so much speculation in this business.

Q.—You are in favour of further and thorough investigation and calculations in regard to the working of the dredgers? A lot of information is yet indefinite and collection of further information is necessary?
A.—We have not said so, and I have no reason now to change the decision which the committee of responsible men gave two days ago.

Q.—In the various stages of the report you have mentioned that information is undefined and that your conclusions will have to be altered if your information changes?
A.—We have said that with regard to block 2.

Q.—Not only in regard to blocks, but also in regard to rates, output and so on. You are not quite sure that the information given is correct?
A.—There is no doubt, Sir, in this respect unless you can point out one to me. To me it is perfectly clear that the rate for dredging in block 1 is very near to murum cost. We have issued a warning that every care should be taken in dredging the area and that possibly dredging there should be rejected.

Q.—You want the thing to be fully investigated before arriving at a conclusion?
A.—Extreme caution should be taken before block 2 is commenced.

Sir Frederick Hopkins.—You may remember a question I put to Sir Lawless Hepper on the first day of the meeting. I said “after three years experience with these dredgers surely you have not anything to learn about dredging.”

The Chairman.—Have you considered what might have been the cost of this whole scheme had they decided on dry filling from the commencement?
A.—No, Sir.

Q.—Could you kindly consider now? The total quantity is about 28 million cubic yards.
A.—I would not care to consider it now. I would require notice of that question.

Q.—Unfortunately we have had no time to give you notice, but the main point is that 23 million cubic yards have to be filled in. At the rate of Rs. 1.50 per cubic yard the cost would be 430 lakhs.
A.—Not necessarily so. I cannot agree with that. First of all if you ask what is the estimate for the Back Bay, I want to know what period of years it would take to reclaim and develop and dispose of the land.

Q.—As an Engineer you could tell us whether it would be possible to fill in for 420 lakhs on the basis that 28 million cubic yards are required? You want to arrange for the filling and then spend some money for the development. I will leave out development for the moment?
A.—I am not prepared to say that now. I am not prepared either now or at any other time to consider the Back Bay reclamations purely from the point of view of reclaiming land. I submit that is where mistakes have been made—there is more in the scheme than merely reclaiming land.

Sir Frederick Hopkins.—Is it not quite obvious that, hail there been no cheap dredging material available, the scheme would not have been started? Without going into any figures is it not quite obvious?
A.—I agree.

The Chairman.—Mr. Neilson also said that it is not a dredging proposition?
A.—Without referring to evidence, Sir, I am not going to refer to newspaper reading. I think Mr. Neilson referred to dredging from the Back Bay and not from the harbour.

Q.—He made a general statement that this was not a dredging proposition—I mean the scheme as a whole?
A.—I am not responsible for this statement, Sir, and I cannot give you any views.

Q.—What are your individual views, without committing your Committee, on the question whether it would not have been much cheaper to reclaim land by murum
filling from the very commencement? Whether you could not have done it for 5 crores
by this method only without resorting to dredging at all?
A.—The question does not arise. I have just given a reply to a question which
prevents that being asked. Sir Frederick just asked me a question which covers it.
5  Q.—You have not given us any views about blocks 3, 4, 5 and 6 what should
be done with them in the future? Would you advocate their completion by dry
filling?
A.—I would not advocate any further work being undertaken, not even in block 7,
until it can be shown that it is going to be a commercial success.
Q.—Assuming it has got to be carried out and that it is considered to be remunera-
tive, in what way would you fill them? You know there are difficulties in pumping
by the dredgers on account of the length of the pipes?
A.—It is obvious, if it is cheaper to do it by dredging than by murum filling, the
former is better; otherwise the latter.
10  Q.—When blocks 1, 2, 7 and 8 are all completed, and they are dealt with in the
manner you recommend, the present value of the debt remaining would be 476•86
lakhs?
A.—Allowing for the receipt of 239 lakhs from the Government.
Q.—If you resort to dry filling for the remaining blocks which required 24 million
cubic yards, the cost would come to about 320 lakhs more. What I am driving at is
this. If you spend in addition to these 475 lakhs another
20 lakhs, you will have completed the whole reclamation, with the exception of the development portion?
A.—I am prepared to accept your statement.
Q.—Is there any possibility of the public being satisfied with such a state of thing,
i.e., filling the whole thing except the development of blocks 3, 4, 5 and 6?
A.—I do not think the public can be satisfied with something which is going to saddle
the Presidency with a heavy loss. On the other hand they may be satisfied provided
you show them that possibly they will not be saddled with a heavy debt and that this
scheme will give them a certain amount of space which is badly required for public
purposes. But I would like to point out the fallacy of talking about the Back Bay
reclamation purely on, the figures of the cost of reclamation.
Q.—But this is an important city with a congested population and you want
more open space in this part. There is a demand for open spaces even now. We
are at the bottom of a great depression and there is pessimism all round. Would it
not be well to finish the whole thing? I am just asking you for your opinion. Would
you like to complete blocks 1, 2 and 8 as you say and fill up the remainder and
go on developing it gradually, i.e., without spending much money on development all at
once?
A.—That is a broad theoretical view. But as a business man I want to come down
to the real facts of the case. Their first idea was that the Back Bay should be
reclaimed so as to give us the space which is required for buildings. We were told that
there was going to be a profit on it.
Q.—It is because the profit has failed to come that you are discontented?
A.—Whether it is for open spaces purely or for reclaiming and leaving it open for
development, whoever puts that scheme forward, must give the figures and prove to
the commercial community of Bombay what the net loss is going to be; because you
must estimate the period during which you can dispose of this land and the number
of years it is going to take to develop. And that is why in substantiation of our figures
we have endeavoured not merely to put forward a programme of work, but we have also
endeavoured to give the figures about the period of time it would take.
(Sir Frederick Hopkinson.—This scheme is either a commercial proposition or a
propostion for increasing the open spaces. If you look at it as a commercial proposition,
you have a totally different point of view from the view of finishing it off. Once you
apply tests of commerce, we cannot apply the other.)
55  Mr. Billimoria.—You do not want open spaces at a tremendous cost?
A.—I am not prepared to develop land at a tremendous cost and saddle the
presidency with a further heavy burden.
The Chairman.—You have shown the lay-out of blocks 1 and 2 and also of block 7.
How do you propose to finish the remaining portions of the foreshore?
A.—I would like to finish the wall—I would be delighted to finish it. We had no
figures before us, but we did consider it from the engineering knowledge we possessed.
It is calculated to cost another large sum of money.
Q.—Have you any views on the machine drives?
A.—I do not think we can afford to pay the price at present.
Q.—Assuming for a moment that the land is reclaimed over the whole area, would
not the Municipality find it advantageous to lay out the grounds themselves?
A.—I am not a member of the Municipality, but I do not think the Municipality will
take over land at an exhorbitant cost.
Q.—What are your ideas about the future management of the works? Would you leave the Development Directorate as it is or transfer the works to the Public Works Department?

A.—I am not in a position to go into the question of the Development Department. To me it is a matter of careful investigation.

Q.—As regards the Advisory Committee or the Executive Committee, have you any suggestions to offer?

A.—We suggest in paragraph 34 that the Advisory Committee should become an executive body on lines similar to the body which controls the work of the Improvement Trust and the Fort Trust.

Q.—Are you in favour of the work being carried out by contract agency?

A.—That I have already stated.

Q.—Are there any other suggestions which you wish to make for bringing this work to a speedy conclusion, either partly finished or otherwise?

A.—A reply to this is contained in my committee's report.

Q.—Can you favour us with any views of your own?

A.—On the scheme as a whole, yes. My private view on the scheme is that as years go by it will have to be completed. I would not proceed with any work of any magnitude until we have disposed of the portions which we have proposed to reclaim. As the demand arises, I would proceed with further development.

Q.—As the expenditure on filling gets less and less?

A.—That would have to be taken into consideration in conjunction with the rate at which we can sell the land.

Sir Frederick Hopkinson.—Would you mind looking at the bottom of page 16. You say that out of the gross area of 496,000 square yards the net area available for building would be 264,000 square yards. Is that rather a small proportion?

A.—It is, Sir. But we have taken the area from the plan submitted. If you refer again to that plan you will find that the town planning as set out provides for very wide roads. I take it that town planning is very different from estate planning, because the quantity of land reserved for roads differs. In the initial lay out of this scheme the roads are very wide.

Q.—How wide are they?

A.—They vary from a hundred to a hundred and twenty feet.

Q.—You will probably agree with me that those could be reduced very considerably?

A.—Yes, I think so.

Sir Frederick Hopkinson.—You refer on page 19 of your report to a map prepared by the Superintendent of Survey and Land Records showing the sales of land in the immediate neighbourhood of the Back Bay during the last fifteen years. That is the information I have been trying to get for a few weeks. You also refer to maps prepared by the Bombay Port Trust, the Improvement Trust and the Municipality showing lands available or likely to be available for sale in the near future.

The map was shown by witness and was examined.

At the request of the Committee the witness furnished the following maps and statements:

(1) A municipal map showing the amount of land owned by the municipality for sale;
(2) a map of land, owned by the Port Trust immediately available, available but not developed, and of land shortly proposed to be made available; with a statement showing the areas and the prices expected to be realised;
(3) similar information with regard to the Bombay Improvement Trust;
(4) a plan showing land available for sale at present east of Colaba.

Sir Frederick Hopkinson.—You will realise that it is extremely difficult to arrive at any basis for framing the value of land which may be required. In order to do this, not only did we have all these maps gone into closely, but we also viewed the matter from the point of view of the density of the population and development of certain areas. And the conclusions of these very general discussions were taken into consideration when we fixed the land values. I should like this to go on record. It appears to me that this very valuable information has come to us more or less in the nature of an accident.

Witness.—It is one of the first things we did.

Q.—As part of the Government case? If you had not reported it as you have, we should not have had it today.

A.—It did not come to the Kay committee by accident. I think it was part of our duty to investigate it.

Q.—But if your report has not been presented just now we should not have had this information, the most essential information. This is what I presume you refer to in the middle of page 26. "There is already or will be in the immediate future a very...
large area of vacant land suitable and available for residential purposes." This statement that you put in to-day will give all those areas.

A.—They will give that, Sir.

Q.—In paragraph 30 of your notes you say, that as regards block 7 you do not consider it a paying proposition financially?

A.—That is so, Sir.

Q.—In paragraph 30, you say that as a whole the reclamation project is not a practical financial proposition, by which you mean that it will not pay?

A.—Not, with the figures before us; as far as I can see it does not appear to be a sound financial proposition.

Q.—On that score alone it would be advisable to drop it?

A.—Yes.

Q.—Again, you say "we have been assured that the sea wall is practically a permanent structure." Who gave you that assurance?

A.—The Director of Development. We particularly asked that question.

Q.—He had said specifically that it was a permanent structure?

A.—He led us to believe that there was no doubt about it.

Q.—It is only very partially finished. Assume for a moment that it is not a permanent structure, and in the next monsoon you have very heavy gales and it is washed away, what is the position then?

A.—The position is that the wall is washed away.

Q.—Very serious, is it not? If you should ever in future desire to finish the Back Bay reclamation you have got to begin the wall over again.

A.—Practically.

Q.—The wall was not designed to stand alone; it was designed to stand when supported from behind?

A.—Yes.

Q.—If you do not put that support behind, the engineer might reasonably say he is not to blame if the wall is washed away?

A.—That is possible.

Q.—Nothing has appeared yet to show that the engineer had instructions to design a wall that would stand without support?

A.—I have not investigated from that point of view. I am prepared to accept that.

Q.—I am just putting it to you; if this wall which you have been assured is a permanent structure is in fact not a permanent structure the position would be infinitely worse than it is to-day?

A.—If you have lost your sea wall probably there will be no question of development for all time?

Q.—Therefore it should be a consideration in deciding whether to finish the scheme or not?

A.—I cannot reply to that, Sir, because I have been assured the wall is a permanent structure.

Q.—But I am going to assume that it is not a permanent structure; because obviously it has not been built to be a permanent structure without support. Would not that alter your views somewhat?

A.—Yes.

Q.—As to the desirability of completing the scheme?

A.—No.

Q.—Why; you think it should not be allowed to fall down?

A.—I don't say so, Sir, but it is possible from an engineering point of view, to support it somewhere.

Q.—Would you be prepared to spend the money necessary to support it?

A.—If there is a prospect of completing the scheme in some future time, yes; and in view of the assurance given by the Director, if the work which is to go on for the next three or four years.

Q.—The next monsoon may be a very severe one and the wall may go; so, you cannot put it off for three or four years, unless you are absolutely satisfied and certain that it is going to be a permanent structure.

A.—You have reasons for assuming that this is not going to stand?

Q.—I am not assuming, I am suggesting the possibility.

A.—Before I can reply, I think I shall want an engineer to tell me how long the wall will stand.

Q.—It depends on the nature of the monsoons; the monsoons are not all of the same character? Some are worse than others. It might stand four monsoons and disappear on the fifth.

A.—I am not prepared to agree. This is your view.
Q.—What, I really wanted to know, was your authority on what I call a large subject like this?
A.—That is in the Director's report.
Q.—Your report is made for the Government?
A.—Yes, for the Government of Bombay.
Q.—Is it not public property for the moment?
A.—Not further than what must be properly known in the discussion.
Q.—Can you give me any idea of the amount of debt in the Bombay Presidency?
A.—Outstanding debt?
Q.—Yes; can you give me figures?
A.—Yes, Sir.
Q.—And also of the Municipality, the Fort Trust and the Improvement Trust?
A.—You have to ask those particular bodies; they could give the information.
Q.—How long have you been connected with Bombay?
A.—For about 18 years.
Q.—So that I can take it that you are well acquainted with the several parts of the city?
A.—Yes.
Q.—Can you give me any idea now as to the areas of land available in 1919? I want to contrast the position in 1919 with the position you give to-day?
A.—That can be obtained; the various bodies will gladly furnish you with the charts if the Secretary of the committee writes to them. Because that has a distinct bearing on the necessity for commencing this Back Bay Reclamation.
Q.—Supposing this Back Bay Reclamation scheme had not been started in 1919, could land be obtained at a reasonable price anywhere near Bombay?
A.—Not in 1919.
Q.—Could it since that date?
A.—Yes, since 1919; because there was trade slump, you had a reduction in population in the city.
Q.—Reduction in population won't increase the land?
A.—That would release certain sites.
Q.—Not the entire buildings?
A.—They might improve the buildings.
Q.—But have not the Development Department and the Improvement Trust been making areas of land since 1919?
A.—Very considerably.
Q.—That is what I am trying to get at; and what is the relative cost of this compared with the land in Back Bay, cheaper or dearer?
A.—It is a very wide question; you will have to investigate land schemes all over the city.
Q.—It is a very important question. I want to realise the position that existed here in 1919?
A.—I have put in a small statement showing the rates at which each local body estimated the value of land to-day.
Q.—That is only values; I am speaking of quantities.
A.—For quantities you will have to get figures from those bodies.
Q.—But have not the results of the activities of the Development Department been towards increasing the area of land available in Bombay, outside the reclamation scheme?
A.—Yes; in the island of Bombay and Salsette.
Q.—And the same applies to the Improvement Trust?
A.—Yes.
Q.—What is at the back of my mind is this simple question. Suppose I ask myself this question to-day: Why was the Bombay reclamation ever started? We know it was to reclaim a certain area of land, and what I want to know is what was that reclamation for?
A.—If we take our mind back to 1919, we had a tremendous industrial boom here. There was shortage of housing for the working classes, the mill industry was working with double shifts, trade figures were extraordinarily high, new businesses sprang up; there was an influx of population of all kinds from all parts of India, and generally speaking, there was also overcrowding and great necessity for building spaces.
Q.—Was any statement prepared by 1919 as to the area of land other than the reclamation that was going to be provided by the Development Directorate and the Improvement Trust?
A.—I think there was a general statement made about Salsette; whether the figures were made on that, I cannot remember. I shall require notice of that question.
Q.—You see what I am trying to get at; why was this reclamation started, where was the necessity for it? and in order to answer that question I wish to know some particulars as to what land was available at that time, what was expected to be required and also the quality of the land required—by quality I mean quality for building purpose, because the land at Salsette would be for a totally different purpose from land on the reclamation.

A.—I will look that up and give you the reply.

Q.—Thank you very much. I take it generally that there was not dearth of land at any time?

A.—No, Sir.

Q.—Of any kind—except for reclamation?

A.—I don’t quite see that; you may want land for industrial purposes near the city which you won’t be able to obtain.

Q.—But would you put an industrial building on this reclamation?

A.—No.

Q.—Therefore it is not useful for that purpose?

A.—No.

Q.—It is really required for open spaces and such business buildings as might flow from that direction, and for private houses?

A.—That is so.

Q.—Of an expansive character?

A.—Yes, Sir.

Q.—Is there any shortage at the present time for land of that character, either for commercial buildings or for private houses?

A.—There is no shortage of land, for people go out and live in suburbs.

Chairman.—In the heart of the city there is?

A.—The map will give you an idea of the land available.

Sir Frederick Hopkinson.—Is there any near prospect of the Bombay City, I mean the commercial part of the City, flowing over towards the sea?

A.—The commercial part of the city would always concentrate as much as it can near the centre of the city—near the hubbub of commerce—where the banks and offices are.

Q.—You have not answered my question. Is there any reasonable prospect of the commercial part of the City flowing over to the reclamation?

A.—I think the tendency is westwards not northwards towards the reclamation, when the Ballard Estate is filled up.

Q.—When do you anticipate the Ballard Estate to be filled up?

A.—My reply is this. There are trade cycles or periods, in the next of those periods it will be filled up. Each period lasts for five years or so.

Q.—And in that case reclamation would be available and probably necessary if trade revival creates a demand.

A.—Not the whole of it.

Q.—Part of it?

A.—Our recommendations are.....

Q.—Do they cover any extension of the business areas to blocks 1 and 2?

A.—Yes. There is no reason why you should not put up offices on block 2. It is central, near the Station.

Q.—During the next cycle which I trust will come in its duly appointed time you may possibly find that even the blocks 1 and 2 will be so small an area for that purpose?

A.—Not, according to my view, Sir.

Q.—How far ahead do you think blocks 1 and 2 may under ordinary circumstances be completed?

A.—We said in our report that we think the whole of the land in blocks 1 and 2 will be sold in about twenty years.

Q.—From now?

A.—From one year after the date when development of the reclaimed area in Block 1 would be commenced.

Q.—So that if it were thought that further land would be required there is plenty of time to think about it?

A.—Yes.

Q.—Any recommendation should be governed by the time required to bring a block or any portion of it into fruition.

A.—Not forgetting the all-important factor as to when you expect to dispose of your land.

Q.—I am assuming that this trade revival would supply that. It is the tendency of all cities like Bombay to increase and the tendency of the diagram is to rise. It is a
question of rupees really whether you do this now or in the distant future. Ultimately the Back Bay Reclamation will probably be all required. But the difficulty is to say when.

A.—I don't think it would have been required if it had not started.

Q.—Do you think it was a wise or unwise thing to have started?

A.—In the days when the idea was formulated and in view of the acute overcrowding that prevailed in those days and the figures which were originally given, the idea seemed to be an admirable one.

Q.—That was in the days of Rs. 367 lakhs estimate?

A.—Yes.

Q.—Supposing that that estimate which was given in 1919 had been 702 lakhs, it might have been possible to be in your view not worth considering?

A.—It did not arise, Sir. I cannot imagine in 1926 what it would have been like in 1919.

Q.—You would have thought about it very seriously?

A.—One would have thought it an extraordinary figure. But my submission is that you cannot ask any man to think in 1926 what he would have thought in 1919 when all men were thinking in certain channels. One's thought was running in an entirely different way.

Q.—Assuming that the scheme was 367 lakhs, it would appear to be an admirable scheme. But if you were told that it was going to cost Rs. 702 lakhs you would not consider it so admirable.

A.—Obviously.

Q.—And having this figure in your mind you would be inclined to criticise and to go more deeply into it.

A.—If we had the opportunity.

Q.—You say you did not have the opportunity?

A.—No, I did not, personally.

Q.—Were you actually told that it was going to cost 367 lakhs before the Bombay Government was committed to it?

A.—I could not say that. How the figures came out I could not tell you. That will have to be looked up.

Mr. Billimoria.—Your report is a very valuable document and I must congratulate you for bringing out an able and cautious report. I take it that your opinion of land values is based on the experience of business men on your Committee.

A.—One responsible member of the Committee generally has to handle subjects of land values.

Q.—Do you propose that the work in block 2 should be completed or commenced simultaneously with block 1 or after block 1 is completed you dispose of some land and have some experience that you propose to proceed with the work on block 2?

A.—No, Sir. Not quite. If you look up our programme of work you will find that block 2 in the first year will commence after the storm-water drain is completed, by which time the expenditure would be just over a lakh. You will have to commence block 2 in any case.

Q.—You were asked some questions regarding how the cost is arrived at. As a prudent business man you will always take interest into account in arriving at the cost of an article that you are producing.

A.—Certainly.

Q.—You say that eventually it is not a sound commercial proposition to complete the whole scheme.

A.—Not on the figures we have at present of the land valued.

Mr. Billimoria.—Thank you.

Mr. Kay.—Could you give a ruling in regard to the publication of this report, because this is a public enquiry and my evidence has been given to the press here.

Sir M. Visvesvaraya.—Whatever portion of the report has been discussed here is public property. Your report was made to the Government and therefore it should be given to the Government.

Sir M. Visvesvaraya.—We have had valuable information from you and we thank you.

Mr. Kay's examination concluded.

36th Witness

Mr. R. H. A. Delves

Mr. R. H. A. Delves, Chief Executive Officer, Improvement Trust, examined.

Sir M. Visvesvaraya.—What is your full name?

Mr. Delves.—Robert Harvey A. Delves.
Q.—You are Chairman of the Improvement Trust?
A.—I was Chairman until the constitution was altered last April. Now I am Chief Executive Officer.

Q.—Are you on the Advisory Committee?
A.—Yes, I am a member of the Advisory Committee.

Q.—You are one of the signatories of the majority report?
A.—Yes, I was on the sub-committee.

Q.—May I ask how many years' experience you have had on the Improvement Trust?
A.—23 years.

Q.—What is the total length of your experience of the Bombay City?
A.—23 years.

Q.—Are you aware that the Kandivili quarry was started in order to obtain stone for the sea wall?
A.—I understood so.

Q.—And they are using the same quarry for bringing morum?
A.—Yes.

Q.—If you want morum for filling, do you not think there are places nearer the work than Kandivili to obtain it from?
A.—There may be, but the hills in Salsette are very unsatisfactory.

Q.—Can you not get some morum also from the Thana side via Dadar?
A.—No; I think it is very unsatisfactory from the eastern side.

Q.—We had some witnesses who said that they had morum quarries ready opened between Dadar and Thana?
A.—We have recently been bringing in earth from a hill beyond Ghat Kopar.

Q.—How many miles away?
A.—That was about 4 miles from the north end of the island.

Q.—How far from the reclamation site?
A.—12 or 14 miles.

Q.—And Kandivili is about 18 miles?
A.—Yes, that is on the B. B. & O. I. Railway and Ghat Kopar is on the G. I. P. Railway.

Q.—You have signed the Kay Report?
A.—Yes, I have.

Q.—And you agree with every part of it?
A.—Substantially.

Q.—Are you prepared to give any individual opinion you may entertain which may be at variance with the report?
A.—I think that the land values in blocks 1 and 2 were put on the moderate side; personally I would put them a little higher.

Q.—Do you not think that the report has been a little over-cautious?
A.—If we erred at all we erred on the cautious side, and I think it was desirable to be cautious.

Q.—You have taken establishment charges at 15 per cent.?
A.—Yes.

Q.—If it is desired to do morum filling and the work is done by contract do you think this high rate will be necessary?
A.—If you reduce establishment charges, the cost will be less.

Q.—It might be reduced by 5 to 6 per cent.?

Sir Frederick Hopkinson.—But you forget that contractor has to get a profit.

You take from one and pay it to the other.
A.—The rate might go higher if the contractor did it.

Sir M. V. Visvesvaraya.—You have been guided by Mr. Neilson's report as regards rates for materials?
A.—Yes; those were our instructions.

Q.—Don't you think they have made an unusually large allowance for shrinkage?
A.—Personally I think they did in block No. 1.

Q.—You have more experience as an engineer in contract construction work in Bombay and we want your opinion?
A.—I may make it plain at the outset that I am not an engineer; I am a surveyor.

Q.—But you have been in close touch with construction work in Bombay?
A.—Yes.

Q.—Such things as rates and cost are not very highly technical?
A.—That is a matter of experience.
Q.—Do you not consider that there are possibilities of reducing the rate by improving the transport, etc.?  
(Witness)—Are you talking about the rate for dry filling?  
Sir M. Visvesvaraya.—Yes.  
Q.—At present there is no special organisation for bringing moorum to the reclamation area, they bring in 2 train loads from Kandivli quarry which might be possible to increase to 7 and the quantity of delivery might be increased proportionately. It might be possible for the trucks to make more journeys than one. Also the railway may give further facilities. Then do not you think the rates will be reduced?  
A.—I do not think you will reduce the rates.  
Q.—The lead may be reduced?  
A.—You may reduce the lead. If you are going to use ordinary railway trucks you will increase the charges for loading and unloading.  
Q.—If the rates are altered, your figures will require modification?  
A.—Certainly. If the rate is altered one way or the other, the figures will require modification.  
Q.—There is one important question I want to ask. The rate for moorum is about Rs. 1-8-0 at present. . . . .?  
A.—I am afraid we have taken it in brass.  
Q.—In the report you have got moorum filling at Rs. 5-79 per brass consolidated, that is equal to Rs. 1-97 per cubic yard.  
A.—I have not worked out the figures, I will take them from you.  
Q.—That comes to roughly Rs. 1-8-0. Do you not think there is a possibility of reducing the cost if you made proper arrangements and you have moorum nearer the work?  
A.—I would not like to say that there is a possibility unless I have examined the area.  
Q.—Then assuming the rate at Rs. 1-8-0 and the total quantity of filling at 28 million cubic yards including what has been done. . . . .?  
A.—But Sir George Buchanan said it was 25 million cubic yards.  
Q.—I say now: Taking 28 million cubic yards of moorum filling to be done and assuming a rate of Rs. 1-8-0, do you not think that the whole filling could have been done for 4,20 lakhs at the outset?  
A.—If your estimates are correct, the calculation comes to that.  
Q.—The Neilson Committee assume a rate of 1-87 per cubic yard for moorum filling and the quantity is 28 million cubic yards. Assuming these figures to be correct, the entire filling work could be done for 4,20 lakhs?  
A.—On the figures you have given, it is correct.  
Q.—Of course there might be some additional expenditure for the building of the sea wall and assuming that it could be done within 80 lakhs, it was possible to do the whole work within 5 crores?  
A.—Not within 5 crores. You will have to provide storm water drains.  
Q.—You have discriminated in your report “developed” and “undeveloped” and I am taking undeveloped area. At the figures I have given, you would have got 1,145 acres of undeveloped area at something below 5 crores?  
A.—I am not prepared to agree with that statement, because I do not know what the wall costs.  
Q.—At the same time you are not prepared to contradict that statement?  
A.—No, but at the same time I do not agree with it.  
Q.—Can you tell me what alternative figures you would give me for such filling?  
A.—I do not understand the question.  
Q.—Supposing it was originally intended to fill the whole area with moorum only, could not the entire work have been done within 5 crores roughly?  
A.—On the figures given by you, the cost of filling would have come to 4 crores and 20 lakhs but I do not know what the sea wall costs.  
Q.—The wall costs about 70 lakhs but probably it might have been cheaper had it been a stone wall. Don’t you think the total cost might have come to about 5 crores for reclamation of undeveloped area?  
A.—If you get moorum at 1-8-0 per cubic yard and if the sea wall does not cost more than 70 lakhs, then you would have done the work for 5 crores undeveloped area. I have taken your figures as the basis.  
Q.—I claim that by reducing the lead for moorum and also by better organisation and understanding with the Railway Department you might be able to reduce it still further and bring down the rate to Rs. 1-9-0 per cubic yard?  
A.—I cannot say.
Q.—Have you given a thought to this question? Probably you are not willing to commit yourself?
A.—I have not been asked to consider the rate of filling.
Q.—The Committee state in their report that the prosecution of the whole scheme is not a practical financial proposition.
A.—The report says: "We do not think an early prosecution of the whole scheme is a practical financial proposition". That is what the committee states.
Q.—You are individually also of the same opinion?
A.—Yes.
Q.—I am not advocating the extension of the area here but I want to draw your attention to the fact that several witnesses have stated that there is no demand for land on the island here. They say there is plenty of land available for sale?
A.—Do you mean that there is no demand for residential land in the vicinity of the Fort?
Q.—Yes, they say there is no large demand for land.
A.—I do not agree with that so far as the Fort is concerned.
Q.—What about Cotton Green?
A.—Cotton Green is of a different character.
Q.—There is land available for purchase if anybody wants it?
A.—Land is available for sale in that part of the island.
Q.—Do you not think that the city is congested?
A.—Parts of the city are terribly congested.
Q.—And the rents are comparatively high?
A.—Yes.
Q.—Are not the residences here more expensive than in London?
A.—Rents here are higher than in London generally.
Q.—Does not that mean that more open land is required in this city? Of course opening out more land means reducing the present land values but if you take existing congestion into account is it not clear that land is required?
A.—It might reduce land values in the congested portions.
Q.—But in the interest of the city as a whole it might be an advantage?
A.—I think it is an advantage provided you do not produce too much.
Q.—Don’t you think the trade will grow if there is more space and the rents are low?
A.—I think perhaps individual traders will make more profit; whether there will be more trade or not, I cannot say.
Q.—What is your opinion about the completion of the scheme? You want to complete blocks 1, 2 and 8 and leave the rest of the work incomplete?
A.—I say go on with the completion of blocks 1, 2 and 8 and then proceed cautiously.
Q.—If you once break up the organisation, you might not be able to complete it at a reasonable cost later on?
A.—It is no good filling in and allowing the land to lie idle.
Q.—The city is subject to cycles of depression and boom?
A.—I am assuming average conditions.
Q.—I want to know your opinion whether there is any chance of getting rid of the land in ten years?
A.—There is not the slightest chance of getting rid of that land in ten years.
Q.—You are assuming that the prices given for this land and the period of its sale are spread out as given in your report. What in your opinion would be the value of this land when reclaimed?
A.—If you want my opinion I will give you a proper value. For block 1 I take an average of Rs. 75 and for block 2 an average of Rs. 60 and as regards the period, I think the total period of twenty years which we have allowed for these two blocks is on the liberal side.
Q.—You may be able to sell it earlier?
A.—I think we should be able to sell it earlier.
Q.—What about block 7?
A.—I look upon No. 7 as a hopeless proposition. In order to balance your expenditure on No. 7 you would have to get rid of the whole land at Rs. 35 per square yard within seven years of the date of the commencement of road making.
Q.—What were the prices in 1920 at the Marine Lines area per square yard?
A.—There was no vacant land in 1920.
Q.—Anywhere in that neighbourhood?
A.—Well Sir as I have said there was no vacant land.
Q.—In that vicinity or any other place that you know?
A.—In the Fort it was 2,000 per square yard of building land.
Q.—And the minimum prices for developed land in that area?
A.—If what you want to know is what rates I should have put on plots on the
reclamation in 1920 my answer is from Rs. 80 to Rs. 100.
Q.—So the boom is not likely to recur for another ten years?
A.—I hope we shall not have any time like that of 1920.
Q.—Then it is difficult; the public won’t recover their moneys?
A.—It seems so.
Q.—Your individual view we want, whether the works should be left incomplete
or completed?
A.—What I have said is this, go on with 1, 2 and 8 and see what demands require
and if the above blocks sell successfully then the rest of the work can be taken in hand
and be proceeded cautiously.
Q.—If the work is to be carried on what are your ideas about future manage-
ment?
A.—You mean after block 2 is completed.
Q.—No, in future if the work goes on, should it be done by contract or depart-
mentally, with the same agency as at present, or by the Public Works Department?
A.—I don’t think it would be fair to saddle the Public Works Department with this
work.
Sir Frederick Hopkinson.—Because they have no experts who can operate upon the
dredgers.
Sir M. Visvesvaraya.—Would you like to have a Committee, an Advisory Committee
or a Trust or something of that sort?
A.—Well Sir, the recommendations of the Kay Committee are that the powers of
the Advisory Committee be extended to the Development Department in the direction of
Giving them executive functions somewhat similar to those exercised by such bodies as
the Port Trust and the City Improvement Trust.
Q.—You are in favour of the work being done by contract agency as far as possible?
A.—If the tenders for dry filling come out cheaper than the operations of the dredger
Kalu then by all means give it by contract otherwise I should proceed as it is.
Sir Frederick Hopkinson.—It’s purely a question of cost.
Sir M. Visvesvaraya.—Have you any other points to invite our attention to in
connection with this inquiry?
A.—I don’t think so.
Mr. Billimoria.—Mr. Delves, you are a Member of the Advisory Committee that
drafted that report?
A.—Yes, Sir.
Q.—You have signed that report?
A.—Yes.
Q.—That Committee did carefully consider all the factors before the report was
published?
A.—Yes.
Q.—At page 9 of that report, if you have got a copy with you here you will
see that the said Committee arrived at the conclusions that Government would have
exercised greater caution in such matters at the same time Sir George Buchanan was the
expert advisor represented to have great practical experience in the operations of
dredging plant and so on, do you still adhere to that view?
A.—I do.
Q.—Then at page 3 of the said Committee’s Report in paragraph 12 you say that
after having satisfied ourselves that the loss on the scheme is almost inevitable?
Do you still adhere to that?
A.—Unless something can be done to improve the output of the dredger if not
I think there ought to be a loss.
Mr. Billimoria.—You suggest, unless something very extraordinary happens and
therefore you recommend filling in blocks 1, 2 and 8.
Sir Frederick Hopkinson.—Nothing extraordinary in regard to cost.
Mr. Billimoria.—Mr. Delves, in 1913 in November you appeared before a
Committee called the Development Committee and submitted a written statement which
appears in this printed book at page 78.
A.—I do not know. Will you let me see it?
Q.—With great pleasure, that was as far back as 1913 when you were Deputy
Land Manager?
A.—Well it refers to various paragraphs and questions and I have not got them
here.
Q.—If you will kindly direct your attention to the paragraph in the margin dealing with reclamation?
A.—Yes, I see it.
Q.—What do you mean by "large and comprehensive scheme", a scheme as huge as this one undertaken now?
A.—Probably that was the one I had in view.
Q.—You were Land Manager in 1913 and you knew very well that huge blocks of land were available at the time and the Improvement Trust had entered on the sphere of activity which would bring about large developed areas in due course of time?
A.—The amount of land which we had available then or the amount which other public bodies had available then was very much less than it is now.
Q.—But then you have certain schemes before you for the development of the town and island of Bombay?
A.—The only schemes we had before us in 1913 were scheme 31, which was quite a small one, and practically all taken up; schemes 5 and 6 between them were about 700 acres.
Q.—In spite of that did you think there was a demand in 1913 for reclaimed area?
A.—I certainly thought so.
Q.—For which class of people?
A.—I have stated it in the note I wrote.
Q.—How many are the people that exist in the island of Bombay that could utilise the benefits of reclamation?
A.—That I cannot tell you. But I can tell you this that the number of people who wish to live in comfort and under sanitary conditions is increasing every day now. When I went to live, Sir, in Marine Lines in 1913 there was hardly an Indian living there. When I left in 1923 there was hardly a European. That is to-day.
Q.—If this area is reclaimed and gradually disposed of, as has been suggested it will require 400 new tenants year after paying about Rs. 450 a month.
A.—I do not agree with that statement. You will get flats on the reclamation at from Rs. 200 upwards.
Q.—After paying what value for grant of land?
A.—Some of it would be at Rs. 60 and some of it at less.
Q.—And taking into account the cost of building?
A.—Yes.
Sir Frederick Hopkinson.—If you take it at Rs. 50 or Rs. 60 you say it would be a profitable proposition for a landlord to realise from Rs. 200 to Rs. 400 monthly rent. When you are speaking of a flat generally, what does that mean?
A.—A flat may contain a combined sitting and dining room, a bed-room, kitchen and servants' quarters, or it may contain a separate dining room, a separate drawing room and three bed-rooms.
Q.—The first one you mentioned is a small one?
A.—Yes, Sir.
Q.—For such a flat with two sitting rooms, three bed-rooms and servants' quarters what average rent you will be getting?
A.—Rs. 400 or 450 a month.
Q.—That is £720 a year?
A.—Yes.
Q.—You can get flats in the West End of London for that. Bombay is dearer than the West of London.
A.—That is what makes it so hard for us to live.
Q.—Do you expect tenants would be coming in year after year paying these huge rents?
A.—Bombay prospering?
A.—May I ask how many years you are assuming this reclamation would be completed in?
Q.—That I would like to ask you.
A.—That is a question I cannot answer. It must depend on the demand.
Q.—Because it is perfectly evident that if 22 lakhs of square yards of land were to be thrown into the open market there would not be investors coming in to pay at even Rs. 50, 11 crores of rupees.
A.—I entirely agree with you.
Q.—Don't you think, Mr. Delves, we could find some public spirited men in Bombay who would come and finish the reclamation?
A.—I was wondering. It would be a glorious monument.
Q.—Do you think it is possible to find such an individual?
A.—I do not think so.
(Sir M. Visvesvaraya.—The reclamation may be named after him. They would be glad to name it after him.)

Q.—You seem to have made distinction between blocks 1 and 2 as regards the realisable value. In one case it may be Rs. 75 and in the other Rs. 60 and so on. Is there any reason why block 2 should realise less?
A.—Because there is more land in block 1, a greater proportion, facing on the Esplanade. And it also has what Marine Lines has, which is a great advantage, a recreation ground behind it. So you get a higher average value on that account.

Q.—You mean that proportion can be utilised by shops?
A.—I am talking about residential quarters. In block 1 you would have a station yard close to Church Gate and round it you would have some shops and you would get good value for that land.

Q.—That is the reason why you can realise a higher price in block 1?
A.—Yes. It has greater advantages.

Q.—How long do you think the area in block 1 would take to be disposed of. You have an experience of 23 years in the Improvement Trust?
A.—Five years. Five years from one year after you start road making.

Q.—When do you expect the whole thing to be ready?
A.—Well, block No. 1, we expect it to be road making in 1930-31 and to complete road making in 1930-31. We expect to begin to obtain receipts in block 1 in 1929-30, that is, one year after you start to make your roads.

Q.—You mean gradual disposal even in block 1?
A.—Certainly. In our report we allowed five years.

Q.—Do you know if prices of building material have gone down in recent years?
A.—They have come down recently.

Q.—Would that be an inducement for people to come and build in block 1?
A.—Certainly.

Q.—What is the price of cement to-day?
A.—I think the price of cement is just over Re. 1 to-day.

Q.—Is there any duty on English cement?
A.—Yes.

Q.—You do not want to carry on the operations in block 7? You condemn it?
A.—Yes. I could not see dry filling in that.

Q.—Are you consulted?
A.—No. I was consulted in 1905 or 1907, but not after that.

Q.—Do you know whether at the time the scheme was launched any due care or precaution was taken?
A.—I had nothing to do with it when it was launched.

Q.—Were you consulted?
A.—No. I was consulted in 1905 or 1907, but not after that.

Q.—If you were consulted you could have given them some solid valuable advice from your experience as connected with Bombay and having had such a great deal with land values to do in the town of Bombay?
A.—I could not have given them any advice on the question of dredging. I had no experience.
Q.—You could have given them some idea as to whether 23 lakhs of square yards of land thrown in the open market would have a demand from the people?
A.—Had I been asked in 1919 or 1920 whether on the facts and figures then known Government should proceed with the scheme or not, I should have said, "Go on".

Q.—What would have prompted you to say so?
A.—First of all the moderate estimate. And the period within which the work could have been done, and thirdly the very very pressing demand that there was for all classes of accommodation.

Q.—So the primary reason would have been the estimate?
A.—The two important ones would have been the estimate and the pressing demand that there was.

Q.—But with regard to the pressing demand you were also creating several areas in the north of the island. You had certain schemes and that would have to a great extent relieved that pressing demand?

A.—But we all thought that Bombay was going to grow, that it was going to be a centre of Trade with East Africa and Mesopotamia and various other places.

Q.—Possibly you thought you would have some aeroplanes landed in the reclaimed area?

A.—We did have one travelling between Karachi and Bombay.

Q.—You have told us that you would now recommend to go cautiously?

A.—Certainly.

Q.—That means for another 10 years you would not think of any further reclamation?

A.—I would not say 10 years. I would wait and see.

\[\text{(Mr. Walchand Hirachand of the Tata Construction Company who was recalled by the Committee was further examined.)}\]

Before the beginning of the examination the witness wanted to make a preliminary statement in connection with Mr. Nariman's written statement given to the press. On being allowed to do so he made the following statement:

"In Mr. Nariman's written statement published in to-day's 'Chronicle', page 11, there is a paragraph with the heading, 'other Instances of Favouritism'. That paragraph says that boats were bought from Tata Construction by two officers, by Mr. Mehta, Executive Engineer at Rs. 92 and a Superintending Engineer at Rs. 69 per thousand. I on behalf of the Tata Construction very emphatically refute any insinuation in that statement. We challenge Mr. Nariman to produce evidence of favouritism. As a matter of fact we have never been in the favoured list, if there be any such list, of the Development Department. On the contrary they have gone past us even when in publicly invited tenders on more than one occasion we were lowest. In the whole of their big programmes as contractors we have done extremely little although we consider we were organised, and entitled to a decent share, with the exception of a small department of ours, the sand department. We are writing to you officially. My request to the Committee is in case the witness is not prepared to give authoritative confirmation of these statements, in fairness to the other side no publicity should be given to such damaging statements."

Sir Frederick Hopkinson.—A rising out of that, can you give me any reason why in any one case they should select a tender higher than yours? You suggest that on several occasions tenders had been accepted that were higher than yours?

A.—We wrote and asked them officially the reasons. And we were referred to the conditions of the advertisement which stated no reasons will be assigned for rejecting any or all the tenders, a very curt reply of two lines.

Q.—Perhaps you can tell me from your wide experience whether it is an uncommon thing or not for a small sub-contractor handling moorum or anything like that to be jealous of another sub-contractor who secures the contract? Is it a common thing in India? Because Mr. Nariman spoke of and gave us a lot of hearsay about small contractors thinking others had been favoured.

A.—I do not exactly follow. Human nature is to be jealous, but as in the case of Engineers the Development Department studiously avoided local contractors with experience or organisation or reputation. All their contractors on the Back Bay were, as far as I am aware, mofussil contractors, never heard of or known in Bombay, very small contractors.

Q.—One could understand giving contracts to these very small contractors if they are going to get some advantage in price for it?

A.—That I am not aware of. During the first two or probably three years no one knew, none of us contractors in Bombay knew how these Back Bay contracts were given
out. We ourselves are not aware of having received any inquiries after the first wall tender.

Mr. Billimoria.—Was it ever suggested, Mr. Walchand, that disappointed contractors were agitating at any time?

A.—In the first place a contractor does not normally get disappointed, because every day I have a rejected tender, and if I go on disappointed, my life would be too short for it. Rejection of a tender does not disappoint us. It does not also cause that embitterment or reason to agitate. It is an every day occurrence with all contractors.

Q.—Was such a thing suggested that the agitation was due to disappointment?

A.—The Times of India has always been harping, as long as it was praising the Development Department and its work, and tracing the whole of this public outcry or grievance, whatever you call it, to disappointed contractors and similar reasons.

Q.—At any rate you are not one of them?

A.—I do not know what the Times of India leader writer means. This was in one of the Times of India leaders.

Q.—You did not take that seriously?

A.—There are some people who do take the Times of India seriously.

(Sir Frederick Hopkinson: Some people take Punch seriously.)

Sir M. Visvesvaraya.—I want to ask you about the moorum filling. Have you done any moorum filling in Bombay city? Do you know the rates at which moorum filling has been done in the past?

A.—I have done huge quantities and specialised in moorum filling and transported by rail from my own quarries.

Q.—To what localities?

A.—Big quantities on the Mazagon-Sewri reclamation for the Bombay Port Trust filling in about 21 lakhs of brass between Dadar and Matunga over the G. I. F. Railway. The rate for the 6 lakhs brass, which is equivalent to if not more than block No. 2, for Bombay Port Trust filling was Rs. 4-8-0 a brass. They paid the railway freight.

Q.—But that is an impossible rate for this work?

A.—I do not think so. I do not agree that the Development can do it for the rates mentioned. Nor am I prepared to depend on those figures. The Development all along have not done any moorum filling on sectional measurement. It has always been weighed in the weigh-bridge, or it has been by wagon measurement. It makes all the difference. Mine is all net sectional quantities after settlement for one season or one year.

Q.—Where else have you done in recent years?

A.—This was going on till recently.

Q.—What was the rate for filling in of that big pit opposite the Willingdon Club?

A.—That was done from local earth within half a mile. I do not know the rate.

Q.—Can you tell us at what rate any respectable contractor would be able to supply moorum for filling in connection with the reclamation? You need not commit yourself. You may say what would be a fair rate.

(Sir Frederick Hopkinson:—He cannot tell unless he knows the conditions.)

A.—I have worked it. My only difficulty is, I might be exposing my case, my tender. If the Committee do not mind, I am prepared to give it “in camera”. I also do not mind going into the details of how I arrive at the various details of that rate.

Q.—I think you must know your own interest. We want to know what it would cost to fill. I might tell you that the Kay Committee have mentioned a rate of Rs. 5-7-9 per brass which is equivalent to Rs. 1-57 per cubic yard.

A.—Rs. 5-7-9 per brass. That does not include the 15 per cent. of establishment.

The Chairman.—15 per cent. is a ridiculous figure if the work is done by a contractor?

A.—For the Tansa scheme Establishment came to only 2 per cent. in the Bombay Municipality. But Rs. 5-7-9 per brass is a rate at which sectional work was never done. This is a theoretical estimate. All their work was done by wagon measurement and then 15 per cent. or something has to be added.

Q.—Why do you object to wagon measurement?

A.—This is not a correct guidance. A small contractor might prefer wagon measurement, but it will lead to abuses. A respectable contractor cannot afford to accept the measurement of a petty 500 rupees surveyor. But in sectional measurement it is generally taken at the beginning and again at the end. A respectable contractor will always prefer sectional measurement and that makes an amount of difference.

Q.—You will have to remember if it may be possible for you to bring moorum from a shorter distance than they do now. You may be able to bring it from 12 miles as Mr. Pulevs said we could?

A.—That may make a difference of about 6 annas per brass.
Q.—You are at liberty to give definite or indefinite answers as you think proper.
A.—I shall give you some idea. I do understand the difficulty of the Committee in order to make a recommendation on this point.

Q.—I want a practical rate.
A.—I told you before that moorum is available and that contractors also are available. More than one contractor and more than one source of moorum are available.

Q.—Who could do 20 million cubic yards?
A.—Distributed over 8 or 10 years, it is easy.

Sir Frederick Hopkins.—You have seen these conditions. If you do work on that basis, what would your price bring it to? Nearer to Rs. 10 a brass than to 5?
A.—It would be nearer 10.

The Chairman.—You may also use earth if you like?
A.—It does not make any difference.

Q.—Possibly earth may be costlier?
A.—The cost may be about Rs. 5-10-0 to 5-15-0.

(The Chairman.—Thank you. That is a definite figure. That does not commit you.)

Q.—What might be the lead?
A.—The nearest should be about 14 miles and 19 miles the maximum.

Q.—Now Mr. Walchand, the total quantity of filling in the reclamation is about 29 million cubic yards, or about 70 lakhs of bricks. At Rs. 6 per brass it will come to about 420 lakhs. If the people who originated the scheme had started with plain matter-of-fact moorum filling, could it not have been done for less than 5 crores and the whole thing completed by now?
A.—If transport had been available, the work would have been completed by now.

Q.—With two railways near at hand, is there any difficulty for transport?
A.—No. As I said, even when the G. I. P. Railway was not quadrupled, they were able to supply me six to seven rakes. Now it should be much easier.

Mr. Billimoria.—How long do you think it would have taken?
A.—It depends exactly on the number of rakes placed at the disposal of the contractors.

The Chairman.—Three years?
A.—No.

Mr. Billimoria.—It was anticipated then that wet filling should have taken six years. This has to be done earlier.

A.—If each of our Railways agree to run 8 rakes, it would not be difficult I think to do the work in about 6 to 7 years by dry filling.

Q.—Without hampering the traffic?
A.—I am not a railway man, but as far as I can see, even in pre-war time, they could run for me 6 rakes and they allowed me to run it on the main line. With quadrupled railways, I think they can run 8 rakes even in day time.

Q.—It would not interfere with the local traffic?
A.—Not much as local traffic will be interfered with between Grant Road and Marine Lines.

Q.—There is one more question I want to ask. House rents and shop rents are higher in the business parts of Bombay Fort than in London?
A.—We are told so.
Q.—You were in London?
A.—I was not told detail. I was told when in London that house rent is not dearer there than in Bombay.

Q.—Is there any ground then for suggesting provision of additional land?
A.—That was in 1920. I am not aware if the drop in London has been as great as we have had in Bombay between the years 1919 to 1926. We had land going on at Rs. 41 rent at Bombay Port Trust Ballard Estate. Now there is no land over Rs. 4.

Q.—Compared to London, rent in Calcutta is very much higher, and it does not require an expansion in Calcutta?
A.—We are in an island and Calcutta is not an island.

The Chairman.—You do not think if more space is available rents will go down and trade will improve?
A.—If you give too much land, trade will be affected adversely.

Q.—It is an undoubted fact that there is intense congestion in parts of the city as compared with other cities. Some tables have been given by people who are doing propaganda work. According to them, congestion in New York is much worse than in Bombay. Having regard to Indian conditions, there is probably more congestion in Bombay?
A.—Comparatively.

The witness then withdrew, and the Committee rose for the day.
The Committee assembled at 11 a.m. on Tuesday, the 24th August 1926,
with Sir M. Visvesvaraya in the Chair

Sir Lawless Hepper and Messrs. Elgee, Harvey and Thomas were examined.

37th witness

Mr. T. Harvey, Superintending Engineer

Chairman.—Sir Lawless Hepper, I suppose these officers will give evidence along with you. There is no time for asking questions individually. The information we require from you to-day relates to estimates and technical questions connected with the control and conduct of the works. We shall also be glad to obtain explanations regarding the complaints brought before the committee. It is for you to decide in what manner you would like to meet the allegations made, whether by verbal explanations or in the shape of written statements. You have handed in a written statement which has come in only a few minutes ago. When any questions are asked you may refer to passages in that statement and also give any further verbal explanations that you may think necessary. Our sittings will be over to-day and I hope if we want any further information we can obtain it by personal interviews or during our inspection of the works.

Sir Frederick Hopkinson.—Sir Lawless, tenders were originally called for for the first 2,000 feet of the Colaba wall?
A.—Yes
Q.—Can you give me those tenders?
A.—We have already handed them in to the Secretary. (The Secretary explained that all the items, except two of the items of information he promised, were received from Sir Lawless Hepper.)

Q.—Do you know of your own knowledge why none of these tenders was accepted?
A.—I have no knowledge except from the report which Sir George Buchanan submitted. The tenders were referred to him, and he for certain reasons stated in the report did not recommend that any of them should be accepted.
Q.—My recollection is that what he has stated is that it is not advisable to accept any of them.
A.—I think he said that no contractors had been able to put up suitable proposals and it was advisable that the work should be done departmentally. I don't think he gave any detailed reasons for it but he made that report. 'I have no information myself.

Mr. Bühmeria.—Has Sir George Buchanan in his correspondence complained that instead of giving it over to the contractors it has been carried on departmentally; he has been in favour of contractors being employed and not of departmental work?
A.—In his report he recommends that the dredging should in any case be done departmentally. But as regards the sea wall, he suggests two alternatives, either doing it departmentally or doing it by contract; and he suggests that the method of doing it by contract should be decided by calling for tenders; and when tenders were called for for the first 2,000 feet, he recommended to Government that the tenders should not be accepted and the work should be done departmentally.

Sir Frederick Hopkinson.—Did you see the tenders that were invited?
A.—I did not.
Q.—I believe the tenders were called for large concrete blocks to form the entire wall. You have given me a list of plant. Now, have you got a large number of 25 or 30 ton wagons?
A.—We have 150 open wagons of normal design which are at present hired to the G. I. P. Railway. They were not ordered for the reclamation scheme. In connection with the industrial housing scheme of 50,000 tenements there was very great difficulty in obtaining the material, shingle and sand which had to come 30 miles away from Bombay, and the railways could not guarantee the necessary tonnage. These wagons were accordingly purchased and hired to the G. I. P. Railway on the usual Indian Railway Conference terms and as a result the Railway guaranteed the required tonnage.

Q.—These wagons I presume could be available for the reclamation?
A.—They are available; the G. I. P. have offered to buy them, but I have asked them to continue the hire terms until November, in order that if the Government wished to transfer them to the Back Bay Reclamation we should be in a position to do so.
Q.—Are they 80 ton wagons?
A.—22 ton wagons.
Q.—Is that right, because I have heard that they are 90 ton and 22 ton wagons.
A.—They are new pattern standard state railway steel wagons; I think they are 22 tons.
Q. — I would ask you to advise the Government not to dispose of the waggons?
A. — Very well.

Q. — Similarly, I have seen an invitation for tenders for moorum filling of block 2.
A. — Yes.

Q. — I would also ask you to advise the Government not to accept any tenders sent in on that invitation.
A. — I will do so.

Q. — Mr. Nariman was here on Saturday, and he made certain definite charges against your department?
A. — He did.

Q. — I told him to indicate in the whole statement, the charges that should be answered during our present sittings. I propose therefore to go through the whole statement and I should like you to say whatever you have to say or your officers, in connection with any of those charges made.

A. — My statement only deals with the Back Bay Reclamation and with the case of the steel bars although the steel bars had nothing to do with the Back Bay Reclamation.

Q. — I did not know at the time that the steel bars were not connected with the reclamation. We are not going to deal with anything outside the reclamation.
A. — My statement does not refer to his allegations in connection with the chawl contracts.

Q. — Perhaps, as he has made these definite charges about steel bars, it may be advisable that your answers should be just as publicly given.
A. — I should be glad.

Q. — I ask you, gentlemen of the Press, that as Mr. Nariman’s statement is given the widest publicity you should give at least equal publicity to the answers.

Q. — I am only going to ask you questions about definite statements. General statements I do not propose to deal with. Is Mr. Nariman what is known here as a pleader?
A. — He is.

Q. — And as such is it part of his professional life to defend criminals in a police court?
A. — I think it is.

Q. — Some of these charges are so extraordinary that I venture to suggest that possibly his point of view has been somewhat coloured by his professional activities in defending criminals?
A. — I think if probably is so.

Q. — In the last paragraph on page 14-A, he says that we must “investigate as to how and through whom the final transaction took place between Military and the Government”. As far as I remember his accusation, it was that you were in some way an interested party between the Ministry of Munitions and the Government of Bombay. Can you tell us how the sale was made?
A. — The sale was made direct between the Government of India and the Government of Bombay.

Q. — Had you anything to do with that?
A. — I have explained that in my statement; it is at bottom of page 8. In paragraph 84 of his statement, page 14-A of the typed copy, Mr. Nariman says “Had Sir Lawless Hepper anything to do as head of the Ministry of Munitions”? This is an insinuation in which I think he has allowed himself to indulge on former occasions. The facts are these: The Munitions Board was appointed by the Government of India and formed part of the Central Government. Local Circles under a controller of Munitions were formed in Calcutta, Bombay and Karachi. I was asked by Sir Thomas Holland, President of the Munitions Board, if I would take up the appointment of Controller of Munitions, Bombay Circle, in addition to my duties as Agent of the G. I. P. Railway. I did so and acted in that capacity for 18 months, my principal work being to organise the transhipment of military stores and munitions between the railways and the shipping department in regard to which there had been at first some confusion leading to serious detentions to rolling stock. The sale of the “E skł” was effected by the Government of India, whether by the Munitions Board or not I am unable to say; in any case I had nothing whatever to do with it, and was not aware of the transaction until after I became Director in November 1920.

Q. — That dispels at any rate your personal connexion?
A. — Yes.

Q. — Turning to page 17, he says, “when allegations are openly made all parties concerned would naturally take all the necessary steps and precautions to destroy all the valuable materials in the shape of documents and private records that would in case of an immediate investigation, throw light on the subject.”
Do you think you and your principal officers would naturally take all the necessary steps to do that criminal act?

A.—We should certainly do nothing of the sort.

Q.—Is it the practice in Government departments to destroy such documents?

A.—I have never heard of it; I do not believe it is so.

Q.—Do you think it possible that Mr. Nariman had in his mind somebody whom he had to defend?

A.—It is more than likely.

Q.—In those circumstances, he may consider that all the Government employees were all of the same character?

A.—I think that corruption of that sort is probably more rife in the circles in which he moves and that he is inclined to think that the same thing may be done in the Government offices.

Mr. Billimoria.—You suggest that evidence of that nature would not be destroyed by any officer in Government departments?

A.—No; we have as a matter of fact submitted the whole of the original documents.

In connexion with all these contracts and with the steel case, the whole of the documents are in those papers; there is not a single case referred to the original documents in connection with which have not already been submitted.

Sir Frederick Hopkins.—What I propose to suggest to Government is that this committee is not competent to deal with criminal charges, that if the Government think these allegations by Mr. Nariman are of a sufficiently definite character, they would take up the matter through their legal advisers?

A.—Mr. Harvey, I understand, proposes to ask the Committee for a permission to prosecute Mr. Nariman, provided the Government will give the necessary permission to do so.

Q.—The strong wish of this Committee is—that the truth should be brought out, at any cost, by any body?

Chairman.—About other matters, the Government can undertake them.

Mr. Billimoria.—I take it, Sir Lawless, that you will have no objection to Government instituting proper enquiries as to the charges levelled against your department, departmentally I mean?

A.—None whatever.

Q.—This Committee cannot go into that?

A.—These cases have already been enquired into by Government, and Government are satisfied that there is no foundation whatever for such allegations.

Sir Frederick Hopkins.—Would you welcome any further enquiry that would go into these matters?

A.—Certainly.

Chairman.—Your reply referred to all the allegations made in Mr. Nariman’s statements.

Sir Frederick Hopkins.—We must take one at a time; I want to take each allegation and deal with it.

Q.—At the end of the same page 17, he says, ‘I openly make a charge that there has been a serious maladministration of the public funds and there has been a serious wasting of public funds. There have been instances which I would go to the length of calling frauds and I make this charge on behalf of the public’......We cannot deal with a general charge of that kind of serious maladministration, but I take it, if he brings any definite charge, the Government would be only too happy to investigate. Is that so, Mr. Harvey?

A.—Mr. Harvey—I hope so, Sir.

Q.—On the top of page 18 he says ‘There are ugly rumours in the city and the whole of the Presidency that the higher staff of officers have been receiving secret commissions from manufacturers and that is the reason why in this instance the department has incurred a loss of 3 lakhs.’ Do you know of any one having received secret commissions?

A.—I do not.

Q.—Then it is merely a statement of Mr. Nariman repeating ugly rumours? I do not see how you can meet him.

A.—Sir Lawless Hepper.—Our difficulty has always been that these charges are of such a general nature that it is extraordinarily difficult to meet them. He made these charges in Council where he is privileged and he has been repeatedly asked to produce definite charges on which Government or I can form some opinion and start some enquiry and he has also been offered by Government a judicial enquiry. He has been told in that connection that it was not necessary for him to produce sufficient evidence to prove what he said, but that all that was necessary for him to do was to indicate the directions in which
the judicial enquiry should proceed. He has been told by Government that they will have an enquiry presided over by a judge. But he has absolutely declined to come forward and give any evidence before any enquiry of any sort or kind.

Q.—It is really rather in the nature of an anonymous letter?
A.—It is very much the same.

Q.—He says, "If you go to the Surplus Depot, stores and plant worth 6 lakhs of rupees or more are lying undisposed of." What have you to say about that?
A.—Mr. Harvey.—We had a good deal of surplus stores which was due to the curtailment of the Housing Scheme, most of which has been disposed of now.

Q.—Has it been disposed of with heavy loss?
A.—No Sir. We reckoned in the project estimate for the scheme a credit of 89½ per cent. of the original cost of plant. We have got up-to-date for the plant disposed of about 40 per cent. credit.

Q.—So there was considerable loss?
A.—Yes, it is principally plant.
Q.—I think he is referring to his favourite subject of surplus stores. He has indicated 6 lakhs worth of steel bars disposed of?
A.—There certainly was not 6 lakhs worth of steel bars there, but taking the plant and the steel bars together there possibly was.
Q.—It is largely the plant that has fulfilled its purpose that is disposed of?
A.—Yes.
Q.—Was it no good keeping it?
A.—It is no good keeping it as no further work has to be carried on.
Q.—Therefore it was a proper businesslike thing to dispose of it?
A.—Yes.
Q.—It is due to the curtailment of programme?
A.—It was.

Q.—Will you please tell us, Sir Lawless, one thing? He says that an indent was intentionally altered. Mr. Nariman has written a letter to ask whether we would not allow him to discuss these things on the ground that they did not come within the terms of reference. If these steel bars were not required for the Back Bay Reclamation we won’t go into it at all?
A.—Sir Lawless Hepper.—This is the only case in which he is making any definite allegation.
Q.—It does not refer to Back Bay Scheme at all?
A.—This is his favourite allegation. It is the one in which he committed himself to a definite allegation.

Mr. Billimoria.—If you made a general denial that the steel bars had nothing whatever to do with Back Bay Reclamation it can serve our purpose. You can issue a memorandum and refute the charges he makes.

Sir Frederick Hopkinson.—What were the bars required for?
A.—For piles for chawls.

Q.—He is dealing with the whole of the bars. I think it would be irregular for us to go into the matter?
A.—Mr. Harvey.—He had his say the other day.

Sir M. Viswanaswamy.—We thought the purchases referred to the Back Bay Scheme. It is quite true that he went into the matter.
A.—Mr. Harvey.—He must have known definitely that it did not belong to the Back Bay Scheme. He knew that he was going into the Housing Scheme.

Sir Frederick Hopkinson.—Personally, I should prefer to have the allegations answered.
A.—Sir Lawless Hepper.—I should revert to his oral evidence. The question was "I only say it may have been a mistake"? He says, "I say it is an intentional alteration".
Then he was asked, "Why should a man make such an intentional mistake"? His reply was, "In order that the manufacturers might be profited. There is no other explanation that I could see". He was then asked by Mr. Billimoria, "Do you suggest that there was an ulterior motive? A.—Yes". He was then asked again by Mr. Billimoria coming to the question of favouring a particular contractor. "Do you also suggest any ulterior motive here? The witness replied in the affirmative". My submission is that, Mr. Nariman having been allowed to express these views and to make these definite charges before this Committee, it is only fair that the officers of the Directors should be given an opportunity of conclusively refuting his statements.
Q.—If any one of these bars has been used in the reclamation work I think we can properly listen to your explanation.

A.—Mr. Harvey.—I think some of these bars have been passed on to the reclamation

Q.—Only one will do?

A.—Sir Lawless Hepper.—You have got it in writing and also by Mr. Harvey.

Sir Frederick Hopkinson.—I want this to go on the notes so that I can find it in the future.

A.—Mr. Harvey.—I have not seen that complete statement.

Q.—Will you explain to us how this indent was altered by the Superintending Engineer?

A.—Sir Lawless Hepper.—The indent was originally submitted by the Executive Engineer who inadvertently omitted to enter in it the steel bars required for the piles, and this mistake was discovered in the Superintending Engineer’s Office.

Q.—He did not put them in at all?

A.—No. This omission was discovered and orders were given in consultation with the Executive Engineer that the necessary addition should be made to the indent.

Q.—That is not an alteration. That is a supplementary indent.

A.—It had been apparently intended to use 5/8” bars.

Q.—That did not appear in the indent.

A.—Not in the original indent. The piles had been designed to be made with 5/8” bars. Either by some mistake, 7/8” was entered instead of 5/8”. It has not been possible to prove who made the mistake, but the Superintending Engineer has always accepted responsibility for the error, because it was made in his office. After the bars had been ordered the mistake was discovered and an attempt was made to stop the supply, but it was too late. It was then decided to redesign the piles making use of 7/8” bars instead of 5/8” and that was done, and the 7/8” bars were used up without any loss to Government and without any effect on the stability of the buildings. Another point is about the Surplus Stores. That there was a surplus of steel bars does not affect the question. The surplus was due to the curtailment of the housing scheme. It was a question of tonnage. The original programme was to build 50,000 tenements in eight years commencing with a small number of chawls the first year, and as the organisation improved, it was proposed to increase the number of chawls to be put in hand annually. The steel bars were arranged for through the High Commissioner, because Messrs. Tata who make steel informed us that they were unable to supply as they were engaged on other works, and the indent had therefore to be sent Home about nine months before delivery could be effected in India, and when the programme was suddenly curtailed from 50,000 to 16,000 tenements the steel supply for that particular year had just arrived and it was inevitable that there should be a surplus. But it was not due in any way to the alteration of 5/8” to 7/8”. That matter did not affect the surplus at all and there was no loss whatever to Government on account of the change of size.

Q.—I suppose the reduction in the number of chawls is due to circumstances.

A.—It was due to the fact that as these chawls were completed and placed on the market it became evident that there was less demand for the tenements than had been expected. The Government decided that having in view that the population had probably decreased owing to trade depression, the programme should be stopped at 16,000.

Q.—Is there any difficulty in altering the design of the piles in order that the 7/8” may be used?

A.—I should like Mr. Harvey to deal with it in detail.

Q.—Is Mr. Harvey an Engineer?

A.—Mr. Harvey.—I am the Superintending Engineer against whom these allegations have been brought.

Q.—Is there any difficulty in altering the design of the piles without increasing the total weight of the steel per cubic foot?

A.—Not only were the piles altered but the columns and compression bars of beams and so on. I consider not.

Q.—It is, in fact, the ordinary common sense thing to do?

A.—How we could do we did it in the best way as far as steel was concerned. We reduced the cement by 10 per cent. It reduces the strength of the concrete to a certain extent but that was compensated for by the extra strength of steel.

Q.—The net result was that the total cost of the Government was no more.

A.—If you work on that basis, no.

Mr. Billimoria.—The allegation made by Mr. Nariman is that the figure 5/8” was altered to 7/8”. That is, in the reply you say it was a mistake.

A.—An addition was made. I have got the figure. The original document is here.

Q.—That does not mean an alteration.

A.—There was no alteration. It was an addition.
Sir M. Virendravarma.—The Executive Engineer has got that here.
A.—The Executive Engineer forgot the bars for piles and I talked to him about the ordering of these bars and he said that he had forgotten all about it. I asked him then to work out the number of bars required and to let me know, as the indent had got to go to the Secretary of State. This figure was 60,000 altogether. This was divided into two: one for the local indent for steel that was to be supplied immediately and the other, 50,000 bars, was included in the indent of the Secretary of State.

Sir Frederick Hopkinson.—Shortly, now, if the indent can be shown not to have been altered, then Mr. Nariman's allegation is false.

A.—It is absolutely false.
Q.—He can see that indent at any time he likes.
A.—Yes.
Q.—You agree with me, that a man who never makes any mistake never makes any thing?
A.—I agree.
Q.—I am bound to say that Mr. Nariman is sanctimonious. He says, "I can place before the committee all the materials that I have been able to collect not with a view or desire to cast any aspersion against any individuals of the department but primarily to enable an independent investigation to find out the truth". Would you take that as accurate?
A.—Sir Lawless Hepper.—His great desire is to damn the Government.
Q.—Not to ascertain the truth?
A.—I don't think he cared whatever whether it was the truth or not.
Q.—Then he goes on somewhere to say about the officers having left the service.
A.—May I before finishing this question of steel bars refer to the answers to his questions in Council which I have attached to my statement, because it seems to be rather important to show that he was given very clearly the whole story about the steel bars? In spite of that he makes these allegations again. I have attached copies of questions and answers to my statement. He knew perfectly well what the facts were.
Q.—I want every word of this.
A.—Mr. Harvey.—Before this question is finished may I make a request? Well, Sir, you have had the allegations that Mr. Nariman has made against me. You have the statement of fact in front of you of what has actually happened and you can judge best as to whether he was justified in making these allegations or not. My legal advisers state that these allegations are malicious and as such are calculated to damage my career.
I must therefore take a very serious view of the case and I request that I may be permitted by the members of this Committee subject to the sanction of the Local Government to prosecute Mr. Nariman for defamation.

Mr. Billinton.—It is beyond the scope of this Committee. That is a domestic affair between you and Mr. Nariman. This Committee cannot give you any directions.
A.—I may take it that he is not protected in any way by the Committee.

Sir Frederick Hopkinson.—We have nothing to do with it. If you wish to prosecute Mr. Nariman you can by any means do it.

Sir Lawless Hepper.—I was not sure whether what he said was privileged or protected. In his oral evidence which was reported in the press, Mr. Nariman appears to have gone further than in his written statement. He is reported to have stated:
(a) that the alteration from 5/8" to 7/8" was made intentionally by the Superintending Engineer in order that the manufacturers might be benefited.
(b) in regard to the favouring of a particular contractor there was an ulterior motive.
(c) Resulting in a loss of 2,50,000.
I submit for the consideration of the Committee that in view of the explanation already given to Mr. Nariman in Council these allegations are clearly malicious and that no privilege or protection should be accorded in respect of them.

Sir Frederick Hopkinson.—Unfortunately our Chairman is not here. He said the other day that anything given here was protected unless it is malicious, in which case there was no protection here for malicious or defamatory statements.
Q.—In the middle of page 17 he says, "It is now nearly 2 years since that resolution was passed when these allegations were made and most of the Officers concerned have left the Service". What Officers have left the Service?
A.—We had a separate Superintending Engineer in charge of the suburban schemes.
Q.—Of Back Bay.
A.—Mr. Harvey.—One officer has left. Mr. Billinton who was in charge of the construction of the sea-wall at Colaba. Most of his previous allegations were in connection with the Housing Scheme and it is not the officers who left the service of the Department within the past 2 years that were responsible but the officers who left immediately before he made those allegations that were responsible for them, to my mind, some of them.
Mr. Billimoria.—Have you any explanation with regard to Mr. Billinton’s leaving the office, Sir Lawless? If that concerned the Back Bay you had better go into that.
A.—Sir Lawless Hepper.—He left the service, because the construction of the seawall at Colaba, of which he was in charge, was completed, and we were not justified in continuing his service.

Q.—Where is he now?
A.—He is now employed as an officer in the Madras and Southern Mahratta Railway.

Sir Frederick Hopkinson.—Now we come to Mr. Balkishan. He has made very definite allegations that you have paid as much as Rs. 10 a truck for unloading moorum which was subsequently reduced I think to Rs. 2 1/2 per truck. What explanation have you about that?
A.—Mr. Elgee, the Chief Engineer, Reclamation Branch, has submitted a full explanation at page 2.

Q.—I understand, Mr. Elgee, that you have gone into the matter and you say you could find no evidence of it regarding the allegations of Mr. Husseinbhoy. Mr. Nariman goes further than that. He says the rate of Rs. 10 was paid while the actual present rate is Rs. 2 1/2.
A.—That is explained in my statement at page 2. The original rate was Rs. 2 1/2 per truck which is equivalent to annas 10 and pies 10 per ton or Rs. 10 per 400 cubic feet.

Q.—Rs. 30 per truck is then true. What is the price of it now?
A.—It varies with the class of work done.

Q.—You say the original rate was Rs. 2 1/2 per brass. That is equivalent to Rs. 10 per wagon of 400 cubic feet. It is true then what Mr. Nariman said that you paid Rs. 10 per truck. What is the price to-day?
A.—Mr. Elgee.—It varies.

Q.—Can you tell us how it varies?
A.—I may be permitted to read from this written note. “I attach hereto a statement showing such works and the rates paid to the various contractors employed. It will be seen that the rates are identical. A reference has been given to the number and date of the contract in each case so that the particular contract can be traced in the contract files submitted herewith. The contracts with Balkishendas Seth have been flagged in these files for easy reference.” They are the actual contracts from the beginning of the works up to the present time. “A wide shallow area existed between the Marine Lines Colaba Railway and the foreshore at R.L. 91, the level to which the filling was to be carried out. It was not practicable to fill this area by dredging. It was therefore decided to fill this area by using spoil from the quarry as and when this was available.” The original rate paid for this work........

Q.—The original rate per wagon?
A.—All this information is given at the end of the statement.

The original rate paid for this work which was intermittent and sandwiched in with other work already in progress was Rs. 2 1/2 per 100 cubic feet which is equivalent to Rs. 0 10 per ton or Rs. 10 per wagon of 400 cubic feet. This rate was subsequently reduced to Rs. 6 per wagon of 100 cubic feet. I am now unable to give reasons for the original rate of Rs. 2 1/2 or for the reduction to Rs. 1 1/8. When earth filling by tipping and spreading from the cross bund or wall was taken in hand as an alternative means of employment for labour engaged for the storm water drains the rate given was annas 5/6 per ton. In this case the depth of filling was considerable and the lead was limited to 50 feet. This rate is equivalent to Rs. 4 6 for a 20 ton wagon.”

Mr. Billimoria.—What was the interval between the rate of Rs. 10 and Rs. 6? Was it directly reduced or did it go on for some time?
A.—It was a test rate.

Sir Frederick Hopkinson.—They did not know what it was going to cost so they gave a test rate? Who did not know what it would cost?
A.—Mr. Lewis.

Q.—Mr. Lewis had no information at that time what it was going to cost? He had no experience of moorum filling?
A.—The point is that the supply of moorum was very irregular, and it was not only moorum that was to be sent down to Bombay but it was a question of obtaining spoil from the quarry. They did not know how many trains would be worked daily and the rate was fluctuating.

Q.—How did you mark that as a test rate? Is it necessary to have a test rate to unload moorum in a truck? Mr. Elgee, by your experience cannot you say what the rate should be?
A.—I think I know it pretty well what it ought to cost.
Q.—That was practically the rate for unloading for months?
A.—Of course it was not a very good arrangement.
Q.—Then it was altered almost at once.
A.—It went on for not more than a month and then it was reduced to six?
Q.—Who was responsible for that?
A.—Mr. Lewis who was during this time Chief Engineer.
Mr. Billimoria.—If it was running only for one month, the contractor could not have been profited considerably from that?
A.—Some days there were no trucks available and sometimes there were very few so that he had a very small amount to get.
Sir Frederick Hopkinson.—Can you tell us the number of wagons so that we should know if there is any substance in the complaint? Can you give me any idea?
A.—There were not more than 200 trucks.
Q.—Therefore the total cost was about Rs. 2,000?
A.—Yes, about that.
Q.—Now the rate is Rs. 2/8 per truck. Can you tell us why it has come down to this figure?
A.—Because the work has now become steady.
Q.—It is altered in character?
A.—It is altered in character. At that time the work was confined to small area and with a long lead. When we had to utilise more moorum filling we decided to call for further tenders. These were tendered by 4 companies and the tender which was accepted was at the rate of 2 annas per ton with a lead of 100 feet, Rs. 0/2/8 per ton with a lead of 200 feet and Rs. 0/2/6 a ton with a lead of 500 feet. That is about Rs. 2/8 a wagon taking 100 feet lead.
Mr. Billimoria.—Did you invite any tenders when you gave a rate of Rs. 10?
A.—Not at that time because there was not sufficient work and it did not keep the contractor employed during the whole time. I can put in a letter from the Deputy Chief Engineer explaining the reason why the contracts were given on that rate.
Sir Frederick Hopkinson.—As I understand what you say is that the rate of Rs. 6 was paid for small and intermittent supply of material?
A.—That is so.
Q.—When you got a regular, steady and larger output you arranged it at Rs. 2-8-0.
A.—Yes.
Q.—From my experience, Mr. Elges, I think I am justified in saying that nobody is going to make a big profit out of unloading moorum at Rs. 2-8-0 per truck?
A.—Yes.
Q.—It seems to me a very low price?
A.—It is. I have got the total amount at least that was paid to Balkrishna Seth on the contract for unloading at Rs. 10 per wagon. The total amount paid at that rate was Rs. 3,080.
Q.—What year was that?
A.—It was in March 1924.
Sir M. Visvesvaraya.—Can you tell me how much money was paid to that contractor during the whole period he was working here?
A.—It was 9 lakhs.
Sir Frederick Hopkinson.—If he did work at 2/8 per truck, I am quite satisfied that he did not make an unreasonable profit out of it?
A.—The contract was not confined to that, he had other contracts also.
Mr. Billimoria.—What time elapsed between 10 and 6. What year it was charged Rs. 10 and what year Rs. 6 and what year Rs. 2/8? The allegation made is that a very substantial profit was made by the contractor because you allowed him very high rates. Have you got anything to repudiate that allegation by any statement?
Sir Frederick Hopkinson.—What Mr. Billimoria means is how much work he did for Rs. 10 and for Rs. 6 as compared with Rs. 2/8. If the information is not ready you can send that?
A.—He did nothing at the rate of Rs. 2/8.
Q.—His tender was not accepted; was it higher than others?
A.—There were 3 tenders at the rate.
Q.—Which of these did you accept? No. 8 seems to be the lowest.
A.—It was not the lowest. When Balkrishna Seth’s tender was received, the papers were sent to Government.
Q.—The tender accepted then was actually higher than No. 8 and the note you give is this? “Recommended for acceptance. Here is a contractor who is at present doing the work and has the necessary labour on the spot”?
A.—Yes.
Q.—Was he satisfactory? Did he do the work satisfactorily?
A.—Yes, he always did his work satisfactorily.

Q.—Did you know No. 8?
A.—We had no experience.

Q.—In your opinion was that the best tender in the circumstances that was accepted?
A.—Yes.

Q.—You are there, for the purpose of exercising your discretion as to which tender should be accepted?
A.—That is so.

Q.—You have to take responsibility?
A.—Yes.

Q.—And if you accept a tender from a man who is incapable of properly carrying it out, you are discredited for it?
A.—That is so.

Q.—Did you while accepting these tenders act in a fair and judicial manner as required by a man in your position?
A.—I did so.

Mr. Billimoria.—If the total amount of work done by this contractor amounted to 9 lakhs and the rate given to him was Re. 6 per truck, which subsequently was for all the work, then he was working at a profit of 4 lakhs. Can you give us some particulars about that?
A.—I have submitted a complete list of all the contracts from start to finish and it is fully detailed at page 6 of my statement. The contracts with this contractor and the contracts with other contractors and the rates in each case are given for comparison.

Q.—In any case the difference between Rs. 6 and 2/8 would be an insignificantly small amount?
A.—It only refers to small amount that this contractor was doing.

Q.—He did not make profits of lakhs of rupees as alleged by Mr. Nariman?
A.—Certainly not. This contractor was doing other much more expensive kind of work but could not make any more money than in loading morum.

Sir Frederick Hopkins.—Mr. Nariman speaks of this contractor having been sentenced to a long term of imprisonment. Do you consider it a part of your duty to enquire into the private life of all the men who are employed on work?
A.—Sir !LO! You. I do not. My time is already sufficiently taken up to allow me to look into all these things.

Q.—Would you consider that a very spiteful and malicious remark made in a document that is going to be broadcasted to the public?
A.—Yes.

Q.—Was it brought to your notice that he had served long terms of imprisonment?
A.—I was absolutely unaware of that. I think he came with very good recommendations to Mr. Lewis as a contractor and I have submitted copies of the original recommendations. They are attached to the statement. It was 12 years ago that Mr. Balkrishna was convicted in the Punjab of fraud and sentenced to two years' imprisonment. But in the meantime he seems to have done a great deal to rehabilitate himself and lead an honest life and he came to us with very good certificates, one of which was from the Agent, Eastern Bengal Railway, a man, whom I have known for 30 years, and who would never give any man a certificate unless he knew that man well and thought him suitable for employment.

Q.—Can you imagine, Sir Lawless, a right thinking man making such statements to the public about a man who has been convicted 12 years before but has done a great deal to rehabilitate himself. Does not it seem to be a particularly mean and spiteful remark?
A.—It seems to be a very spiteful and mean remark but Mr. Nariman is not a right thinking man.

Q.—He says "this gentleman became a great favourite of all the officers from the highest to the lowest". Was he a favourite of yours?
A.—He was not.

Q.—Did you know him?
A.—I saw him once or twice. He came to me after Government had given orders that he should no longer be employed, and he urged that he should not be hounded out because some of his competitors had discovered his previous history. I personally was rather inclined to that view, but it was considered more expedient not to employ him. I saw him on a subsequent occasion after he had been to Madras trying to get work there but some people in Bombay had written from Bombay to the engineers in Madras with the idea of preventing him from getting any work. He wanted to know whether anything
Mr. Billimoria.—It has been suggested that at the 11th hour practically this tender was put in and it was accepted? It was in answer to a question from me that Mr. Nariman said so.

A.—It is absolutely an untruth, because Balkrishan’s tender was 5th from the bottom; it was not the least or near the least.

Q.—It is not possible to substitute any tender?

A.—Absolutely impossible.

Q.—The box is opened in the presence of the contractors so that he would put in the least tender or lower than the least?

A.—Unless he got hold of some magician or fortune teller.

Sir Frederick Hopkins.—“That Balkrishan was secretly informed of the least rate”? A.—That is absolutely untrue.

Q.—Was Balkrishan in the list of contractors and not allowed to put in tenders?

A.—Yes, afterwards, when Sir Lawless Hepper received instructions from the Government.

Q.—I do not think there is any rule binding the Chief Engineer to call for tenders?

A.—No.
Q.—Is it not your business to know the value and the proper prices to be got for such works, and if you do not know you do not know your business?
A.—Yes.

Q.—On page 29, he (Mr. Nariman) speaks about the agreement made with four cement companies giving contract whereby these companies are given the sole monopoly of supplying all the cement required up to 60,000 tons per annum?
A.—Sir Lawless Hepper.—At the time the work was taken in hand the rates of cement were very high; I think for imported cement the rate was about 140 a ton and for Indian Cement it was over 100 a ton. Government were very anxious at that time that as far as possible contracts for the supply of cement should be given to Indian manufacturers. At that time the quality of Indian Cement was rather irregular and it was thought desirable to enter into a long term contract and that very stringent arrangements should be made for testing the cement. Accordingly we called for tenders for a 10 years contract either on the basis of fixed price or on the basis of cost price plus a certain rate of profit. We received no tender at a fixed price, but we received several tenders on the basis of cost plus a percentage of profit, and the most favourable tender we received was from a group of four companies who undertook to supply cement up to the maximum limit of 60,000 tons a year for ten years at actual cost plus 15 per cent. profit, and the contract was made with them on that basis. The actual cost of cement was verified every year by an independent firm of auditors who certified the accuracy of the cost.

Q.—Would you consider the percentage of 15 per cent. high for cement companies in those times?
A.—We did not consider it to be so.

Q.—Yes, we know that prices of cement were higher from 1919.
A.—It was the case.

Q.—But you had to make yourself sure with regard to rates for carrying out the reclamation and development work?
A.—As I told you we had made ourselves sure about it.

Q.—It was essential that you should have a price fixed for the future contracts of cement otherwise you will have to pay up to 130 or 140 a ton, and do you think by that method you would have saved Government any money?
A.—I don’t think we would have. In the first couple of years our prices which worked out at about Rs. 60 a ton were below the market price and then a trade slump came and prices of cement in the bazar went down very much indeed. They have now gone up again.

Sir M. Visvesvaraya.—But it is alleged that the period was too long?
A.—It was intended to cover the period of the construction of the chaws.

Mr. Billimoria.—Well, Sir Lawless, but when one of the companies who had contracted to supply cement every year expressed its inability to continue the terms of agreement, instead of taking advantage of that position why that agreement was deliberately transferred to some other company?
A.—It was transferred in accordance with the terms of the agreement with the four companies.

Sir Frederick Hopkinson.—Do you think the reclamation work would have been finished if Government would have put Mr. Nariman in charge of this whole scheme?
A.—I do not think it likely, Sir.

Mr. Billimoria.—Had you a herculean task to perform with the development work or it was a mere supervision work?
A.—Of course it was part of my work but I had a large staff.

Q.—You had not exclusively to devote your whole time and attention to the reclamation scheme?
A.—Most of my time was given to other schemes.

Sir Frederick Hopkinson.—Now looking at your report for the year ending March 1921 I see you have various duties enumerated from say ‘A to H’ in which the Back Bay Reclamation is described in two lines. Now as far as I understand you are the one controlling man in the Development Directorate?
A.—Yes.

Q.—You had a deputy but you are personally responsible for the whole thing?
A.—Not as regards the technical part of the reclamation scheme.

Q.—No, my question is as regards the Development you are the man who is in sole charge of the thing? And is it possible for one man to be in charge of a scheme to be completed within ten years and finish it within a stipulated time?
A.—It turned out to be a bigger thing than expected.

Q.—I am looking at it in 1920-21. Here is a big scheme don’t you think that several men are required to be associated with it to control such a vast organisation?
A.—I do of course; a very large staff is required.
Sir Frederick Hopkinson.—I know that an enormous responsibility rested on one
man's shoulders and he had to manage several other things besides the great thing.

Sir M. Visvesvaraya.—What was the total amount of estimates controlled by you?
A.—The Housing Scheme was Rs. 8 crores and the expenditure in the suburbs I am
not quite sure something like two crores.

Mr. Billimoria.—Is that all or some 30 crores which was the original intention of the
development to be finished in 15 years?
A.—Well, that was the original idea in 1919.

Sir Frederick Hopkinson.—That was still a huge scheme and undertaking?
A.—But some part of it was to be done by the Municipality, the Port Trust and the
Improvement Trust.

Q.—Now is there anything you wish to add to your evidence to-day that I have not
touched?

Sir M. Visvesvaraya.—Any statement for the Press?
A.—No, Sir, I have nothing to add.

Sir Frederick Hopkinson.—Mr. Elgee, do you want to add anything?
A.—In the last paragraph of the statement I have dealt with the majority of allega-
tions based by Mr. Nariman, but I have not touched a few of them as they seem to me to be mere bazaar gossip.

Q.—Mr. Nariman, that day was suggesting something in regard to certain consign-
ments that came directly in the personal name of Sir George Lloyd whereon he was
explained that the consignments might have been relevant to the dredger 'Sir George
Lloyd ' , but I don't think there was any other way of doing it?

A.—It was presumably for purposes of identification that several consignments came
marked for the dredger ' Sir George Lloyd ' . This story was I think invented by a well-
known publicist, Mr. R. F. Bharucha, who considers it necessary to inform the public,
about three times a week, of his opinion on any possible subject.

Mr. Billimoria.—When the other day I called at your office I mean at the office of the
audit officer I found there was an item of Rs. 18,200 in connection with a roof over a slip
way for which you are going to count only Rs. 518, but that estimate was never sanctioned?
Was the estimate sanctioned?
A.—Mr. Elgee.—The estimate was sanctioned. What actually happened was that
the roof was being erected and in the monsoon owing to a blow of wind it came down and
after that I though as the monsoon was not finished to keep the roof as it stood that is
not to build a new one but the estimate was sanctioned.

Sir Frederick Hopkinson.—Well, Sir Lawless I would ask you one more question Mr. Nariman states in one of the instances that commission to the extent of 6,84,000 was
paid to Messrs. Mack and Buchanan on one dredger alone? Is it true that that total com-
mission paid them for all works comes out at about 6½ lacs?
A.—Sir Lawless Hepper.—I believe the actual figure is about 6,76,000.

Mr. Billimoria.—Mr. Elgee, in the course of your evidence the other day you stated
something about Mr. Stileman and Sir Alexander Gibb, do you know what opinion
Mr. Stileman expressed in regard to this scheme?

A.—Mr. Elgee.—I don't know anything.
Q.—Do you know that Mr. Stileman considered this scheme a hopeless failure?
A.—Not at all.

Q.—Do you know at any stage he was offered any appointment by the Government
in regard to this reclamation scheme?
A.—I have never heard of it.

(Sir Lawless Hepper.—I have seen his name mentioned in documents, but as far as
I know no offer was made to him.)

Q.—Did he ever apply for a job?
A.—Sir Lawless Hepper.—I don't know so. It was at the time that Mr. Lewis was
appointed the names of certain other persons were mentioned in 'Sir George' Buchanan's
memorandum, but I don't know whether and what offers were made to anybody.

Q.—In the statement submitted by Mr. Lalji Naranji it is stated that the expenditure
to the extent of Rs. 1,90,00,000 was incurred without the sanctioned estimate as required
by the Public Works Department Code. What is the truth of that statement?
A.—I do not think the statement is correct.

Q.—The amount is exaggerated?
A.—So far as I know no work was undertaken without sanctioned estimates. The
work was undertaken on the sanctioned estimate of Rs. 8,67,00,000 except the original
order for the dredger ' Kalu ' .
Q.—When you exceed an estimate on any main head, do you obtain the sanctions of Government?
A.—Oh, yes. The Audit Officer would bring it to the notice of Government at once if there were any excess, and Government would probably order a revision of the estimate. It would have to be explained why the main head was going to be exceeded.

Q.—Then he says, "The Finance Department, if proper enquiry is made, will be found to have allowed the expenditure to be incurred by a mere order of the then Governor of Bombay".
A.—That is not within my knowledge. It is for the Finance Department, I think, to reply to that.

Q.—I think Mr. Elgee mentioned the other day and some of your notes also show the same result, that the prospects of the scheme have improved since the Advisory Committee made their second report. The second report made by the Advisory Committee was more unfavourable than it need have been.
A.—It was based on the results of the season 1924-25, and of course in the subsequent season the results have been better. But the Advisory Committee simply based its report on the actual figures available at the time.

Q.—Do you agree with the rates given by the Kay Committee, the rates for moorum filling and dredging, or have you any views of your own different from that?
A.—The Chief Engineer has submitted to the Committee the estimate for the completion of the scheme block by block, and he has adopted rates which differ somewhat from the rates of the Kay Committee, and I think that personally I would prefer to adopt the rates that the Chief Engineer has adopted.

Q.—What is the rate for moorum?
A.—Rs. 1'57 per cubic yard.
Q.—Dredging from the harbour?
A.—Rs. 0'64 per cubic yard.
Q.—Dredging from Back Bay?
A.—Rs. 0'88. These are Mr. Elgee's rates.

Q.—The Kay Committee rely on the Neilson Committee figures. Your rates are much more favourable than those given by the Neilson Committee.
A.—As regards dredging they are.

Q.—In what other respects do you differ from the Neilson Committee's recommendations as regards the rates and quantities? Do you agree to the shrinkage allowance given by them?
A.—No, we think that the allowance of 40 per cent. for shrinkage in the case of the harbour filling is excessive, and we also think that the allowance of 30 per cent. for shrinkage of the material dredged from Back Bay is even more excessive.

Q.—Do they suggest 30 per cent. for Back Bay dredging?
A.—Yes.
Q.—It means a tremendous increase in cost.
A.—Yes.

Q.—The other day Mr. Neilson said that this is not a dredging proposition at all. Assuming it was not one, what do you think would have been the cost of reclamation if it was treated as a moorum filling proposition from the very commencement, very roughly.
A.—I am afraid it is rather difficult to give it.
Q.—It is 28 million cubic feet and you have Rs. 1/8 per cubic yard.
A.—The filling would be 370 lakhs, but there is all the rest of the work.
Q.—You do not want such a strong sea wall?
A.—I think you would have to have the same sea wall.
Q.—And cross bunds also?
A.—That might be simpler.
Q.—You may add about Rs. 50 lakhs or Rs. 70 lakhs for the sea wall.
A.—The cost of the sea wall is about Rs. 78 lakhs. I think the total cost would come to something over 11 crores.

Q.—I am afraid there is some mistake.
A.—We have already submitted an estimate for completing the whole reclamation with filling at 19 annas and that came to 11 crores.

Q.—Actual filling comes to Rs. 3,60,00,000, and then after that you want to add for sea wall.
A.—We have already spent a million sterling on plant.
Q.—My question is, leaving that out if you had started from the beginning with a clean slate and had a moorum filling proposition only and no dredging was intended, what would it have cost?
A.—I am afraid I cannot give it even roughly.
Q.—If the work is organised properly and the Railway Companies are also asked to co-operate you would be able to reduce the rate from Rs. 1/–?
A.—The Railways have promised they would give a slight reduction in rate if the number of trains is increased.

Q.—The moorum quarries may be nearer than Kandivali?
A.—I do not think they could be substantially nearer. I think the average distance would be about the same. Some might be a little nearer, some a little farther.

Sir Frederick Hopkins.—Supposing the Committee suggests more moorum filling, can you give me an idea what the railway rate is likely to be for moorum in large quantities from both the present site and from future sites that may be discovered?
A.—It is Rs. 275 per train for two trains a day. They are going to charge Rs. 250 for 4 trains a day, and Rs. 225 for 6 trains a day. We have never gone beyond 6 trains.
Q.—Supposing you go up to 8?
A.—It may come down to Rs. 200. We have not discussed that, but of course the full load pays them well, and if the proposition was put to them that it is not likely that this dry filling will be taken up unless the rate is a favourable one they might reduce it. Up-to-date the railways have only been able to run our trains at certain hours.
Q.—I gather from all that has been said that the probability in future is the trains may run by day, and whilst on that point I should like to express my view to Government they should at once start investigating in the whole of the district for an adequate supply of moorum. They should not mind spending a few thousand rupees on it. It is money well spent and they must see not only in hills but in valleys below the ordinary ground. You may possibly in some of these get a face from 20 to 50 feet, which is very important.

Witness.—This is with a view to filling the whole reclamation?

Sir F. Hopkins.—No, with a view to increase the moorum filling.
Q.—Can you explain precisely which of the blocks you can fill from the harbour and which from the Back Bay?
A.—You can fill blocks 5, 7, 6, 5, and part of 4, three-quarters roughly of 4 from the harbour.
Q.—Won’t the output be very poor in 4 on account of distance?
A.—On account of the length of the pipe line it might. I do not know that it would affect it very greatly from our experience at the present time.
Q.—And in the rest of the blocks?
A.—Blocks 1 and 2 would be filled from Back Bay and Block 3 probably by dry filling entirely.
Q.—If the dredger had proved satisfactory would the 702 lakhs estimate have been exceeded?
A.—The 702 lakhs estimate would not have been exceeded provided the whole of the filling could have been obtained from the harbour and provided the output of the dredger had been 5 million cubic yards of consolidated filling per annum.
Q.—On that estimate it looks as if there had been a saving of something like 80 lakhs of rupees?
A.—Under all other heads except on the dredged filling. There is an excess on plant of 28 lakhs owing to the dredging in the Back Bay.
Q.—You realise my point about what you call the project estimate. They are made generally by the man who is going to do the work, and therefore are not of very real value. Government require an estimate because they want to know what the work is going to cost. Mr. Elgee very fairly answered that if he was making a project estimate he would make the project estimate high enough?
A.—Well, there is a tendency naturally.
Q.—Nobody is going to blame anybody for making a saving out of an estimate?
A.—It is only when there is an excess.
Q.—It was alleged there was no specification for the sea wall. What is the truth about it?
A.—There was no specification. There was nothing except what is contained in Sir George Buchanan’s report.
Q.—Why was the question of a guarantee omitted from the agreement with the manufacturers of the dredgers?
A.—I cannot say. They were ordered by the High Commissioner under the advice of the Consulting Naval Architect.
Q.—You said some calculations had been made for bringing material by barques. Have you been able to get it?
A.—I think that was done at an earlier stage. We did not do that.
Q.—The ‘Kalu’ was first purchased for the East Colaba reclamation and it was transferred to this work?
A.—Yes. It was transferred to Back Bay.
Q.—Was it transferred because it was not required on that work or it was required here?
A.—The East Colaba reclamation scheme was closed down and then, owing to the restriction of the area in the harbour, it was decided to dredge in Back Bay, and naturally the “Kalu” was used for that purpose.
Q.—Was ever a project estimate for East Colaba made?
A.—Yes.
Q.—Have you got that? We know singularly little about that. I personally have not seen a project estimate and know hardly anything about it. The “Kalu” was bought specially to do it?
A.—I think so.
Q.—If you can give us any information about that East Colaba, I shall be obliged?
A.—I think Sir George Buchanan was asked to report on the Back Bay reclamation scheme and also on the East Colaba scheme.
Q.—I think he does not mention East Colaba in the report. Is there any separate report from him?
A.—I am not quite sure about that. There is a separate project estimate.
Q.—Will you have that looked up?
A.—Yes.
(Sir Frederick Hopkinson.—There is a project estimate. Let us have a copy of it and anything in connection with that reclamation scheme.)
Q.—It is said that the rates are Re. 1 and annas 10 for a male and a female cooly respectively and the rates have remained high in the Development Department. Is that correct?
A.—Yes.
Q.—Is not that about the average rate?
A.—We pay one rupee and nine annas.
Q.—What was the rate in 1920-21?
A.—It was much the same when I started. Since 1921 it has not practically moved.
Q.—Do you know what they were in 1918-19?
A.—That I cannot tell.
Q.—Can you get it for me?
(Sir M. Viswanaraya.—Probably the Labour Office can give it.)
Q.—You have stated here “Kalu” was purchased in November 1919. That is about eight months before the scheme was sanctioned. It was purchased for the East Colaba Scheme, was it not?
A.—Yes.
Q.—I do not see why the capital account should be charged to Back Bay Reclamation if it was bought for the East Colaba. Don’t you think that is a credit to Back Bay?
A.—It must be charged to something.
Sir Frederick Hopkinson.—But she has been used now in the Back Bay. Of course it will be a capital charge.
Mr. Billimoria.—That is the plan on which tenders were asked, and Mr. Walchand told us yesterday he was invited and spent thousands of rupees in making up a tender. This is very much more expensive and therefore you could not compare a tender based on this drawing with an estimate made on what you actually did.
Sir M. Viswanaraya.—The tenders were called for without specification?
A.—For that 2,000 feet of wall there was.
Q.—What would be the final estimate now if the work is to be completed?
A.—Ten crores.
Q.—Have you increased the provision for the development part of the work?
A.—No. The provision for development remains the same. It was a very liberal provision made, and the Neilson Committee also adopted it.
Q.—Are there any prospects of reduction if the dredgers work satisfactorily, on the rates you have given?
A.—There may be a slight reduction.
Q.—You have not deducted the value of plant?
A.—No, I have not.
Q.—And the Kay Committee put down the value of plant at Rs. 22 lakhs only. Are you satisfied with that estimate?
A.—I think it is a safe figure to adopt. I would not put too high a value on the plant. It is on the safe side.
Q.—You have stated that there are mistakes in one or two of your statements.
A.—I am not sure whether they are important. I would like to refer very briefly to them, if I may. In my first day’s evidence reading my evidence it looked to me that I have given the impression that I was anxious about the dredging in 1924, after we knew that the first season’s dredging had been unsatisfactory, because the clay which had been dredged was of the description in Mr. Kidd’s report. That is not correct, because I did not really study Mr. Kidd’s report until late in 1925. Why I was anxious was because the material seemed to be stiff and the Engineers seemed to think that it was harder material than the dredger had been specified to deal with. It was only later on during the season 1925-26 that I looked up Mr. Kidd’s report to see if there was anything in it which might have misled Sir George Buchanan as to the class of material.

(Sir Frederick Hopkinson.—Sir George Buchanan gave his own description?
A.—I do not know.

Q.—It certainly is not in Mr. Kidd’s report.)

Another point is in regard to Sir George Buchanan’s proposal to commence building the sea wall, to begin the sea wall from both ends I see I corrected that on a subsequent day’s evidence. It was not Sir George Buchanan’s proposal. It was the proposal of Government. I think I gave the Committee to understand that at the time that Sir George Buchanan was asked to begin the wall at both ends, before that, it was the intention to begin at Colaba. But I have seen on looking through the report of Sir George Buchanan on those tenders that it apparently was the intention prior to that time to commence at Marine Lines only. The original idea of Sir George Buchanan was to begin at Colaba. Then apparently in consultation with Government it was decided to begin at Marine Lines, and subsequently he was asked to begin at both ends. That was not out of my personal knowledge, but I gather it from a perusal of the report of Sir George Buchanan on the Tenders for the sea wall at Colaba which the Committee have a copy of.

And then, the question is printed in my statement, “Then you estimated, at a very moderate estimate, the financial yield of this undertaking would be 30 crores” and in the answer I was put down as having said, “Yes.” Either the question was wrong or my answer was wrong. I never estimated there would be a profit of 30 crores. As a matter of fact I was very much taken aback when I heard Sir Chimanlal Setalvad mention this figure, and I tried unsuccessfully to correct him.

As regards the question as to information regarding the financial prospects of the scheme not having been dealt with in my reports of 1924 and 1925, I am not sure if I made myself quite explicit. I wanted to explain that as an executive officer I did not feel that I could not take the responsibility of informing the public of details of the financial prospects of the reclamation scheme in terms which must at once call in question the policy of Government in regard to it. But when saying that, I did not wish to dissociate myself in any way from the action that Government took. I thought that Government were perfectly right and prudent in 1924 in not disclosing the results of the first season, and as regards the second season I think it was the best plan to allow the information to be available to the public by the Advisory Committee’s report, seeing that that report was coming out. In this connection I should also like to refer to Rule 20 of the Government Servants’ Conduct Rules, which is as follows:—“A Government servant may not publish in his own name,

(c) any statement of fact or opinion which may embarrass the relations between Government and the people of India or any sections of the people. A Government servant who intends to publish a statement which may be considered to fall within this rule shall submit a proof thereof and shall obtain the permission of Government before publication.”

I think if Government have the information, it is for them to give instructions or to issue the information themselves.

Q.—I think the executive officer ought to tell the Government that in his opinion this information ought to be published. You ought to make whatever reports you like to the Government. It is for the Government to say what they will publish.
A.—It is a question of opinion and Government procedure. An executive officer, I do not think, is usually intended to do that.

Q.—Then the question would arise whether you drew the attention of Government under the provisions of that section.
A.—I did not propose to Government that I should deal with this matter in my report.

Q.—Supposing you report to Government a certain thing and the Government say it is inadvisable to publish it, would you put your name to it if the Government were altering it in a way to mislead the public?

Sir M. Visvesvaraya.—How did the members of Government who made the alleged misleading statements get their information, Sir Chimanlal Setalvad for instance?
A.—Without knowing exactly what statements are referred to it is rather difficult to say. I think Sir Chimanlal Setalvad’s only source of information could have been the Bombay Government’s letter of the 4th December 1919. He spoke in 1921. There is

465
nothing that I have been able to find from which he could have got his figures except the letter of the Government in December 1919.

Mr. Billimoria.—It has been rumoured that some contracts were given to a Chinaman, Ah Wee. Do you know anything about that?

A.—He was employed under my understanding to drive piles for the gantry at Marine Lines.

Q.—Mr. Ah Wee was a contractor?

A.—Mr. Elgee.—Yes.

Q.—Was he brought by Sir George Buchanan?

A.—He was here when I came to Bombay first of all, and no contract had been made with him. He had been employed on building construction.

Q.—Did you employ him?

A.—I did.

Q.—Was he employed before you employed him?

A.—I do not know. He was not employed on reclamation.

Q.—The rumour is that he was specially put in charge of the construction of the wall by Sir George Buchanan. Is it not correct?

A.—As far as I know it is not true.

Q.—Has he made a lot of money?

A.—I am not acquainted with the bank accounts of different contractors.

Written statement put in by Sir Lawless Hepper on behalf of Development Directorate

The following statement deals with certain allegations against the Development Directorate contained in a written statement submitted by Mr. K. F. Nariman to the Back Bay Enquiry Committee. The paragraphs in Mr. Nariman's statement have been numbered for ease of reference.

2. In paragraphs 13-16 (pages 5 and 6 of the typed statement) it is alleged that paragraphs 10 and 11 of the first ad interim report of the Advisory Committee dated the 17th February 1925 contain "a deliberately false statement, intended to mislead the public and Council with the object of hushing up the bungle."

3. I would in the first place invite a reference to paragraph 6 of that report. It is there stated, that for the reasons given, the Chief Engineer, Reclamation Branch, had prepared a revised estimate amounting to Rs. 712'79 lakhs, and it is added "The Committee understand that the revised estimate cannot be regarded as final until the close of the present working season, as it is necessary to verify the cost of pumping from actual figures, which will not be available until after the season's work has been measured up." It will be remembered that the result of the dredging in the first season 1923-24 had been very unsatisfactory, but Government had agreed, on the suggestion of Sir George Buchanan, that no conclusions should be drawn until after the results of the first full season's pumping 1924-25, were known.

4. In paragraph 10 of their report the Committee express the opinion that the work should be proceeded with unless it can be established that there are serious grounds for believing—

(a) That the scheme is unsound from an engineering point of view, or
(b) That it is likely to result in an ultimate financial loss greater than that which would be entailed by closing it down.

5. In regard to (a) the Committee state "As regards the first point, the work has proceeded smoothly according to programme, and its stability has been tested by several monsoons. Whatever apprehensions, therefore, the public may have had on this score, the Committee see no reason to suppose that the project cannot be successfully completed." This had reference mainly to the sea wall, in regard to which criticisms had appeared in the press suggesting doubts as to its ability to withstand the monsoon.

6. As to (b) the Committee state "In regard to the possibility of financial loss, the expenditure has, up to date, approximated closely with the forecast, the total including interest charges, to 31st March 1924, being Rs. 412'39 lakhs, against the forecast figure of 431'16 lakhs." At that time (February 1925) neither I nor Government considered that there was sufficient experience of the dredging to justify final conclusions being drawn; and there was certainly no evidence of a nature to enable the Committee to form an opinion on their second alternative (b), viz., whether the scheme was likely to result in an ultimate financial loss greater than that which would be entailed by closing it down.
7. At the end of paragraph 11 of their report the Committee announce their intention to appoint a sub-committee to examine the financial prospects of the scheme in detail and recommend that in the meantime work should be proceeded with.

8. It will be seen that the main point on which the Committee desired to form an opinion was whether the scheme was likely to result in an ultimate financial loss greater than that which would be entailed by closing it down. They had at the time no sufficient data on which to base conclusions, and accordingly appointed a sub-committee which, when the dredging results of the season 1924-25 were available, submitted a report recommending that blocks 1, 2 and 3 should be proceeded with, but forecasting a loss on the scheme; their figures being in substantial agreement with those contained in the report of Mr. Kay's Committee which has recently been submitted.

9. The report must be read as a whole, and not judged by isolated statements. Divorced from the context, it contains in paragraph 6 a definite indication that the cost of the scheme must depend on the cost of pumping, which was to be ascertained from the actual figures available after the close of the season 1924-25, and beyond that merely indicates that the Committee did not consider they had sufficient material before them to form conclusions and could not express an opinion until the actual figures were available and had been examined by their sub-committee.

10. To call this report "a deliberately false statement intended to mislead the public and Council with the object of bringing up the jungle" is a misuse of language. It is a fair sample of the campaign of calumny which Mr. Nariman has conducted for the last few years with the object of creating prejudice against the Development Directorate and Government.

11. The statement that on the 29th January 1925 I submitted a report to Government in which I apprehended a serious loss, is I believe untrue. My files on the subject are not in my office having been sent for by the Honourable Member, but as far as I remember my first report dealing with the dredging in the season 1924-25 was submitted in May 1925.

12. In paragraph 34 of his statement (page 14-A of the typed copy) Mr. Nariman says "Had Sir Lawless Hepper anything to do with this as the head of the Ministry of Munitions?" This is an implication in which I think he has allowed himself to indulge on former occasions. The facts are these. The Munitions Board was appointed by the Government of India and formed part of the Central Government. Local circles, under a Controller of Munitions, were formed in Calcutta, Bombay and Karachi. I was asked by Sir Thomas Holland, President of the Munitions Board, if I would take over the appointment of Controller of Munitions, Bombay Circle, in addition to my duties as Agent of the G. I. P. Railway. I did so and acted in that capacity for 18 months, my principal activity being to organise the transhipment of military stores and munitions between the Railways and the Shipping Department, in regard to which there had been at first some confusion leading to serious detentions to rolling stock. The sale of the "Kalu" was effected by the Government of India, though whether by the Munitions Board or not I am unable to say. In any case I had nothing whatever to do with it, and was not aware of the transaction until after I became Director in November 1920.

13. With reference to the allegations made by Mr. Nariman in paragraphs 41-47 and 49 of his statement (pages 19-22 of the typed copy), I attach a statement by the Chief Engineer with the subject and also a statement dealing with certain points raised by Mr. Hussenbhoy Laljee. It will be seen that it is correct that when work was first started at Colaba, certain work orders were given without inviting tenders, for the reasons given by Mr. Elgee. It is of course entirely at the discretion of the Chief Engineer to invite tenders or not in any particular case, and although tenders are always called for where the work is of a straightforward character, I am satisfied that, under the conditions prevailing at Colaba when the works were commenced, a departure from the usual custom was justified.

14. A perusal of the figures given by the Chief Engineer show clearly that Mr. Balkishandas Seth was not favoured in any way, and that the rates paid to him were the same as to other contractors. The suggestion that he had any sort of monopoly of the work is definitely untrue. The contract files are submitted in original for the perusal of the Committee, and all contracts with Mr. Balkishandas Seth have been marked for ready reference.

15. In regard to the opening of the tenders for unloading and spreading mooroom on the reclamation, it will be seen that Mr. Nariman's allegations are false. The original tenders as received are submitted for the information of the Committee.

16. The next allegation I desire to refer to is contained in paragraphs 86-87 of Mr. Nariman's statement (page 24 and 25 of the typed copy). This refers to the purchase of steel bars in connection with the housing scheme and has nothing to do with the reclamation scheme. As however Mr. Nariman's evidence on this point was admitted
in his oral examination, I understand that the Committee will permit a reply to be made to his charges. I accordingly attach a statement by Mr. Harvey, Superintending Engineer, Housing and Suburban Circle, which deals with the matter fully. Mr. Harvey's file dealing with this case are submitted in original with all references marked. The explanation, which is a perfectly simple one, was given by the Honourable Member in October 1924 in reply to Mr. Nariman's question in Council (see page 785, Volume XIII, Bombay Legislative Council proceedings, copy attached). The reply to Mr. Nariman states the position in the clearest possible terms, and any fair minded person of average intelligence would be satisfied with the explanation given. It is difficult to understand the persistence with which Mr. Nariman pursues this subject on any other hypothesis than that it is his deliberate intention on every possible occasion to try and blacken the character of Government officials. He apparently does not mind if the statement is untrue, so long as its constant repetition is calculated to lead the public to believe it.

17. In his oral evidence, as reported in the press, Mr. Nariman appears to have gone further than in his written statement. He is reported to have stated—

(a) That the alteration from 5'/ to 5' bars was made intentionally by the Superintending Engineer in order that the manufacturers might be benefited;

(b) That in regard to favouring a particular contractor there was an ulterior motive, and

(c) That the alterations resulted in a loss of Rs. 2½ lakhs.  
I submit for the consideration of the Committee that, in view of the explanation already given to Mr. Nariman, these allegations are clearly malicious, and that no privilege or protection should be accorded in respect of them.

18. I have not complicated this note by reference to minor allegations regarding incompetency of staff, stores addressed to Sir George Lloyd, and other matters of the nature of bazaar gossip, which form much of Mr. Nariman's stock in trade. I have confined myself to the greater allegations. My officers and I will however be glad to answer any questions on which the Committee may desire information.

H. A. L. Harvey,
Director of Development.

Replies of T. Harvey Superintending Engineer, Bombay Development Directorate, to the inaccurate statements and allegations made by Mr. K. F. Nariman in his written statement and in his evidence before the Back Bay Enquiry Committee on 21st August 1926.

A

I. The points mentioned in Mr. Nariman's statement may be enumerated as follows:

"(1) That an Executive Engineer had prepared an indent to be forwarded to Manufacturers at home for a large quantity of mild steel bars for concrete piles for the Reclamation work and the size mentioned in the original indent by the Executive Engineer was 5'/8".

(2) That the 5'/8" was altered after the indent was prepared into 7'/8" by the Superintending Engineer.

(3) The quantity required was about 1,200 tons costing nearly 3 lakhs of rupees.

(4) The indent thus altered was sent by the Superintending Engineer to the Home Firm and the bars arrived which were required for the works.

(5) They were deposited in Matunga Surplus Depot and a fresh indent had to be sent with correct specification and fresh consignment arrived.

(6) The amount of nearly 3 lakhs of rupees of the first consignment was purely wasted.

(7) When a question was raised about it in the Council in the course of debate, the Development Director admitted it but stated that the said alteration was due to a trifling error. No effort was made to explain how such a trifling error could have occurred, particularly when the indent was originally correctly prepared by one Engineer and deliberately altered by the superior and no explanation was forthcoming.

(8) Further in order to pacify the Council and to show that this trifling error had not cost any loss, the Director stated that there was no loss to Government and he gave the Council to understand that they were utilized on some other works and had caused actually a saving.

(9) That these bars amongst others were subsequently offered for sale.

(10) Further comments on such an attitude are needless and I leave it to the Committee to draw its own conclusions."

---

Notes:

1. Mr. Nariman asked Mr. Harvey, then Engineer in the Bombay Development Department, to explain the alteration in the quantity of mild steel bars required for concrete piles. Mr. Harvey's explanation, given in October 1924, was that the alteration was made intentionally by the Executive Engineer to benefit the manufacturers. Mr. Nariman, in his oral evidence, stated that the alteration resulted in a loss of Rs. 2½ lakhs.

2. The quantity of steel bars altered was about 1,200 tons, costing nearly 3 lakhs of rupees.

3. The bars were deposited in Matunga Surplus Depot, and a fresh indent was necessary with correct specification and fresh consignment arrived.

4. The amount of nearly 3 lakhs of rupees of the first consignment was purely wasted.

5. A question was raised in the Council about the alteration, and the Development Director admitted it but stated that the alteration was due to a trifling error. The Director also stated that there was no loss to Government and that the bars were utilized on some other works.

---

In his oral examination, I understand that the Committee will permit a reply to be made to his charges. I accordingly attach a statement by Mr. Harvey, Superintending Engineer, Housing and Suburban Circle, which deals with the matter fully. Mr. Harvey's file dealing with this case are submitted in original with all references marked. The explanation, which is a perfectly simple one, was given by the Honourable Member in October 1924 in reply to Mr. Nariman's question in Council (see page 785, Volume XIII, Bombay Legislative Council proceedings, copy attached). The reply to Mr. Nariman states the position in the clearest possible terms, and any fair minded person of average intelligence would be satisfied with the explanation given. It is difficult to understand the persistence with which Mr. Nariman pursues this subject on any other hypothesis than that it is his deliberate intention on every possible occasion to try and blacken the character of Government officials. He apparently does not mind if the statement is untrue, so long as its constant repetition is calculated to lead the public to believe it.

17. In his oral evidence, as reported in the press, Mr. Nariman appears to have gone further than in his written statement. He is reported to have stated—

(a) That the alteration from 5'/ to 5' bars was made intentionally by the Superintending Engineer in order that the manufacturers might be benefited;

(b) That in regard to favouring a particular contractor there was an ulterior motive, and

(c) That the alterations resulted in a loss of Rs. 2½ lakhs.  
I submit for the consideration of the Committee that, in view of the explanation already given to Mr. Nariman, these allegations are clearly malicious, and that no privilege or protection should be accorded in respect of them.

18. I have not complicated this note by reference to minor allegations regarding incompetency of staff, stores addressed to Sir George Lloyd, and other matters of the nature of bazaar gossip, which form much of Mr. Nariman's stock in trade. I have confined myself to the greater allegations. My officers and I will however be glad to answer any questions on which the Committee may desire information.

H. A. L. Harvey,
Director of Development.

Replies of T. Harvey Superintending Engineer, Bombay Development Directorate, to the inaccurate statements and allegations made by Mr. K. F. Nariman in his written statement and in his evidence before the Back Bay Enquiry Committee on 21st August 1926.

A

I. The points mentioned in Mr. Nariman's statement may be enumerated as follows:

"(1) That an Executive Engineer had prepared an indent to be forwarded to Manufacturers at home for a large quantity of mild steel bars for concrete piles for the Reclamation work and the size mentioned in the original indent by the Executive Engineer was 5'/8".

(2) That the 5'/8" was altered after the indent was prepared into 7'/8" by the Superintending Engineer.

(3) The quantity required was about 1,200 tons costing nearly 3 lakhs of rupees.

(4) The indent thus altered was sent by the Superintending Engineer to the Home Firm and the bars arrived which were required for the works.

(5) They were deposited in Matunga Surplus Depot and a fresh indent had to be sent with correct specification and fresh consignment arrived.

(6) The amount of nearly 3 lakhs of rupees of the first consignment was purely wasted.

(7) When a question was raised about it in the Council in the course of debate, the Development Director admitted it but stated that the said alteration was due to a trifling error. No effort was made to explain how such a trifling error could have occurred, particularly when the indent was originally correctly prepared by one Engineer and deliberately altered by the superior and no explanation was forthcoming.

(8) Further in order to pacify the Council and to show that this trifling error had not cost any loss, the Director stated that there was no loss to Government and he gave the Council to understand that they were utilized on some other works and had caused actually a saving.

(9) That these bars amongst others were subsequently offered for sale.

(10) Further comments on such an attitude are needless and I leave it to the Committee to draw its own conclusions."
II. Before dealing with these points seriatim, it is necessary to give a clear statement of the case.

On the 10th February 1922, under this office No. S.—5/399 the Executive Engineers, Bombay Housing Districts Nos. I and II, were requested to send in their requirements of steel for the year 1922-1923. The list was sent by the Executive Engineer, Bombay Housing District No. II, for the work at Worli on 17th March 1922 under his No. 792. This list required alterations and was returned to the Executive Engineer and a revised list was submitted by him under his office No. 1490, dated 23rd May 1922.

On account of alteration in chawl design, the list was further revised and re-submitted by the Executive Engineer under his No. 1869, dated 16th July 1922.

The list showed that 511½ tons of steel had to be ordered from the High Commissioner and a certain number of bars—the weight of which was not given—had to be ordered locally in order that the work might proceed pending the receipt of the steel from England.

The lists of the two Executive Engineers for Naigam and DeLisle Road were submitted under his No. 8251, dated 24th July 1922 and under his D. O. dated 31st July 1922 which showed that 1,412 tons had to be ordered from the High Commissioner and a further quantity locally.

The lists of the two Executive Engineers were checked and consolidated in this office (Superintending Engineer's) and the consolidated list amounting to 2093.57 tons of steel required for beams, columns, floors, walling, etc., was sent to the Superintending Engineer, No. IV Project Division (Materials), under this office No. S.—5/3929, dated 5th August 1922 for placing indents locally and with the High Commissioner (through the Local Government) for 596-95 and 1699-02 tons, respectively.

No sooner had the consolidated indent been sent to the Superintending Engineer, No. IV than it was discovered from enquiries made by the Executive Engineer, Bombay Housing District No. 2, that his indent did not include steel bars required for foundation piles.

The matter was verbally discussed in this (Superintending Engineer's) Office with the Executive Engineer, whereupon that Officer worked out the number of bars required and on his statement the Superintendent was directed to aid the bars required to the consolidated statement, which he did, but unfortunately 7/8" bars were entered instead of 5/8" bars.

The Superintending Engineer, No. IV Project Division, was notified of the addition under this office No. S.—5/3971, dated the 8th August 1922.

Tenders were then called for by the Superintending Engineer, No. IV Project Division, for the steel to be purchased locally which was awarded to Messrs. Shalehbo Tyabjee & Co. of Bombay, whose tender was the lowest and the indent for the remaining steel was sent through the Local Government to the High Commissioner.

Subsequently when the delivery of steel was being made by Messrs. Shalehbo Tyabjee it was discovered by the Executive Engineer, Housing District No. II, that the 7/8" bars were not required for piles but 5/8" bars instead but it was too late to cancel the order for the 7/8" bars placed with them since already many of the bars had arrived in Bombay.

The High Commissioner was cable also to alter the indent for 7/8" bars to 5/8" but the order had already been placed by him with manufacturer and could not be altered.

Since it was considered that a loss was likely to accrue though the use of these 7/8" bars in piles in place of 5/8", it was proposed by me to substitute these bars, where possible for an equivalent section of bars of smaller diameter in beams, columns, etc., and to use the 5/8" bars in piles and further to reduce the cement in the mixture of concrete by 10 per cent. in consequence of the additional strength given by the bars to columns, etc. Consequently all beams, columns, etc., were re-designed and the substitution was made where possible throughout the remaining chawls of the scheme.

In all out of the 80,000 bars of 7/8" diameter ordered 46,340 were used up in this way without loss and the remaining 33,660 or 374 tons were transferred to surplus stock along with 1,298 tons of steel of other diameters.

It may here be explained that when this still was ordered there was no question of curtailing the programme of chawl construction from 625 to 307 chawls and only about nine months afterwards was it decided to do so, with the result that a large surplus of steel remained. Had the programme been continued, 10,000 tons more of steel would have been required in addition to the surplus stock to complete the work.

It may further be explained that had the original programme been pursued the 169 chawls to be constructed at Worli, the 26 chawls in the Flats, and the 90 chawls at Dharavi all required pile foundations and that for this operation allowing 5 per cent. for piles broken either in handing or driving, etc., in all 121,400 bars were required. Most of these bars had to be ordered well in advance so that the piles would be cured before being driven and so that the construction could proceed in all sites when the land was handed over by the Improvement Trust.
This explains the reasons for ordering so many bars and it was only due to the sequent elimination of 43 chawls at Worli, 25 chawls at the Flats and 90 chawls at aravi from the programme that all the bars were not brought into use. The 7/8" surplus bars were subsequently sold for Rs. 102-8-0 per ton along with the 5/8" surplus steel.

11. These are the true facts of the case and referring to the numbers given above to points raised in Mr. Nariman's statement, I will proceed to point out the gross inaccuracies and want of knowledge of fact or procedure contained therein.

(a) The indent was sent to the High Commissioner and not to Home Manufacturers;
(b) The Executive Engineer's indent did not in the first place contain steel bars for piles, but it contained bars for every other purpose including 5/8" bars (for beams, etc.), to the extent of 31,454 bars only or 231 tons of bars varying from 13 feet to 19 feet.
(c) The indent had nothing to do with the reclamation work; it was prepared for the Housing Scheme very few concrete piles were used on the reclamation Scheme.

(a) No alteration was made to the indent for 5/8" bars the order was placed for the 231 tons, referred to above, the 7/8" bars required for piles were ordered in addition to this 231 tons of 5/8" bars.
(b) The Superintending Engineer did not make the addition; it was done by the Supervisor of his Office immediately after the discussion with the Executive Engineer concerned.

The quantity of 7/8" bars ordered was 1,388 tons at an approximate cost of Rs. 2,25,000.

Of the 7/8" bars 20,000 were ordered locally on tender and 50,000 through the High Commissioner.

Only sufficient 5/8" bars to make an economical re-arrangement with 7/8" bars (in all 281/76 tons) were ordered in the succeeding indents for steel.

There was no loss except that due to the curtailment of the programme which could not be foreseen and which in any case would have accrued had 5/8" bars been ordered instead of 7/8". This will be apparent from my statement and when I add that out of 80,000 bars ordered 46,970 were used up on one-third the original programme leaving 33,030 bars to be used up in the remaining two-thirds which was contemplated when the order was placed, and this could easily have been done.

(7) The Director of Development possibly did not explain how the error had occurred, since he was satisfied with the arrangements made to see that no loss would accrue and which was explained fully to the Council.

(8) The surplus of these 7/8" bars, i.e., 520 tons, were sold with the remaining surplus material amounting in all to 2,400 tons.

(9) The Committee will doubtless be able to form its own conclusions from the foregoing statement and replies to the points raised by Mr. Nariman and its members will be able to judge what amount of reliability that can be placed in his statements.

IV. From my statement of facts, it will be apparent how the mistake arose, but either the Executive Engineer or myself intimated the incorrect diameter of steel to the pervisor or whether the Supervisor through an error entered the incorrect diameter, an unable to ascertain as nothing now appears on record: Naturally, however, I take responsibility for the transaction.

B

Regarding the allegations made to the Commission of Enquiry by Mr. Nariman, it the object of the mistake was to place a large order and so extract large secret commissions from Manufacturers, I would state that there were two sources through which manufacturers' commission could have been obtained: (1) Messrs. Shalebhoy Tyabjee & Co. who supplied the steel purchased locally and (2) through the High Commissioner Messrs. Shalebhoy Tyabjee & Co. placed the order direct with manufacturers and it was not known to these manufacturers were the tests certificates came through with the steel, and see Messrs. Shalebhoy Tyabjee were fined Rs. 6,000 for being late in delivery of steel, they were not likely to pay any commission. Regarding the High Commissioner it is only necessary to point out that his orders are placed direct with manufacturers who are not known in India.

T. Harver,
Superintending Engineer, Housing and Suburban Circle.

22nd August 1928.
Question No. 14 put by Mr. K. P. Nariman, M.L.C. (Bombay City, South), at the ensuing session of the Legislative Council

Mr. K. P. Nariman, M.L.C. (Bombay City, South) asked—

14. (a) Will the Honourable the General Member, Development Directorate, be pleased to state whether it is a fact that about two years ago an indent for 1,500 mild steel bars for concrete piles of the size 5/8" and of the value of about Rs. 2,50,000 was made by the Executive Engineer in charge and that in the said indent the size of the said bars was altered by the Superintending Engineer to 7/8"?

(b) If so, will the Honourable the General Member in charge be pleased to state whether it is a fact that on account of this alteration in the indent mild steel bars of the size 7/8" arrived in Bombay, whereas the requirement of the Directorate was for size 5/8" and that the said large quantity of bars of the value of nearly Rs. 2,50,000 are thus lying unserviceable in the stores of the Development Directorate, which have been unable to re-sell them in spite of public advertisement?

(c) Will the Honourable the General Member in charge be pleased to state whether it is a fact that a second indent with the correct size required namely, 5/8" had to be sent?

(d) If the reply to (a) and (b) be in the affirmative, will the Honourable the General Member in charge be pleased to state whether any action has been taken in the matter?

The Honourable Mr. Gwetoji Jeehangir (Jc), O.I.E., O.B.E., replied—

14. (a) The facts are not as stated but are as follows:

The Executive Engineer sent in his indent for steel which the Superintending Engineer scrutinized. He discovered that the Executive Engineer had omitted from his indent the bars necessary for making piles.

The matter was discussed with the Executive Engineer with the result that the bars required for piles were added to the Executive Engineer's indent by the Superintending Engineer's office supervisor apparently on the verbal instructions of the Superintending Engineer who has accepted responsibility in the matter.

The diameter of bars added to the Executive Engineer's indent was 7/8", whereas bars of 5/8" diameter were actually in use at the time.

(b) It is not a fact that the bars are lying unserviceable. When the error was discovered, the piles and frame-work of chawls at Worli were redesigned utilizing 7/8" instead of 5/8" bars without loss to Government. The 7/8" bars so far thus used up amount to over 600 tons. It is not possible at this stage to state what bars, if any, will be surplus to use and whether the chawl construction programme is to proceed after the chawls now under construction are completed. If any bars remain over, it will be due to the curtailment of the original programme for which the steel was necessarily ordered in advance. If it is found necessary to dispose of the bars at any time, Government anticipate that there will be no loss on the transaction.

(c) This is not a fact. On the other hand only a sufficient number of 5/8" bars to make an economical re-arrangement of re-inforcements was ordered in the succeeding indent for steel.

(d) No action was considered necessary.

(Signed) J. R. MARTIN,
Secretary to Government, Development Department.

Un-official reference no. 12/S.D., dated the 10th October 1924, to the Secretary, to the Legislative Council, with reference to his no. 2751, dated the 23th August 1924.

Reply to Mr. Nariman's allegations

The reasons for placing work with Contractors without first inviting tenders are given in my statement regarding the allegations made by Mr. Husseinhbey Laleeja a copy of which is attached hereto.

The statement that the work was given at exorbitant rates has to be proved. I can find no evidence of this.

Copies of contracts concerned are forwarded herewith.
The means of introduction of Mr. Balakishendras Seth to this Department is dealt with in my statement in reply to Mr. Husseinhbboy Laljee.

A comparison of the rates charged by Balakishendas Seth (a better expression would be rates dictated to Balakishendas Seth) with the rates given to other contractors will show that for similar works the rates are identical.

I attach hereto a statement showing such works and the rates paid to the various contractors employed. It will be seen that the rates are identical. A reference has been given to the number and date of the contract in each case so that the particular contract can be traced in the contract files submitted herewith. The contracts with Balakishendas Seth have been flagged in these files for easy reference.

A wide shallow area existed between the Marine Lines Colaba Railway and the foreshore at R. L. 91, the level to which the filling was to be carried out. It was not practicable to fill this area by dredging. It was therefore decided to fill this area by using spoil from the Quarry as and when this was available.

The original rate paid for this work which was intermittent and sandwiched in with other work already in progress was Rs. 2-8-0 per 100 cubic feet which is equivalent to Re. 0-10-10 per ton or Rs. 10 per wagon of 400 cubic feet. This rate was subsequently reduced to Rs. 1-8-0 per 100 cubic feet equivalent to Re. 0-6-6 per ton or Re. 6 per wagon of 400 cubic feet. I am unable to give reasons for the original rate of Rs. 2-8-0 or for the reduction to Rs. 1-8-0. When earth filling by tipping and spreading from the cross bund or wall was taken in hand as an alternative means of employment for labour engaged for the Storm Water Drains the rate given was Re. 0-3-6 per ton. In this case the depth of filling was considerable and the lead was limited to 50 feet. The rate is equivalent to Re. 4-6-0 for a 20-ton wagon.

Though the references to these contracts are given in the accompanying comparative statement from which it will be seen that this work was not the monopoly of one man as suggested, the work was divided between the contractors engaged on other works in the area.

When work on Storm Water Drains had been stopped and we were moreover in a position to promise a definite daily supply of murum tenders for unloading and spreading were invited.

Rates for unloading and spreading to three different leads were invited. The contract was then given to Messrs. Shamji Gokal and Son who quoted Rs. 0-2-0, Rs. 0-2-3, Rs. 0-2-6 for the three leads respectively. This rate for the lead of 100 feet is equivalent to Rs. 2-8-0 per wagon of 20 tons.

I am unable to supply any information as to Balakishendas Seth’s private circumstances other than that which is contained in the letters of introduction with which he came to this Department.

It is correct that he has carried out works for this Department of a total cost of Rs. 6,99,400.

The usual procedure when tenders are called for by me is for a box to be placed in Mr. Thomas’ room into which tender forms are placed as and when received. The box is locked and the key is kept in the office safe, keys of which are kept by myself and Mr. Thomas.

As soon after the time advertised as the latest time up to which tenders will be received has passed the box is brought into my room, opened there and the envelopes are taken out. These are then opened by me and the details are entered in tabular form on a sheet drawn up for the purpose.

In the case now under discussion, tenders for unloading and spreading murum in the Reclamation area were called for. The latest time for receiving tenders was advertised as 12 noon (S. T.) on 22nd February 1926.

At about 12:20 p.m. (S. T.) on that day Mr. Thomas came to my room and said that there were a number of contractors waiting in his office and that they had asked if the tenders could be opened then in their presence. At the time I was extremely busy and replied that this not usually done and that as I had some urgent work in hand I was unable to deal with the tenders at that moment and was unable to say when it would be possible for me to do so. I instructed Mr. Thomas to reply to the Contractors accordingly. This I understand he did and the contractors without any further protest went away.

Some little time afterwards when I had disposed of the work immediately before me I opened the sealed tenders myself and as I read out the results Mr. Thomas wrote them down in the form of a statement. The original statement is attached. After examining the rates tendered and the general conditions of the tenders I invited the five firms or individuals whose rates were the most favourable to come to my office and show to me how their rates had been arrived at. On the results of these interviews I proposed to award the contract. In the meantime however I was informed by the Director that a complaint had been made to the Honourable Member and he instructed me to send the tenders with my recommendations to him.

This I did.
I now forward herewith the tenders as received.

Had the contractors who asked for the tenders to be opened in their presence repeated their request it is quite probable that I would have agreed to it. There was no reason for them to have made their request through Mr. Thomas. They could have asked direct to see me or even after having received my reply through Mr. Thomas there was nothing to prevent them on leaving his office, from sending in a card to me asking for an interview which would certainly have been granted at once.

By orders of the Honourable Member Balakishendas Seth is prohibited from carrying out further work for this Department.

A contract for painting pontoons of Shewa was made with Balakishendas Seth because he already had huts and coolies on the spot and it was obviously more economical to place the work with him than with another man who would have to go to the expense of constructing a camp and importing the coolies.

A circular on the lines indicated by Mr. Nariman was issued in May 1921. This has always been kept in mind but owing to the difficulty in getting work carried out it has been necessary to depart from the procedure laid down.

A list of the tenders received for quarrying stone at Kandivili is submitted herewith.

On this occasion the tenders were opened in the presence of the contractors as it was anticipated that it might not be expedient to place the contract with the firm giving the lowest tender. This was explained to the persons present on that occasion, 11th September 1921, and that or during the days immediately following would appear to have been the time to protest against the contract being given on these conditions.

The contract was placed with one Ramachandra Patkar who had been working at Kandivili during the period of the opening up of the quarry site.

It was considered by Mr. O'Rorke who was then Acting Chief Engineer that the rates quoted by the men were the lowest at which the work could be safely carried out. At that time progress on the construction of the wall was the essential thing and the guarantee of a regular and efficient supply of stone was all important.

The quarry was selected for the stone supply. It was hoped that a large quantity of murum would be obtained from there and this hope has been justified but a reference to the report accompanying the sanctioned Project Estimate, page 6, paragraph 75, shows that it was never expected to obtain the whole of the murum required from the quarry site.

Contract No. 1, dated 9th August 1921, with Sadanji Ramji—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For supplying Ballast at site</td>
<td>18 0 0 per 100 cubic feet.</td>
</tr>
<tr>
<td>For supplying Rubble at site</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 2, dated 1st September 1921, with Goolam Mohamed—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For supplying Ballast at site</td>
<td>17 8 0</td>
</tr>
<tr>
<td>For supplying Rubble at site</td>
<td>13 8 0</td>
</tr>
</tbody>
</table>

Contract No. 3, dated 27th July 1922, with Ramrao Narayan Rao—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For supplying Ballast at site</td>
<td>18 0 0</td>
</tr>
<tr>
<td>For supplying Rubble at site</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 4, dated 21st September 1921, with Laxmidas Dalalna—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For supplying Ballast at site</td>
<td>18 0 0</td>
</tr>
<tr>
<td>For supplying Rubble at site</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 5, dated 6th December 1921, with T. G. Verma Brothers—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For supplying Ballast in reserve</td>
<td>18 0 0</td>
</tr>
<tr>
<td>For supplying Rubble at crusher</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 17, dated 6th December 1921, with Balakishendas Seth—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplying Ballast at site</td>
<td>18 0 0</td>
</tr>
<tr>
<td>Supplying Rubble at site</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 13, dated 9th December 1921, with Fazal Karim Seth—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplying Ballast at site</td>
<td>18 0 0</td>
</tr>
<tr>
<td>Supplying Rubble at site</td>
<td>14 0 0</td>
</tr>
</tbody>
</table>

Contract No. 2, dated 17th April 1922, with T. G. Verma Brothers—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructing Tramway rubble mound</td>
<td>7 0 0</td>
</tr>
</tbody>
</table>

Contract No. 3, dated 11th April 1922, with Balakishendas Seth—

<table>
<thead>
<tr>
<th>Items</th>
<th>Rs. a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making rubble mound for mass concrete wall</td>
<td>8 0 0</td>
</tr>
</tbody>
</table>

(Stone is limited to 1 cubic foot size as a minimum).
Contraot No. 9, dated 9th June 1922, with Balakishendas Seth—

Contracting Tramway boulder mound 700 700 700 700 700 700 700 700

Contract No. 11, item 3, dated 9th June 1922, with Knapp & Co.—

Forming rubble bank 700 700

Contract No. 19, dated 19th July 1922, with Seva Ram—

Boulder filling including packing 700 700

Contract No. 5, dated 6th May 1922, with T. C. Verma & Co.—

Boulder stone pitching 700 700

Contract No. 10, dated 25th May 1922 with Balakishendas Seth—

Boulder stone pitching 700 700

Contract No. 23, dated 9th August 1922, with Knapp & Co.—

Excavation in earth in sand in murum and boulders in murum and boulders limestone in foundations 1, 2, 4... cement concrete in foundations 1, 2, 4... lime concrete in foundations 1, 2, 4... dry rubble stone masonry 65 0 0... rubble stone masonry in lime 65 0 0...

Contract No. 19, dated 19th July 1922, with Seva Ram—

Excavation in foundation... cement concrete in foundations 1, 2, 4... rubble masonry in lime mortar... cement concrete in floor... rubble masonry in cement and sand...

Contract No. 11, dated 9th June 1922, with Knapp & Co.—

Removing spoil consisting of boulders brought in by Government ballast train and leading same to where required and forming banks with correct slope including all lift...

Contract No. 47, dated 7th February 1923, with Balakishendas Seth—

Forming bank correct slope with quarry rubble supplied by Government including all lead and lift...

Contracts Nos. 31—35, 37, 39, 42, 43—49 of 1922-23 with Balakishendas Seth.

Contracts for various camps and works buildings compare with contracts Nos. 12, 13, 20, 22, 25—28 of 1922-23 with T. C. Verma Brothers.

and with contracts Nos. 14, 16, 38 and 40 of 1922-23 with Khoda Mulji.

Contract No. 17, dated 6th September 1923, with Balakishendas Seth—

For removing rubble, mixing and placing mass concrete in gantry race including forms. Government to supply all necessary ingredients for concrete at site...

Contract No. 19, dated 26th October 1923 with T. C. Verma & Co.—

For fixing and placing mass concrete in drains including placing and moving the gantries with shuttering complete. Supplying and fixing all shuttering required for manholes and minor drains. Government to supply all ingredients for concrete at site...
Cantrac’ No. 11, dated 22nd September 1924 with F. K. Sethi—
For removing rubble and mixing and placing mass concrete in gantry races including forms ...

<table>
<thead>
<tr>
<th>Contract No. 28, dated 20th August 1924 with B. K. Sethi—</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation in foundation in any class of material ... 11 0 0</td>
</tr>
<tr>
<td>Excavation in soft rock or morum ... 13 0 0</td>
</tr>
<tr>
<td>Mixing and placing mass concrete in foundation and races (labour only) using contractor’s own forms ... 25 0 0</td>
</tr>
<tr>
<td>Making boulder embankment ... 6 0 0</td>
</tr>
<tr>
<td>Linking tram track ... 0 1 6 R. ft.</td>
</tr>
</tbody>
</table>

Contract No. 11, dated 27th June 1924 with T. C. Verma & Co.—
As above at identical rates.

<table>
<thead>
<tr>
<th>Contract No. 29, dated 18th December 1924 with H. Karim Sethi—</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation in dredged earth up to 4’ depth ... 8 0 0 per 100 cubic feet.</td>
</tr>
<tr>
<td>Excavation in earth from 4’ to 8’ including timbering ... 10 0 0</td>
</tr>
<tr>
<td>Filling in spoil ... 1 8 0</td>
</tr>
<tr>
<td>Excavation in rock ... 20 0 0</td>
</tr>
<tr>
<td>Removing rubble for laying pipe and replacing same. ... 6 0 0</td>
</tr>
<tr>
<td>Providing rubble and packing under pipe in soft earth ... 6 0 0</td>
</tr>
<tr>
<td>Providing and fixing 6” dia. earthenware pipes ... 1 0 0 R. ft.</td>
</tr>
<tr>
<td>Do. 9” do. ... 1 12 0</td>
</tr>
<tr>
<td>Do. 12” do. ... 2 8 0</td>
</tr>
</tbody>
</table>

Contract No. 23, dated 2nd February 1925 with Balakrishendas Seth—
As above at identical rates.

<table>
<thead>
<tr>
<th>Contract No. 1, dated 23rd April 1923 with Balakrishendas Seth—</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation in any class of material for S. W. Drain ... 11 0 0 per 100 cubic feet.</td>
</tr>
</tbody>
</table>

Contract No. 4, dated 25th April 1923 with Fazal Karim Sethi—
Excavation in any class of material for S. W. Drain ... 11 0 0

Contract No. 24, dated 4th February 1924 with T. C. Verma & Bros.—
Excavation in any class of material for S. W. Drain ... 11 0 0

Contract No. 7, dated 21st May 1923 with Balakrishendas Seth—
Unloading and neatly stacking any class of material where indicated including all lead and any necessary hand shunting of wagons (Contractors will be held responsible for any demurrage charges that may occur) ... 0 10 0 per ton.

Contract No. 18, dated 24th September 1923 with T. C. Verma & Bros.—
As above.

Contract No. 29, dated 11th March 1924 with Balakrishendas Seth—
Spreading Quarry spoil between M. C. Railway and existing foreshore ... 2 8 0 per 100 cubic feet. (10 10) per ton.

Contract No. 30, dated 26th March 1924 with Fazal Karim Sethi—
As above ...

Contract No. 1, dated 4th April 1924 with Fazal Karim Sethi—
As above ...

Contract No. 2, dated 4th April 1924 with Balakrishendas Seth—
As above ...

Contract No. 8, dated 27th May 1924 with T. C. Verma & Co.—
As above ...

Rs. a. p.
Contract No. 7, dated 29th June 1925 with Balakrishendas Seth—
   Unloading and spreading quarry spoil or murum brought in by Government ballast train free of
   lead up to 150'... ... 0 4 0 per ton. 5
Contract No. 9, dated 30th June 1925 with T. C. Verma & Bros.—
   As above ... ... 0 4 0 " 5
Contract No. 10, dated 15th September 1925 with B. K. Seth—
   As above but lead up to 50' ... ... 0 3 5 " 10
Contract No. 11, dated 20th January 1926 with B. K. Seth—
   Spreading quarry spoil or murum between M. C. Railway and existing foreshore to elevation B. L.
   9'00 including all lead and lift ... ... 0 6 0 " 15

Reply to Mr. Husseinbhoj Laijee's allegation

When work first commenced at Colaba it was very difficult to get contractors to take up work there owing to the limited accommodation available and the distance of Colaba away from a Bazaar. Of those contractors who did take up work several went away after a short time and gave up the work.

The first contracts were those connected with quarrying and collecting stone from the foreshore for the construction of the wall. Until the supply of suitable stone was assured the construction of the wall could not be commenced. A good deal of trouble was being experienced in this, either through contractors being unable to keep their labour or through the contractors themselves leaving the work and going away when Balakrishendas Damodardas came to the Chief Engineer with a very strong letter of recommendation from the Agent, E. B. Railway and another from Lt.-Col. Stean, Divisional Recruiting Officer, Kirkee. (Copies attached hereto.) He was therefore sent down to the Deputy Chief Engineer at Colaba with the recommendation that if occasion arose he might be given a trial. In consequence of this he was given a similar contract to those already in force for quarrying and collecting stone. He carried out this work to the satisfaction of the Engineer in charge of the work.

Of seven contractors who had undertaken this work three only, viz.,
   T. C. Verma & Bros.,
   Balakrishendas Seth,
   Fazal Karim Sethi,
were able to carry them on successfully, so that subsequently when similar works were to be carried out by contract these three firms were given preference, and it is admitted that in most cases the formality of calling for tenders was dispensed with.

In this connection I forward herewith a copy of D. C. E., Colaba's No. 604, dated 14th March 1925, on this subject.

I am unable to trace any works on which rates at 150 in excess of market rates have been paid either to Balakrishendas Damodardas or to any other firm.

The Deputy Chief Engineer's note of 14th March 1925, explains why work of unloading stone and murum was placed with two firms only without calling for tenders. I would add here that the supply of murum and stone at this time was not regular, the quantities of stone to be unloaded at Colaba depended upon the requirements of the work there whilst the supply of murum was dependent upon the number of wagons available after the requirements of Marine Lines and Colaba Works for stone had been satisfied.

With regard to the allegation that tenders for loading and unloading stone and dry filling from Kandivlee Quarry had been accepted at prices higher than the lowest rates tendered, this is correct. The reason being that in these cases I was satisfied that the firm or individual quoting the lowest rates would be unable to work to them which would result, if these tenders were accepted, in dislocation of the work. But the man mentioned, i.e., Balakrishendas Damodardas was not given work in either of these cases.

In this connection I forward herewith files of—
   (1) Petty contracts made from 1921 onwards.
   (2) Bill books from 1921 onwards showing payments actually made to contractors.
   (3) Tenders received for quarrying and loading stone at Kandivlee.
   (4) Tenders received for excavating and loading murum at Kandivlee.
   (5) Tenders received for unloading and spreading murum.

(Signed) H. A. ELGEE,
Chief Engineer.
Copy of letter No. 369 dated 18th August 1921, from Mr. Balkrishandas Seth to me for favour of your consideration and hope you will kindly excuse my doing so. What the applicant says about his recruiting work is true, and he has been of very great service to Government. If the offers that he makes in his letter could be of any value to you then I would recommend him very strongly as deserving of being given a chance of competing with other applicants for such orders in his line as you may have to give.

Copy of letter from Lt.-Col. H. Cameron, Agent, E. B. S. R., to Sir Lawless Hepper, Director of Development, Bombay

My dear Hepper,

I returned to the East to-day and would have come and seen you but that I leave to-night for Calcutta. I must congratulate you on your new appointment which I fancy should prove more congenial in these days, than managing a Railway. I did not unfortunately get the Calcutta P. C. job, so have had to come back to the old one. I hope you will forgive us in giving this letter of introduction to Mr. Balkrishandas Seth of 84, Mangalore Street, Fort, Bombay. He hails from the Punjab and has had Railway experience as contractor. He now is the agent for a group of Bengal Collieries but is anxious to get local contracts for labour or materials or buildings. He has some 800 men at his command and also plant. I have known him in the Punjab and have always understood him hardworking, ambitious, straightforward man and as such have taken the liberty of bringing him to your notice as you are no doubt if you consider his qualifications and credentials good enough to put work in his way. He also, I understand, is financially well placed.

I am, very sincerely,
(Signed) H. CAMERON.

Copy of letter No. 4-604 dated the 14th March 1925 from the Deputy Chief Engineer, Colaba, to the Chief Engineer, B. B. R. S.

Reference:—Your No. 709 dated 7th March 1925 regarding Piece Work Contracts (Form K-9).

In answer to your above, I beg to state that owing to the difficult nature of the works at Colaba the major portion of same is being done departmentally with the following exceptions:
1. Storm Water Drains.
2. Moorum filling to foreshore and
3. Unloading material.

1. Storm Water Drains

In order to ascertain the actual cost of the construction of these drains, the work was first started departmentally and a very careful record maintained of the true cost. Having obtained this data, I interviewed a number of petty contractors with a view to giving this work out on contract, but due to their lack of experience in this class of work they were unable to give me rates neither were they prepared to accept mine, in fact they were most unwilling to undertake a work, seemingly so tedious and laborious knowing that the working hours would be limited due to the tides and that night work was necessary. After sometime Contractors B. K. Seth and T. C. Vernas, accepted my rates (both being unable to submit theirs) and are at present engaged on the drains work. As their progress of late has been so poor it certainly appears that we shall have to take over this work departmentally.

2. Moorum Filling to Foreshore

During certain tides it is not possible for coolies to work on Storm Water Drains, therefore, in order to keep these coolies fully occupied I gave the work of spreading moorum to the drain contractors and thereby preventing the possibility of these men submitting claims for labour sitting idle. Unfortunately, as we have nearly completed the moorum filling and as we have no other job on which these coolies can be engaged...
when unable to work on drains, I shall not be a bit surprised if the drain contractors endeavour to give up drain work. The rates were originally Rs. 2-8-0 per 100 cub. ft., but I have since reduced this to Rs. 1-8-0 per 100 cub. ft. The names of the Contractors are:

1. B. K. Seth, and
2. T. C. Verma and Bros.

3. Unloading Material

As the traffic wagons loaded with cement, etc., are not delivered daily at Colaba it would not be possible for a contractor other than one engaged on the works to undertake this work as his coolies would have nothing to do on numerous days until the arrival of loads. I therefore gave the unloading work to Contractor B. K. Seth and on the understanding that he would be responsible for all demurrage charges. The rate is similar to what is in force elsewhere on the Back Bay Reclamation. (Annas ten per ton).

Statement of Work to be done

<table>
<thead>
<tr>
<th>Name of work</th>
<th>Quantity</th>
<th>Rate</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per cent. cub. ft.</td>
<td>Rs.</td>
<td></td>
</tr>
<tr>
<td>S. W. D. No. 2. (Contractor B. K. Seth.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>51,822</td>
<td>20</td>
<td>10,362</td>
</tr>
<tr>
<td>Rubble filling</td>
<td>77,432</td>
<td>7</td>
<td>5,41920</td>
</tr>
<tr>
<td>Concreting in race</td>
<td>11,494</td>
<td>25</td>
<td>2,871</td>
</tr>
<tr>
<td>Do. in drain</td>
<td>60,698</td>
<td>30</td>
<td>18,209</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36,661</td>
</tr>
<tr>
<td>S. W. D. No. 3. (Contractor T. C. Verma and Bros.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>1,18,208</td>
<td>20</td>
<td>23,64225</td>
</tr>
<tr>
<td>Concreting</td>
<td>97,891</td>
<td>30</td>
<td>29,367</td>
</tr>
<tr>
<td>Rubble filling</td>
<td>1,92,984</td>
<td>7</td>
<td>9,309</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>62,318</td>
</tr>
<tr>
<td>S. W. D. No. 4. (Contractor T. C. Verma.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>1,87,756</td>
<td>20</td>
<td>37,55130</td>
</tr>
<tr>
<td>Rubble in founds</td>
<td>1,71,432</td>
<td>7</td>
<td>12,000</td>
</tr>
<tr>
<td>Concrete in founds</td>
<td>29,177</td>
<td>25</td>
<td>7,544</td>
</tr>
<tr>
<td>Do. in drains</td>
<td>86,617</td>
<td>30</td>
<td>25,985</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>83,080</td>
</tr>
<tr>
<td>Spreading Moorum</td>
<td>Approximate cost.</td>
<td>10,000</td>
<td>85</td>
</tr>
<tr>
<td>Unloading Materials</td>
<td>Do.</td>
<td></td>
<td>18,000</td>
</tr>
</tbody>
</table>
Written Statement by the Government of Bombay in reply to the questions asked by the Back Bay Enquiry Committee in a letter addressed to the Honourable Mr. Cowasji Jehangir (Jr.) dated the 11th of August 1926.

Q.—Are there any records to show that Sir George Lloyd or the local Government consulted any independent expert besides Sir George Buchanan before accepting his scheme?

A.—There are no records to show that Sir George Lloyd or the local Government consulted any independent expert besides Sir George Buchanan before accepting his scheme. Government had, however, before them the report submitted in 1911 of Messrs. Lowther, Kidd & Co.

Q.—Who decided that the wall should be built from both ends and what were the reasons for this decision?

A.—The following is all the information regarding point No. 2 which has been found in our records:

(i) In paragraph 47 of his report of September 1919, Sir George Buchanan wrote "If my proposals as to method of carrying out the work and time for completion are approved, the programme of construction would be as follows and in the order given:

(1) Order dredging plant;
(2) Order railway tip wagons;
(3) Open up quarries for stone and murum;
(4) Begin building of wall from the Colaba end.

(ii) Telegram from the Governor of Bombay, Ganeshkhind, to the Secretary of State, London, despatched 4th July 1920:

"Following for Sir George Buchanan. Begins. Back Bay. His Excellency would be glad of your telegraphic opinion as to feasibility of beginning work at both ends at the same time. Military authorities concerned in getting reclaimed land adjacent to Colaba are anxious that Colaba end should be reclaimed as early as possible. On the other hand, His Excellency believes you considered necessary to start western end first on account of railway communication. Ends."

(iii) Telegram* from the Secretary of State for India, London, dated 19th July 1920 to the Governor of Bombay:

* The Secretary of State's telegram of 19th July in reply to the Governor of Bombay's telegram of 4th July had apparently not been understood on receipt, a repetition of it was accordingly asked for and this telegram is the repetition.

"Your telegram of the 19th. My telegram of 19th repeated. Begins. Buchanan reports that it is practicable to begin work on the Back Bay Scheme at both ends simultaneously. In constructing the wall the bulk of the work would be carried out from the western end, the stone being conveyed to the site by rail from the quarries near Andheri, but a considerable length of wall could be built from the eastern end and as the wall would be concrete throughout and sufficient stone could be procured locally. To begin building the wall in two places will not materially advance matters unless reclamation can also be proceeded with and Buchanan is considering whether the new dredger and the 'Kalu' can work simultaneously at eastern and western areas. Buchanan understands Lewis is on his way home and he will discuss all these points fully with him."

(iv) Telegram from the Secretary of State for India dated London 17th July 1920 to the Governor of Bombay:

"Your telegram of the 4th instant and my reply repeated 15th Buchanan reports now satisfied himself that dredger 'Kalu' and the new dredger can work together on Bombay reclamation and therefore work on construction of the wall can proceed from both ends simultaneously. Buchanan seeks for very early orders as to whether he is to proceed on these lines as considerable changes in designs and arrangements for execution of work will be necessary."

(v) Telegram from the Governor of Bombay dated 29th July 1920 to the Secretary of State for India, London:

"Your telegram dated 17th July. Work may start from both ends."

(vi) Extract from report of Sir George Buchanan dated 7th February 1921:

"In the first instance, I proposed to build the wall for the entire length according to the cross section C. D. on the plan accompanying this report, with the exception of 2,500 feet at the Colaba end, where the reef was so high
that a plain concrete wall could easily be built. The whole of the stone for
the rubble wall was to be obtained from a quarry to be selected on the line
of the B. B. & C. I. Railway, and I proposed to begin construction from the
Colaba end because the war end of the wall would be better protected from
the rough monsoon sea. On discussing my report with Government, the ques-
tion of point of commencement was brought forward and I was told that Gov-
ernment would prefer the work to begin at Marine Lines, as the land there
would be more valuable and more readily salable. I decided that the difficulties
attending the protection of the war end were not insuperable and that railway
connection at Chowpatti would be much simpler than at Colaba, it was therefore
agreed by all parties that the work should begin at Marine Lines."

From item (ii) it appears that His Excellency Sir George Lloyd’s object in asking
whether it was feasible to begin work on the wall at both ends was to enable Government
to get the land at the Colaba end reclaimed as early as possible because there was a ready purchaser in the Military authorities.

Q.—Who advised the local Government to buy the s. s. Kalu for £75,000? Was any
certificate obtained that the Kalu was in good working order and worth the price asked?
A.—In September 1919, on the advice of Sir George Buchanan, the Government
of India were asked to telegraph to the War Office not to sell the "Kalu" without
reference to the Bombay Government which would probably require it. Sir George
Buchanan considered that the "Kalu" would do very well for the east Colaba Reclama-
tion. On 30th October 1919, the Government of India were informed definitely that this
Government would require the Kalu. The Disposal Board at Home accordingly reserved
the Kalu for this Government at a price of £75,000, the amount of a tender or tenders
already received by them for it. On 21st November 1919, the Bombay Government
wired to the Government of India "Will pay seventy-five thousand pounds for Kalu." There
is no indication in the records that any expert was consulted about the price, or
that any certificate was obtained that the Kalu was in good working order and worth the
price asked; but Sir George Buchanan was available locally for consultation. In March
1916, the Kalu was surveyed by the Chief Constructor and the Inspector of Machinery
of the Royal Indian Marine Dockyard, Bombay, and the Surveyor to Lloyd’s Register.
and certified by them to be in good working order. It is understood that from that date
the Kalu remained in charge of the R. I. M., Bombay on behalf of the Imperial
Government. In April 1919, the Ministry of Shipping valued the vessel at £100,000. The
officiating Director, R. I. M., in his No. 4906/T., dated the 18th August 1924, has stated
"the Port Trust official to whom the dredger was handed over (on behalf of the Develop-
ment Department) on 6th July 1920 received it in good order and condition."
Chairman.—You are a member of the Government of Bombay?

A.—I am.

Q.—We have to put you questions regarding certain alleged irregularities in the expenditure and conduct of the Back Bay Scheme. In the course of the examination of witnesses several of them have made specific allegations. This is our last sitting to take oral evidence and our time is limited. I trust you will not mind if some of the questions are direct and have an unpleasant look on the surface?

A.—Not at all.

Q.—If after these questions are answered we require any further information, we will trouble you to furnish the same in writing. What was the object of starting this reclamation scheme: was it for profit or because land was in demand?

A.—I may point out to start with that my evidence on most points will not be first-hand as I was not a member of the Government of Bombay at the time. What I say is from the records. The exact objects for which this reclamation scheme was started I cannot find directly from any records. But from my knowledge of Bombay and from yours you know, Sir, (and another member of your Committee also) that those were boom times and land values were as high, as they have been perhaps in the history of this city. There was a great demand for office accommodation and residential accommodation. You have only to make enquiries from men in Bombay well conversant with the circumstances of those days and you will find that it was not possible to get an office or a shop. One of the reasons for the Rent Act in the city was the want of accommodation and the profiteering that was going on, and I believe that it was considered that trade was hampered for want of accommodation. Another reason I see now for this reclamation is the profit. Several private companies were prepared to undertake the scheme and take the profit for themselves, as we see from our records which have been supplied to you.

Q.—How many?

A.—I understand there was one syndicate formed with Sir Sassoon David, Mr. Lallubhai Samaldas, Sir Shapurji Bharucha, Sir Vithaldas Thackersey and Sir Faithbhoj Currimbhoy in 1917. There was another by the Tatas. And you will find that Sir George Buchanan wrote a note for Government after consultation with the two syndicates which had combined. That clearly shows that, in the opinion of those financial authorities, the scheme was a paying proposition.

Q.—On the land values it was not a paying proposition?

A.—It was considered by those financial gentlemen a paying proposition. I shall read to you a letter signed by three prominent gentlemen of Bombay.

Billimoria.—It was on the basis of 867 lakhs that it was a paying proposition?

A.—The letter shows that there was no calculation at all. It was only based on Mr. Kidd’s report.

Q.—May we have the date of your taking charge of this department?

A.—I took charge of this department by the end of June 1928. I was an acting Member of Government before. This letter is dated the 8th December 1917 and is signed S. B. Bharucha, Lallubhai Samaldas and Vithaldas Thackersey. It runs as follows:—

"We have the honour to draw your attention to the previous history of the above project. The Government of Bombay obtained a report from Messrs. Boddington, Kidd and Co. in the above matter and a committee was appointed by the Government to report upon certain matters in connection with the project. As most of the then available vacant land south of Byculla under the Improvement Trust has since been leased and as the demand for land in the city of Bombay is increasing, we believe the time has come when it is possible to undertake this work by private enterprise. As we believe that the reclamation project of 1918 is a sound business proposition, we are prepared to take up this work without any Government guarantee and we hereby apply for the necessary permission of the Government to do the same and to sell the land thus reclaimed. The above permission
should include the concession in paragraphs 28 to 30 of the Report of Messrs. Lowther, Kidd and Co. dated the 12th August 1912. In consideration of this permission we are prepared to give Government the option to take up 294 acres required for the Government House recreation ground and gardens at cost price on completion of the reclamation. We may mention that if we get your permission at an early date we are confident of successfully floating a company with the necessary capital to carry on the reclamation. We shall therefore be obliged for an early reply."

Q.—You might find that directly after that Col. Grisewood on behalf of Messrs. Lowther, Kidd and Co. strongly objected to any concessions being granted to this syndicate. That is why the Government decided not to enter into any contract with any private syndicate but to do the work departmentally?

A.—That may be so.

Chairman.—In the first telegram from the Viceroy to the Secretary of State given on page 47 of the compilation relating to "The Bombay Housing and Development Scheme" you have these words:—

"These problematic difficulties are not to be compared with the certain danger of further inactivity and delay."

I suppose this refers to the housing scheme? Again on page 48 you have the statement "some risk must be run in order to end the present intolerable condition of affairs". What was the intolerable condition referred to here?

A.—It might refer to the housing scheme, but I think it refers to the entire project.

Q.—I want to know whether you think that at that time there was any danger in delaying the work?

The Honourable Mr. Cowasji Jehangir.—Danger to whom?

The Chairman.—To the citizens of Bombay or danger of discontent on the part of the public. I want your personal opinion.

A.—I think the words "intolerable, etc." refer to the housing problem. The difficulty in Bombay was that more accommodation was required, and it was also acute for the better classes generally. The problem which was dangerous (if you use the word dangerous), was the housing of the labouring classes which was also part of the development scheme.

Q.—That was one of the reasons why the scheme was rushed, viz., the development project and also the Back Bay scheme?

A.—If you refer to the very first speech of Lord Lloyd, you will find that he talks about the great desirability of doing something for the labouring classes and for the improvement of the slums. That was in December 1918.

Q.—We are talking about the origin of the scheme. Why was not the work allowed to be carried out by the Public Works Department in the usual way?

A.—I must state that here I am not speaking from the records. The Public Works Department had enough work to do, and if you did entrust it to that department you would have had to enlarge the Public Works Department and its organisation.

Sir Frederick Hopkinson.—And the Public Works Department had no experience in marine work?

A.—No.

Q.—That would be one reason for not giving it to the Public Works Department?

A.—There were no engineers in the Public Works Department who had any experience of marine work.

Chairman.—Usually when any new kind of work has to be done, the Department controls it with the aid of experts?

A.—I think that the Government of Bombay thought that this was too big a project to entrust to the Public Works Department. Their hands were rather full, and it would be more efficiently done by a separate department; and efficiency was the point on which the Government of Bombay laid considerable stress.

Q.—This being a huge undertaking why was not more than one expert consulted?

The Honourable Mr. Cowasji Jehangir.—You ask me why one expert only was consulted?

A.—Messrs. Lowther and Kidd's report which was submitted in 1912 was very thoroughly examined by the Government of that day, the Governor of that day being an engineer himself, and the reclamation scheme was submitted for the sanction of the Government of India on the strength of Messrs. Lowther and Kidd's report alone. And in paragraph 19 of the letter of the Government of Bombay dated 7th August 1912, I find the following sentence:—"In presenting this report to the Government of India I may say that His Excellency (Lord Sydenham) has the fullest confidence in the ability and expert knowledge of Mr. Kidd who has worked it out in detail ". Therefore, according to the Government of Bombay at that time, the first expert opinion was that of Lowther.
and Kidd and they took a second expert opinion to confirm or otherwise Lowther and Kidd’s report, that opinion being Sir George Buchanan’s. In the principal details you will find that Sir George Buchanan agreed with Mr. Kidd. And therefore the Government of Bombay had two expert opinions, one taken in 1912 and the second taken in 1919 and the two expert opinions on paper seem to agree. For instance, in the main principles that reclamation is a possibility, that dredging is the method by which that reclamation should be undertaken, that you can have a dredger which would produce 2,000 cubic yards, that it could be done in a certain number of years: in all these particulars both these experts agree.

Q.—And Government thought that was enough?
A.—Yes, Mr. Billimoria.—The most important point that arises out of this answer is that in 1913 the estimates came to 925 lakhs whereas in 1919 when Sir George Buchanan prepared his estimate it was 867 lakhs. It is all very well known that between 1912 and 1919 prices had gone up considerably; but no consideration had been made with regard to the rise in prices all round?
A.—You will see from Sir George Buchanan’s report that he gives a statement. In paragraph 88 he compares his estimate with that of Mr. Kidd. You will see that he thinks that Mr. Kidd over-estimated in 1912. I am not an engineer and I express no opinion.

Q.—You are probably aware that even on the estimates of 1912 the Government of India were very reluctant to embark on a scheme of that description?
A.—I am aware of that fact.

Sir Frederick Hopkinson.—On page 18 Sir George Buchanan says, that dredging could be done at 5 annas a cubic yard. It is in Table A. The dredging plant alone cost about 11 annas per cubic yard before the dredging started. Was this a safe one?
A.—I do not want to express an opinion. But these were the figures on which the report was based.

Chairman.—It is stated that work was rushed in the face of public opposition. Was there any public opposition at the time?
A.—Again I speak in my individual capacity. The reclamation scheme was first announced I think in a speech in Council, and from the proceedings of the Legislative Council you are just as able to judge as anybody else whether there was opposition to it or not.

Q.—From your knowledge of those debates was the work rushed in the face of public opposition?
A.—I cannot say it was. The public of that day by no means set itself against the project. It is quite evident from the debates in the Legislative Council.

Mr. Billimoria.—But the Indian Chamber of Commerce did protest against it.
A.—I am not quite certain whether they protested immediately.

Q.—Directly they came to know it, did they protest?
A.—They may have. But you should look up and see what their representative said in Council.

Q.—Why was it that the Fort Trust was not consulted? That is a question commonly asked?
A.—I am afraid, as I said before, that I was not a member of the Government of Bombay and as such am unable to answer that question. We have not got anything on the records to say why it was not consulted.

Sir Frederick Hopkinson.—You have given us everything on your record to show the inception of the scheme?

A.—The instructions of the Government are that every scrap of paper should be laid before you. For instance, I found this letter only to-day (showing a record) and I got it from the Public Works Department.

Chairman.—So far as you know that has been done?
A.—Yes.

Q.—Why was not the Royal Indian Marine consulted?
A.—My answer is the same. There is nothing on the records to show that.
Q.—I want to have these things on record as coming from you?
A.—There is nothing in the records to show that it should have been taken or it was not taken deliberately.

Sir Frederick Hopkinson.—Are there any files missing?
A.—Not missing.

Q.—Any records on the private files of the Government House about the inception of the scheme?
A.—Sir George Lloyd, I believe, had a private file; he must have written demi official letters; we have not got all those. He has taken away a good deal of private correspondence with him. We have not got them all.
Q.—Anything that you have left here that would help us?
A.—As I said, we have not got all those letters. Unless I read them I cannot say whether I can help you.
Q.—You have some?
A.—Very few; all the telegrams that would be of any assistance we have put in.
Chairman.—You first sent up an estimate for 4 crores for the sanction of the Secretary of State?
A.—We did not send up an estimate. We had to put up the project for the sanction of the Secretary of State. We wanted it under the rules prevailing at the time. The law and constitution provided that the Government of Bombay could not proceed with the scheme unless the sanction of the Government of India was obtained. Therefore, the Government of India, as they have done in previous years, had to put up the project for the sanction of the Secretary of State. I may point out that in sending this report, there were some very significant words which I would like to draw your attention to. “On the technical aspect of the new scheme the Governor-in-Council offers no opinion.”

Q.—You wanted the Secretary of State’s administrative sanction only and not final sanction?
A.—We wanted it under the rules prevailing at the time. The law and constitution provided that the Government of Bombay could not proceed with the scheme unless the sanction of the Government of India was obtained. Therefore, the Government of India, as they have done in previous years, had to put up the project for the sanction of the Secretary of State. I may point out that in sending this report, there were some very significant words which I would like to draw your attention to. “On the technical aspect of the new scheme the Governor-in-Council offers no opinion.”

Q.—We have got that?
A.—I have not got anything that you have not already got.
Mr. Billimoria.—You say that the members of the Governor-in-Council were consulted at that time, who were the members?
A.—There were only three members, Sir George Curtis, Sir George Carmichael and the Honourable Sir Ibrahim Rahimtullah. I think I am right in saying that the scheme was approved by the Governor and all the three members, and I may point out a significant passage in connection with this in Sir George Buchanan’s letter. “Sir George Buchanan himself did not take any borings nor in view of the urgency with which his report was required would there have been time to do so. We understand from Sir George Buchanan that Mr. Kidd’s borings and estimate of quantities were also accepted as sufficiently accurate by the officials in the Public Works Department of the Government of India, when Sir George Buchanan at the request of His Excellency the Governor of Bombay went to Delhi specially to discuss the project with the Government of India and obtain their sanction and approval to the technical details of the scheme.”

You will find that in the letter written by Sir George Buchanan as late as 15th October 1925.

Sir Frederick Hopkinson.—How does the Public Works Department come in here?
A.—That is to say, Sir George Buchanan was asked to place this scheme before the Public Works Department of the Government of India.

Q.—In 1919?
A.—Yes.
Q.—Did he place it before the Government of India?
A.—He went there specially for the purpose of doing so.
Q.—Had he any approval of the scheme from the Public Works Department?
A.—Since the Government of India sanctioned the scheme, I presume their expert advisers agreed and the Government of India acted on their advice.

Q.—Presumably they had investigated the prices and agreed that they were fair.

(The Secretary informed the Committee that he received this morning copies of the note recorded at the time of Buchanan’s visit to Delhi.)

A.—You will now know more about it than I do.
Chairman.—Presumably the estimate for 4 crores was an approximate one?
A.—Certainly; it was not a detailed estimate by any means.
Q.—So the change from 4 crores to 702 lakhs was reported to the Secretary of State?
A.—It was not submitted to the Secretary of State for his sanction. I can give you reasons why it was not. Sir George Buchanan’s estimate and report was obtained by the Government of Bombay before the Reforms. The seven crores and two lakhs, the first detailed estimate, was sanctioned in October 1922, which was after the Reforms. The Secretary of State in a Government Resolution laid down the powers of the local governments in India.

Q.—You had issued a Government Resolution on his letter?
A.—No; this was a resolution of the Government of India issued on instructions and rules laid down by the Secretary of State. I proposed to read the first paragraph of the Government Resolution. “His Majesty’s Secretary of State in Council has been pleased to make the rules appended to this resolution defining the classes of expenditure on reserved provincial subjects which a Governor-in-Council may not sanction.
without the previous sanction of the Secretary of State in Council. These rules supersede all previous rules of a similar nature, and subject to their observance, orders regarding specific cases of expenditure passed by the Secretary of State in Council or the Governor-General in Council under regulations previously in force, will no longer be binding."

Then, under the rules the local governments must obtain the sanction of the Secretary of State as regards works chargeable to capital expenditure, such as irrigation and navigation works, docks and harbours and upon projects for drainage and water storage and the realisation of water power under certain conditions. You will notice that if this was a new estimate it need not have gone to the Government of India. From the second part of the paragraph you will see that even the detailed estimate need not go to the Secretary of State,

Q.—Are these rules observed now?
A.—Certainly; they are the constitution of the country.
Q.—If you have to sanction a project, productive or un-productive, for 7 or 8 crores, you don’t send it to the Secretary of State now-a-days?
A.—Unless it is an irrigation work, or a harbour work, navigation docks and upon projects for drainage and water storage and utilisation of water power under certain conditions. 

Sir Frederick Hopkinson.—Under which head would this scheme come?
A.—Not in any of these. That is why the Government did not take the sanction.

Q.—It was not sufficiently comprehensive when the list was made? It might refer to marine work?
A.—That is a constitutional question you are asking, whether the Secretary of State should or should not have added an explanatory note on these lines.

Q.—This list would not cover all that?
A.—It has been held that it would not cover.
Q.—What do you say to marine work?
Chairman.—Reclamation is a special class of work which does not came under that head.

A.—Reclamation is a well-known type of work; it is not included. That is why the Government of Bombay did not send the 7 crores and 2 lakhs of rupees estimate for the sanction of the Secretary of State.

Sir Frederick Hopkinson.—Could you see any reason why reclamation should not be entered in that list?
A.—That is a constitutional point, and I don’t think it is up to me to express an opinion just now as to whether it should or should not be.
Q.—It is a point worthy of consideration?
A.—When my opportunity for expressing an opinion comes I will do so.
Chairman.—Do not the Government of India demand estimates when they sanction loans for such purposes?
A.—No.
Q.—You have no authority to borrow money yourself?
A.—We have full authority.
Q.—You want the consent of the Government of India to borrow moneys?
A.—My own impression is that now under the Reforms we cannot borrow any money we like. The Government of India Act says: " A local Government may on behalf and in the name of the Secretary of State in Council raise money on the security of revenues allocated to it under this Act and make proper assurances for that purpose and rules made under this Act, may provide for the conditions under which this power shall be exercisable."

Sir Frederick Hopkinson.—Is it not the object of all this that the Secretary is to have control of the expenditure?
A.—That was before the Reforms.
Q.—And subsequently?
A.—Subsequently, no.
Q.—You have to get the permission of the Government of India before you go on with the Reclamation scheme?
A.—Just now because they originally sanctioned the project before the reforms. The Government of India have powers of supervision and control.
Chairman.—Under that ruling you have to submit the estimates to the Government of India?
A.—No.
Sir Frederick Hopkinson.—If they have power of supervision and control financially, they will have power in every other way?
A.—It is a constitutional question you are asking me.
Q.—They have the power of the purse?

A.—They have the power of the purse. These are the rules. Before we raise a loan we have to secure the sanction of the Government of India. "No loan shall be raised by a local government without the sanction of the Governor-General in Council, or (in the case of loans to be raised outside India) of the Secretary of State in Council, and in sanctioning the raising of a loan the Governor-General in Council or the Secretary of State in Council, as the case may be, may specify the amount of the issue and any and all of the conditions under which the loan shall be raised."

Q.—You are controlled in the issue of loans. That covers the whole thing. If you cannot issue loans you cannot do the work?

A.—No; the Government of India have sanctioned it. The question is whether the revised estimate should be submitted to the Government of India or not. Then we have gone on to other constitutional question. The main point was—Was this Government under the rules and regulations obliged to submit the estimate to Government of India. That is the point.

Q.—Your estimate doubled itself; you have got to issue loans?

A.—As a matter of fact we have only raised one loan. The rest of the money has come as loans from the Government of India themselves. If they refused to lend money or refused to allow us to raise a loan, the Government of Bombay would come to a standstill.

Chairman.—They asked at the time they gave you the loan the purpose for which it was wanted and they scrutinised the budget?

Sir Frederick Hopkins.—My point is that the Government of India has control over the Government of Bombay so far as the reclamation work is concerned—having the power of the purse?

A.—Theoretically, yes. They have the power of the purse, and they have to sanction loans; and we have got to get the sanction for loans under the Government of India Act. They have also powers of superintendence and control. I can give you the exact wording: "Subject to the provisions of this Act and rules made thereunder, every local Government shall obey the orders of the Governor-General in Council and keep him constantly and diligently informed of its proceedings on all matters which ought in his opinion to be reported to him, or as to which he requires information and is under his superintendence, direction and control in all matters relating to the Government of its province." It is very wide.

Mr. Billimoria.—When did the rules under the Reforms come into force? Will you kindly give the date?

A.—They were issued on the 29th September 1922.

Q.—And the revised estimates were sanctioned in October 1922 by the local Government?

A.—Yes; I think so.

Chairman.—That was the reason why it was not submitted to the Government of India?

A.—That is not so, Sir.

Sir Frederick Hopkins.—I suppose it was made in 1920?

A.—Not the project estimate.

Mr. Billimoria.—The project estimate was prepared in May 1922 and sanctioned by the Government in October 1922?

Chairman.—Since the revised estimate of 702 lakhs represented an increase of 75 per cent. over the estimate, should it not have been reported to the Government of India?

A.—I have given my answer to that question.

Q.—It is doubtful from what you have read that the Government of India have not got powers of control and sanction?

A.—It has been held by the financial authorities that no sanction was required.

Q.—Are they of the same opinion now?

A.—I think they are.

Q.—And then if the Government of India were not consulted why was not the Legislative Council consulted? That is one of the questions asked.

A.—I can point out to you that in June 1921, Mr. Monie, Secretary of the Department, wrote a letter to the Indian Merchants' Chamber giving detailed estimate at 850 lakhs. And in August 1921, Sir George Lloyd went to the Indian Merchants' Chamber and made a speech in which he also gave that figure of 850 lakhs with the interest charges.

Q.—In April 1922, Sir Chimanlal Setalvad gave a different account. He seems to have given a lower estimate. He adhered to the original estimate and he said that the rate was Rs. 10 a square yard, about four months before the project was finally sanctioned?

A.—That was in 1920.
Q.—I mean the 702 lakhs project was sanctioned in October 1922.
A.—Would you point out where he said that? I can make enquiries.
Q.—I think it was in the Council.
A.—I do not think it is quite correct.

Mr. Billimoria.—There is one thing I cannot understand. In 1921 a statement was made with regard to the estimates having gone up to 702 lakhs. Why was that kept back till October 1922? Why was not the sanction of the Council obtained before that date when it was known to Government in 1921? We find from the records that His Excellency made a speech to the Indian Merchants’ Chamber. If you knew that figure why was not that brought before the Council?

A.—I understand that that figure was first roughly worked out and the information was given to His Excellency for the purpose of that speech, and the details had all to be worked out and they were not ready for actual sanction till October 1922. The rough figures were the same as the officially sanctioned estimate.

Q.—Mr. Monie wrote a letter in 1921?
A.—That was on the rough figures.
Q.—He had to take a year to have these fair figures compiled?
A.—Yes.

Sir Frederick Hopkinson.—It is a coincidence that he has given the same figure. It is a very remarkable coincidence.
A.—It is a very simple one. We can produce the file.

(Sir Frederick Hopkinson.—Well, I should like to see the file, very much.)

Mr. Billimoria.—Was it one of the reasons that if they had prepared the estimate in advance before the reforms came into force they would have to go to the Government of India for sanction? Was it on that account that it was kept back?
A.—I cannot say that from the papers.
Q.—What could be the object of withholding it for a year?
A.—Because it was not ready.
Q.—How was it? Because of the Reforms—so that they may not have an opportunity of going to Government and asking for sanction?
A.—I do not think so.

Sir Frederick Hopkinson.—They would at any rate.
A.—The records and papers show that they took this time to calculate. The audit report dated October 1925, just before it was finally sanctioned, shows that the project estimate of the Back Bay scheme—seven crores—was then under the consideration of the Finance Department and the local Government.

Mr. Billimoria.—What date is that?
A.—4th October 1922; just before it was sanctioned it shows that it was under examination.

(Chairman.—In September 1921, Sir George Lloyd put it at 702 lakhs.)

Sir Frederick Hopkinson.—It shows that the original project estimate was 702 lakhs. I have heard for the first time of an estimate for 850 lakhs.
A.—That is with interest: the other is a works estimate.
Q.—The project estimate should give the latest figure—that the scheme is to cost so much?
A.—For instance, the 867 lakhs does not include interest; that is a works estimate.
Q.—That is an engineer’s estimate.
A.—It is. And the 850 lakhs that His Excellency mentioned in his speech to the Indian Merchants’ Chamber included interest. That is the difference.

Chairman.—You have got the report of the advisory committee. You find on page 7 a statement I referred to just now, “Since March 1921, the prices of labour and material had not perceptibly increased”. Normally the sanction was given on the basis of 4 crores. No variation in the estimate was indicated up to 14th March 1921.

Then in September 1921 Sir George Lloyd raised the estimate to 702 lakhs in his speech to the Merchants’ Chamber. It was a big jump from 400 to 702 lakhs?
A.—Yes.
Q.—That amount increased in about 4 months’ time. What were the reasons for that sudden increase?
A.—We had not got the revision then. Evidently when he read that statement in Council, he had not seen any revised figures at all. He did not know. As soon as he knew it, he announced it to the Indian Merchants’ Chamber.
Q.—When the revised estimate of 702 lakhs was sanctioned, was the possibility of reclamation by earth filling considered?
A.—No.
Q.—If they had made calculations they would have found that the whole of the filling could have been done for a little over 5 crores.
A.—Earth filling? Where did you get that figure from?
Q.—I have been discussing with some witnesses. You may take it from me.
A.—I cannot accept that. I regret I cannot take that.
Q.—If you had filled with mororum you might have got it done for about 5 crores.
A.—By tipping? I am very much surprised to hear it.
Q.—You may consider that. If Government had known what it would have cost they would not have sanctioned the 702 lakhs estimate.
A.—That is a hypothetical question. If you ask me if so and so had known an estimate 10 years ago would he not have agreed to it, I am afraid I cannot tell you.
Q.—Because the dredger had been sanctioned, they did not go into it.
A.—I have not had anything put before me.
Q.—Was that question discussed?
A.—I can find no records whether it was discussed or not.
Mr. Billimoria.—You can assign no reason for the delay of one year with regard to the revised project estimate except that it was being scrutinised by the Finance Department.
A.—It was not ready.
Q.—Then it is your belief that it was not allowed to evade the vigilant eye of the Government of India or to avoid approaching the Government of India on the revised estimate.
A.—I can find nothing on the records to show that and I am prepared to show the files.
Q.—Our friend Sir Frederick thinks it is not likely to be in record.
A.—Whether this preparation and the report was deliberately delayed?
Sir Frederick Hopkinson.—Don't include me in that.
A.—That is what your colleague says. I thank you for not agreeing.
Chairman.—It is no imputation. This is an enquiry and we have got to go into such matters.
A.—I quite understand. Mr. Billimoria, you can verify that. It won't take you long to see whether there was delay in making these estimates. I can tell you that I have not gone into the thing from that point of view.
Mr. Billimoria.—What looks amazing is that in September 1921 it was submitted to the Indian Merchants' Chamber a year and one month after it was sanctioned by the Government. It took 19 months. Whether that delay was only a red-tape of the Finance Department or whether there was any reason for it, that is my question.
A.—You can see from the file. I can see no reason. Perhaps you are not aware how long it would take for a detailed estimate.
Q.—If you will kindly turn to Sir George Buchanan's report, Mr. Cowasji, you will find he has made a very very bold statement at page 19, at the end. "With reference to my estimate of the cost of the work at the present time, I have gone into the matter very thoroughly and I believe my figures to be reasonable and reliable. As a matter of principle I never over-estimate an estimate because although by so doing an engineer may get the credit for not exceeding his estimate, such a practice is not conducive to economical work and I prefer to make a fair estimate on the data before me, and try to keep within that amount."
A.—I have never seen an Engineer who would not say what Sir George Buchanan has said. They always say "this project estimate has been gone into and given to you with the greatest diligence".
Sir Frederick Hopkinson.—What is the difference between the project estimate and the detailed estimate?
A.—When you want to give administrative sanction to a project Government have before them a project estimate which is not a detailed estimate. It is a rough outline in which the Engineers tell you what the scheme will cost. Then Government give the administrative sanction to that project. They give administrative sanction, that is to say, they are prepared to incur expenditure upon a detailed estimate. It costs them money and therefore before they incur the expenditure they want to see what the project is likely to cost. Then the detailed estimates are worked out and having sanctioned the detailed estimate the work begins.
Q.—Where is the detailed estimate of the Back Bay?
A.—702 lakhs.
Q.—That is the project estimate?
A.—The project estimate is 367 lakhs.
Q.—702 lakhs is the project estimate?
Chairman.—That is what we are told. That is why I am remarking on the coincidence of the two amounts.

Sir Frederick Hopkins.—It is stated here that the Project estimate was 702 lakhs. It is printed on the top of it occurring over and over again:

A.—It is the sanctioned detailed estimate.

Q.—We have only got two estimates: 360 lakhs and 702 lakhs. You are speaking of a third estimate. I want to know where the third is?

A.—There are only two estimates. There is an estimate on which administrative sanction is given to the scheme.

Q.—Now we come to 702 lakhs which is headed project estimate.

A.—No, it is detailed estimate.

Chairman.—Both mean the same thing.

A.—It is called detailed project estimate.

Q.—I want to know one thing. When they sent up the 4 crores estimate did the Government contemplate revising that estimate? Have you got anything on record to that effect?

A.—I will give you what Sir George Buchanan thought of his own estimate. This is a report of the Engineer-in-charge of the work dated 11th February 1922. “Under the rules of the Government of India for the carrying out of public works, the approval of my report, plans and estimates did not imply more than the acceptance of administrative sanction to the scheme, and a detailed project estimate giving the fullest particulars under each head and sub-head should have been submitted before any actual expenditure was incurred.”

Q.—If he said so in 1922 what is the good of that?

Sir Frederick Hopkins.—He knows perfectly well that the expenditure has been incurred.

A.—Yes. He goes on to explain why works started without detailed estimate. Under the P. W. D. code work cannot be started without an estimate. He goes on to state as follows:—The preparation of this estimate would have taken a

Q.—If I am to judge that by the

A.—We have all got our opinions about Sir George Buchanan’s estimates. Mr. Billimoria.—You admit that in 1922 he had given reasons. Then where was the necessity for revision?

A.—The revised estimate was made by the Development Department.

Q.—He says, “signed and approved” on the 11th February 1922.

A.—He has given reasons in a report which I have marked for you. I can give you the exact extract from it. “It was on account of the rise in the cost of plant and materials and of exchange.” He calculated exchange at the rate of Rs. 15. This is very important. Then he points out why the cost of the dredger went up. You have got all that on page 4 of the printed report. The report is dated the 11th of February 1922.

Q.—We shall be able to get Sir George Buchanan’s own words?

A.—I can only talk of the report. I have no personal knowledge.

Q.—Did Government accept that explanation?

A.—The report is rather interesting and is as follows: “In 1919, I obtained from Messrs. W. Simons & Co., Ltd., a tender amounting to £410,484 for the provision of the dredger and auxiliary plant. The tender was on the basis of rates current for wages and material with the proviso that all advances on these rates shall form an extra charge, at the same time Messrs. Simon & Co. offered to accept a total fixed price of £451,500 and take on their own shoulders the risk of further advance in the cost of labour and material. I also made arrangements with the Tata Electric Power Company to supply current for the working of the auxiliary dredger.

Unfortunately sanction to the purchase of the dredger was not received in time to take advantage of Messrs. Simon & Co.’s offer, which was only available for three months and when the case was re-opened by the India Office in May 1920 and the order placed, the total amount to £550,000, an addition of £200,000, of which £100,000 was due to the fact that in 1920 the Tata Electric Power Company were unable to guarantee
the supply of current, and an expensive steam auxiliary dredger had to be substituted for the electric plant." £100,000 is the increase for the change of circumstances and the other £100,000 is for the plant.

Q.—The Government accepted this version just as they accepted the original estimate?
A.—No, they actually ordered out the dredger.

Chairman.—I want to ask a few questions about the dredger. Why was the question of guarantee omitted from the agreement between the Manufacturers of the dredgers and the Government?
A.—Why a test in Bombay was omitted I cannot tell you, but Government had reports of very good tests in England, on the Clyde.

Sir Frederick Hopkinson.—That is usual and customary in all contracts. No contractor will give you a guarantee unless he has visited the site and knew all about it.
A.—A specification was drawn up by the Naval Architect to the Secretary of State.

Chairman.—In the case of the 'Kalu' guarantees were given and were actually insisted on. That is the usual practice and that should have been done in this also.
A.—I can see from the records that the agreement was drawn up in England.

Q.—Who checked it on behalf of the Government of Bombay?
A.—It was drawn up by the Stores Department under the expert advice of the Secretary of State's Naval Architect and Sir George Buchanan was also paid £1 per cent.

Q.—Then the Engineers were responsible for the purchase of the plant and machinery from Messrs. Meik and Buchanan?
A.—I will let them speak for themselves.

Sir Frederick Hopkinson.—It does not matter what they say. There is a definite agreement.
A.—My firm was entrusted with the taking in of tenders and supervision of manufacture and the greater part of any time and of our staff has been occupied in that connection.

Q.—There must be somebody on behalf of the Government to scrutinise the specifications. He can only recommend. He cannot place orders?
A.—On his recommendation and that of the Development Engineers.

Q.—Did they check it?
A.—For instance, a good deal of plant was recommended by the Chief Engineer or the Director. Orders were sent to Sir George Buchanan who agreed to order them out. That is always the procedure.

Q.—Then you appoint an Engineer. You ask him to order materials for you without anybody checking on your behalf?
A.—No, Sir. That is not the position. Either Sir George Buchanan suggests some plant or the Chief Engineer. If they disagree, then the Director puts up a proposal using his discretion, to the Government.

Chairman.—I am not imputing any motive. There is a local Chief Engineer who is a gentleman appointed by Sir George Buchanan. Was it safe for Government to allow such a state of things, i.e., to allow the Engineers to order any material they want, without the department or any one examining?
A.—There is the Director, there is…….

Q.—The Director said that he left everything to the Engineer. He says Sir George Buchanan was solely responsible?
A.—If the Director thought that a plant was not necessary it was his duty to draw the attention of the Government of Bombay. If the Government were convinced that the Engineer-in-Charge was recommending a plant that was not necessary that would be a very good reason for asking him to go away.

Q.—That is an extreme step?
A.—You must realise that Government appoint responsible engineers to give advice. If they have reasons to believe that their advice is not good, they send them away. That is the only way in which work can be carried out.

Q.—You can have some other expert to advise you. Would it be safe for Government to entrust such a thing as the ordering of a huge plant like this to one engineer only?
A.—Take an instance. Supposing a certain number of cranes are required. The Chief Engineer puts up a proposal. The Government agree that these cranes are required. Do you mean to say that Government should take outside opinion?

Q.—Would not a prudent Government do that? You appoint an engineer. You give him authority to make purchases to any extent he likes.
A.—If you are the engineer in charge of a work, you ask for certain plant, and if Government went and called in another expert to check your figures would you like it?
Q.—I say the plant may be all right. It is about the placing of the order with the firm.
A.—How much is it cost? That is done by the High Commissioner.

Q.—He does it only nominally. The order is all worked up here and handed over to the High Commissioner.
A.—When an order is sent from the Local Government to the High Commissioner, the latter places the order in the market and the specifications are worked out before hand.

Q.—You appoint one engineer and then entrust him with the sole responsibility for placing the orders with a firm. It is wrong.
A.—Do you mean the placing of the order or do you mean deciding the plant you require? The placing of the order is in the hands of the Secretary of State.
Q.—Do you mean to say you cannot invite tenders?
A.—No, we can't. The High Commissioner does it.

Mr. Billingsworth.—In this case, the High Commissioner places his order of his own accord.
A.—There are two points: what plant is required and who places the order. The placing of the tenders is in the hands of the High Commissioner. He asks for tenders and places it in the cheapest market.

Q.—He sends to you for approval.
A.—No.
Q.—Surely, he is appointed to do the work.
Chairman.—The Local Government have to find the money, they have to consider whether it is within their means to order such a plant. If they get an idea of what it is going to cost, if they want it they send out to the High Commissioner. If the Government think they ought to know what is the likely cost they may ask the High Commissioner. I have done it myself.

Sir Frederick Hopkinson.—Three machines were required. The specification of a particular machine is sent to England, which goes to the High Commissioner. He gets the prices, but he does not like them and goes where the prices are lower. He accepts the second best machine that is not at all suitable.
A.—That has happened. That is why the Local Governments are complaining so often.
Q.—Did you invite tenders and scrutinise them locally for the dredger?
A.—No.
Chairman.—The order was placed with a firm of Engineers approved by Sir George Buchanan.
A.—The order of the dredger was placed with the lowest tenderer.
Q.—Have you copies of tenders?
A.—I have seen it in records that Simonds & Co. was the lowest tenderer.
Q.—I wanted to know whether any scrutiny was exercised by the Local Engineers.
A.—Their duty is to say what plant is required and they decide that.
Q.—Do you sanction the plant separately?
A.—Yes.
Q.—How is that?
A.—If the Engineers recommend that a certain plant is required you have got to sanction it. If you do not, you take the responsibility of not sanctioning it. Do you take a second opinion? I say we do not.
Q.—I would consult a number of experts before getting the sanction of the Government.
A.—When the Chief Engineer puts up a proposal, he consults his Engineers. There is the Director again.
Q.—If you have a competent man to carry out the scheme and he asks for certain tools and the Government were not going to supply ...........
A.—Either they would sanction them or if the advice was not sound they would send him away.

Sir Frederick Hopkinson.—Government could not turn him out without paying him under the agreement.
A.—Sometimes. There may be other circumstances.
Q.—Do you see my point?
A.—Yes. That is exactly the position in a big engineering work. It is the engineer who must tell you what plant is required.
Chairman.—There is Sir George Buchanan who was the engineer responsible for the work and there is the Chief Engineer who is an officer selected by him. These two gentlemen decide what material should be ordered and prepare an indent and hand it over to the High Commissioner.

Q.—They send it to Government? The Government must sanction it. After it is sanctioned it is the High Commissioner who purchases it.

A.—They send the dredgers without seeing the tender?

Q.—Then you sanctioned the dredgers without seeing the tender?

A.—Yes. They decide that the dredger should be bought. Specifications are drawn up and sent to the High Commissioner. The High Commissioner purchases it.

Q.—It comes to this the Engineer practically does the whole thing.

A.—He does not, such as the tender.

Q.—He recommends?

A.—No. The High Commissioner may take his opinion or not.

Q.—Invariably Sir George Buchanan has recommended.

A.—Sir George Buchanan happens to be in England at the time. I have seen tenders sent out for other big schemes, not one or two but a dozen and I see the specification is drawn up by the engineer and sent to the High Commissioner who settles the tender. May I point out that I have had one case? I asked the Chief Engineer in another work to tell the High Commissioner not to accept a tender without consulting us. But the High Commissioner could object to it.

Q.—Would not the Local Government have done well to scrutinize the indent?

A.—Sir George Buchanan was going up and down between Bombay and London and the cheapest quotation was accepted. As to specification it is quite another matter. What could Government have done? They could accept the cheapest tender. If the specification was not what it ought to have been it was somebody else's fault.

Q.—You can't fix the responsibility. You name a man as an engineer?

A.—You appoint a responsible man and he makes a mistake......

Q.—Supposing the responsible man does not carry out his responsibility what hold have you on him?

A.—No. We have not any hold.

Q.—Is it not desirable to insist on guarantees?

A.—If you appoint a responsible gentleman who is well known in his profession with his reputation at stake, you have done your best. If a doctor comes to treat you, when he does the wrong thing, your relations cannot claim damages.

Sir Frederick Hopkinson.—You will call in some other doctor.

A.—Yes.

Q.—Sir John Biles is the Technical Adviser.

A.—We paid him 1 per cent. commission.

Sir Frederick Hopkinson.—My own doctor says that he had consultation with 5 or 6 other. He tells me, "if you don't do what I want I will have nothing to do with the case.''

Mr. Billimoria.—Were the Government satisfied that Sir George Buchanan had the necessary qualifications?

A.—If they employed an engineer I presume they believed that he was a good man, and the best man they could obtain. That is a presumption which one must make.

Q.—The Secretary of State was asked to recommend a suitable engineer and in the meantime Sir George Buchanan was appointed?

A.—No. not in the meantime. It was within an interval of 3 months. There is probably a confusion about Sir George Buchanan being asked to report and his being appointed. It is true that before Lord Lloyd's time the Secretary of State was asked to send out an expert and there was delay. Then we find that the Secretary of State suggested the name of Mr. Frederick Palmer but he could not come out till October. The Government of Bombay from the point of view of Bombay thought that it was necessary for the expert to be out here and see monsoon conditions. I imagine that from this time the name of Sir George Buchanan was considered by the Government of India. Here is a telegram from the Governor of Bombay to the Secretary of State on the subject. It is dated 9th April 1919 and runs:—'I have consulted the Government of India and Sir Claude Hill consents with me in proposing you should send expert out at once who should arrive Bombay not later than 3rd week of May. Failing your inability to find expert in short time available, my Government would agree to use Sir George Buchanan whose services would probably be available and whom the Government of India recommend.' The telegram continues: "My telegram has been drafted in consultation with the Government of India and is being communicated to them". That is from the Governor of Bombay to the Secretary of State. Then we come to this:—"My Government have decided to ask Sir George Buchanan to come to Bombay as soon as possible and report upon the Back Bay Reclamation Scheme. The matter was fully discussed with Sir Claude Hill before leaving." Sir Claude Hill was a Member of the Government of India.
Q.—Would delay have prejudiced the interests of Bombay in getting the best man available?
A.—My personal opinion is that we must not forget the atmosphere prevailing during that time, but looking back now, I think there would have been no difference. You must try to put yourself in the atmosphere that existed at the time when there were two very powerful syndicates knocking at Government's doors asking for this concession, syndicates which contained the best known men in Bombay. Then naturally if you see that the best financiers in Bombay are ready to take up this scheme and take all the profits and if you were a member of Government you would try to hurry up this scheme.

Q.—You believed you had the right sort of man?
A.—You must take it for granted that the Government of Bombay thought so. He may not be the right sort of man, the Government may have been badly advised. This is the only telegram I have got to show that he was recommended by the Government of India or it may be they got him on their own initiative. They thought, I am certain, that in Sir George Buchanan they had got a very good man. Then Mr. Billimoria is very aware that private companies have also entrusted their work to experts whom they thought to be the best in the world but yet they failed.

Chairman.—Did no one on behalf of the local Government scrutinise the tenders for the dredgers?
A.—We are not allowed to do it. Tenders are generally settled by the High Commissioner.
Q.—But the Government of Bombay could have told the High Commissioner. Will you kindly send us these tenders and we will advise you what we want?
A.—They may have said that.

Q.—Of course you agree now from experience that the specifications were incomplete?
A.—I am not an engineer and on a professional question like that I am not in a position to express an opinion. All I can say is this that it did not come up to the expectations and the gentleman who drew out the specification told us that we should get 2,000 cubic feet per hour and we did not get it.

Q.—It did not work up to specifications as the specifications were incomplete?
A.—I cannot express an opinion.

Q.—The tests made on the †Clyde‘ were incomplete?
A.—I would refer you to the High Commissioner where the records are kept.

Q.—Is it not the responsibility of the Local Government to advise the High Commissioner what they want? Is it not the business of the Local Government to give its own opinion?
A.—They got reports from those who were expected to report to them that the dredger had completed its tests most successfully and instead of doing 2,000 cubic yards it had done 2,500 cubic yards per hour. When you get a report of that sort you have reason to be satisfied.

Mr. Billimoria.—Who are then to be held responsible for the failure?
A.—Looking back at it now—I was not a Member of Government then and I am looking at it impartially—I hold that Sir George Buchanan drew out a specification of the dredger which could not, in the circumstances, produce 2,000 cubic yards. If it is possible (I do not know, that a larger dredger can be made or a dredger can be manufactured to produce 2,000 cubic yards per hour in the circumstances) he ought to have specified and ought to have suggested a dredger which could do it. If it could not have been done, his estimate for 2,000 cubic yards was wrong and he ought to have said it can only produce 1,000 cubic yards. He ought to have told us or ought to have been in a position to express a correct opinion as to how many hours the dredger could actually pump in an open sea. Therefore he went wrong. The other point on which he went wrong is the class of material that was in the harbour. That is my personal opinion from reading all the papers.

Q.—Who else is responsible besides him?
A.—Sir George Buchanan was the cause of it. I am not answering this question on behalf of Government, it is my personal opinion. I have given you my candid opinion I think about the failure and you may take it for what it is worth. I may be wrong and probably you will find I am wrong, but this is my candid conclusion.

Q.—This conclusion is arrived at after perusing all the papers that you took the trouble of going through?
A.—It is as a result of seeing the papers but also the taste of the pudding is in the eating.

Chairman.—When you found that the dredger was not giving the specified output did you take any steps to have it examined by other experts with a view to making alterations or improvements?
A.—The dredger started working on the 8th December 1924. On the 14th of February 1924 Sir George Buchanan wrote a report which reached me at the end of March
1924 in which he said that the dredger had worked satisfactorily up to the 11th of February. I will read it:

"I believe I may say the result up to date has been quite satisfactory. The material in the harbour has proved much harder than we were led to suppose, and actual reclaimed land can be seen and walked upon by any one who chooses to go to Colaba."

"The best thing that can be said at present is that a good start has been made and every effort will be strained to work the dredgers both in Back Bay and the Harbour on double shifts at the end of the Monsoon."

I had a personal conversation before that, when he was here, about the dredgers and he told me that the work was very satisfactory and he had effected savings of 17 lakhs of rupees.

Q.—Who were the other Members of Government at that time? Were all of them present at the time the project was sanctioned?
A.—The Members of Government at the time were Sir George Carmichael, Sir George Curtis and Sir Ibrahim Rahimtullah.

Q.—We understand that Sir Chimanlal Sethawad is in London; will Government kindly induce him to remain there to give evidence? I ask this because we fear he may leave before we reach there.
A.—I will be pleased to do what I can but it is for you to arrange for your witnesses. But if I can help you I will do it. What is the help you want from me?
Q.—I have already said that we want Government to inform him; not to leave until we arrive there; perhaps Government might induce him.
A.—Government of course cannot induce him as you know Sir Chimanlal is a busy man. All I can say is that I will talk the matter over with you afterwards and I will see what I can do or what His Excellency can do. I can say nothing more. In fact your Chairman should be able to do as much as anybody else but if I can do anything, my services are at your disposal.

Sir Frederick Hopkinson.—At whose instance the dredger "Kalu" was purchased?
A.—It was at the instance of Sir George Buchanan.

Q.—Where it was to dredge?
A.—It was to dredge over the East Colaba Section originally.

Q.—Has there been a project estimate for that reclamation?
A.—Yes.

Q.—Is there a detailed estimate?
A.—Yes, there is a detailed project estimate.

Q.—When was it decided to do the East Colaba Reclamation?
A.—Both at the same time. I may not be quite accurate but I will correct it if I am wrong.

Q.—East Colaba, Reclamation seems to be a very modest thing and does not seem to have come in the forefront.
A.—A part of the land was to be sold to the military, but it has been given up.

Q.—Why was "Kalu" purchased?
A.—For the East Colaba Reclamation.

Q.—Have you any plans for this East Colaba Reclamation?
A.—Yes, detailed estimates.

Q.—Was it by a Resolution of the Government that it was to be done?
A.—Exactly the same as the other.

Q.—It costs £60,000?
A.—Yes, about 7 or 8 lakhs of rupees.

Q.—Is that money all lost?
A.—A certain amount of land was purchased which can be resold.

Q.—It is included in that 7 or 8 lakhs?
A.—I think it is 7½ lakhs out of which the land is worth 5 lakhs.

Q.—There must have been a report?
A.—Yes. There is a detailed project estimate which will be sent to you.

Q.—We hear of "Kalu" dredging for the Back Bay Reclamation?
A.—No, it came on the scene very much later. If you like I can give you a short history; it is all given in the papers. You will find a most useful recapitulation of the history in the report which Sir George Buchanan sent to this Government. It is dated 15th December 1924. It is the last report and you find the whole recapitulation there. You will find this all in the printed correspondence. There was another letter from Sir George Buchanan definitely suggesting the programme of dredging with the "Kalu" in the Back Bay and "Sir George Lloyd" in the Harbour.
Q.—Can you tell us when the Government of India were informed of the increase of estimates from 967 to 702 lakhs?
A.—I do not think we ever informed the Government of India officially. The first statement was made by Mr. Monie to the Indian Merchants Chamber in July followed by a speech by Sir George Lloyd in August.

Q.—I presume the Government of India was informed about 967 lakhs estimate but not of 702 lakhs officially?
A.—The whole estimate went with Sir George Buchanan’s report.
Q.—Would it be possible, you think, for the Government of Bombay to reclaim this area so far as the surface only is concerned and leave the rest to the Bombay Municipality to develop by making drains and roads, etc.?
A.—Storm water drains will have to be finished before the reclamation. I understand what you want my opinion.
Q.—Assuming the Government of Bombay fill the reclamation area up to surface level and the development, i.e., making of roads, sewers, etc., be left to the Municipality of Bombay to finish?
A.—That would require a considerable amount of discussion between the two bodies as to what they would pay the Government of Bombay.

Mr. Billimoria.—A transaction of that sort can be considered?
A.—I do not know whether it will be at all possible.
Q.—But the Bombay Municipality stand to gain considerably?
A.—A great deal indeed but I should not like to commit the Government in any way.
Chairman.—If the Government desired to minimise the expenses on reclamation, should not the development of the land be left to the Municipality?
A.—And what would the Municipality get in return?
Q.—Taxes?
A.—I cannot speak for the Municipality as to what they would think.

Q.—The Municipality will get all the ratable value of this land which they will develop?
A.—I should not like to express an opinion. It is for the Municipality to say.
Sir Frederick Hopkinson.—I suggest this idea.
A.—I had the idea; it occurred to me very often as to whether it would be quite fair to Government and the tax-payers, generally that the Municipality should get all the ratable value for nothing. I have postponed consideration of that point considering that we have not got the reclamation yet.
Q.—Well I suggest it should be?
A.—It will be but I may tell you it is not so easy as you think. There are constitutional points involved and the whole law is to be considered.

Q.—Whether the idea will germinate or not will depend on the efforts of the Bombay Government?
A.—Do you not consider that it is premature?
Q.—I think it is essential it should be considered at once because it is going to make a difference in your capital amount?
A.—Yes it will.

Mr. Billimoria.—The Municipality, in your opinion, constituted as it is at present with Swarajist majority has the slightest chance of entertaining such a proposition?
A.—I would rather not express an opinion. My position, as a Member of Government, is difficult. I have been a President of the Municipality but I cannot say anything.
Q.—Placed as the Municipality is, do you think they would like to do such a thing?
A.—I would not rather answer this question. I can only say they are a reasonable body and will consider this question fully.

Chairman.—It is going to have a very material effect on the total cost. The development charges will be very heavy?
A.—It will depend upon how many buildings are to be built and in how many years the income will increase. I think that is a very good suggestion and should be given very serious consideration.

Q.—I have suggested to Sir Lawless Hopper to make enquiries as soon as possible to find out quarries nearer to the site of the works.
A.—It has already been done. Anything you may have told Sir Lawless Hopper will be given the most careful consideration.

Sir Frederick Hopkinson.—I have advised him this morning not to accept any tenders that he may receive?
A.—We are not going to accept any tenders.
Q.—Do not accept any tender on that specification at any time. The specification requires alteration?
A.—This specification was drawn up by Sir Alexander Gibbs and we paid Sir Alexander Gibbs 100 guineas.

When our engineers drew up a specification, I was most anxious to get the best specification I could and I showed that specification to Sir Alexander Gibbs but he did not approve of it. We took Sir Alexander Gibbs' advice after we had dispensed with the service of Sir George Buchanan. This specification was therefore shown to him—I have got a report on it—but he did not approve it. In the circumstances I thought the best thing was to ask him to draw up a specification himself and it was done either by himself or under his instructions. The specification was drawn up by his firm.

Q.—I advise you most strongly not to accept any tenders on that specification. I am quite sure the prices will be unreasonably high. There is so much risk put on the contract. May I point out that the Legislative Council were anxious to get the best specification and that the original specification was too strict and he wanted to know why the specification was required to be altered

A.—I must give that much credit to Sir Alexander Gibbs that he complained that the original specification was too strict and he wanted to know why the specification was required to be altered. I think our engineers informed him that that was the usual thing in India when specifications are drawn up.

Q.—Do not accept any tender now?
A.—Well Sir we are anxiously awaiting your Committee's report as to the future before we take any action. As you are a Committee appointed by the Government of India, your report will go to the Government of India who will forward it to us as soon as possible. I can only urge upon you to give us an interim report as to the future operations as soon as possible because we want your advice.

Q.—Is there any information available as to the extent of the enquiries made by Sir George Buchanan in 1919? Does any one know whether he had much staff here?
A.—I have not seen anything on record whether he had staff or whether he was single handed.

Q.—I asked Sir Lawless Hepper referring to his first report in 1921 in which there is a list of the works he was in charge of as the Director of Development, whether it is possible for any one to have control of such an enormous scheme running to something like 29½ million sterling. I suggested it to him that it is Nepoleonic and none else but Nepoleonic could have done it. What I want to suggest to you is that Government could never have expected a successful issue out of all this under the arrangement proposed in the Development Department. You had one Director and one Deputy Director, that is all.

A.—May I point out that the Legislative Council was of opinion that we could do without the Deputy Director or the Director.

Q.—Who is going to do the work?
A.—The Legislative Council are of opinion that we are over-staffed.

Q.—That does not disagree with my views that you want some more heads?
A.—They are very strongly of opinion that we are top heavy, that we have got too many men at the top.

Q.—I will give you my opinion. I told Sir Lawless Hepper that he was in an absolutely impossible position? No one in his position could do it?
A.—I am glad for your expression of opinion but the Legislative Council were strongly against it.

Q.—We have a number of charges brought against the officials of the Directorate by Mr. Nariman. They have been dealt with this morning and what the Committee would like to know as to what steps, if the Government are prepared to take any steps, they would take to these specifications so that you will not get a reasonable price?

A.—One or two of these charges have been examined by me personally when they were made not so openly as they have been made now and I found them to be groundless. In one case I had to give a reply in Council to Mr. Nariman and he was not satisfied with that reply and has repeated them here. I hear that the officers have demanded that they should be allowed to prosecute him. I would like an expression of an opinion whether they should get the sanction of the Government if ever they apply? What is the reply of the Committee?
Mr. Billimoria.—The reply we give is that as a Committee we have no powers to give any permission to anybody but that any officer concerned is at liberty to take any action he chooses.

A.—That is your opinion, I want the opinion of the Chairman.

Mr. Billimoria.—I think it was my suggestion and the Committee accepted it.

Sir Frederick Hopkinson.—My opinion is that they ought to be proved or disapproved by Government in a court of law. I believe Government have gone into them and found them to be untrue?

A.—All those that I have examined, I found to be untrue.

Q.—A large number of allegations seem to be untrue but what about the remainder? They seem to be personal allegations of corruption and as such can only be dealt with in a court of law?

A.—We will take down whatever opinion you may give us. You heard the officers yourself and you heard the allegations. I have only read the written statement but one of the charges that Mr. Nariman has repeated was investigated and proved to be untrue. I believe all the other charges will prove to be untrue.

Chairman.—So far as this Committee is concerned, it is not our business. We may make a recommendation after the whole enquiry is over.

A.—I want to know what I am to take down.

Q.—If you wish to note down the opinion of Sir Frederick Hopkinson, you may do so.

Sir Frederick Hopkinson.—We have had no time to discuss these but it is my personal opinion that Mr. Nariman should be made either to prove or have these charges disapproved.

A.—The officers have disapproved some of the charges. It is clear that when charges are made against officers, it is the duty of Government to have them investigated. These charges have been made before the Committee in the course of their enquiry. You will oblige us by expressing your opinion. Some charges have been made on which Mr. Nariman was not examined by you because they related to other parts of development.

I find that these charges have been printed in newspapers; the whole of Mr. Nariman’s statement appeared in the press. I want to know from you authoritatively just now whether you are going to allow the officers of Government to repudiate these charges.

Chairman.—It does not concern us.

Honourable Mr. Cowasji Jehangir.—They have appeared in the press through the instrumentality of this Committee and the officers of Government have not been given any opportunity to repudiate them. You refuse to do so?

Chairman.—We have not refused them the opportunity of repudiating those charges but we have to attend to our own work. We have not asked a single question so far as those charges are concerned which do not come under our terms of reference.

Honourable Mr. Cowasji Jehangir.—Then in your report you will delete all those charges which have been made against officers of Government which do not concern you.

Chairman.—That is so.

Honourable Mr. Cowasji Jehangir.—And you have definitely refused the officers of Government to hear them on those points.

Chairman.—Yes, and also Mr. Nariman.

Honourable Mr. Cowasji Jehangir.—Except on one point on which you have also heard the officers.

Chairman.—Yes.

Honourable Mr. Cowasji Jehangir.—You desire, Sir Frederick Hopkinson, that Government should proceed further in this matter. You say that, after the very full investigation that you have had of all these points before you this morning, Government should further investigate them.

Sir Frederick Hopkinson.—I think they should proceed against the maker if the Government are satisfied that they are untrue.

Honourable Mr. Cowasji Jehangir.—We are satisfied that those points are untrue and I am satisfied that the points that I have investigated up to now are untrue. Then I take it that you express an opinion that Government should allow the officers sanction to prosecute Mr. Nariman.

Chairman.—That is the opinion of one Member.

Honourable Mr. Cowasji Jehangir.—I want the opinion of the Committee.

Chairman.—We cannot give an opinion on that point but we leave the question open for Government and the officials concerned to do whatever they like.
Honourable Mr. Cowasji Jehangir.—Then Mr. Nariman had no privilege to make those allegations, he was not a privileged party in making defamatory statements.

Chairman.—I believe it is a purely legal matter.

Sir FrederickHopkinson.—But that privilege does not cover malicious statements. There is a difference between defamatory and malicious.

Honourable Mr. Cowasji Jehangir.—Then I want your opinion.

Sir Frederick Hopkinson.—I am of opinion that if these statements were defamatory, Mr. Nariman should be prosecuted.

Mr. Billmoria.—It is open to any officer concerned to take any action he chooses against Mr. Nariman. We are not a judicial court and therefore we do not want to express an opinion on the legal points. That is my opinion.

Chairman.—It will be done by the Committee as a whole later. I express no opinion except that I say we are not concerned.

Honourable Mr. Cowasji Jehangir.—I ask this because if an officer desires to proceed against Mr. Nariman, he has to get the sanction of the Government of Bombay and I want your opinion since you have been appointed by the Government of India. That is of course if a contingency arises.

Sir Frederick Hopkinson.—Were the annual reports made by the Development Directorate the only means of communication with the public?

A.—There are other methods of communication, by press communiques, by press notes through the Director of Information.

Q.—Were those used to communicate the progress of the Back Bay Reclamation?

A.—No, I do not think so.

Q.—So that I may take it that the annual report was the only means of communicating the results?

A.—No, also the Legislative Council through questions and answers and discussions.

Q.—Can we see a copy of the agreement between the Government of Bombay and the Government of India with regard to the disposal of block No. 8 because following figures have been given to me as to the area and the amount. I want to know the exact figure.

A.—I think it is all in the correspondence.

(Secretary said he had all these papers).

Honourable Mr. Cowasji Jehangir.—Sir, as I have already stated, Mr. Nariman has in his written statement informed you that I gave two misleading answers to questions put to me in Council. The first question he refers to dealt with original and revised estimates of all schemes under the Development Department. The printed reply on the 15th October 1924 stated that the original and final estimate of the Back Bay Reclamation Project was Rs. 702 lakhs. I have already, in the course of this evidence, quoted from a report from Sir George Buchanan dated 11th February 1929 showing that his estimate of Rs. 367 lakhs was the estimate on which administrative sanction was given, and the estimate of Rs. 702 lakhs was the first detailed estimate. In answering supplementary questions on that occasion I pointed out to Mr. Nariman that he was confusing Sir George Buchanan’s estimate with the detailed estimate, and I would refer you, Sir, to the supplementary questions and answers.

The second instance quoted by Mr. Nariman refers to the appointment of Messrs. Meik and Buchanan. He states that on two occasions I gave two different dates. On the 18th of March 1924, I had occasion in Council to explain the agreement between Messrs. Meik and Buchanan and the Secretary of State and stated that the Governor in Council agreed to the agreement on the 31st of March 1920; but it was not actually signed until March 1921. During the last budget session (February-March 1926), I gave a history of the inception of the scheme and explained that Sir George Buchanan was asked to prepare a report on the 30th of May 1919. It will thus be seen that Sir George Buchanan was first asked to prepare a report for which he was paid Rs. 20,000, and when the scheme had been examined and recommended, his firm was employed as Engineers to the project. I now find that Mr. Nariman did not know that Sir George Buchanan was employed on two separate occasions, and has been misled into accusing me of having given two separate dates. I can only express surprise that a man of Mr. Nariman’s ability and experience did not understand this till to-day. I do not accuse Mr. Nariman of having made these statements deliberately.

Q.—You have no remarks to make about Simons & Co.’s representative?

A.—I only want to bring to your attention the fact that the Managing Director of Simons, Mr. McMurray, was here the cold weather before the dredging started and was here again during the first season of dredging. Sir George Buchanan was in constant touch with the Managing Director of Simons throughout the operations, took their advice at every stage, and there was no time at which we did not ask Sir George Buchanan to get their
opinion and see what they could do. I saw one witness was under the impression that we never consulted the makers throughout. It is wrong. The Managing Director was here seeing the dredger working. He was also present at a conference in 1929 when the point for discussion was the material in the harbour.

Q.—At that time the dredger had been started?
A.—Yes.

Mr. Billimoria.—Before you became a member of Government you were a very active and influential member of public bodies in Bombay.
A.—I do not know that.

Q.—You have intimate knowledge of conditions of life in this city?
A.—I hope so. Whatever I know is at your disposal.

Q.—You submitted a written statement to a Committee in 1913.
A.—Yes, I know it, Sir.

Q.—In that statement you did not express views in favour of the reclamations?
A.—I did not, Sir.

Q.—Do you still adhere to that or has your opinion changed subsequently?
A.—I wrote a statement as evidence before Sir Claude Hill’s Committee of 1913 or 1914, which Mr. Manu Subedar has done me the honour of reprinting in the minority report. I think he has printed the whole of it. At that time I was strongly of opinion that no reclamation was necessary in Bombay, and I pointed out how Bombay could expand. I also pointed out at that time what buildings Government could acquire in the Fort for their own purposes. That was in 1914. I never had a chance of expressing an opinion when the reclamation became an accomplished fact. I was not a member of the Legislative Council. I heard about the reclamation just as the ordinary man in the street. It is rather difficult for me to say what I would have said then. I have to take myself back to the atmosphere of 1919 and try and express an opinion as to what I would have said if I had been called upon to do so, considering the strong opinion I held in 1914. You will realise that you are asking me a difficult question as to what I would have said in 1919. When I look upon the land values in Bombay at that time, when prices of land in Hornby Road went up to Rs. 2,000 a square yard, when people wanting shops paid up to a lakh of rupees as puggaree to get into a shop, when the public men of Bombay were clamouring that Government should do something to relieve the congestion in the Fort, when business circles complained that trade was being hampered on account of the want of accommodation, I very much doubt whether I should have protested strongly against the reclamation, but looking on it now, of course it is a different matter. In 1914 it was different, in 1919 it was different, in 1996 it is different and I trust it will be a different matter in 1986.

Q.—Then you think there was an urgent and immediate necessity in 1919?
A.—No, I will not agree with that. I am expressing an opinion in my private capacity and not as a member of Government. I do not say there was an urgent necessity for the reclamation. I won’t use the word ‘urgent’. I am prepared to say there was a necessity. To say there was immediate and urgent necessity is an exaggeration.

Q.—But that was the time when land was required more than any other time?
A.—I quite agree. If ever there was a time when Government should have launched upon a reclamation, it was certainly in 1919. Whether the circumstances were such that they would tempt anybody to rush into it is another matter. But if there was any time in the history of Bombay when a reclamation was necessary it was in 1919.

Sir Frederick Hopkins.—Had it gone favourably in 1919 and completed in 1927 or 1928 for Rs. 702 lakhs, do you think there would have been an outcry?
A.—There would have been a profit.

Q.—I am assuming now that the thing would have been done in a sensible business like way, that you would begin at the Colaba end, you will finish an area such as block B and hand it over to the Military shortly after it was finished, then you would go on to No. 7 and gradually all the way through to block 1, which means your capital account would have been reduced enormously and your land would have been available for sale soon after it was reclaimed.
A.—I shall show you, Sir, some forecasts that were worked out by the Department. I do not know whether it was brought to your attention. I shall give you an idea of it. A forecast was worked on the 5th July 1929. With the detailed estimate as sanctioned it showed, selling land at Rs. 40 in the first year, Rs. 45 in the second and Rs. 50 in the third year, the profit would have been something like 81 crores.

Q.—So that the profits have not been realised owing to human agency?
A.—It is entirely due to the dredger. If that dredger had given 3,000 cubic yards of stuff and had been able to work the number of hours stipulated by Sir George Buchanan I venture to suggest there would have been a profit. When I had the last forecast worked out after I took charge, it is called Nixon’s forecast, (It was worked on 25th
January 1924, I worked out the land would cost Rs. 28 a square yard even if you did not sell a single square yard of land until the whole reclamation was finished. Counting interest we could have done it at Rs. 28 per square yard. When I made my speech in 1924, I had not the remotest idea the dredger was going to fail. And the first report I got after having made that speech was by Sir George Buchanan, which told me that we was doing satisfactorily. It was at the end of the year the shock came and then Sir George Buchanan assured us nothing was wrong.

Q.—When you made that statement in Council I take it you had the report of Sir George Buchanan in February?
A.—I made that speech even without that report. I got that report a few days after I made the speech.

Mr. Billimoria.—Coming to the whole question again, assuming there was a necessity for reclamation, do you think there was a necessity for 1,145 acres of land?
A.—All would depend upon the figures that would be placed before me. In 1919 conditions were different from what they are now. I really do not know what I would have thought in 1919.

Chairman.—Then your Department has been accused of deliberately withholding information from the public. Has there been any attempt on the part of your Department at any stage or any time to withhold information from the public?
A.—We have tried our best to give all information and my supplementary answers are a proof of the same. All I can say is that at the end of the first year Sir George Buchanan assured me, assured His Excellency and assured the Finance Member that the figures should not be taken into calculation, that it was not a trial of any sort, that it was not doing him justice or the dredger justice and we would be doing both of them a lot of injustice if we base our calculations on the figures. Then we said the best thing was to wait until the next year, and in the meantime the Advisory Committee had been changed into a Special Committee. That Committee was appointed on a resolution by Mr. Lalji Narangji. In July as soon as we got the reports we sent the figures immediately to the Committee. Even then we did not know what the forecast would be. Even at the end of the second year in July I did not know what it really meant in loss. As soon as we got the dredging results we sent them to the Committee and as soon as the Committee’s report came out it went from the printing press to the newspapers.

Q.—There is no reason why the dredging results should not have been known definitely?
A.—I am not an Engineer. All I can say is actual dredging results were given at the end of the working season.

Sir Frederick Hopkinson.—The dredger had not been to make a reclamation. It was built to dredge in the harbour. What happened to the stuff after it left the dredger was no concern of it. Whether that increased or decreased or was lost altogether is no fault of the dredger.

A.—It is somebody’s fault. We do not get the information. That is all I am concerned with. I do not comply about the dredger. I am told the dredger is good. That according to the specification it has turned out as well as a machine can. It can never do its work as specified. We lost the stuff for the first two years. Sir George Buchanan’s attention was drawn to it. After it had been sealed up he wrote and asked us to seal it up. All I say is, the dredger may be a first-class machine, the dredger may be up to the specification, but whatever it is the dredger has not given us the stuff on the reclamation area and that is all I am concerned with.

Q.—Then you are accused of having misled Honourable Members of Council who complained that Government did not take them into confidence and statements have been made in Council which are not true. For instance the speech you made in 1924?
A.—I shall explain it. I did not have the first report of Sir George Buchanan at the time of the speech. That report said work was getting on satisfactorily. And there is not the shadow of a doubt that anybody would have made the same statement with the forecast before him then. We did not know anything about the dredger. My speech was confirmed by the report that I received at the end of March. He said the work of dredging was going on satisfactorily. You may read the report yourself. It is dated 14th February 1924.

Q.—Is it usual for a member of Government to consult his colleagues?
A.—Not always. He consults the Governor and in a matter like this he consults always the Finance Member. The Governor, the Finance Member and the Member in charge are the three persons who are seriously concerned.

Q.—I take it that you did exercise all reasonable care and prudence in the discharge of your duties as a responsible member of Government and the charges made against you are absolutely untrue?
A.—I hope so.
Q.—With regard to the unsatisfactory outturn of the dredgers you are not responsible?  
A.—I hope not.  
Q.—The huge failure is due to neglect or to insufficient output?  
A.—Entirely to insufficient output.  
Q.—Were any figures of cost of reclamation supplied to you?  
A.—Yes, these forecasts. They are based on the 702 lakhs estimate.  
Q.—In that you did not take into account interest?  
A.—Yes. Every bit of interest is taken into account.  
Q.—When Mr. Nariman made certain accusations in Council you gave him a fair opportunity of having a judicial inquiry?  
A.—I can only refer to the speech I made in the Legislative Council in reply to him. I begged him to give instances. I promised I would investigate, and if I found any officer guilty I promised to have him dismissed on behalf of Government. If he was not prepared to give instances in open Council I was prepared to hear him privately. I was prepared to give him every opportunity to tell me in confidence as other members do. I never heard a word from Mr. Nariman.  
Q.—He never availed himself of this opportunity?  
A.—He did not. Then Government made an offer to him which was that they would have a Judge appointed to listen to his accusations and to investigate and that all the records which were relevant to the case would be placed before the Judge and I offered to do all I could to see that justice was done, and that it would be done in private and there would be no question of defamation, no question of libel. He could have made any accusation he chose. All the documents would be placed before the Judge. And on flimsy grounds he refused that. Ultimately I had to issue the whole of the Government's letter to him in the form of a press note. I could do no more.  
Q.—He refused it on the ground that it was not a judicial inquiry, but it was an inquiry presided over by a Judge.  
A.—Mr. Nariman would have refused a Royal Commission at the time. I gave him every opportunity. I was prepared to give him a Judge who had the fullest confidence of the public of Bombay. He could have brought his witnesses and he could have proved every one of his accusations and I can only refer you to the press note issued, and I ask you to judge whether he was the accused person on those terms. I will ask you to read that letter we wrote to him and the reply we received, and say whether he was the accused person, whether we did not promise him every protection and personally I promised him every protection in Council. I was more anxious than he was that he should prove something because I heard rumours and I could not believe them and wished somebody would prove something to me, and the best test of my bond fides is this, Sir, that one member of the Legislative Council did bring some accusations. I investigated them. I found they were wrong. There was one point only that was correct, and that was that a contractor had committed a very serious offence in 1912 and had been convicted to 31 years' imprisonment. I found that statement was correct. I stopped that contractor from getting any more contracts, because I thought it was only reasonable that a contractor who had committed a serious crime should not be a Government contractor.  
Q.—Therefore you had no right to add to his punishment?  
A.—I regret I cannot agree. I think we have a right to expect that our contractors are not men convicted of very serious offences. I was told that the contractor had done his work most satisfactorily. I could see from all the tenders that he got fair rates and was not paid anything above the ordinary rates. That was the only fact that was true in the statement I received.  
Q.—You never had any desire or intention to mislead the House or the public?  
A.—Not the slightest.  
Q.—Sir Lawless Hepper referred to a conference with Government, in which the General Member or the Governor was consulted and all the facts were placed before Government. Directly after that did you take necessary or immediate steps?  
A.—I think it was in April 1925 or May 1925. We decided to send a strong letter to Sir George Buchanan and followed it up by getting rid of him.  
Q.—You have placed at the disposal of the Committee all relevant documents?  
A.—I have given instructions that every bit of paper should be given to you or anything that you would like to see. If anything is not here now we will supply it later on, and you can take it from us we are trying to produce everything we can find.  
Q.—It has been suggested here certain consignments were sent out to this country in the name of His Excellency the Governor bearing the name "Sir George Lloyd"?  
A.—I could get no confirmation of that rumour. Supposing it is true, do you mean to tell me, Sir, that every manufacturer in England knows the difference between the,
Government of Bombay and the Governor of Bombay? Instead of saying "The Government of Bombay" he says "The Governor of Bombay" and I may tell you the people in England are not all aware of the constitution of the Government of Bombay.

Q.—Is it not a fact, Mr. Cowasji, that the dredger is also named "Sir George Lloyd" and the dredger when it came with the relative parts of the machinery had the cases thus marked, "Sir George Lloyd"? So Hepper told me?

A.—Well, I do not know that. It may be so. (Sir F. Hopkinson: There is no other way to do it). It may be that the spare parts were marked "Sir George Lloyd". It may be. It is quite possible.

Q.—When I gave that explanation, Mr. Nariman called it ingenious. Do you suppose it is ingenious?

A.—Any reasonable explanation which did not suit Mr. Nariman, he will call ingenious.

Chairman.—I thank you for the very candid manner in which you have placed all the facts before us.
ADDENDA.

(1.)

Note by the Director of Development on the Back Bay Reclamation Scheme with special reference to the Causes of the Anticipated Excess over the Sanctioned Project Estimate.

The Government of Bombay, on the 30th May, 1919, asked Sir George Buchanan to prepare a report on the Back Bay Reclamation Scheme, the terms of reference being:

"(1) To examine and report on the Scheme prepared by Mr. Kidd of Messrs. Lowther, Kidd & Co. for the Reclamation of 1,145 acres in Back Bay, Bombay (known as the 1912 project) or any portion thereof which Government may thereafter designate.

"The scheme comprises:

"(a) The construction of a sea-wall.
"(b) Filling in within the area enclosed by the sea wall by means of dredging in the harbour on the east side of the Colaba Peninsula and pumping the material across the narrow neck at various points in the Back Bay.
"(c) Covering with a layer of moorum the land so reclaimed.

"(2) A specific opinion is required on the following points:

"(i) The practicability of the scheme from the engineering point of view:
"(ii) The suitability of the type of wall proposed or alternative suggestions for better types;
"(iii) The suitability of the proposed method of reclamation by means of dredging or alternative proposals for same.

"(3) Mr. Kidd in his project of 1912 gave a general estimate for the above but unaccompanied by details of cost of dredgers and other plant. A revised estimate is required for the whole of the scheme giving details, showing:

"(a) Cost of dredging plant;
"(b) Cost of dredging;
"(c) Cost of sea-wall, along with the price of plant in connection with the same;
"(d) Cost of moorum filling and plant required.

"(4) A programme of construction is required along with an opinion as to the order in which the work should be executed and the time within which the various sections could be completed from the date of the order to begin the work.

"The question whether the entire work should be given out as one complete contract or divided up into a number of small contracts may also be considered and whether it might not be advisable to carry out some items of the project or even the whole of it departmentally.

"(5) A separate report and estimate on above lines is required for the Reclamation of the east of the peninsula from Pilot Pier to Sassoon Dock, known as the East Colaba Project, and an opinion as to whether it could be carried out by dredging plant already in Bombay."

2. Messrs. Lowther, Kidd & Co. had carried out an elaborate survey in 1912 to ascertain the extent and character of the material available in the harbour and recorded the results in paragraphs 6, 7 and 8 of their report dated 3rd August, 1919, as follows:

"6. Drawing No. 5 shows the results in detail of this part of our investigation. A system of boring by hydraulic tubes was devised which proved to be perfectly reliable as well as rapid in action. 1,514 borings were sunk into the sea bed, of which the results of 1,159 are recorded on this drawing. These borings were in all cases sunk to the hard bottom—Rock or Moorum—or, where such a bottom was not found at a higher level, to the depth of 70 feet—and over—below low water level of ordinary spring Tides.

"7. The character of the deposit was almost uniformly similar throughout, viz., silt overlying a deep bed of blue clay. The silt is of recent formation—speaking geologically—but the clay is an old deposit, and indubitable evidence of its having at some time been above sea level is afforded by the fact that it contains many trunks and branches of trees. For the purpose of filling and making
up land the mud is sufficiently suitable, and the clay is eminently so. With good arrangements for draining out the water during construction the mud will make very good land after the lapse of a sufficient interval for drying. The clay, which is stiff and unctuous, hardens into perfectly solid ground in a very short time. As far as possible in course of execution of the works the clay would be preferred, not only because of its greater suitability for making land, but also because for dredging purposes its stiffer and more tangible character enables a higher percentage of solid material to be transported by the pumps.

"8. In brief it has been completely established that there is available more than three times the quantity of material required; all of it suitable for making up land, and more than half of it eminently suitable both for this purpose and for economical transportation to the site."

They recommended that the reclamation should be carried out by suction dredging, and stated (in paragraph 22 of their report) "The machinery we would employ will be designed and guaranteed to effect the removal of 2,000 cubic yards of silt or blue clay per hour from a maximum depth of 70 feet below low water, and deliver it at any state of the tide to any part of the reclamation." No actual specification of the plant was given in their report.

3. Sir George Buchanan submitted his report in September 1919. He expressed the opinion that there was no doubt as to the practicability of the scheme from an engineering point of view. He recommended the adoption of a concrete wall superimposed (except for a length of 2,000 feet) on a rubble mound, with suitable block protection on the exposed side. As regards the proposed method of reclamation by dredging Sir George Buchanan stated in paragraph 29 (2) of his report:—

"There is an abundance of material in the harbour for the filling and it can be deposited in the area to be reclaimed by means of modern suction dredgers much cheaper than in any other way."

and be recommended the purchase of a cutter suction dredger the "Sir George Lloyd" designed for dredging to depths up to 70 feet below water level and to be capable of discharging at the rate of 2,000 cubic yards of soft clay per hour through a floating pipe line to a distance of 5,000 feet. An intermediate pumping station (the "Colaba") was also provided to pump the material a further 5,000 feet, allowing for 10,000 feet in all, between the point at which the material was to be dredged, and the point of discharge. He stated that "the plant has been designed to deal with 25 million cubic yards in 5 years, working 170 days a year and 15 hours actual pumping a day, in two shifts. This is a conservative estimate and based on the possibilities of the dredger being unable to work through any part of the monsoon." Sir George Buchanan did not himself take any borings in the harbour, but he stated in paragraph 34 of his report:—

"On the assumption that Mr. Kidd's surveys and borings are correct, and I see no reason to doubt their accuracy as a great many borings were taken, I accept his conclusion both in respect to quality and quantity of material."

4. With his report Sir George Buchanan submitted an estimate of the cost of the scheme amounting to Rs. 367-61 lakhs, which was based on the assumption that the plant would dredge and deliver 5 million cubic yards of material per annum, and that the whole of the material dredged would be retained as filling in the area to be reclaimed. The Government of Bombay accepted Sir George Buchanan's recommendations, and, in their letter No. 10550 dated the 4th December 1919, informed the Government of India as follows:—

"On the technical aspects of the new scheme, the Governor in Council offers no opinion. He is fully prepared to accept Sir George Buchanan's carefully considered views on the practicability of the scheme from an engineering point of view on the type of wall required for the reclamation and on the method of reclamation."

The sanction of the Secretary of State to the scheme was received in May, 1920, and the order for the dredging plant was placed by the Director-General of Stores at the same time.

5. The Development Department was formed in November, 1919, and the preparation of a detailed project estimate was put in hand. This estimate amounted to Rs. 702-43 lakhs against Sir George Buchanan's estimate of Rs. 367-61 lakhs. The excess was due to the fact that, since Sir George Buchanan prepared his estimate, the prices of machinery, materials, fuel and labour had risen considerably. Also Sir George Buchanan's estimate had been based on exchange at Rs. 19 to the £, whereas, when the plant was imported, the rate was in the neighbourhood of Rs. 15 to the £. Moreover, insufficient provision had been made by Sir George Buchanan for the cost of the subsequent development of the reclaimed area in the way of
roads, storm water drainage, sewerage, lighting, etc. The detailed project estimate which was based on Sir George Buchanan’s estimate of five million cubic yards of actual filling per annum, was sanctioned by the Government of Bombay under Government Resolution No. S. C. 1856 dated the 5th October, 1923. Work on the construction of the sea wall was commenced in the cold weather 1920-21. The dredger arrived in Bombay in March, 1923, and dredging operations in the harbour began in December, 1923. The actual dredging results, with the plant working in the harbour, during the three seasons it has been in use, are as shown below, the output, as estimated by Sir George Buchanan, being also given for purposes of comparison.

<table>
<thead>
<tr>
<th>Season</th>
<th>No. of pumping hours</th>
<th>Quantity of material dredged as ascertained from soundings</th>
<th>Actual filling as measured in Black Bay</th>
</tr>
</thead>
<tbody>
<tr>
<td>As estimated by Sir George Buchanan</td>
<td>2,500 Cub. yards 2,000</td>
<td>Cub. yards 5,000,000</td>
<td>Cub. yards 2,000 Cub. yards 5,000,000</td>
</tr>
<tr>
<td>Actual</td>
<td>1923-24 ... ... ... 848</td>
<td>1,090 850,850</td>
<td>627 528,000</td>
</tr>
<tr>
<td>1924-25 ... ... ... 1,473</td>
<td>856 1,251,266</td>
<td>463 880,438</td>
<td></td>
</tr>
<tr>
<td>1925-26 ... ... ... 1,505</td>
<td>909 1,828,303</td>
<td>1,188 2,204,000</td>
<td></td>
</tr>
</tbody>
</table>

10 It is the very low output of actual filling which has been obtained, compared with that estimated by Sir George Buchanan, that is mainly responsible for the anticipated excess over the sanctioned project estimate. A comparative statement is attached to this note (Appendix A) showing, on the one hand, the provision against each of the main works heads of the sanctioned project estimate; and, on the other, the cost which it is now estimated will be incurred against each head, based on the dredging results of the season 1924-25. This is the statement supplied to all members of the Legislative Council during the Budget Session in March, 1926, and referred to by the Honourable Mr. Cowasjee Jehangir in his speech in making the demand for the grant for the Development Department. It will be seen that on the items other than those connected with dredged filling, a saving of over Rs. 35 lakhs is anticipated on the provision in the sanctioned project estimate. As regards dredging plant and dredged filling, there is an excess of over Rs. 28 lakhs under dredging plant, due to the provision of additional plant for dredging in Black Bay, but the main increase is under dredged filling. The comparison shows that, based on the results of actual filling in the season 1924-25, there would be likely to be an excess of Rs. 226 lakhs on this item.

6. The figures of dredging for the season 1924-25, given in the preceding paragraph, show 1,921,985 cubic yards dredged from the harbour and only 580,436 cubic yards retained in the reclamation, against Sir George Buchanan’s estimate of 5 million cubic yards dredged and 5 million cubic yards retained. There was not only therefore a large deficiency in the amount of material dredged, when compared with the specified output of the dredger, but there was also a very considerable loss as between the material dredged and the material retained. It is proposed to deal with the question of annual output of material dredged in the first instance.

7. Sir George Buchanan provided in his specification of the dredger that it should be capable of dredging and delivering 2,000 cubic yards of soft clay per pumping hour. But he had accepted Mr. Kid’s description of the material available (see paragraph 3 above) as stated in paragraph 7 of Messrs. Lowther, Kidd and Co.’s report of 1912, viz., that it consisted of silt and of clay which was stiff and sandaceous. In the opinion of the Directorate Engineers it is the presence of this stiff clay which is the cause of the great reduction in output, and that although the dredger may be capable of an output of 2,000 cubic yards of soft clay per pumping hour, as Sir John Biles certified it to be at the official trials, it is not capable of that output when working in the material as it actually exists in the harbour. If Sir George Buchanan failed to appreciate the effect which the class of material to be dealt with would have on the output of the dredger as specified by him, it is only fair to point out that Mr. Kidd did not anticipate trouble on this account, because, at the end of paragraph 7 of Messrs. Lowther, Kidd and Co.’s report of 1919, it is stated, “The clay would be referred ... because for dredging purposes its stiffer and more tangible character enables a higher percentage of solid material to be transported by the pumps.” At the same time in paragraph 22 of their report they stated their intention to employ machinery “designed and guaranteed to effect the removal of 2,000 cubic yards of silt or clay per hour.”

8. But Mr. Kidd’s estimate of the clay in the harbour as an ideal material for dredging purposes has proved to be incorrect. At page 862 of the “Engineering News Record”,

50458
dated 15th December, 1925, there is an article dealing with a reclamation scheme of
50 million cubic yards being carried out by cutter suction dredgers in America. It is
there emphasised how greatly the output of this type of dredging plant varies with the
class of material. It is stated "The output of one of the three dredgers used in this
work varies from 2,000 to 50,000 cubic yards per 24-hour day, depending on the material
being moved." This corresponds to a variation of from about 50 to 2,000 cubic yards
per hour. Again it is recorded in the same article, "Clay is difficult to remove from its bed
and supply through the pipe line in quantities sufficient to give efficient results." In
paragraph 29 of their report of August, 1919, Messrs. Lowther, Kidd & Co. refer in
appreciative terms to the progress made in America and Canada in the development of
suction dredging machinery and methods, and it is curious that they were not better
informed on this point. Writing of the quality of material available, in paragraph 6 (c)
of his report of 1919, Sir Alexander Gibb states "the nature of these materials is, in the
main, either too hard to obtain an economical output for the dredger or too soft to provide
satisfactory filling for the purpose of reclamation."

9. In his statement to the press Sir George Buchanan, referring to the Back Bay
Reclamation, remarks, "dredging on such a large scale for such a purpose had not
hitherto been attempted in any part of the world." This is hardly correct, for between
1909 and 1913 the Bombay Port Trust had carried out a reclamation scheme of 10 million
cubic yards at Sewri, in Bombay Harbour, for a very similar purpose, using cutter suction
dredgers of the same type as proposed by Sir George Buchanan for the Back Bay
Reclamation. The actual results of the working of the Port Trust dredgers "Kalu"
and "Jinga," are recorded in detail in a report stated to have been prepared by the late
Mr. Messent, Chief Engineer of the Port Trust, and printed about the year 1915. Taking
the results obtained by actual measurement, the figures are as follows:

<table>
<thead>
<tr>
<th>Dredger</th>
<th>Quantity of material dredged brass</th>
<th>Number of pumping hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Kalu&quot;</td>
<td>14,38,096</td>
<td>6,066</td>
</tr>
<tr>
<td>&quot;Jinga&quot;</td>
<td>21,91,754</td>
<td>5,841</td>
</tr>
<tr>
<td>Total</td>
<td>36,39,850</td>
<td>11,907</td>
</tr>
</tbody>
</table>

This is equivalent to an average output of 304 brass, or 1,126 cubic yards, per
pumping hour. The material in which these dredgers were working is described
in the report as "silt and clay," and there seems no reason to suppose that the
material forming the bed of the harbour in one locality is greatly different from that
in another.

10. The Port Trust dredgers were built by Messrs. Simons of Renfrew, to whom
Sir George Buchanan recommended that the contract for the Back Bay Reclamation
dredger should be given, and they were also specified to dredge and deliver 2,000
cubic yards of "soft clay" per hour. It is true that the dredger "Sir George Lloyd"
is a larger machine (42 inches as against 39 inches) and is also more powerful. But,
apart from the actual output, the "Sir George Lloyd" is specified to dredge from a
depth of 70 feet below water level, and to be capable of discharging 2,000 cubic yards of
soft clay per hour through a floating pipe line to a distance of 5,000 feet. The Port
Trust dredgers on the other hand were specified to dredge from a depth of 30 feet only,
below water level, and to discharge 2,000 cubic yards of soft clay per hour through a
floating pipe line to a distance of 4,500 feet. The Port Trust reclamation had been in
progress for three years when Messrs. Lowther, Kidd & Co.'s report of 1912 was written,
and had of course been completed when Sir George Buchanan pressed his report in
1919. It is curious that neither of these authorities appear to have informed themselves
of the practical experience of the Port Trust engineers before submitting their own
proposals. The fact that the Marazion-Sewri reclamation had been carried out by the
Port Trust must have been known to Sir George Buchanan, although he makes only
a passing reference to it in paragraph 43 of his report of September 1919. In paragraph
18 of that report however he quotes a letter from the Government of Bombay to the
Government of India, dated 6th December 1911, in which, in reply to a suggestion
that "the experience of reclamation by suction dredging is limited in Bombay," it is stated
"the large reclamation being carried out by the Port Trust afford exceptionally complete
data for estimating work of this kind."

11. Sir George Buchanan was aware, from the description of the material given in
Messrs. Lowther, Kidd & Co.'s report, which he accepted, that much of it was not what
could be described as soft clay. Also, in paragraph 29 (3) of his report of September
1919, he mentions, "the hard clay which lies below the mud." The inference is that he
should have specified machinery capable of dealing with the actual material available;
or, in the alternative, if a specification on a "soft clay" basis was, for some reason or other, unavoidable, he should, for purposes of his estimate, have made, as an ordinary precaution, a deduction from the specified output on account of the harder nature of much of the material to be dealt with, especially in view of the experience of the Port Trust.

12. Sir George Buchanan, in his report to Government, dated 15th December, 1924, stated as follows:—

"The 'Sir George Lloyd' and 'Colaba' were designed to discharge 2,000 cubic yards of soft clay per hour through 10,000 feet of 42-inch pipes. Last season the material actually dealt with was not soft clay but silt and stiff clay; with some sand stones, which, although much better than soft clay from the point of view of suitable material for reclamation, is heavier and more difficult to pass through the pipe-line. Until considerably more work has been done it is impossible to say of what the bulk of the material to be dredged will consist, but I think it is safe to assume that we shall not get the full output of 2,000 cubic yards per hour and that fact must be faced. If we get two-thirds of the total output we shall be doing well, and naturally the time required to complete the work and the cost of pumping will be increased."

It is a curious commentary on what has been written above, that Sir George Buchanan should, in December, 1924, have warned Government that his estimate of the output of the dredger was unlikely to be reached, stating as the reason that the material actually being dealt with was not "soft clay," but material of the exact description given in paragraph 7 of Messrs. Louther, Kidd & Co.'s report, etc., "silt and stiff clay."

13. From the figures of annual output given in paragraph 5 above it will be seen that during the three seasons that the plant has been in use a total quantity of 3,590,147 cubic yards of material has been dredged from the harbour in 4,221 pumping hours, equivalent to an output of 896 cubic yards per pumping hour. The Chief Engineer is of opinion that with the material available in the harbour an average output of 1,000 cubic yards per pumping hour is not likely to be exceeded.

14. Apart from the output per pumping hour, the annual output depends on the number of pumping hours worked per season. Sir George Buchanan based his estimate on the assumption that the dredger would work 170 days a year, and 15 hours actual pumping a day, in two shifts, or a total of 2,500 pumping hours per annum. During the season 1924-25 the plant was worked double shift, and 1,905 pumping hours were worked. On account of bad weather 10 working days were lost, and 17 working days were lost owing to the necessity of putting the 'Colaba' out of commission to enable certain stiffening of the hull to be undertaken in order to minimise the excessive vibration which had developed during pumping. Interruptions due to unfavourable weather conditions are likely to recur, but, taking the 17 days lost on account of the 'Colaba' to be exceptional, it would appear that a normal season's work may be taken as 2,000 or 2,100 pumping hours. The Chief Engineer is of opinion, on the experience gained so far, that 2,000 pumping hours, at an average of 1,000 cubic yards per hour, or a total of 2 million cubic yards per annum, may be taken to be the best output of material dredged from the harbour that we are likely to obtain. Mainly, therefore, because he neglected, in calculating what the dredger would actually do, to make allowance for the class of material to be dealt with, and partly because he over-estimated the number of pumping hours per season, Sir George Buchanan based his recommendations on an annual output of material dredged from the harbour about two-and-a-half times as great as the actual conditions in practice permit.

15. There is then the question as to what proportion of the material dredged annually from the harbour should have been taken in calculating the actual quantity of consolidated filling produced in the reclamation. Sir George Buchanan based his estimate on the assumption that his output of 5 million cubic yards dredged from the harbour would produce 8 million cubic yards of consolidated filling. The Sub-Committee of the Advisory Committee, in paragraph 2 of their report, point out that in making this assumption Sir George Buchanan made no allowance for shrinkage in drying out, or for losses as between the amount of material excavated in the harbour and the actual filling deposited in the reclamation.

16. As to the first point, Sir George Buchanan, in his statement to the press, has refuted the suggestion that any allowance for shrinkage in drying out is necessary. He says that the material should bulk equally in the reclamation; and that, if there is any difference, he would expect the material dredged to bulk larger in the filled area. The Chief Engineer is of opinion that, whilst, in the case of the clay, it may be correct that there is no loss of bulk; in the case of the silt, which forms the larger proportion of the
material, he thinks that loss of bulk must occur as the material gradually dries out. We are not in a position to say, however, that loss of bulk has actually taken place from shrinkage; because, prior to the season 1925-26, the loss, as between the quantity of material dredged from the harbour, and retained in block 8, was mainly due to causes referred to in the next paragraph; and it is impossible to say how much, if any, of the loss was the result of reduction in bulk due to shrinkage. The question is one on which further expert opinion might be obtained, if thought necessary.

17. Coming to the second point, Sir George Buchanan's design for the sea wall provides a concrete wall superimposed on a rubble mound, through which water, and consequently water with silt in suspension, can pass freely. That Sir George Buchanan realised this condition is shown by the following quotation from his firm's letter to the Chief Engineer, dated 3rd June, 1922, eighteen months before the dredging started: "In any case the sea must pass through the porous rubble wall for a long time to come." In January 1924, a month after the dredging commenced, at a meeting with Sir George Buchanan and Mr. Lewis (then Chief Engineer), the Director raised the question of the loss of silt through the sea wall that Mr. Lewis reported was occurring, and asked Sir George Buchanan if he would agree to steps being taken to stop it, but Sir George did not consider it necessary. Subsequently, under instructions from the Director, Mr. Lewis wrote to Sir George Buchanan in his letter No. 371, dated 24th January, 1924, as follows:

"In a discussion in Sir Lawless Heppler's room a few days ago it was suggested that the rubble mound should be lined on the inside with a layer of quarry spoil to prevent any leakage of dredged material. Would you agree to have this spoil placed in position from the present time onwards? If this can be done the disorganisation of the Quaries due to the curtailment of programme will be mitigated and use can be made of a by-product which otherwise has to be found room for with some difficulty and at some expense. I propose a thickness of 3 feet of spoil."

To which Sir George Buchanan replied:

"I am not in favour of beginning at present the lining of the rubble mound on the inside with Quarry spoil. I believe that later on when the reclamation towards the wall is more advanced, it may be desirable to put a lining on the inside up to H. W. Neap Tides only, but any small stuff depdoted now would, I am afraid, be dispersed and washed away. In the matter of making immediate use of your quarry spoil I consider a great deal could be utilised in the reclamation of the area between the old foreshore line and the railway embankment, side my letter dated 21st January."

Mr. Lewis again referred to this matter in a letter to Sir George Buchanan, dated 4th July, 1924, but no steps to render the sea wall impervious were taken, and a considerable quantity of material was lost in the season 1924-25 in consequence. Sir George Buchanan visited Bombay during this working season and must have observed the loss of material that was taking place, but he again took no steps to prevent it. After Sir George Buchanan's departure the Director decided, in consultation with the Chief Engineer, that action must be taken independently of Sir George Buchanan, in order to prevent any further loss in the following season 1925-26, and, with the sanction of Government, the work of tipping a heavy bank or moorum inside the sea wall was commenced in February, 1925, and completed in September, 1925.

18. Sir George Buchanan in his statement to the press has blamed the executive for not sealing the wall at an earlier date. But Sir George Buchanan was the responsible engineer in charge of the work, which the Chief Engineer was to carry out under his instructions. Writing in July 1922 Messrs. Meik & Buchanan stated as follows:

"We are afraid that there exists some misapprehension as to the relationship between the Chief Engineer and ourselves. . . . . The Chief Engineer has in his project estimate report called us the Consulting Engineers in which case he, as the Chief Engineer, would only consult us when he felt disposed to do so. We interpret our agreement to mean that we are the actual responsible engineers."

It is clear therefore that Sir George Buchanan was in no doubt as to his responsibilities and powers. The loss of material was brought to his notice in writing more than once, and it was his business to give instructions to the Chief Engineer if he considered it necessary. It is quite possible that Sir George Buchanan considered that the silt was unsatisfactory material for purposes of reclamation, a view which is expressed by Sir Alexander Gibb in paragraph 6 (c) of his report of February, 1926. But whatever his reason, having adopted a type of wall which would obviously permit the escape of much of the material dredged from the harbour, Sir George Buchanan should have made some allowance for this loss, and should not have based his calculations on the assumption that the whole of the material dredged from the harbour would be retained as filling.
On the subject of losses generally, if he had studied the Port Trust records referred to in paragraph 8 above Sir George Buchanan could hardly have failed to note the significant fact that the dredgers "Kata" and "Jonga" actually dredged 59 lakhs of material from the harbour to complete the Mazagon-Sewri reclamation estimated to contain 29 lakhs brass only.

19. During the season 1925-26, owing to the sealing of the wall, practically the whole of the material dredged has been retained in block 8. It remains to be seen whether the wall makes satisfactory filling or not. The Chief Engineer is of opinion that it will give better results than in the case of the Mazagon-Sewri reclamation, because it contains a small percentage of sand which helps the drying out process; and moreover the dredged material is deposited on the hard bottom of Back Bay, and not, as in the case of the Port Trust reclamation, on a foreshore consisting of 30 feet or so of soft mud.

20. Another factor controlling the output of the plant is the length of pipe line. Sir George Buchanan specified the "Sir George Lloyd" and "Colaba" to pump through 5,000 feet of pipe line each, or a total length of 10,000 feet. It appears, however, that the reclamation cannot be completed without this distance being substantially exceeded. The Chief Engineer has repeated on this point that "even if there had been no curtailment of the dredging area, only a comparatively limited area of the reclamation could have been filled with the length of pipe line specified by Sir George Buchanan." The reason being, he states, that "experience has shown that at least 1,000 to 1,500 feet of line are required, in addition to the direct line between the dredger and the intermediate pumping station, to give the necessary flexibility to the pipe line to enable the dredger to swing across the cut. On account of the strong tides, it is necessary for the dredger to work in cuts running approximately North-East and South-West." Although the specified length of pipe line has had to be exceeded on certain occasions during the past three seasons, the effect on the output has probably been small compared with that produced by the curtailment of material being dredged. It may, however, be a more important factor in the future.

21. In a letter dated 16th October, 1925, Messrs. Meikl & Buchanan wrote and suggested the advisability of sealing the sea wall, the work, by that time, having been completed. A copy of their letter is attached to this note (Appendix B). It contains a practical admission that the quality of material and length of pipe line are important factors in controlling the output of the plant; and expresses the opinion that the loss of material (which Sir George Buchanan ignored) "is quite as serious a matter as the low rate of output of the dredger."

22. Another reason why Sir George Buchanan's estimate has been found to be at fault is that referred to in paragraph 6 (a) of the report of the Advisory Committee, viz., that the whole of the material required cannot be obtained from the harbour, because the area which Sir George Buchanan proposed to dredge over has had to be curtailed to meet the reasonable objections of the Royal Indian Marine and the Bombay Port Trust. As a result, a portion of the material required has to be obtained from Back Bay, involving a further outlay of Rs. 28 lakhs on additional plant; besides increasing the dredging costs, because the material available in Back Bay, and the conditions generally, are such as result in lower output at higher unit cost, as compared with the plant working in the harbour. It may be doubted, however, if the position would have been materially different if the dredging area had not been restricted. To obtain the material from the northern portion of the original dredging area (the area which has been given up), it would have been necessary to lay a pipe line across the island, either through the B. B. & C. I. Railway yard at Colaba, or down Ormiston Road. Sir George Buchanan appears to have underestimated the difficulty and cost of laying a pipe line in either position. In paragraph 14 (2) of his report, dated 16th December, 1924, he records certain conclusions arrived at, at a conference held by him in the Chief Engineer's office on 9th January, 1924, as follows:—

"The proposed pipe line through the B. B. & C. I. Railway yard near Wodehouse bridge, or alternately down Ormiston Street, involves such an unusual amount of costly and complicated work, that all sides of a pipe line in that vicinity should be abandoned. Ample material for the reclamation can be obtained from the harbour and Back Bay combined, without dredging from the northern side of the harbour."

From this it would appear to be doubtful whether it would have been a practical proposition to dredge the material from the northern area in the harbour in any case. But the fact remains that the restriction of the area in the harbour from one cause or another, unforeseen by Sir George Buchanan, must have the effect of enhancing the cost of the scheme.

23. In paragraph 14 above a reference is made to the stiffening of the hull of the "Colaba" which resulted in the loss of 17 working days during the season 1925-26. The responsibility for the design of the dredging plant is a joint responsibility between the
Consulting Naval Architect to the India Office, Sir John Biles, and Messrs. Meik and Buchanan. In clause 1 (2) of the agreement with the latter firm it is laid down that the duties of the engineers include, inter alia, "the approval in conference and in conjunction with the Consulting Naval Architect to the Secretary of State of the detailed drawings and specifications of the dredger and floating pipe line and the final inspection and supervision of tests and trials."

It appears that the working of the engines and pumps on the "Colaba" set up severe strains in the structure of the ship which eventually resulted in rivets being broken, engines becoming loose on the seating, etc., a state of affairs which allowed movement in various parts culminating in excessive vibration. So serious did this vibration become that the Chief Engineer and Naval Constructor of the Government Dockyard were called in to advise. The former in his report dated 11th November, 1925, stated: "The excessive vibration of this vessel is not entirely due to structural weakness and there is no doubt that it is aggravated by the defects of the main engine seating." But he also remarks "examination of the main engine seating and bed plate showed that a number of rivets securing angle brackets have worked loose, etc." from which it seems probable that vibration due to structural weakness was the primary cause of the trouble. Moreover the Naval Constructor, in consultation with the Chief Engineer of the dockyard, submitted proposals for stiffening the hull of the vessel which, he says, "aim to check the movement at its source." It may be added that the stiffening of the vessel was successful in checking the excessive vibration and, after the work had been done, the "Colaba" worked from 19th March, 1926, to the end of the season, 15th May, 1926, without interruption. It is true that during the last few days of the season there was some increase of vibration, due to loose rivets, etc., below the engine bed plate. It had not been possible to attend to these without lifting the engines, and time did not permit of this being done during the working season. The work will be undertaken during the monsoon of 1926, and it is reasonable to hope that no further trouble will occur.

24. The reports of the Government Dockyard authorities were forwarded, as soon as received, to Messrs. Meik and Buchanan, and they were asked to consult Sir John Biles and Messrs. Simons on the proposals, and to telegraph their views. Messrs. Meik and Buchanan, Sir John Biles and Messrs. Simons did not accept the conclusions of the Dockyard authorities, and stated that it was their unanimous opinion that the vibration of the "Colaba" was not caused by any structural defect, but by lack of uniformity in the load of the engines. This lack of uniformity is due to variations in the class of material in which the dredger is working, which results, in changes of condition as regards pressure or vacuum on the suction side of the "Colaba's" pump. A sea valve has been provided on the suction side of the pump, and both Sir John Biles and Messrs. Simons stated that the proper way to reduce the vibration was to open the sea valve when any vacuum showed in the pipe on the suction side of the pump; or, as an alternative, to shift the "Colaba" nearer to the "Sir George Lloyd." 25. The Chief Engineer, to whom these opinions were communicated, stated that the proposal to operate the sea valve had already been tried, with the result that, instead of water being sucked into the pump, dredged material was being discharged through the valve and lost. Also that as the normal condition in the pipe was one of pressure, and a vacuum, when it occurred, was only momentary, the valve was ineffective for the purpose, because it took four men 15 or 20 minutes to open or close it. No fixed position of the valve, intermediate or otherwise, could compensate for the rapidly changing conditions due to variations of material, and the Chief Engineer doubted if even an automatic valve would be sufficiently quick in action to do so. As regards the suggestion to shift the "Colaba" nearer to the "Sir George Lloyd" the Chief Engineer reported that there was no other spot, except the dredged berth, in which the "Colaba" could be moored.

26. The stiffening of the hull of the "Colaba" was accordingly carried out in the Government Dockyard, and Sir John Biles and Messrs. Simons appear to have accepted the Chief Engineer's views as to the utility of the sea valve, for the former has now recommended the substitution of the present contrivance by an automatic valve specially designed by the latter to deal with the situation. It does not appear unreasonable to hold that the design of the "Colaba" was defective, and that either the hull of the vessel should have been of more substantial construction, or that more effective means should have been provided to compensate for the unequal loading of the engines. The excessive vibration of the "Colaba" has not so far affected the output of the plant, except as regards the loss of 17 working days in the season 1925-26. There remains, however, the possibility, a remote one it is hoped, that there may be a recurrence of the trouble in future seasons.
27. From the foregoing notes it will be seen that had it been possible, as Sir George Buchanan assumed, to obtain the whole of the material by dredging from the harbour, and to complete the reclamation at the rate of 5 million cubic yards of consolidated filling per annum, the work would have been completed in five years, within the sanctioned project estimate of Rs. 702.43 lakhs. The actual annual cost of working the dredging plant is less than provided for in that estimate; but, owing to the deficiency of the output, the expenditure will have to be incurred over a longer period. From the foregoing examination of the case of the following conclusions appear to be justified:

(1) Sir George Buchanan, knowing that much of the material to be dealt with was clay which was "stiff and unctuous" (a description which he accepted), and having available the full data dealing with the performances of Messrs. Simons' dredgers "Kalu" and "Jinga" in the Bombay harbour, was wanting in ordinary caution in assuming, for purposes of his estimate, that the dredger, "Sir George Lloyd," designed to dredge 2,000 cubic yards per pumping hour in "soft clay," would give that output when working in the material described in the report of Messrs. Lowther, Kidd & Co. as available in the harbour.

(2) Further, that owing to insufficient study or appreciation of the conditions as regards tides and weather at Colaba, he overestimated the number of hours of useful work which the plant would be able to perform per annum, and underestimated the length of pipe line required.

(3) That as a result of these initial errors he framed his estimate on the basis of an output of 5 million cubic yards of material dredged from the harbour per annum, whereas experience has shown that 2 million cubic yards is hardly likely to be exceeded.

(4) That Sir George Buchanan's estimate was further vitiated because he assumed that 5 million cubic yards of material dredged from the harbour would produce 5 million cubic yards of consolidated filling, making no allowance for losses which, with the type of wall designed by him, were inevitable; and which, in any case, the experience of the Port Trust should have warned him to expect.

(5) That his assumption that the whole of the material required could be obtained from harbour having proved to be incorrect, it has been necessary to supplement the dredging in the harbour by dredging in Back Bay, involving additional expenditure on plant, and higher working unit costs.

(6) That by a combination of the mistakes referred to above, Sir George Buchanan overestimated, to an extent which has proved disastrous, the vital figure on which the cost, and time for completion, of the whole scheme depended, viz., the probable rate of progress, as measured in terms of consolidated filling per annum.

(7) And, finally, that Sir George Buchanan was jointly responsible with Sir John Biles for the design of the "Colaba" which has proved to be defective, on account of structural weakness and/or the want of efficient means to compensate for unequal loading of the engines.
APPENDIX A.
BACK BAY RECLAMATION SCHEME.
Comparison between cost of works as provided in the sanctioned project estimate, and as now estimated.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Provision in sanctioned project estimate</th>
<th>Present estimated cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Gantry</td>
<td>12,941 Ha.</td>
<td>13,841 Ha.</td>
</tr>
<tr>
<td>II</td>
<td>Sea wall on rubble mound</td>
<td>76,128 Ha.</td>
<td>58,172 Ha.</td>
</tr>
<tr>
<td>III</td>
<td>Mass concrete wall at Colaba</td>
<td>10,024 Ha.</td>
<td>7,519 Ha.</td>
</tr>
<tr>
<td>IV</td>
<td>Cross wall</td>
<td>19,400 Ha.</td>
<td>2,750 Ha.</td>
</tr>
<tr>
<td>V-A</td>
<td>Kandivie quarry acquisition</td>
<td>1,500 Ha.</td>
<td>5,622 Ha.</td>
</tr>
<tr>
<td>V-B</td>
<td>Kandivie quarry</td>
<td>12,362 Ha.</td>
<td>17,082 Ha.</td>
</tr>
<tr>
<td>V-C</td>
<td>Opening out quarry</td>
<td>27,594 Ha.</td>
<td>27,465 Ha.</td>
</tr>
<tr>
<td>VI-A</td>
<td>Marine Lines—Preparation of site</td>
<td>9,042 Ha.</td>
<td>8,811 Ha.</td>
</tr>
<tr>
<td>VI-B</td>
<td>Marine Lines—machinery and buildings</td>
<td>14,958 Ha.</td>
<td>14,723 Ha.</td>
</tr>
<tr>
<td>VII-A</td>
<td>Colaba—Preparation of site</td>
<td>1,751 Ha.</td>
<td>3,200 Ha.</td>
</tr>
<tr>
<td>VII-B</td>
<td>Colaba—machinery and buildings</td>
<td>9,033 Ha.</td>
<td>9,801 Ha.</td>
</tr>
<tr>
<td>VIII</td>
<td>Mass Lines—Colaba Railway</td>
<td>17,753 Ha.</td>
<td>8,383 Ha.</td>
</tr>
<tr>
<td>IX</td>
<td>Transport and rolling stock</td>
<td>24,054 Ha.</td>
<td>21,483 Ha.</td>
</tr>
<tr>
<td>XI</td>
<td>Murrum topping</td>
<td>31,367 Ha.</td>
<td>31,379 Ha.</td>
</tr>
<tr>
<td>XIV</td>
<td>Roads and lights</td>
<td>1,129,672 Ha.</td>
<td>1,193,702 Ha.</td>
</tr>
<tr>
<td>XY</td>
<td>Drainage</td>
<td>27,667 Ha.</td>
<td>27,667 Ha.</td>
</tr>
<tr>
<td>XVII</td>
<td>Storm-water drain</td>
<td>64,281 Ha.</td>
<td>64,281 Ha.</td>
</tr>
<tr>
<td>XIX</td>
<td>Unforeseen</td>
<td>10,000 Ha.</td>
<td>10,000 Ha.</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4,874,459 Ha.</td>
<td>4,508,525 Ha.</td>
</tr>
</tbody>
</table>

2.—Dredging plant and dredged filling.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Provision in sanctioned project estimate</th>
<th>Present estimated cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Dredging plant</td>
<td>1,34,04,860 Ha.</td>
<td>1,68,47,737 Ha.</td>
</tr>
<tr>
<td>XI</td>
<td>Laying shore pipe line</td>
<td>3,85,243 Ha.</td>
<td>1,78,040 Ha.</td>
</tr>
<tr>
<td>XII</td>
<td>Dredged filling</td>
<td>82,93,125 Ha.</td>
<td>3,10,29,657 Ha.</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2,19,97,334 Ha.</td>
<td>4,74,46,239 Ha.</td>
</tr>
</tbody>
</table>

* Based on specified output of dredging plant. † Based on output obtained last season (1924-25).

APPENDIX B.

16, Victoria Street, Westminster,
London, S.W. 1.
15th October, 1925.

C. S. MEIK & BUCHANAN.

The Secretary to the Government of Bombay,
Development Department,
Bombay Castle, Bombay.

Sir,

Bombay Back Bay Reclamation Scheme.

In continuation of our letter, dated 24th September, acknowledging receipt of your letter S.B. 1291 of 20th August, on the subject of dredging operations, Sir George Buchanan has returned to London and we have discussed the matter fully with him and Mr. McMurray, the London representative of Messrs. Wm. Simons & Co., Ltd., who were the builders of the dredging plant.

2. The following are some of the conclusions arrived at:-

(1) The dredger “Sir George Lloyd” was designed to dredge 2,000 cubic yards of soft clay and silt per hour and pump this quantity on shore through a pipe line 5,000 feet in length and there seems to be no reason for assuming that this work cannot be performed. All her tests on the Clyde were carried out to the complete satisfaction of the Consulting Naval Architects, Messrs. Sir John H. Bikels & Co., and from the time that the vessel was taken over by the Government of Bombay, the builders’ responsibility ceased.

(2) The builders are naturally for their own sakes anxious that the plant should prove a success, but they are not specialists in the handling and working of dredging plant and in the absence of any specific complaint about the machinery or any portion of same, it is not clear what good interest could be served by their
representative going to Bombay. Nevertheless if it can be shown that a visit would be advantageous they are only too anxious to do what is possible in the matter.

(3) The lowness of the output of the "Sir George Lloyd" is in our considered opinion due to one of two causes, or probably a combination of the two:—

(a) Unsuitable material, and

(b) Inefficient handling of the plant.

It is obvious that if the dredger is put to work in such hard material that the outer blades are damaged, as we understand was the case last season, or if the dredger with booster is asked to deliver continuously through a length of pipe line largely in excess of 10,000 feet, the output must be greatly reduced. We are therefore of opinion (and so informed Mr. Brims when he was here) that when the dredger is found to be working in this hard material, the suction pipe should be lifted and operations continued in the softer clay overlying the rock.

Regarding the handling of the plant, we suggested in our letter dated 26th May 1925, that on work of this description it is of vital importance to give an incentive to the men employed; we can only repeat and emphasize this statement and would observe that no contractor would for one moment have handled the job in the way in which it is being carried out in Bombay. In this connection we would invite a reference to paragraph 29 of Sir George Buchanan’s report dated 11th February 1922, which reads as follows:—

‘In carrying out a large public work departmentally success both economic and technical depends to a large extent upon the adequacy, efficiency and loyalty of the engineering staff, technically because apart from actual design much depends upon workmanship, and economic because the spending of money and the employment of the best advantage of workmen is entirely in their hands.

Government is in regard to its staff at a disadvantage compared with a contractor or a private firm. The loyalty and enthusiasm of a staff is often taken for granted but it is rarely spontaneous and in the case of a contractor or private firm bonuses are given for particularly good work and in other ways officers are encouraged to do a great deal more than is strictly required of them, also on the contrary side if an engineer is inefficient a contractor will cut his losses and get rid of a man by paying whatever is loyaly due in lieu of notice. Government rules precludes either bonuses or pay in lieu of notice and I merely mention this matter because it is one of the chief advantages gained in employing a contractor for the execution of public works.’

(4) If the difficulties in connection with (a) and (b) supra can be overcome we are absolutely confident that there will be an enormous increase in the output this season and in that case a final judgment on the ultimate cost of the reclamation by dredging might we suggest be deferred.

3. According to the figures given in your letter under reply, 1,261,986 cubic yards of material was dredged from the harbour during the last season, but only 680,438 cubic yards was deposited in Back Bay. The smallness of this latter figure obviously points to a great leakage from the area under reclamation and the advisability is indicated of tipping a water-tight morourum bank along the inside face of the sea wall and otherwise arranging for the detention within the area under reclamation, of as much as possible of the silt-laden water discharged through the pipe-line until the silt has precipitated. Under these circumstances, we disagree with the view taken that the quantity of filling as measured in the area to be reclaimed should be taken as the basis of calculating the output of the dredger. In all normal cases the quantity of filling is slightly greater than the quantity of material dredged as measured by sounding and, assuming that the Chief Engineer’s figures given in your letter are correct, we consider that the loss of material in the reclaimed area is quite as serious a matter as the low rate of output of the dredger.

4. Respecting the quality of the material being dredged in the harbour, this is a question which, as you are aware, has been the subject of investigation, discussion, and report by Sir George Buchanan ever since the inception of the work because, as he has repeatedly stated in his reports, the crux of the whole undertaking is the successful reclamation of the area enclosed by the wall by pumping through pipe-lines the materials dredged from the sea bed and in his last annual report, dated 15th December, 1924, he reviewed exhaustively the position in respect to dredging plant and dredging operations.

It follows, therefore, that if as a result of this season’s work it is found beyond doubt that there is not sufficient suitable material in the harbour for the economic reclamation of Back Bay by dredging it will be necessary to reconsider and modify the programme of operations, although we sincerely hope that such will not be necessary.

5. In your letter you observe that Government undertook the reclamation on the recommendation of Sir George Buchanan, contained in his report of September, 1919,
the essential feature of the proposals being the capacity of the dredger to reclaim the area at the rate of 2,000 cubic yards per hour. In this connection we beg to repeat that we have no doubt at all as to the capacity of the dredger to perform the work given suitable material, and we would point out that in recommending the work Sir George Buchanan relied entirely on the detailed survey and report of Mr. Kidd, who said it had been completely established that there was available more than three times the quantity required of suitable material. On this data Sir George Buchanan remarked, vide paragraph 34 of his report "on the assumption that Mr. Kidd’s surveys and borings are correct, and I see no reason to doubt their accuracy, as a great many borings were taken, I accept his conclusion both in respect to quality and quantity of material." Sir George Buchanan did not himself take any borings nor in view of the urgency with which his report was required would there have been time to do so. We understand from Sir George Buchanan that Mr. Kidd’s borings and estimate of quantities were also accepted as sufficiently accurate by the officials in the Public Works Department of the Government of India, when Sir George, at the request of His Excellency the Governor of Bombay, went to Delhi especially to discuss the project with the Government of India and obtain their sanction and approval to the technical details of the scheme.

6. With reference to the various letters and cables which have been exchanged between us with regard to the date of Sir George Buchanan’s next visit to Bombay we very much regret to inform you that he is at present in such a bad state of health that his doctor has stated emphatically that in his opinion it is extremely unlikely he will be able to travel to India without the most serious prejudice to his health before the autumn of 1926. We need hardly say that this is a matter of very serious concern to Sir George who was relying on being able to fulfil his engagement, but ill-health is a matter which unfortunately cannot be guaranteed against.

7. In order to assist as much as possible your construction staff in solving the problems before them we are sending the senior member of our staff, Mr. J. Risley Settle, M.Inst.C.E., to Bombay to inquire into matters and advise on the spot; he leaves London this week. We also hope to be able to arrange that Mr. Halcrow pays a short visit to Bombay early in January and we shall be glad to hear from you if the Government will accept these arrangements which are the best we can make, in lieu of the visit of Sir George Buchanan required by our agreement. Should Sir George’s recovery be more rapid than expected he will, of course, go to Bombay instead of Mr. Halcrow.

Yours faithfully,

C. S. MEIK AND BUCHANAN.

(II.)

Supplementary Statement by Sir Lawless Hepper, Director of Development.

In the course of the evidence before the Back Bay Inquiry Committee on the 19th August, 1926, it is recorded that Mr. H. P. Mody, on behalf of the Bombay Municipality, stated, in reply to a question by Sir M. Visvesvaraya, that no estimates were placed before the Advisory Committee. This is incorrect.

2. To begin with, a copy of the Press Note No. S.A. 3709, dated 20th September, 1921, containing the correspondence with the Indian Merchants’ Chamber, giving the probable cost, as at that time ascertained, was furnished to all members of the Advisory Committee.

3. The detailed project estimate prepared by Mr. Lewis, then Chief Engineer, was submitted to Government in May, 1922, and was forwarded to the Audit and Accounts Officer, Bombay Development Scheme, for scrutiny by the Finance Department. This estimate, which amounted to Rs. 697,79,350, become the estimate of Rs. 709,43,350 after examination by audit, owing to the necessity for the inclusion of certain additional adjustments, notified by the High Commissioner, on account of the purchase of plant, of which Mr. Lewis had not been aware.

4. This estimate was placed before the Advisory Committee at a meeting held on 27th June, 1922, when the Committee, after considerable discussion, unanimously recorded the following resolution:—

"The Committee approve the detailed project estimate for the Back Bay Reclamation amounting to Rs. 697,79,350. It should be forwarded to Government with the recommendation that it should be sanctioned."

A copy of the minutes of the meeting in question is attached.

5. As explained above, this estimate was subsequently increased by Rs. 4,63,971 (equivalent to an increase of 0.66 per cent.) and was sanctioned by Government in
October, 1922 for Rs. 799,43,321. A copy was furnished to members of the Advisory Committee, and also, on 7th November, 1923, to all members of the Legislative Council.

6. On the 19th September, 1923, a printed note (copy attached), dated 30th August, 1923, was circulated to members of the Advisory Committee, which contained, inter alia, as Appendix II, a financial forecast of the Back Bay Reclamation Scheme based on the sanctioned project estimate of Rs. 709,43,321, combined with the East Colaba Reclamation Scheme. This forecast was discussed by the Advisory Committee at a meeting held on 26th September, 1923, when it was resolved that the same should be recorded.

7. Up to 25th August, 1924, the Committee’s functions had been of an advisory character, but on that date the Government of Bombay in their letter No. S.D. 1313 (see copy printed as Appendix A to the first ad interim report of the Committee dated 17th February, 1926, asked the Committee:

"To enquire into the activities of the Development Department and to report as to how far, and in what directions, such activities should be continued or eliminated."

The personnel of the Committee was increased for the purpose of this special enquiry, and the first and second ad interim reports of the Committee are the result of this reference.

8. It does not, therefore, appear to be correct to say that no estimates of the Back Bay Reclamation Scheme were placed before the Advisory Committee. The records show that all information that was available in regard to the estimates was communicated to them.

(III.)

Supplementary note by the Director of Development dated 10th October, 1926, regarding the ascertainment of dredging results.

From the transcript of the evidence of Sir Henry Lawrence it would appear that considerable emphasis was laid by the Back Bay Inquiry Committee on the fact that Government waited until July, each year, for the dredging results of the previous season, the suggestion being that some action might have been taken on the weekly figures showing the material dredged as ascertained by soundings.

2. I have always regarded these measurements with suspicion. If the material were stiff clay throughout, there would, perhaps, be little ground for doubt. But there is a thick layer of fine silt which overlies the clay, and this material would hardly stand at a steep angle at the sides of the excavation. It seems reasonable to suppose that it may flow into the excavation, from an area much greater than the excavation itself, as the dredger moves forward; in which case the subsequent measurements may give a quantity dredged substantially less than the amount actually removed.

3. It was impossible, during the first two seasons, to form any conclusions on this point; because, the sea wall being unsealed, a large amount of the material dredged was lost. The only definite fact that was known was the quantity which remained in block 6 after dredging ceased at the end of May. A large number of sections had then to be surveyed and plotted in June, and the computation of the quantity was completed by about the middle of July. Under the conditions which obtained during the first two seasons, it is difficult to see what other figure would have been a reasonably safe guide as to the progress of the work. The weekly figures were, of course, sufficient to throw grave doubts on the performance of the plant per pumping hour, and Month, Meik & Buchanan's attention was drawn to this. But the figures could hardly have been used to enable Government to form any reliable estimate as to progress of the scheme in terms of consolidated filling, which, after all, was the essential thing to know.

4. The figures of the season 1925-26, when the wall was sealed, rather confirm the suspicion that the measurements, taken in the harbour, underestimate the output. The quantity dredged, as taken from soundings, amounted to 1,888,000 cubic yards. The measurements taken in situ in June, 1926, on the other hand, gave 2,366,645 cubic yards, in spite of the fact that in April and May, 1926, when the weir could be raised no higher, a considerable quantity of silt passed, with the overflow, into block 7. Some of this was lost through the unsealed wall of block 7, and some remains in the area. It was proposed to seal the sea wall in block 7 in April, 1926; but in view of the uncertainty as to the future programme of work, Government did not consider it desirable to sanction this being done. We still do not know, therefore, with certainty, what the actual output of the plant is. To arrive at this it would be necessary to have an adjoining block B ready sealed to hold the silt as soon as the level of the mud in block A reached a height at which losses of silt become inevitable. Such conditions are not possible if expenditure is rigidly restricted to the block actually being filled.
Note by the Acting Chief Engineer, Reclamation Branch, regarding Mr. Nariman’s supplementary statement of 23rd August, 1926 (page 594 of Evidence).

The amount paid to Balakrishendas Seth in the season 1925-26 for cleaning and painting the floating pipe-line was Rs. 1,00,51/-.

This year tenders were invited, and were received, as follows:-

Rs.
1. Narayanrao G. Todankar ... ... 73,550
2. Madboram Ragoomal ... ... 55,610
3. D. H. Dhunjibhoy ... ... 97,781
4. Fakrudin & Co. ... ... 50,574
5. Hatimbhoy Gulambusein & Bros. ... ... 79,944
6. Shanji Gokal & Sons ... ... 55,854
7. Venko Baloo & Sons ... ... 55,694
8. British Continental Trading Co. ... ... 1,53,130
9. F. C. Pramji ... ... 67,134
10. The Indian Engineering Co. ... ... 1,33,331

The average amount of the tenders received is Rs. 82,359, whilst the amount of the accepted tender is Rs. 53,610/-, and was the lowest tender of those submitted by firms having previous experience of this class of work.

The present contractor has not proved satisfactory. His work has to be closely supervised as he is apt to scamp the work both in cleaning and painting. He has, on one occasion, been ordered to stop work on the contract on account of his bad work, but was subsequently allowed to continue on his promising to carry on the work in strict accordance with the instructions given to him and because considerable delay would have been incurred in getting another contractor to carry on the work. He has informed the Deputy Dredging Master that he is losing money on this contract, which probably accounts for his trying to scamp the work.

The present contractor has the advantage of the coolie lines at Shewa which he was able to purchase at scrap rates from the previous contractor, Balakrishendas Seth, who was not allowed to tender for the work.

The D. E. C. Dredging Section states that much more scraping and cleaning was required last year as the pipes were in a much worse condition than they were at the close of the season just past.

In previous years the contractor had to make his own arrangements for purchasing paint, which was specified by us, at his own cost. This entailed a capital outlay on his part of Rs. 12,742/-.

The price paid by Balakrishendas Seth for anti-corrosive paint last year was Rs. 49/- per cwt., and in 1924 from Rs. 50/- to Rs. 55/- per cwt.

For the present contract the paint has been purchased by Government at Rs. 46/- per cwt., the price having fallen, and is supplied to the contractor at this price, the cost of such paint being deducted from the contractor’s bills.

The prices for other materials were the same in both cases.

In addition to all the above, it must be pointed out that Balakrishendas Seth had to paint a total area of 18,17,467 Sft. as against 10,06,900 Sft. for this year’s contract, as shown at the head of the accompanying statement. If the costs of two contracts are worked out on last year’s areas the difference is Rs. 1,00,000/- = 61,930/- = Rs. 38,070/-.

If the difference in the cost of paint, i.e., Rs. 774/- (25 cent), is allowed for, and a profit of, say, 10 per cent. is allowed Balakrishendas Seth on the money he had to spend on the purchase of paint, i.e., Rs. 1,264/-, this difference is reduced to Rs. 36,039/-.

As regards the quarrying of stone, tenders were called for in September, 1922. Twenty-three tenders were received, that of contractor Ramchandra Patkar for Rs. 0-13-0 per ton being accepted. There were five tenders lower than this, the lowest being for Rs. 0-10-0 per ton. This was received from a contractor who was at the time working on the construction of the Marine Lines Colaba Railway. His work on this was extremely bad, and the delay in getting this job completed was largely due to this. He was subsequently taken off this job on account of his bad work. The other four tenders were not accepted for reasons of non-experience. For example, one of the persons tendering was from a man working as a foreman under the contractor referred to above, and who had no previous individual experience of contract work. These tenders were opened in the presence of the contractors and reasons for accepting Ramchandra Patkar’s tender and for not accepting the lowest tender were explained at the time to the contractors present.

The total payment made to the firm under this contract to June, 1925, when stone quarrying ceased, was Rs. 5,87,939/-.
The contractor was given free use of cranes and crew under this contract.

There was no tender of under nine annas per ton. The lowest tender, as stated above, was 72 annas ten per ton.

In March, 1924, as it was foreseen, the requirements of stone for the works in Bombay would fall off shortly for the monsoon period, orders were given that wagons not required for stone should be loaded with earth at Kandivili, and the two full rakes of 50 wagons each maintained. At that time it was anticipated that this earth work would be for a short period only, and as R. K. Patkar, being the Quarry Contractor, and having the labour on the spot which would again be required for the quarry when the two rakes of stone would again be needed, the contract for excavating and loading was naturally given to him. Moreover, the quantity of stone required for Bombay varied largely, and frequently, according to the exigencies of the work there, and as the balance of the wagons not required for stone was loaded with earth the quantity of earth varied also, and the labour necessary for these two works varied. The only way to meet such variation was to have one contractor for both works so that he could move his labour as required. Besides this, R. K. Patkar's labour was by that time well trained to quarry work, and as it was anticipated that two rakes of stone would be required in the next season, it was considered desirable to keep them on the work. It was anticipated that producing a larger quantity of rubble than could be used immediately in the works in Bombay, as the quantity of large blocks required in Bombay for the sea wall was in a higher ratio to the rubble used than the quarry produced. This surplus rubble would have to be stored at the quarry, and it was desirable to have a place where it could be stacked without double handling into wagons, shunting and unloading again. Accordingly the contractor was directed to excavate from a bank of moorum opposite the quarry. This bank of moorum was hard and full of rotten rock, much of which required drilling and blasting, hence the rate of annas ten.

This piece of levelled ground has, in fact, been used as it was intended, and the surplus rubble is stacked there to-day. The rate of annas ten was reduced to annas eight a year later when this bank was finished and the contractor was put on to load earth from the hill side at the back of the power house. This work was known to be for a short period only, through the rains, the most difficult part of the year, as it was then (in June, 1925), anticipated that the quarry would be opened next season. As soon as it was definitely decided that the quarry would not open again tenders were called for and the present contractor employed, his rate being Rs. 0-5-1 per ton for excavation and loading. The total amount paid to contractor Ramchandra Patkar under these two contracts is Rs. 1,89,002/-. (27,747/-.

Regarding Mr. Patkar's profits, I may state that during the period he was working here he also carried out other contracts, one for building of a Hospital at Parel, amounting to, I believe, over ten lakhs, or 30 per cent. more than his total receipts from the quarry contract.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1925-26</td>
<td>4,14,918</td>
<td>1,04,000</td>
<td>2,544/14/3</td>
<td>72,713</td>
<td>10,06,300</td>
<td></td>
<td>10,62,900</td>
</tr>
<tr>
<td>1926-27</td>
<td>4,14,918</td>
<td>1,04,000</td>
<td>2,544/14/3</td>
<td>72,713</td>
<td>10,06,300</td>
<td></td>
<td>10,62,900</td>
</tr>
</tbody>
</table>

1st Cost: Chipping, Scraping and Priming 4,14,918 sq. ft. at Rs. 12/8/0 100 sq. ft. = Rs. 51,814/12/0
2nd Cost: Anti-corrosive 4,14,918 = 600 = 24,895/13/3
3rd Cost: Hard-protective 4,14,918 = 500 = 21,250/12/0
4th Cost: Anti-corrosive 72,713 = 3/80 = 2,165/18/3

Excess payment of Balkishandas Seth, Rs. 0/- per cwt., for 259 cwt. of paint...

10% for Contractor's profit over cost of 258 cwt. of paint at Rs. 42/- per cwt...

Excess over 1925-27...

Rs. 55,032/0/0 (63,568/18)
EVIDENCE
Oral and Documentary
RECORDED BY THE
BACK BAY ENQUIRY COMMITTEE.
1926.

PART III.

ILLUSTRATIVE DOCUMENTS.

LONDON:
PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh;
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff;
15, Donegall Square West, Belfast;
or through any Bookseller.
1926.
Price 1s. Net,
## INDEX

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Dredging results of the &quot;Jinga&quot; and the &quot;Kalu&quot;</td>
<td>3</td>
</tr>
<tr>
<td>II. Summary of the previous history of the Back Bay Reclamation, supplied by the Government of Bombay</td>
<td>4</td>
</tr>
<tr>
<td>III. Agreement dated 17th March, 1921, between Messrs. Meik and Buchanan and the Secretary of State for India in Council</td>
<td>13</td>
</tr>
<tr>
<td>IV. Reports of Sir George Buchanan on his visits to Bombay 1922-1924</td>
<td>14</td>
</tr>
<tr>
<td>V. Statement prepared by Development Directorate showing total expenditure on the Reclamation up to June 30th, 1926</td>
<td>37</td>
</tr>
<tr>
<td>VI. Mr. Elgee's estimate of 17th August, 1926, of the cost of the completion of the Reclamation Scheme</td>
<td>38</td>
</tr>
<tr>
<td>VII. Sir George Curtis' reply to the questions addressed to him by the Committee</td>
<td>41</td>
</tr>
<tr>
<td>VIII. Sir Claude Hill's reply to the Committee's invitation to him to give evidence</td>
<td>47</td>
</tr>
<tr>
<td>IX. Replies of the Great Indian Peninsula and Bombay, Baroda and Central India Railway Administrations to the Committee's enquiries regarding the transport of moorum</td>
<td>48</td>
</tr>
<tr>
<td>X. Bombay Government's Press note dated 16th October, 1926</td>
<td>49</td>
</tr>
</tbody>
</table>

Results obtained from soundings taken on the ground actually worked over and dredged—

DREDGER "JINGA."

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 23rd, 1911, to Mar. 23rd, 1911.</td>
<td>6,310</td>
<td>21'43</td>
<td>1,85,249</td>
<td>403</td>
<td>335</td>
<td>&quot; 40 &quot;</td>
</tr>
<tr>
<td>Mar. 24th, 1911, to April 11th, 1911.</td>
<td>5,681</td>
<td>21'85</td>
<td>1,24,128</td>
<td>339</td>
<td>366</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Oct. 4th, 1911, to Nov. 11th, 1911.</td>
<td>1,872</td>
<td>18'88</td>
<td>31,564</td>
<td>744</td>
<td>422</td>
<td>&quot; Through Floating Pipe only. With 50 ft. Ladder.</td>
</tr>
<tr>
<td>April 17th, 111, to May 2nd, 111.</td>
<td>4,880</td>
<td>24'32</td>
<td>1,06,615</td>
<td>295</td>
<td>361</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>May 15th, 111, to July 1st, 111.</td>
<td>8,429</td>
<td>20'44</td>
<td>2,22,894</td>
<td>480</td>
<td>464</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Nov. 13th, 111, to Jan. 31st, 1112.</td>
<td>18,658</td>
<td>25'59</td>
<td>4,95,600</td>
<td>1,229</td>
<td>404</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Feb. 12th, 1112, to Sept. 21st, 1112.</td>
<td>12,358</td>
<td>23'30</td>
<td>3,59,172</td>
<td>849</td>
<td>423</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Sept. 23rd, 1112, to Feb. 6th, 1113.</td>
<td>13,236</td>
<td>27'27</td>
<td>3,60,982</td>
<td>848</td>
<td>425</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Feb. 25th, 1113, to July 12th, 1113.</td>
<td>50,074</td>
<td>24'33</td>
<td>21,91,754</td>
<td>5,841</td>
<td></td>
<td>Clearing Silt from Foundation for Walling.</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,879</td>
</tr>
</tbody>
</table>

DREDGER "KALU."

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>May 12th, 1909, to May 31st, 1909.</td>
<td>620</td>
<td>13'00</td>
<td>8,062</td>
<td>533</td>
<td>150</td>
<td>No Measurements: Taken; Estimated. With 30 ft. Ladder.</td>
</tr>
<tr>
<td>June 4th, 1909, to Aug. 1st, 1910.</td>
<td>19,559</td>
<td>13'05</td>
<td>2,55,843</td>
<td>1,685</td>
<td>157</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Aug. 2nd, 1910, to Mar. 7th, 1911.</td>
<td>7,302</td>
<td>19'00</td>
<td>1,38,759</td>
<td>859</td>
<td>161</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Mar. 9th, 1911, to July 23rd, 1911.</td>
<td>9,080</td>
<td>15'58</td>
<td>1,41,510</td>
<td>614</td>
<td>230</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>July 24th, 1111, to Sept. 28th, 1111.</td>
<td>4,772</td>
<td>21'14</td>
<td>1,00,664</td>
<td>394</td>
<td>256</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Sept. 29th, 1111, to Oct. 30th, 1111.</td>
<td>1,614</td>
<td>22'50</td>
<td>36,315</td>
<td>144</td>
<td>252</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Dec. 5th, 1111, to Feb. 22nd, 1112.</td>
<td>5,230</td>
<td>21'23</td>
<td>1,17,330</td>
<td>486</td>
<td>241</td>
<td>&quot; 40 &quot;</td>
</tr>
<tr>
<td>Feb. 23rd, 1112, to April 27th, 1112.</td>
<td>6,424</td>
<td>20'61</td>
<td>1,38,400</td>
<td>395</td>
<td>336</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Oct. 7th, 1112, to Jan. 29th. 1113.</td>
<td>8,876</td>
<td>22'43</td>
<td>1,99,400</td>
<td>646</td>
<td>309</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Jan. 30th, 1113, to July 12th, 1113.</td>
<td>13,426</td>
<td>23'12</td>
<td>8,12,084</td>
<td>909</td>
<td>346</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Totals of Actual Measurements.</td>
<td>76,056</td>
<td>18'65</td>
<td>14,33,005</td>
<td>6,066</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>Totals including Estimated Figures.</td>
<td>77,276</td>
<td>18'65</td>
<td>14,41,067</td>
<td>6,119</td>
<td>236</td>
<td></td>
</tr>
</tbody>
</table>
II.—SUMMARY OF THE PREVIOUS HISTORY OF THE BACK BAY RECLAMATION SCHEME SUPPLIED BY THE GOVERNMENT OF BOMBAY.

The following is an outline of the history of the Back Bay Reclamation Scheme.

1. In the year 1863 the Government of Bombay (Sir Bartle Frere being Governor) submitted to the Government of India proposals for the reclamation, by a company, of 1,500 acres of the foreshore of Back Bay. In January 1864 this proposal was sanctioned by the Government of India. Later in the same year the Government of Bombay requested sanction to invest 40 lakhs in the company, the total share capital of which was Rs. 200 lakhs. The Government of India refused to agree to this proposal, their main objection being that there was not sufficient information before them to enable them to estimate the risks. The reclamation was, therefore, commenced without Government assistance, but the cost of the work proved to be greater than had been anticipated. The failure of the Asiatic Banking Corporation in which the company had deposited 90 lakhs proved a further source of embarrassment. The company had, therefore, to be wound up in the year 1866.

2. Nothing further was done in the matter until 1887 when Lord Reay’s Government appointed a committee to prepare a comprehensive scheme for the future extension of the city. The committee again advanced the reclamation of Back Bay as a means of providing to some extent for the expansion anticipated. No action was taken on the committee’s report until 1897, when the subject was revived by the Government of Lord Sandhurst. Another committee was appointed during that year, and as a result of its recommendations the City Improvement Trust was constituted. This committee laid stress on the desirability of reclamation along the west side of Colaba point, and in consequence 90,000 square yards were reclaimed by the Trust as a tentative measure; and the result proved to be satisfactory and profitable.

3. In 1907 Lord Lamington’s Government appointed a committee to consider a rough reclamation scheme which had been prepared in the Secretariat for an area of 973 acres at a cost of Rs. 176 lakhs. The committee’s recommendations increased the cost to Rs. 320 lakhs, which was later reduced to Rs. 284½ lakhs. No action appears to have been taken on this report at the time.

In January 1911 the Government of Bombay submitted proposals for reclamation for the general approval of the Government of India. Two schemes were submitted: one for the above-mentioned area of 973 acres; and one for 1,273 acres at a cost of Rs. 388 lakhs. The project actually advocated by the Government of Bombay was for the reclamation of 1,100 acres, for which no estimate had been prepared.

4. In submitting this scheme the Government of Bombay recommended that it should be undertaken by Government, but omitted to state whether the provincial or Imperial Government, or both jointly, were implied. The Government of India asked the local Government to consider whether the work could not be carried out, under Government control, by some outside agency, e.g., a syndicate, the municipal Corporation, or Improvement Trust, with assistance from provincial revenues, or by a Reclamation Trust created ad hoc. In reply the Government of Lord Sydenham urged that the scheme was a productive public work of the highest utility and deprecated the idea of its being taken up by an outside agency, for the reason that interests vitally affecting the City of Bombay would be subordinated to the ends of that outside agency. The idea of making over the work to the Municipal Corporation or to a local Trust was also dismissed on the grounds that the rate of interest payable would be higher than that at which Government could borrow; that this difference would reduce the ultimate profit without conferring any benefit on the State; and that neither the Corporation nor the Improvement Trust could be saddled with a work of such magnitude in addition to their ordinary duties. In the circumstances the local Government urged that the work should be undertaken on the financial responsibility of Government, the Imperial Government to raise the loan and to place them at the disposal of the local Government.

5. The Government of India considered that the operations of the Improvement Trust and the reclamation might be mutually destructive. They also doubted whether the local Government had sufficiently examined the possibility of the extension of the city in other directions. For these and other reasons the Government of Lord Hardinge hesitated to accord their approval to the scheme. An informal arrangement was, however, made with the Government of Bombay under which it was agreed that a strong and fully representative committee was to be convoked to consider the future development of Bombay City. It was also informally agreed that, should it eventually be decided, as a result of the committee’s deliberations, that a scheme of reclamation in Back Bay was desirable, a beginning might be made in this direction on a small piece of 84 acres. At the same time the Government of Bombay was informed that there...
was no objection to a complete survey and estimate being prepared by Mr. Kidd, of Messrs. Lowther, Kidd & Co., and the scheme investigated in detail and the financial aspect discussed.

6. In January, 1912, the Government of Bombay forwarded to the Government of India a letter from Messrs. Lowther, Kidd & Co.'s terms for investigating the scheme. In February, 1912, the Government of India sanctioned by telegram an expenditure of Rs. 1,57,500 on the investigations and preparation of estimates, etc., by Messrs. Lowther, Kidd & Co.

The Government of Bombay then forwarded the estimates prepared by the firm for reclaiming about 1,145 acres in Back Bay and 124 acres on the east side of Colaba for Military purposes, the amounts being 325 lakhs and 37 lakhs respectively. With a view to strengthen their position in urging sanction upon the Government of India, the Government of Bombay appointed in November, 1912, under the presidency of Sir Vithaldas D. Thackersey an unofficial committee of Bombay citizens to advise Government on certain points having an important bearing on the scheme. The committee's recommendations were as follows:

5. We are convinced that, unless some means are found to provide extra dwelling accommodation in the Southern portion of the Island near the business quarters, the overcrowding in the city proper will continue to increase with the inevitable result of forcing up rents still more. Such a contingency would no doubt benefit the landlords, but it would mean a great hardship to the general public who pay rents. If the reclamation is practicable, as we believe it to be, it should be undertaken immediately in order to prevent the possibility of such a contingency arising. The strongest point in favour of the Reclamation being taken up immediately is that Government will be able to provide a large amount of land for residential purposes near the business quarters at a reasonable rate without appreciably affecting existing interests. In recent years the shop rents in the Fort have enormously increased and the demand for shop area is augmenting yearly. The burden of this continuously increasing rent cannot but affect the general public who must pay the same in the increased prices for goods. The schemes undertaken by the Improvement Trust in the North of the Island or the development of Salsette cannot meet this difficulty. If the insanitary condition of the north part of the Fort is to be improved by partial demolition of the buildings to give sufficient air and light to the remaining properties, it can be made feasible only by the extra supply of land near the Fort, which supply the proposed reclamation will provide.

In conclusion, we wish to lay stress on the fact that the scheme is not only financially sound, but that it adds to the beauty of the city, and will, after some years, add considerably to the resources at the disposal of the Improvement Trust in its efforts to reclaim insanitary areas."

That report was forwarded to the Government of India and it was urged upon them that sanction may be accorded to the scheme being carried out by the local Government.

In September, 1913, a letter was sent to the Government of India stating that a further communication would be sent in the matter and that further consideration might be held up meantime.

7. The committee informally suggested by the Government of India and referred to in paragraph 5 above sat in the cold weather of 1913-14. In their report, after discussing the subject at length with due regard to the prospective developments of Bombay in other directions also, the Committee finally recommended that Government should confine itself to reclaiming a small area of about 100 acres for the expansion of existing public (and especially educational) institutions. Their recommendation was framed with two objects in view, firstly, to make available, purely for Government purposes, the amounts being 325 lakhs and 37 lakhs respectively. They further stated: "When that is definitely known it is conceivable that further reclamation for the provision of space for residence might be regarded as practicable and even desirable." Copies of this report were sent to the Government of India on 5th June, 1914. Subsequently, in 1915, the Government of Bombay submitted an estimate for the reclamation of 220 acres of Back Bay. Mr. Kidd's estimate of the cost of this work amounted to Rs. 84 lakhs, and he assumed a period of construction of four and half years; the Government of Bombay revised these figures to 124 lakhs and eight years respectively, and further stated that they were prepared to finance the work from provincial revenues. The Government of India, however, found themselves unable to accept the scheme as submitted, as they were doubtful whether the Government of Bombay were actually in a position to undertake to finance the scheme, and the project was returned to the Government of Bombay with the intimation that, should they desire to proceed with the more modest scheme proposed by the Development Committee of 1913-14, and be able to satisfy the Government of India that the cost could be met from provincial resources, the Government of India were prepared to give such a scheme their most careful consideration and, should it be sanctioned and prove financially successful, the profits accruing could
be applied to its further extension. This was in February, 1917, and owing to the war the matter remained pending.

8. In December, 1917, a syndicate was formed comprising the Honourable Mr. Lallubhai Samaldas, Sir V. D. Thakersey, Sir Sassoon David, and Sir Fazalbhoy Currimbhoy who addressed the Government of Bombay on the subject of the Back Bay Reclamation Scheme, and asked for a concession as they proposed to float a company with the necessary capital. On the 19th of December of the same year Messrs. Tata Sons, Ltd., addressed the Government of Bombay as to the terms on which Government would be prepared to entrust the work to a private Corporation, and asked for an option on the scheme for twelve months. Subsequently, the two syndicates combined and on 15th January, 1918, their representatives interviewed the Honourable Mr. G. Carmichael, who was, at the time, Finance Member in a Government composed of:

- His Excellency the Right Honourable Lord Willingdon, Governor,
- The Honourable Mr. G. Carmichael,
- The Honourable Mr. G. Curtis,
- The Honourable Sir Ibrahim Rahimtoola.

On the 28th April, 1918, the following note summarising the position in respect to the Syndicate, was written by the Honourable Mr. (now Sir) G. Carmichael:

"Back Bay Scheme.—The two interests which applied for an option of the reclamation concession have combined and I understand their interests are to be divided as follows:

Sir Sassoon David .......................... 5
Sir Shapurji Broacha ........................ 5
Sir Fazalbhoy Currimbhoy .................. 5
Sir Vithaldas Thakersey ..................... 5
Mr. Lallubhai Samaldas ..................... 5
Messrs. Tata & Co. .......................... 5
Tata's Industrial Bank ...................... 5

The shares to be jointly and severally liable within their half shares and the partners in the two half shares to be jointly and severally liable for the whole.

2. The two interests are jointly and severally liable for the whole.

3. As regards Tata's Industrial Bank getting support from Lloyd's Bank, apparently it is a syndicate in London with whom negotiations are going on. I understand that the basis on which the syndicate will come in has not yet been settled. If it is settled satisfactorily then the Bank would probably have a strong board; which was one of the points on which the Honourable Mr. Curtis entertained some doubts.

4. The applicants at first entered into negotiations with Messrs. Lowther and Griffiths, but these have been finally broken off and they are now in treaty with the firm of Coode, Mathews, Fitzmaurice & Wilson, of which the head partner is said to be Maurice Fitzmaurice, at present Controller of Canals in the United Kingdom. The head of the firm might, it is said, be able to come out to India if he were relieved of his post at home, but this could not be before Christmas. In the meantime Messrs. Tata & Co. wish to ask the firm to send out a younger man to start investigation before the monsoon.

5. Colonel Grisewood, on behalf of Messrs. Lowther and Griffiths, has entered a protest against the way in which that firm have been treated by Messrs. Tata & Co., and at the same time applies for a concession on behalf of his principals. He indicates three lines on which they would be willing to negotiate. These all depend on Government ultimately finding the money, though under the third proposal the firm would take part payment in the shape of a long lease (say for 60 to 75 years; the figure is not mentioned but I understand this is roughly what is intended) of part of the reclaimed area. There are men of sound judgment in Bombay who think that it would be a profitable scheme for Government to take up soon after the war is over. But there would be a strong body of opinion the other way, and there is no doubt in my mind that if we wish to avoid delay we should leave the project to private enterprise. Government will after the war have many more urgent claims on their revenue or loan funds.

6. If this is agreed to, then we should, I think, give the option to the first applicant. In any case it should go to an Indian Company in the end, and with the original applicants against them Messrs. Lowther and Griffiths could not form a Company in Bombay, even if they proposed to do so, which they apparently do not.

7. If the option is given to Messrs. Tata & Co. and their syndicate we should not dictate their choice of the engineers whom they may employ. All we need see to is that they do employ a firm of established repute in this line of work.
9. As far as I can see, if Government do not undertake the work themselves they are not under any obligation, legal or otherwise to Messrs. Lowther and Griffiths. For the work which they did they were paid.

9. Nor are we concerned with the reasons why the negotiations between Messrs. Tata & Co. and Messrs. Lowther and Griffiths failed.

10. I presume that before granting the option asked for we should indicate conditions. The reclamation rights of the Improvement Trust expire in September, 1918, and there is no difficulty on this point. It is possible, however, that legislation will be necessary to obtain the right of laying the pipes across private lands and Municipal lands between the dredgers in the harbour and the reclamation area.

11. As regards conditions, the points which occur to me are—
   (a) Approval of the Engineer or Engineering firm employed.
   (b) Approval of the design of the scheme.
   (c) Government to be satisfied that the finances are sufficient before the scheme is commenced.
   (d) Government to have an option to take over at cost price an area not exceeding a certain maximum.
   (e) An area of 100 acres to be provided for a public park free of charge to the Municipality to have an option to add a further area to the park, subject to a maximum, say, of 50 acres more, by purchase at cost price.
   (f) The area of 124 acres on the east of the island to be reclaimed on behalf of Government at a contract price.
   (g) The layout to be approved by Government.
   (h) The Company to bear the burden of any possible claims on account of damage caused by the reclamation to the amenities, etc., of existing properties.

12. As regards (d) above, the original idea was to reserve 40 acres for Government house. I do not think this was a sound idea as the land at the point will not be very high above high water. We have, however, to provide for many other public buildings. It is also a question whether we should not retain an option on land which Government could give out on lease.

13. The question will have to be examined whether higher sanction is needed before giving the concession.

This note was circulated to the Governor in Council and finally the Government of Bombay decided to obtain a report on the scheme by an independent expert.

In accordance with this decision, a telegram was sent to the Secretary of State for India by the Government of Bombay on the 16th October, 1918, stating:—

"Government of Bombay consider a re-examination of the Back Bay Reclamation Scheme a matter of special urgency, and hence shall be obliged if best qualified man available is chosen and sent to Bombay for that purpose. He should know recent work of the same kind and latest mechanical devices and be entirely independent of Lowther, Griffiths, and Tata Syndicate.""

Shortly after Sir George Lloyd succeeded Lord Willington as Governor of Bombay on 16th December, 1918.

No reply having been received from the Secretary of State a further telegram was sent to him on 8th April, 1919, stating:—

"Back Bay Reclamation Scheme.—Government of India had asked you to send out best expert available to examine and make final report on above. Government of India had also asked us to send all plans to Delhi for transmission to you in order that expert may study them before departure."

"(1) I think this procedure involved unnecessary delay in view of the fact that expert must be here to see conditions just before monsoon breaks as well as after it.

"(2) I have consulted Government of India, and Sir Claude Hill concurs with me in proposing you should send expert out at once to arrive Bombay not later than third week of May.

"(3) All plans and information essential to experts' study now here.

"(4) Lord Sydenham or W. L. Cameron, late Chief Engineer, Bombay, would advise regarding choice of expert.

"(5) Failing your ability to find expert in short time available, my Government would agree to using Sir George Buchanan whose services would probably be available and whom the Government of India recommend.

"(6) My telegram has been drafted in consultation with the Government of India and is being communicated to them.

"(7) Please telegraph immediately whether expert can be found in time to arrive by middle of May or whether we should proceed with Buchanan."
To this, the Secretary of State replied on the 26th April, 1919, stating—

"Sydenham suggests appointment of Cameron as expert and doubts whether it is possible to send a new man out in May. I have not sounded Cameron. I probably could secure Frederick Palmer of Randell Palmer and Tritton, if you would wait for him till October. He was for nine years Chief Engineer for Calcutta Port Trust, and then Chief Engineer to Port of London Authority. His firm is not interested in concession is closely connected with India Office and of highest standing. What are your views? Is it essential that the expert if he has already the knowledge of monsoon effects should be present throughout entire period of monsoon? Any such condition is deterrent."

A telegram expediting reply to the telegram of 26th April was sent on 16th May, 1919, and on receipt of this telegram, another telegram was sent by this Government to the Secretary of State on 26th May, 1919, stating:

"Your telegram, dated 18th May. Reply to this was postponed in view of impending discussion with Sir Claude Hill, and his return to England. My Government were opposed to employment of Cameron, and in view of difficulty of getting Palmer out before October, decided to employ Sir George Buchanan, who is at present engaged upon the work and will probably, after concluding preliminary investigation, proceed home to make further inquiries regarding dredging plant and material."

9. On the 30th May, 1919, Sir George Buchanan was asked to prepare a report, the terms of reference being:

"(1) To examine and report on the scheme prepared by Mr. Kidd of Messrs. Lawther, Kidd and Company, for the Reclamation of 1,145 acres in Back Bay, Bombay (known as the 1912 project) or any portion thereof which Government may hereafter designate. The Scheme comprises:—

(a) the construction of a sea-wall;
(b) filling-in within the area enclosed by the sea-wall by means of dredging in the harbour on the east side of the Colaba Peninsula, and pumping the material across the narrow neck at various points in the Back Bay;
(c) Covering with a layer of muck the land so reclaimed.

(2) A specific opinion is required on the following points:—

(i) the practicability of the scheme from the engineering point of view;
(ii) the suitability of the type of wall proposed or alternate suggestions for better types;
(iii) the suitability of the proposed method of reclamation by means of dredging, or alternative proposals for same.

(3) Mr. Kidd, in his project of 1912, gave a general estimate for the above but unaccompanied by details of cost of dredgers and other plant. A revised estimate is required for the whole of the scheme giving details showing:—

(a) cost of dredging plant,
(b) cost of dredging,
(c) cost of sea-wall, along with the price of plant in connection with

(d) cost of muck filling and plant required.

(4) A programme of construction is required along with an opinion as to the order in which the work should be executed, and the time within which the various sections could be completed from the date of the order to begin the work.

(5) A separate report and estimate on above lines is required for the reclamation of the east of the Peninsula from Pilot Pier to Sassoon Dock, known as the East Colaba Project, and an opinion as to whether it could be carried out by dredging plant already in Bombay."

Asking for sanction to the Scheme.

10. Sir George Buchanan accordingly prepared his report in September, 1919, and submitted it to Government in October, 1919. On receipt of the report, the Government of India were addressed under this Government letter No. 10550, dated the 4th December, 1919, stating:

"Sir George Buchanan has now presented his report and I am to say that this Government understands that the Government of India are prepared to accord administrative approval. The Governor in Council does not consider it necessary to discuss the 1912 project again. As pointed out by Sir George Buchanan in paragraph 28 of his report, Messrs. Lawther and Kidd's plans reveal such an unusual absence of detail that it makes examination of figures extremely difficult.
from a technical point of view. In the circumstances, the Governor in Council
proposes to discard this scheme entirely and to concentrate attention solely upon
Sir George Buchanan's own scheme, which includes the same area as that covered
by the 1912 project, viz., 1,145 acres.

5 6. On the technical aspect of the new scheme, the Governor in Council
offers no opinion. He is fully prepared to accept Sir George Buchanan's carefully
considered views on the practicability of the scheme from an engineering point of
view, on the type of wall required for the reclamation and on the method
of reclamation.

7 The Governor in Council is confident that the Government of India will
have little hesitation in accepting Sir George Buchanan's opinion, in view of the
fact that opportunity has been afforded to your Department to discuss all technical
details with Sir George Buchanan himself. I am to add that the Governor in
Council is prepared in view of a possible increase of rates for labour or materials
to add 10 per cent. to the total of the scheme as estimated by Sir George Buchanan,
and the total cost of the project may be roughly taken at Rs. 4 crores for the
purposes of finance.

8. Taking the area to be reclaimed at 1,145 acres, the cost of reclamation
and equipment works out under the present scheme at Rs. 5.63 per square yard.
Assuming, however, that of the total area reclaimed 400 acres are required for
roads and parks, the net area available for building is 745 acres, so that, if the
charge for the whole scheme is debited against this area, the net cost per square
yard works out at Rs. 10.19. The whole of the area, however, will not be available
for sale or lease to the public. A considerable portion must be reserved for
Government building, but I am to say that there is no present intention of reserv­
ing any portion of this area for a new Government House as was originally
suggested. How much will be so reserved cannot be stated at this stage, but
assuming for the sake of argument that as much as one-half of the area available
for building will be required for Government purposes, which is of course an
extremely outside figure, the net cost of the whole scheme per square yard of area
available works out at Rs. 20.38 per yard. If interest charges are included this figure might be raised, however, to Rs. 30. The sale­
able value of this area is necessarily a matter of conjecture, but some guide to it
can be discovered from the prices at which land in the adjacent business area of
Bombay is now changing hands. Sales of such land at prices ranging from
Rs. 300 to Rs. 500 per square yard are of common occurrence. As much as Rs. 1,000
per square yard have recently been paid for land in the Fort and a case is known
in which Rs. 1,500 per square yard were actually offered and refused. It is not
of course anticipated that the average price of the saleable area will reach anything
like so high a figure, but the Government in Council is confident that the most
conservative estimate an all-over price of Rs. 100 per square yard can safely be
relied upon, against an estimated cost of Rs. 20-38, or with interest charges Rs. 30.
Allowing therefore for the largest possible margin of error both in the
estimated cost of reclamation and the estimated value of the area available for
sale or lease, and without taking into consideration the fact that, should all or
several of the Government buildings in the Fort area be transferred to the reclama­
tion, and the sites on which they stand be sold together with the buildings them­
selves, which would realise an enormous sum, it is evident that the proposed
scheme will be immensely profitable to Government. In these circumstances
the Governor in Council trusts that the Government of India will have no hesitation
in moving the Secretary of State to accord his sanction with the least possible
delay. Meanwhile it is of first importance that the scheme should be accepted
by the Government of India and sanction given by them to the purchase of drog­
ing plant in anticipation of the Secretary of State's sanction of the whole scheme.

9. It is understood that there is a precedent for this procedure.

10. Finally, I am to say that the scheme forms only a part of a very large
programme of development which this Government propose to undertake in the
immediate future, and the question of financing all these local schemes has been
the subject of a recent discussion at Delhi. In accordance with the decision then
arrived at, this Government will shortly address the Government of India again
on the subject of raising locally the funds required for the project under considera­
tion, and on the further question of financing in each year, in consultation with
the Imperial Government, the other important projects now under contemplation.
It is only necessary here to state that the Governor in Council understands that the
Government of India have appreciated the importance of these housing and develop­
ment schemes, and have decided to accord their full support of these projects,
leaving the question of financing the necessary loans by Provincial or Imperial
borrowing to be decided in accordance with the circumstances obtaining in each
year I am to ask that telegraphic intimation may be given as regards the immediate sanction required to the proposed purchase of the dredging plant, as the offer quoted by Sir George Buchanan is only open for a very short period longer."

Secretary of State's sanction to the Scheme.

11. A further letter was sent to the Government of India on 4th February, 1920, setting out in detail the various development schemes including the Back Bay Reclamation Scheme, and the executive authority which would carry out these under the Back Bay Reclamation Scheme, and the mode in which the scheme was to be financed along with the other development schemes. The Secretary of State gave his approval to the scheme outlined in previous letters in his telegram dated 4th May, 1920, stating "I desire to acknowledge the admirable work of the Government of Bombay in devising scheme, which is conceived on bold lines, and subject to suitable scheme of finance being evolved, I am prepared to accept proposals in principle." The final sanction to the proposed taxation and to a draft bill was received in June, 1920.

Introduction of the Bill for the Amendment of the Acts in the Legislative Council.

12. As a result of the above sanction a bill to amend the City of Bombay Improvement Act, 1898, and the City of Bombay Municipal Act, 1888, was introduced in the Local Legislative Council in August, 1920. In his speech introducing the bill His Excellency Sir (now Baron) George Lloyd referred to the following terms to the Back Bay Reclamation Scheme, and the mode in which it was proposed to carry it out along with the housing and other Development Schemes:

"Briefly, then, the Directorate will (a) carry out with the assistance of its engineering staff the Back Bay Reclamation Scheme and any other reclamation schemes which may be found necessary in or near Bombay City."

"(b) It will undertake the whole of the industrial housing scheme.

"(c) It will organise systematically the supply of building materials for its own work and of those works with which it is connected. One of the main reasons for the inadequacy of housing for the present day, as I have already mentioned, is the high cost of materials. It seems to us unlikely that the shortage of housing will be made good unless the State steps in and enables private individuals and companies to build more cheaply than they can to-day.

"(d) It will take over from the existing Secretariat all questions relating to the acquisition of land in the city of Bombay and all questions regarding the utilization of Government land. It will be consulted with regard to all proposals affecting land in Bombay City which are submitted by local bodies and railway companies. I wish here to emphasize the fact clearly that the Directorate will not have any powers whatever of interference with existing local bodies other than those which Government at present has. It will merely do on a wider scale and in a more efficient manner what Government has already been doing, or I should rather say, what Government would have wished to do but which for lack of personnel and organization it has not been able to do when confronted with such large and imperative reforms. We wish particularly to avoid creating any new authority; we wished our own authority, however, to be as effective, expeditious and prompt as we could make it in view of the immense task ahead of us. Its success must, therefore, depend largely on personal influence and on the public experience of its utility, inasmuch as it has no new powers of interference of any sort.

"(e) It will carry out large schemes for the systematic development of Salsette. This can be effected in two ways: (1) by town planning schemes to be carried out by local authorities and (2) by the purchase of areas outright with a view to re-sale after development with the least possible cost.

"(f) It will secure an adequate water supply for the whole of Salsette when it is developed as an urban area. Provisional arrangements for the immediate future have been made with the Bombay Municipality, but it is probable, when the area is developed, this will be inadequate. If this is so, an alternative supply must be obtained.

"(g) The Directorate will do its best to deal with the supply and distribution of the electrical energy in the area outside Bombay. Transmission lines of one of Messrs. Tata Hydro-Electric schemes run across Trombay, while those of another are being erected towards the east of Salsette. A central authority will be useful for the control of the supply of both for domestic and industrial purposes.

"(h) The Directorate will also take over the improvement of communications with Salsette. The question of improving railway communication with Trombay is already under discussion with the G. I. P. Railway, but that of linking up with Bombay City large areas in Salsette which are so admirably suited for
residential purposes but are practically without communications remains to be considered and grappled with.

"(g) The Directors will co-operate with the Port Trust in the Development of the Bombay port, more particularly if the scheme is ultimately adopted, in the development of a new dock area and ship-building area on west Trombay. A proposal to transfer to this area the Royal Indian Marine Dockyard is also under consideration."

None of the members of the Council criticised the scheme at that time, but on the contrary they commended the scheme and congratulated Government on the boldness and courage shown in undertaking the scheme, which the previous Governments were unable to tackle successfully for one reason or the other. The scheme was considered to be a very sound one and expected to yield a huge profit to Government.

No suggestion regarding the Port Trust and the Royal Indian Marine's consent being obtained for dredging in the harbour.

Dredging plant.

14. In paragraph 47 of his report Sir George Buchanan recommended that the dredging plant should be ordered forthwith.

In paragraph 7 of this Government letter of 4th December, 1919, the Government of India were requested to send telegraphic intimation as regards the immediate sanction required to the proposed purchase of the dredging plant as the offer quoted by Sir George Buchanan was only open for a very short period. The placing of the contract was sanctioned by the Secretary of State in the beginning of May, 1920, and the order for the dredging plant was placed by the Director-General of Stores. The exact date of the placing of these orders is not known to the Government of Bombay, but it must have been placed immediately after the sanction of the Secretary of State for placing the contract.

Purchase of dredger "Kalu."

15. The purchase of the dredger "Kalu" was also recommended by Sir George Buchanan in his letter dated London, 24th September, 1919, to Sir George Curtis, in the following terms:

"I think your Government ought to ask the Government of India not to sell the 'Kalu' at present, because with a new pipe line she would do very well for the reclamation on the east of the Colaba Peninsula between Pilot Bunder and Sassoon Dock, which work might go on almost at once."

It was finally decided to purchase the "Kalu" for £75,000 on 21st November, 1919, presumably after consulting Sir George Buchanan, who was in India at that time.

16. From the 3rd January, 1921, the reform system of Government came into force, and the Government then consisted of the following Members:

His Excellency Sir George Lloyd, Governor.
Honourable Sir George Curtis, Finance Member.
Honourable Sir Ibrahim Rahimtoola, Revenue Member.
Honourable Mr. Maurice Hayward, Home Member.
Honourable Sir Chimanlal Setalvad, General Member.

Sir Chimanlal Setalvad was administrative member in charge of the Development Department until he resigned in June 1923, and the Honourable Mr. Cowasji Jehangir became administrative Member. In April 1921, the Honourable Sir George Curtis was succeeded by the Honourable Mr. Lawrance as Finance Member.

The officers of the Department were as follows:

Director ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ......
Secretaries (continued) ... ... Mr. R. D. Bell, C.I.E., from 5th July 1924 up to the 1st April 1926, since when he acted as Director with a short interval from 4th October 1924 to 28th November 1924 when he went on special duty in the Public Works Department, Secretariat. Mr. A. W. W. Mackie, I.C.S., from 1st April 1926 up to date.

Chief Engineers ... ... Mr. Ll. W. Lewis, C.I.E., from 11th December 1920 to 12th July 1924 with an interval of leave from 20th May 1922 to 10th October 1922. Mr. G. M. O’Rorke, C.I.E., acted as Chief Engineer from 20th May 1922 to 10th October 1922 and 21st April 1925 to 19th July 1925. Mr. H. A. Elgee, M.I.C.E., from 12th July 1924 to date, with an interval of leave from 21st April 1925 to 19th July 1925.

III.—AGREEMENT ENTERED INTO WITH THE FIRM OF MESSRS. MEIK AND BUCHANAN, CONSULTING ENGINEERS, FOR THE BACK BAY RECLAMATION SCHEME.

MEMORANDUM OF AGREEMENT made this 17th day of March one thousand nine hundred and twenty-one Between CHARLES SCOTT MEIK and SIR GEORGE CUNNINGHAM BUCHANAN, K.C.I.E., carrying on business as Civil Engineers in partnership under the name of Messrs. C. S. MEIK & BUCHANAN at 16 Victoria Street Westminster in the County of London (hereinafter called "The Firm" which expression shall include the said Charles Scott Meik and Sir George Cunningham Buchanan and their successors being partners in the firm and their and each of their respective executors and administrators) of the one part and THE SECRETARY OF STATE FOR INDIA IN COUNCIL (hereinafter called "the Secretary of State") of the other part.

WHEREAS the Secretary of State is about to carry out a Scheme for the reclamation of a part of Back Bay Bombay which is known as the Back Bay Reclamation Scheme and which comprises the whole of the works described in the report made by Sir George Cunningham Buchanan to the Government of Bombay in September one thousand nine hundred and nineteen.

AND WHEREAS the Firm have been engaged by the Secretary of State as Engineers of the Back Bay Reclamation Scheme and of all works in connection therewith upon the terms hereinafter mentioned.

NOW IT IS HEREBY AGREED as follows:—

1. The Firm agree to act as the Engineers of the Secretary of State in carrying out the said Scheme and in the construction and execution of all works connected therewith (hereinafter referred to as "the works") until the final completion thereof and the Firm shall at all times assist and advise the Government of Bombay in all matters relating to the execution of the works and shall supervise the same and undertake and perform all work and duties devolving upon Engineers of large works and in particular the following work and duties namely:—

Work in England.

(a) The preparation of the working drawings specifications schedules of quantities and rates and estimates of cost for the whole of the work included in the report of Sir George Cunningham Buchanan and such work shall be commenced forthwith and all such drawings specifications schedules and estimates and any fresh or amended drawing specifications schedules of quantities and rates and estimates as may from time to time be required during the progress of the works shall be promptly prepared and forwarded to the Government of Bombay and shall become the property of the Secretary of State.

(b) The approval in conference and in conjunction with the Consulting Naval Architect to the Secretary of State of the detailed drawings and specifications of the dredger and floating pipe line and the final inspection and supervision of tests and trials.
(c) The approval in conference and in conjunction with the Consulting Naval Architect to the Secretary of State of the detailed drawings and specifications of intermediate pumping stations, shore pipes and the general inspection and trials of the same.

(d) The preparation of plans and specifications for all other plant required in connection with the construction of the works and the inspection of such plant and any material required for the works prior to shipment.

(e) Correspondence with the Government of Bombay or any Officer deputed to act on their behalf, including any reports from time to time required by Government in respect of the dredger plant or material or the progress of the works.

Work in India.

(f) During the whole period of execution the works shall be closely supervised by the Firm, and Sir George Cunningham Buchanan shall devote the greater part of his time to this particular work, and shall, unless the Bombay Government shall agree otherwise, visit Bombay this year and in every year after the monsoon when the working season begins, and remain in Bombay for such period during the working season as he or the Government of Bombay may consider necessary to ensure the complete and satisfactory supervision of the works, and shall also if necessary, in his own opinion or in the opinion of the Government of Bombay make additional visits during any monsoon.

2. If the Government of Bombay shall from time to time require any alterations in the works before or after the commencement thereof or shall require any additional works to be executed all work required to be done in connection therewith shall be within the duties of the Firm under the preceding clause.

3. A Resident Engineer and also a Deputy Resident Engineer (if required and if his appointment is approved by the Government of Bombay) will be nominated by the Firm and will carry out the details of the works in accordance with the Firm's instructions, but subject to the control of the Director of Development or other officer appointed by the Government of Bombay, and they, as well as the whole of the staff, both Engineering and Clerical employed in India in connection with the works, will be paid by the Government in Bombay.

4. In consideration of the services to be rendered by the Firm as aforesaid, the Secretary of State will pay the firm as remuneration a sum equal to two per cent. on the net expenditure incurred by the Government of Bombay on behalf of the Secretary of State in carrying out the works except that in the case of the dredger and of such other plant as is constructed under the joint control of the Firm and the Consulting Naval Architect to the Secretary of State and on which the Consulting Naval Architect to the Secretary of State receives one per cent., the remuneration of the Firm shall be calculated at one per cent. only. For the purpose of payments on account of the Firm's remuneration in respect of plant (including the dredger) the remuneration shall be calculated on 75 per cent. of the expenditure on the plant subject to final adjustment when the plant is disposed of or no longer required or on completion of the works. Such remuneration shall include all the travelling and incidental expenses incurred by the Firm and also their office staff and inspection and other charges in the United Kingdom and journeys to and from the United Kingdom and India.

5. Payment on account of the Firm's remuneration in respect of work paid for in India shall be made quarterly in rupees in Bombay. Payment on account of the Firm's remuneration in respect of plant paid for through the India Office shall be made quarterly in sterling in London. The said remuneration shall be finally adjusted upon the completion of the works or upon the termination of this agreement, and if any dispute shall arise as to the amount of the actual expenditure or the net cost for the purposes of this clause or the preceding clause either upon the completion or during the progress of the works or upon the termination of this agreement the decision of the Government of Bombay shall be final and conclusive.

6. In case any dispute shall arise between the Secretary of State or the Government of Bombay and the Firm as to the works and duties of the Firm or as to the interpretation of this agreement (other than the amount of the actual expenditure or net cost as provided for in the fifth clause) the same shall at the option of either of them be referred to an Arbitrator to be appointed by the Government of Bombay, whose decision shall be final and conclusive on all parties.

IN WITNESS WHEREOF the said Charles Scott Meik and Sir George Cunningham Buchanan have hereunto set their hands and the Honourable the Governor of
Bombay in Council hath caused one of the Secretaries to the Government of Bombay to set his hand and the seal of the said Government for and on behalf of the Secretary of State for India in Council.

SIGNED by the above-named Charles Scott Meik and Sir George Cunningham Buchanan in the presence of—

(Sd.) GEORGE C. BUCHANAN.

(Sd.) F. B. BARIA,
Superintendent Development Department, Bombay.

(Sd.) S. P. GHEEWALA,
Assistant Superintendent,
Development Department,
Bombay.

Witnesses to Sir George Buchanan's signature.

SIGNED, SEALED AND DELIVERED by

one of the Secretaries to the Government of Bombay in the presence of

(Sd.) JAYARAM JANARDAN MANTRI,
Superintendent, Development Department,
Bombay.

(Sd.) D. D. BILLIMORIA,
Superintendent, Development Department,
Bombay.

Signed by the above-named Charles Scott Meik in the presence of

(Sd.) R. H. MOBBIS,
112, Wakehurst Road,
Clapham, S.W.,
Clerk.

(Sd.) J. A. JOHNSTON,
26, Queen's Road,
Wimbledon, S.W. 19,
Civil Engineer.

IV.—REPORTS OF SIR GEORGE BUCHANAN ON HIS VISITS TO BOMBAY, 1922-24.

From
SIR GEORGE BUCHANAN, K.C.I.E.;

To
THE DIRECTOR OF DEVELOPMENT, BOMBAY.

Sir,
I beg to submit the following report on the progress of the Back Bay Reclamation Scheme, which received the general sanction of the Secretary of State in May 1920, my firm under agreement with the Secretary of State being appointed the Engineers.

1. My original report and estimate for the project was dated September 1919 and it will be convenient if in the first instance I briefly trace events from that date.

2. Method of executing the works.—In my report I recommended that:
(ad) The construction of the 4 miles sea wall be let by contract if a satisfactory tender were received.
(b) The Government of Bombay purchase the dredging plant and carry out
departmentally the filling with dredged material of the area to be reclaimed.

4. On enquiries being made with a view to letting a contract it was ascertained
that owing to the fluctuations in rupee exchange along with the steady rise in the price
of machinery, materials and labour no contractor would tender on the pre-war basis of
a fixed schedule of rates for finished work but contractors were willing to undertake the
work on the basis of an approximate estimate, the Government supplying the funds and
paying the contractor, for his work and skill, a percentage on the actual cost. This
proposed arrangement was not considered satisfactory but as the work of construction
was to proceed simultaneously from Colaba and Marine Lines it was believed more rapid
progress might be made if a portion of the work were let by contract. Tenders were
therefore invited on the percentage basis for the construction of 8,000 feet of wall from the
Colaba end, but when received they were found to be without exception so unsatisfactory from both economic and technical points of view, that it was decided
Government should itself carry out the whole work by direct purchase of machinery,
materials and plant, employment of Engineers and workmen, and use of sub-contractors.

5. Under the rules of the Government of India for the carrying out of Public Works, the approval of my report, plans and estimates did not imply more than the
accordance of administrative sanction to the scheme, and a detailed project estimate
giving the fullest particulars under each head and sub-head should have been submitted
before any actual expenditure was incurred.

The preparation of this estimate would have taken a staff of Engineers at least one year and when completed would have been valueless, for the same reason that contractors were unable to submit a firm tender, and as time was of importance it was decided to
proceed in anticipation of sanction and to prepare the detailed project estimate as soon as reliable data had been collected.

Effect was then given to the recommendation in paragraph 47 of my report, the
dredging plant, the railway rolling stock and machinery, and plant for the quarry and works yards was ordered, and work was begun in opening out the quarry at Kandivli, 21 miles from Bombay.

6. Departure from the 1919 Project.—Some changes have been made in the
original programme involving in some cases an increase of expenditure. The principal
alterations are:—

(1) In order to conform to military requirements the line of the wall has been
brought nearer to the shore at the Colaba end and pushed out in the middle so as to retain the total acreage of reclamation.

(2) The wall at the Marine Lines under construction by the Public Works
Department was completed about 1,000 feet short of the original proposal involving a corresponding increase in the length of the new wall.

(3) Under the orders of the Government the construction of the new wall is
being proceeded with from both ends simultaneously instead of from one end as originally schemed, involving an increased expenditure in machinery and plant.

(4) Blocks of stone will be substituted for the 20 ton concrete foreshore blocks.

(5) In place of working the auxiliary dredger pumping plant by electricity it has
been necessary for reasons given hereafter to provide a much more expensive
steam plant.

7. Delays in proceeding with the work.—The time programme set forth in para-
graph 46 of my 1919 report was on the assumption that the sanction of the Secretary of State to the entire scheme would be obtained by the 1st January, 1920, but as that
assumption was not realised, the programme was necessarily modified. In February,
1921, I submitted an amended programme of operations and after describing in some
detail the extent and nature of the preliminary works to be executed both at Kandivli
quarry and in Bombay I observed that I confidently hoped to see the permanent works
begun both at Marine Lines and Colaba on the 1st October, 1921, that being the date
I expected the weather to be propitious, the preliminary work completed, and the quarry
ready to deliver stones.

The completion of the quarry and other preliminary works depended largely upon
the prompt arrival of the machinery and plant ordered from England and every effort
was being made to push on the manufacturers and get prompt shipment of the goods
by the India Office when the disastrous coal strike caused the suspension of nearly all
work for several months and thereby once more upset our programme.

8. There has also been very considerable local delay:—

(1) Much time has been lost in getting delivery of machinery from the
Bombay Docks.
(2) When clear of the Docks there has been serious delay in transport by rail and I am informed that on various occasions the Railway Company has taken 21 days to deliver goods to the quarry, being at the rate of 1 mile per day.

(3) The Boilers supplied for use on the works are made by the best makers in England and are accompanied by certificates issued by a Boiler Insurance Company. At Home, these certificates would be accepted without question but under the Bombay Boiler Act every boiler used in the Presidency has to be rigorously inspected by an Officer appointed under that Act. There is no reasonable objection to this procedure if inspections were carried out promptly, but not only has there been great delay in inspection but the rules made in 1891 are now obsolete and details of construction and steam pressures used all over the world in the boilers provided are condemned in Bombay.

(4) There has been a great deal of sickness amongst the European Staff.

I am not in a position to say whether the delays under the heads 1, 2 and 3 were avoidable. I merely chronicle the facts.

We are now considerably behind our second programme but the Chief Engineer hopes to make up a certain amount before the break of the monsoon.

9. Progress of the work in England—Plant and Machinery.—Exclusive of the dredger a sum of approximately £300,000 has been expended on Plant and Machinery. This is not out of the way, taking all things into consideration, and a great deal of the plant will constitute a valuable asset at the completion of the works.

10. My firm was entrusted with the taking in of tenders and supervision of manufacture and the greater part of my time and of our staff has been occupied in that connection. We took trouble in every case to recommend to the India Office the lowest tender consistent with workmanship and design. The machinery with the exception of the quarry drilling plant, was obtained from British firms, as at that time works on the Continent were not yet recognised for the supply of machinery. We made, however, various enquiries in America and the Metropolitan Wagon Company of England who obtained the order for railway wagons, were £50,000 lower in their tender than the American firms.

11. Purchase of Dredger and Pipe Lines.—In 1919 I obtained from Messrs. W. Simon & Co., Ltd., a tender amounting to £410,454 for the provision of the dredger and auxiliary plant. The tender was on the basis of rates current for wages and materials, with the proviso that all advances on these rates should form an extra charge, at the same time Messrs. Simon & Co. offered to accept a total fixed price of £461,600 and take on their own shoulders the risk of further advance in the cost of labour and material. I also made arrangements with the Tata Electric Power Company to supply current for the working of the auxiliary dredger.

12. Unfortunately sanction to the purchase of the dredger was not received in time to take advantage of Messrs. Simon & Co.'s offer, which was only available for three months, and when the case was re-opened by the India Office in May 1920 and the order placed, the total amounted to over £650,000, an addition of £200,000, of which £100,000 was due to the fact that in 1920 the Tata Electric Power Company were unable to guarantee the supply of current, and an expensive steam auxiliary dredger had to be substituted for the electric plant.

Moreover, the estimate in 1919 was based on an exchange of Rs. 12 to a pound but with exchange rate at Rs. 15 to the pound the cost of the dredger works out at Rs. 110-62 lakhs compared with the original estimate of 50-6 lakhs.

13. It may be asked why the dredger was ordered when prices had increased so greatly, especially when the works are not sufficiently advanced for its immediate use. The answer to this very legitimate question is that it was considered necessary to order the dredger well in advance of actual requirements in order to ensure delivery.

It was impossible to foresee the collapse of the business boom and the resultant fall in prices and as there was at the time, and there is still, a world's shortage of dredgers, it was anticipated that there would be a long waiting list of orders in the hands of the Builders. Another consideration which must not be overlooked is that a dredger usually has a somewhat perilous voyage across the ocean, and were it to be lost it is always advisable to have some time in hand to build another one.

14. The dredger "Sir George Lloyd" was launched on the 21st October and satisfactory pumping trials were carried out on the 24th November, 1921, speed trials were carried out on the 25th November, 1921, and as certain defects were noticed the vessel was sent back to the ship yard for some alterations. New speed trials were to be held on the 19th January the results of which have not yet come to hand.

The auxiliary dredger "Colaba" had not been tested at the date of the last report.
15. The Architects for the plant are Messrs. Sir J. H. Biles & Co. (the Consulting Naval Architects to the Secretary of State) with whom my firm has been associated.

16. Progress of the work in India.—The work has been divided into three sections:

(i) Quarry.
(ii) Marine Lines.
(iii) Colaba,

and I will describe these sections separately.

The Chief Engineer's programme for this season's work contemplates the construction of 2,000 feet of finished wall from the Marine Lines end, and 3,000 feet of finished wall from the Colaba end. I have every hope that notwithstanding the delays which have occurred, the programme will be completed; if there had been no delays the programme could have been materially exceeded.

17. Quarry Section.—This is situated near Kandivli, a station 21 miles up the B. B. and C. I Railway where we were fortunate in finding a hill 250 feet high of solid Trachite; an output is being aimed at of 3,000 tons or more per day a considerable proportion of which will be in solid blocks up to 15 tons weight each, and for such a size and tonnage very considerable works have had to be executed, of which the following constitute the principal items:

1. Laying the Railway Siding to connect the quarry with the B. B. and C. I. Railway main line.
2. Housing of staff and employees aggregating several thousand people.
3. Construction of a Power House to supply power to the Air Compressors for drilling purposes and erection of workshops and stores for the repair, maintenance and working of the extensive plant.
4. Provision of a water supply to give 50,000 gallons per day, involving the collection of water from wells scattered at considerable distances and pumping to a service reservoir.
5. Erection of steam cranes, steam derricks, stone crushers, Locomotives and other machinery.
6. Preparation and levelling of quarry floor.

18. The work was taken in hand about the beginning of 1921 and carried on throughout the monsoon. The difficulties to contend with were numerous and were aggravated by a severe epidemic of malarial fever which reduced the working efficiency of staff and employees.

The operations may now be said to be practically finished and I have no hesitation in stating that the results reflect the greatest credit on the Chief Engineer Mr. Lewis, and the Senior Deputy Chief Engineer Mr. O'Rorke who has been the officer directly in charge.

19. If I were to make a criticism it would be that the works are too good and of too permanent a nature for merely supplying stone in connection with the Back Bay Scheme. On the other hand it pays to house well your staff and employees and to put rain-proof buildings over good machinery and if, as anticipated, the quarry is made a permanent source of supply for Bombay, the expenditure is fully justified.

20. Marine Lines.—The preliminary works comprised the laying of railway sidings, erection of cranes, concrete mixers, pile drivers and other machinery, small workshops and stores, and staff quarters. On completion of the above the construction of the timber temporary gantry was taken in hand, the purpose of the gantry being to provide accommodation for wagons of rubble stone conveyed by rail from Kandivli quarry, the contents of the wagons being tipped from the gantry to the site of the wall. By this means a solid rubble mound will be formed from ground level to high water mark and on the mound will be constructed a concrete superstructure to a level of 9 feet above high water. The rubble mound will be protected from sea attack by heavy stone blocks laid on the outside.

The building of the gantry began early in December and up to the end of January 119 piles had been driven and 476 feet of gantry finished.

21. I regret that I cannot feel satisfied at this performance as even making all allowances for time lost in training men, I think that with the machinery provided half as much again should have been completed in the time.

It is fair to say that there has been an improvement during the last weeks which, if maintained, will possibly permit of the season's programme being carried through.

22. Colaba.—My original plan provided for a mass concrete wall 16 feet thick at the base and 12 feet thick at the top for the first 2,000 feet and thereafter the design corresponded with that already described for Marine Lines. Subsequently it was proposed to build a concrete block wall 16 feet thick and 8,000 feet long before following...
the Marine Lines type, but finally we reverted to my original design for a mass concrete wall.

23. In all the schemes for the reclamation of the Back Bay, stress has been laid on the necessity for a particularly strong wall to resist the severe sea attack and our plans were made accordingly.

I have now had the advantage of living for two months on the works at Colaba and I have come to the conclusion that for the 10,000 feet of wall situated on the reef, the sea attack will be negligible because, however great the storm, there will be immense protection afforded by the reef itself outside the wall.

I have personally explored the reef from end to end and I find that it constitutes not one but many breakwaters which will reduce the biggest waves into froth and spray. As a proof thereof numerous flimsy rubble walls built for use as fishtraps may be seen scattered over the reef, resisting the whole force of the monsoon year after year without repair.

24. We have now reduced the thickness of the mass concrete wall from 16 feet to 12 feet and a still smaller section would be sufficient were it not there must be sufficient width to take a line of rails along the wall for construction purposes or alternatively build special staging. Moreover from 2,000 feet to 10,000 feet we have in consultation with the Chief Engineer, Reclamation Department, decided to dispense with the timber gantry and build the wall by wall by means of an ordinary tip from end tipping wagons and we shall probably materially reduce the size of the concrete superstructure.

25. At Colaba the preliminary and temporary works comprise the erection of machinery, laying of tram lines, railway connection along the foreshore to Marine Lines, collection of stones on the reef for the mass concrete wall, and provision of quarters and lines for employees.

The work was delayed owing to the severe illness of the Deputy Chief Engineer, but by the 31st of January 650 feet of wall foundation had been completed, and I see nothing to prevent completion by the end of May of the 3,000 feet contemplated in the programme as the work is now proceeding in a thoroughly satisfactory manner.

26. Programme of future operations.—I understand that there are cogent reasons for pressing ahead with the completion of the scheme from the Colaba end even at the expense of progress at Marine Lines.

The only temporary work of any importance now outstanding at Colaba is the construction of the broad gauge railway connecting Colaba with Marine Lines, thereby enabling whole trains of stone from Kandivli to be transported direct to Colaba. This work is about to be put in hand, and once it is completed and the necessary terminal arrangements made at Colaba for the automatic transfer of stone from side to end tip wagons, wall construction from the Colaba end can proceed at full speed, and in my opinion can be continued throughout the monsoon. There are about 150 trains of stone required for the rubble mound or at 45 trains a month say 33 months to complete the 8,000 feet of the wall, which, with the 2,000 feet of concrete wall now under construction, will make a total of 10,000 feet of wall or nearly half the entire length.

On completion of the rubble mound the building of the concrete superstructure will be put in hand, but that need not hinder the deposit of pump filling, and the dredger can begin operations as soon as the rubble mound is sufficiently advanced and the cross wall put in.

27. It is impossible to fix a date for starting the dredger. Had it not been for the delays in beginning the work this season, I am of opinion that wall construction would have advanced sufficiently to make it worth while beginning the dredging operations at the end of the current year, and this possibility should still be kept in view and one pipe line laid across the peninsula in order to be ready for eventualities.

In any case, the whole of the 10,000 feet of wall from Colaba end, including the superstructure, should be finished by May, 1924, and the dredger begin work in that section about October, 1923.

The wall from Marine Lines should advance at the rate of 3,000 feet per annum and join up with the Colaba wall in the spring of 1925. But it may be desirable to keep open a gap until the dredger is ready to operate in the Marine Lines section.

28. To fill the entire area enclosed by the wall requires six seasons' dredging or, say, up to the end of May, 1929, on the supposition that the dredger begins in 1923 and the work continues without a hitch. That does not, however, mean that land would not be available for occupancy until that date, because by some additional expenditure on cross bunds every season or two seasons work can be isolated and completed. Much depends on the nature of material dredged, and that can only be definitely ascertained when actual dredging begins.
29. Engineering Staff.—In carrying out a large public work departmentally success, both economic and technical, depends to a large extent upon the adequacy, efficiency, and loyalty of the engineering staff, technically because apart from actual design much depends upon workmanship, and economic because the spending of money and the employment to the best advantage of workmen is entirely in their hands.

Government is in regard to its staff at a disadvantage compared with a contractor or a private firm. The loyalty and enthusiasm of a staff is often taken for granted, but it is rarely spontaneous, and in the case of a contractor or private firm bonuses are given for particularly good work, and in other ways officers are encouraged to do a great deal more than is strictly required of them; also on the reverse side if an engineer is inefficient a contractor will cut his losses and get rid of a man by paying whatever is legally due in lieu of notice. Government rules preclude either bonuses or pay in lieu of notice, and I merely mention this matter because it is one of the chief advantages gained in employing a contractor for the execution of public works.

30. Under section 3 of the agreement with my firm we nominated for the offices of Resident and Deputy Resident Engineers respectively Mr. L. W. Lewis, of the Government of India, Public Works Department, and Mr. G. O’Meara, their titles being subsequently changed to Chief Engineer, Reclamation Branch, and Senior Deputy Chief Engineer.

The Chief Engineer deals with works of reclamation other than the Back Bay Scheme, but the Senior Deputy is at present engaged solely on that work and is at present in charge of the quarry at Bandivali.

In addition to the above there are two Deputy Chief Engineers in charge of the Colaba and Marine Lines sections of the works respectively, and each of these has an Assistant Engineer attached to his section. There is also an Assistant Engineer at the quarries.

31. I doubt very much if the staff is adequate; the Assistant Engineers are not sufficiently trained to act, if required, for the Deputy Chief Engineers, and in case of one of these officers falling sick or going on leave, the work must suffer. A case in point occurred recently at Colaba when just at the beginning of the working season the Deputy Chief Engineer was absent in Hospital for some weeks, and when the Chief Engineer went on leave this year and the Senior Deputy Chief Engineer acts for him, a chance casualty amongst the remaining staff might prove very serious from the point of view of works progress and works economy. On large public works involving great expenditure it is more economical to be rather oversstaffed than the reverse, and in the East provision must be made for casualties.

32. I recommend the appointment of at least one additional Engineer, with experience in marine works, of the Executive Engineer’s grade who would be posted wherever his services were most required, and who would be available to act at any time as a Deputy Chief Engineer. I think this officer should be a European because it is almost impossible to obtain an Indian Engineer with marine experience, and there is a larger field for selection amongst Europeans. I also make the suggestion, for what it may be worth that, as is done on large works in Europe, each Deputy Chief Engineer might have attached to his staff on a nominal salary a young Indian Engineer specially selected, who would be given the opportunity of obtaining practical experience of the works.

33. Engineering Accounts.—In addition to an efficient Engineering staff the success from the point of view of economical execution of a work carried out departmentally depends upon the proper keeping of accounts.

As previously stated the practice in India is to have a project estimate prepared by the Engineers and sanctioned by competent authority before the work is put in hand, and this project estimate and subsequent works estimates are placed in the hands of the Government Accounts Department who, through their auditors scrutinize all statements of expenditure submitted by the Engineers, and check each item against the sanctioned head of account, at the same time furnishing the Engineers with debits of various kinds which may have not reached them at first hand.

An Engineer is not thereby absolved from the responsibility for his accounts but the check acts as a safeguard, because any irregularity or excess on a head or sub-head of the estimate should be brought promptly to his notice by the receipt of an objection statement.

The Engineer’s accountant although under his orders is appointed by the Accounts Department and much depends upon his qualifications.

A good accountant should be more than a mere recorder of figures. He should be able to assist the Engineer by the analysis of cost under many sub-heads which do not necessarily appear in the project estimate.
34. The practice in England differs from that which obtains in India. Works are sanctioned on estimates to which in India only administrative sanction would be given, but whether the works are executed by contract or departmentally the Engineer has to be in close touch with costs from day to day, from beginning to completion of the works, and by means of a competent accounts staff and a reliable system of cost keeping as differentiated from account keeping, the Engineer knows exactly where there has been excess on the smallest sub-head of his estimate or where money has been saved.

Both Indian and English systems have their good points and that in India is the result of many years' experience. I have worked with both and venture to suggest that a weak point in the Indian method is that works accountants are frequently not more than figure recording clerks, and when as a member of the Indian Munitions Board I was in control of the Indian Ordnance Factories, we entirely reorganized the accounts system, with the co-operation of the Account's Department, and in each factory accountants receiving perhaps Rs. 100 to Rs. 150 per month were replaced by Indian accountants of much more experience and receiving 3 and 4 times the pay who were capable of assisting the Superintendents in practical cost analysis.

35. My excuse for writing at length on this subject apart from its general importance, is that the accounts of the Back Bay Scheme do not appear to be kept on either one or the other of the systems described above. Although works estimates have been made, there is as yet no sanctioned project estimate. The Chief Engineer keeps no accounts nor has he been furnished with up-to-date statements of expenditure by the accounts branch in order that he may see how matters stand. In this connection I wrote to the Chief Engineer on the 7th January, asking to be supplied for the purpose of this report, with a statement in some detail giving the total expenditure on the project up-to-date or reasonably so, the Chief Engineer asked the Accounts Department for the information and on the 21st January I received a statement of expenditure up to the end of October, which can hardly be called up-to-date nor did it contain sufficient detail to be of any practical use.

36. The accounts are kept on what is known as the pre-audit system which means, as the name conveys that no payments are made until the accounts have been audited, and one of the chief recommendations for the system is that the audited accounts are supposed to be always written up-to-date.

Under such a system there is no object in the Chief Engineer keeping account books, but it is of the first importance that he should be furnished at least once a month with an up-to-date statement of expenditure on all heads of account, whilst each Deputy Chief Engineer should be able to rely upon a current audit and the prompt supply of all debits against his estimates.

37. Revised Estimate.—The estimate accompanying my 1919 report amounted to lakhs 367.61 at Rs. 12 to the pound sterling and this sum was increased by the Government to 4 crores.

The estimate was based on the most reliable figures obtainable and no one could forecast either the tremendous upward bound in prices, or the depreciation in the value of the rupee. To give one example typical of many steel plates and angles which were £18 per ton in September 1919 rose to £24 10s. per ton in May 1920 and remained at that figure until the end of the year, during which period the bulk of the material for the dredger and other plant was purchased.

The price of labour rose in proportion both at Home and in India, and in Bombay in particular the Engineers inform me that labour both as regards cost and efficiency compares unfavourably with other parts of India.

38. In the 1919 estimate I assumed that the work of constructing the wall would be let by contract, and that the contractor would purchase the plant necessary and carry out all temporary works, but in the revised estimate I have included separate items on this account under the various main heads and I have included quarry as a main head.

Under the sub-head moorum for surface filling the area to be covered has been reduced because at a conference in London with Mr. Davidge, the Town Planner, it was agreed that laying moorum over land ultimately to be covered with buildings was an unnecessary expense.

Under the head dredging, cost of plant has been kept distinct from working expenses, and the purchased price of the dredger " Kahu " and the cost of the pipe line which had not been arranged for in 1919 has been added to the plant.

Under the head roads, lights and drains the original Public Works Department estimate in 1919 was 69-45 lakhs, which was increased by me in 1919 to 75 lakhs. In neither of those estimates was any allowance made for sewerage the reclaimed area, as it was believed this would be done by the Municipality. I understand that such is not the case and also that Municipal rules demand better roads than those originally provided. I have therefore increased the estimate under this head to 135 lakhs.

5
10
15
20
25
30
35
40
45
50
55
60
65
39. The total revised estimate of gross cost at Rs. 15 to the pound amounts to Rs. 668.89 lakhs, as per appended statement, but it is obvious that this sum does not represent the real cost of the work, as there are considerable reductions to be made on account of the capital value of the dredger, the quarry and the plant and machinery at Marine Lines and Colaba when the Back Bay Scheme itself is completed. The dredger may be used on other works or sold, whilst as already pointed out the quarry will be a valuable asset for many years to come, will supply stone for East Colaba wall and other works, and stone for the buildings to be erected on the reclaimed area. It is impracticable at the present time to put a final value on the above, but the Chief Engineer and I agree that 70 lakhs is a reasonable minimum sum and therefore that sum has been deducted from the gross amount of estimate which brings the nett cost to Rs. 598.89 lakhs.

40. East Colaba Reclamation.—My estimate in September 1919 for this work was Rs. 39.76 lakhs, and in May 1921 the Chief Engineer, Reclamation Department, sent my firm for criticism a copy of the preliminary estimate prepared by him amounting to Rs. 71.07 lakhs.

In a letter dated 18th July 1921 we replied to the Chief Engineer and stated that the prices were higher than we had experienced on other works we had carried out. We made certain proposals and suggested that I should go into the matter fully when I next visited Bombay as it was difficult in a letter, without knowing more of the circumstances to discuss the merits of the respective proposals. This letter crossed a letter dated 20th July from the Chief Engineer saying that he had reduced his estimate to 46.71 lakhs and giving reasons for so doing.

I understand that the position now is that the Chief Engineer has been asked to supply a detailed project estimate and on its completion we will go into the matter further.

41. Conclusion.—Although the delays in beginning the work have been most regrettable and valuable time has been lost I am well satisfied with the future outlook. The difficulties inevitable when commencing a large engineering work have been overcome and there is so far as we can see a straight road ahead.

Wall construction will be easier and speedier than I anticipated, and the only uncertainty concerns the exact nature of the material to be dredged from the harbour and used as filling.

In my opinion there should now be a concentration on the following:—

(1) Railway connection between Colaba and Marine Lines.
(2) Preparation of terminal arrangements at Colaba and purchase of end tipping wagons.
(3) On completion of Nos. 1 and 2, construction of stone mound to a distance of 10,000 feet from Colaba and cross bunds as required.
(4) Erection of dredger’s floating pipe line and laying of the land pipe line for the dredger to serve that area.

I have in this report expressed my opinion freely on all points conceiving it my duty so to do in view of paragraph 1 of our agreement which says that:—

"The firm shall at all times assist and advise the Government of Bombay in all matters relating to the execution of the works."

I have the honour to be,

Sir,

Your most obedient servant,

(Signed) GEO. C. BUCHANAN.

Bombay, 11th February, 1922.
## BACK BAY RECLAMATION SCHEME.

### REVISED ESTIMATE (1922).

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantities</th>
<th>Rate</th>
<th>Lakhs of rupees</th>
<th>Net cost of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kandivli Quarry—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Land acquisition, Railway sidings, cooly Lines, water supply and other miscellaneous works.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Power House, Workshop and Equipment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) Crushing Plant ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(d) Staff Quarters ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(e) Crane, Derrick, Locoo, Skips, Engine Shed, &amp;c.</td>
<td></td>
<td></td>
<td>4.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(f) Drilling Plant ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(g) Establishment during construction</td>
<td></td>
<td></td>
<td>1.18</td>
<td>70.03</td>
<td>698.89</td>
</tr>
<tr>
<td>2</td>
<td>Railway Rolling Stock ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Marine Lines (11,500 Lin. ft.)—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary works, Tools and Plant ...</td>
<td></td>
<td></td>
<td>L.B.</td>
<td>23.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tipped rubble ... ... ...</td>
<td></td>
<td>10,900</td>
<td>14</td>
<td>13.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mass concrete wall ... ... ...</td>
<td></td>
<td>7,500</td>
<td>150</td>
<td>16.03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parapet ... ... ...</td>
<td></td>
<td></td>
<td>L.B.</td>
<td>2.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pitching ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Colaba (10,000 Lin. ft.)—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary works, Tools and Plant ...</td>
<td></td>
<td></td>
<td>L.B.</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tipped rubble ... ... ...</td>
<td></td>
<td>23,585</td>
<td>14</td>
<td>4.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mass concrete wall ... ... ...</td>
<td></td>
<td>7,000</td>
<td>150</td>
<td>11.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parapet ... ... ...</td>
<td></td>
<td></td>
<td>L.B.</td>
<td>2.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pitching ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td>2.90</td>
<td>48.25</td>
</tr>
<tr>
<td>5</td>
<td>Paving trap stone on whole wall ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Dredging Plant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost of dredger “Sir George Lloyd” and equipment.</td>
<td></td>
<td></td>
<td>110.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost of dredger “Kalm” and pipe line</td>
<td></td>
<td></td>
<td>17.76</td>
<td>128.38</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Mowrin Topping ... ... ...</td>
<td></td>
<td>10,000,000</td>
<td>6</td>
<td>60.00</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Pumping and Filling—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Material ... ... ...</td>
<td></td>
<td>25 million</td>
<td>5 A.</td>
<td>78.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cross walls ... ... ...</td>
<td></td>
<td></td>
<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pipe lines, trenching and laying ...</td>
<td></td>
<td></td>
<td>10.00</td>
<td>95.12</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Roads, Lighthouses, Stormwater drains and Sewerage.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>135.0</td>
</tr>
<tr>
<td>10</td>
<td>Establishment ... ... ...</td>
<td></td>
<td></td>
<td></td>
<td>25.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add for unforeseen circumstances ... ...</td>
<td></td>
<td></td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deduct recoveries for value of Quarry, other Machinery and dredger.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>668.89</td>
</tr>
</tbody>
</table>

Appendix to my report of this date.  
(Signed) GEO. C. BUCHANAN.

Bombay, 11th February, 1923.
23

Bombay, dated 10th January, 1923.

From

Sir GEORGE BUCHANAN, K.C.I.E.,
Bombay;

To

THE DIRECTOR of DEVELOPMENT,
Bombay.

Dear Sir,

I beg to submit the following report on the progress made with the Back Bay Reclamation Scheme.

1. In my report dated 11th February, 1922, I described the action taken up to date under the various heads, and said that the programme of permanent work for the season 1921-22 contemplated the construction of 2,000 feet of finished wall from the Marine Lines end and 2,000 feet of finished wall from the Colaba end. I discussed the programme of future operations, and the reasons for pushing ahead the work at Colaba even at the expense of progress at the Marine Lines, and to that end I urged a concentration on the work of building the Marine Lines-Colaba Railway along with the necessary terminal arrangements at Colaba for the transfer of stone from side tip to end tip wagons.

In the matter of dredging I said that although I could not definitely fix a date for beginning operations, the possibility of dredging in 1922-23 should be kept in view and a pipe line laid across the Peninsula in order to be ready for eventualities. Lastly I made some observations on the necessity for strengthening the Engineering Staff and for the keeping of Engineering Cost Accounts.

Work Accomplished.

3. The 2,000 feet length of mass concrete wall at Colaba was completed by September, 1922, and 2,050 feet of rubble and 1,850 feet of concrete wall at Marine Lines was completed by June, 1922. The Marine Lines-Colaba Railway and terminal transfer station are practically completed but no action has been taken towards laying the first pipe line across the Peninsula.

It is matter for great regret that the work of constructing the Marine Lines-Colaba Railway was not begun until the month of May, instead of February, which was the date of my report, as three precious months were lost at the best working time of the year with a corresponding delay at the beginning of this working season.

Programme of Wall Construction.

4. The wall will be 21,578 feet long; 10,500 feet of rubble mound from Marine Lines is being built from a timber gantry whilst the 11,078 feet from Colaba is as regards 2,000 feet, a mass concrete wall, and for the remainder a similar rubble section to Marine Lines but built by means of end tipping wagons dumping ahead instead of side tipping wagons from the gantry.

According to the programme drafted by my firm in April 1921 wall construction was to begin in October, 1921, and the wall was to be completed by 31st May, 1925. The Chief Engineer, Reclamation Department, in his Project Estimate, dated October 1922, did not see his way to finishing the wall until 1926, but he has since revised the date and the following is his latest programme:

<table>
<thead>
<tr>
<th>From Marine Lines</th>
<th>From Colaba</th>
<th>1921-22</th>
<th>1922-23</th>
<th>1923-24</th>
<th>1924-25</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000</td>
<td>2,000</td>
<td>4,500</td>
<td>4,578</td>
<td>2,600</td>
<td>10,600</td>
<td></td>
</tr>
<tr>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td></td>
<td></td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4,000</td>
<td>7,500</td>
<td>7,578</td>
<td>2,600</td>
<td>21,578</td>
<td></td>
</tr>
</tbody>
</table>

From above it will be seen that it is proposed to construct this season 3,000 lineal feet of finished wall from the Marine Lines end, 4,500 feet from the Colaba end and one cross wall 3,000 feet long and the following table supplied to me by the Chief Engineer, Reclamation Department, shows details of the stone required.
Back Bay Reclamation Scheme—Programme 1923.

<table>
<thead>
<tr>
<th>Length of wall to be built.</th>
<th>Quantity of rubble.</th>
<th>Quantity of protection stone.</th>
<th>Quantity of crushed stone for concrete.</th>
<th>Total quantity of stone required.</th>
<th>Total quantity in number of wagons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Lines ...</td>
<td>3,000</td>
<td>53,034</td>
<td>19,055</td>
<td>10,711</td>
<td>4,185.</td>
</tr>
<tr>
<td>Colaba ...</td>
<td>4,500</td>
<td>56,156</td>
<td>23,181</td>
<td>14,500</td>
<td>4,844.</td>
</tr>
<tr>
<td>Cross wall ...</td>
<td>3,000</td>
<td>52,990</td>
<td>20</td>
<td>552,000</td>
<td>2,605.</td>
</tr>
</tbody>
</table>

Probability of completing this season’s Year’s Programme.

6. At the date of this report the position is as follows:

At Marine Lines the driving of the piles for the gantry has reached chainage 4,300, leaving 700 feet to complete the 3,000 feet and 2,880 tons of stone have been tipped on the new length of wall. At Colaba tipping from end tipping wagons has not yet begun but a start is expected very shortly.

The output of the Quarry according to the report accompanying the Chief Engineer’s Project Estimate is 2,000 tons per diem, or considerably in excess of what is required, so that theoretically there should be no difficulty in carrying out the work, but it must be remembered we are already three months late in starting the season’s operations. The Chief Engineer has only allowed in his programme for one cross wall at Colaba, 9,000 feet long, but it is of great importance to build also the cross wall 1,500 feet long opposite Church Gate Street so that the reclamation of the Marine Lines Area by means of the Dredger “Kalu” may be taken in hand this year.

Opinion of Work Executed.

6. The work carried out up to date is substantial, and I am satisfied that the wall as designed by my firm will be solid enough to withstand the force of the strongest monsoon waves. The settlement of the mass concrete wall on the rubble mound at Marine Lines has been less than was anticipated, but there is room for considerable improvement in the workmanship, as, due probably to defective bracing of the shuttering, indicative of inadequate subordinate supervision, the line is not true. The strength of the wall is not affected and the coping will hide the defect, but it is not first class work, and if done by a contractor would not be accepted.

A more serious matter concerns the quantity of stone used in the mound. I requested the Deputy Chief Engineer to have some sections taken in order to see how the wall conformed with the drawing, and I find that the quantity of stone on the outer slope is in excess to the extent of about 50 per cent. In actual figures about 60,000 cubic yards have been deposited as against about 40,000 required which, reduced to money, means that the 2,000 feet of rubble mound has cost Rs. 75,000 more than it need have done. It is usual in a work of this kind for Cross Sections to be taken periodically to check the line of the slope and if this is not done the amount of stone may be in deficit to an extent to endanger the wall, or in excess to an extent greatly unnecessarily to increase the cost.

It is also of importance that the stone despatched from the Quarry should be as large as can be reasonably obtained. The procedure at the Quarry is to do a great deal of the work of loading the wagons by hand labour. This is cheap and fairly speedy, and can be used for the considerable percentage of small stone (probably 50 per cent.) brought down by every blast. What we do not want, however, is for stone to be broken up specially in order to suit hand labour. We want what is known as the “Run of the Quarry,” big and small, just as they come. To do this it may be necessary to alter the layout so as to bring both cranes and wagons nearer the Quarry face and, if necessary, this should be done.

I find that in many cases the wagons are not being fully loaded at the Quarry, thus delaying the work and increasing the cost of the transport of the stone. The wagons were designed to carry 20 tons at 20 cubic feet to the ton, but the stone has proved lighter than was anticipated, and rubble runs to 27 cubic feet to the ton, therefore a 20 ton wagon only carries about 15 tons of stone, but measures are being taken to remedy this defect by increasing the height of the sides.
I examined a train of stone recently containing 44 wagons, some of which had had their sides raised, and the total weight of stone contained in the wagons was 575 tons, or 13 tons per wagon. One wagon contained only one stone weighing 1 ton, that is to say the cost of transport of that one stone was 20 times in excess of the estimate.

Dredging.

7. The successful reclamation of the enclosed area by means of pumping material dredged from the sea bed is the crux of the whole scheme. The sanctioned project provides for the dredging of material from the Harbour and pumping it through pipe lines laid across the Colaba Peninsula, but since that arrangement, the Harbour Authorities have curtailed considerably the area hitherto believed to be available, the portion cut off containing a number of borings, the most suitable of which was therefore decided last year to investigate the possibilities of obtaining good material from Back Bay itself in order to supplement the Harbour supply and more especially for the Marine Lines end of the work, where the lead from the Harbour would be very considerable.

Some borings were taken and the result seemed to the Chief Engineer, Reclamation Department, sufficiently favourable to warrant a more complete testing of the ground and that is now in course of execution. Personally, although I should welcome a supply of good material from Back Bay and believe that the Marine Lines area can be reclaimed therefrom by the dredger "Kalu," I doubt very much from the nature of the borings already taken, whether there will be a sufficient depth of dredgable clay to warrant the use of the large dredger, there are also considerations of navigation to consider and the effect the deepening of the sea bed may have an increasing wave action. Lastly I understand there are five or more cables of the Eastern Telegraph Company laid across Back Bay and these must be collected and localized.

For the above reasons, whilst agreeing that full investigation should be made of the Back Bay Area I am averse to delaying the arrangements already made for dredging from the Harbour. In the programme of work drawn up by my firm in April 1921 we fixed the date for beginning dredging and filling at Colaba for December 1922 and I still consider that it should have been possible to be dredging this season.

The Chief Engineer, Reclamation Department, in his Project Estimate, fixed the date for the end of 1924 and the completion in 1929-30 but has since agreed to make an effort to dredge towards the end of the current year. There should be no doubt at all about beginning this year, and with two Dredgers, the large one pumping from the Harbour and the small one from Back Bay, I believe it possible to complete dredging during the season 1926-27. If however, no action is taken in laying the first pipe line until all the borings in Back Bay have been made, and the results tabulated and considered, I am afraid another season may pass without the dredger getting to work. I also recommend that very early action be taken in putting the dredger "Kalu" into working order and arranging for any additional pipe line and a terminal pontoon if such are required.

In a recent memorandum I recommended the appointment of an Executive Engineer in charge of dredging, but on reconsideration I consider the work of such importance that I am of opinion the appointment should be that of Deputy Chief Engineer, if an Officer with the necessary experience can be obtained.

Cross Wall.

8. The Chief Engineer, Reclamation Branch, has allowed for eight cross walls against our four, the amount of stone involved being equivalent to that required for the whole of the sea wall. Until the nature of the material dredged is actually seen, it is impossible to say how many walls will be required and it may be necessary to divide the area into still smaller sections, but I hope by using murum in conjunction with stone a saving in the latter may be effected.

Staff.

9. The work both at Marine Lines and Colaba has I am afraid suffered from lack of supervision and competent Engineering Assistance, effect has now been given to the recommendation made in paragraph 32 of my report dated 11th February 1922 for the appointment of an additional Engineer and the officer arrived last month. He should in my judgment be posted to the Colaba Section under Mr. Billinton as that is where he could at present be of the greatest use and in case of need he is capable of acting for either of the Deputy Chief Engineers.

Accounts.

10. Action is being taken on the recommendations contained in paragraphs 33, 36 of my report dated 11th February 1922. An assistant has been appointed to assist the Deputy Chief Engineer, Quarries and an Accounts Officer of the Government of India has been deputed to consider the whole question with a view to giving assistance to the Deputy Chief Engineers, Colaba and Marine Lines.
If this can be arranged I am satisfied that considerable economies in carrying out the work can be effected. It is not sufficient to keep within the Project Estimate, as I consider some of the rates in that estimate are too high and could be reduced in practice, and to give one example of the use of costs if the Deputy Chief Engineer, Marine Lines, had been analysing his costs he would have ascertained that too much stone was being placed in the rubble wall.

General Remarks.

11. Speaking generally, I am of opinion that the works have made fair progress considering the difficulties experienced, and the shortness of staff but I doubt if there is sufficient planning ahead, and Co-operation between the Chief Engineer and the Deputy Chief Engineers. If the latter are not kept fully informed as to the general programme of the work it makes it very difficult for them to look ahead in their plans and arrangements, conferences held at frequent intervals are of great benefit to works under construction, and promote mutual confidence among the members of the senior staff.

The Engineer in charge, must of necessity look many months ahead of the work and cannot spare the time for daily details. The Deputy Chief Engineers in their turn must also spend part of their time preparing the work a few weeks ahead and the Assistants confine themselves to the daily routine duties.

In particular the Annual Programme of work should be worked out in the greatest detail in close conference with the officers concerned, otherwise, smooth working is impossible.

12. As informed you verbally I am leaving for England on the 20th instant returning to Bombay about the first week in July as I am anxious to see Back Bay under Monsoon conditions.

I am, Dear Sir, Yours Faithfully,  
(Signed) GEO. C. BUCHANAN.

BACK BAY HOUSE,  
Colaba, dated 26th July 1923.

From Sir GEORGE BUCHANAN, K.C.I.E.,  
To THE CHIEF ENGINEER,  
RECLAMATION BRANCH,  
DEVELOPMENT DEPARTMENT.

Dear Sir,  

With reference to my inspection of works and conference with you on various points I have the following observations to make.

Colaba.

(1) You are considerably behind-hand in your programme for the year but this is largely accounted for by the shortage of output at the Quarries which again was caused in your opinion by the outbreak of plague at Kandivlee and subsequent shortage of labour.

In any case you should complete the programme during the monsoon and the next season's work will not be affected.

(2) There is more small stone in the mound than I like to see, but you have a good outside line of protection by large stone and it is agreed that for next season's work the Quarries will be instructed that stone below a certain fixed weight is not to be despatched for deposit on the wall.

(3) I enclose a copy of a letter and sketch cross section received from Mr. O'Rorke when he was acting Chief Engineer. We discussed the matter at Home and now with you and it is understood Mr. O'Rorke's proposal is approved.

(4) Next season, if there is any likelihood of stone output being short, I am strongly of opinion it would be better to curtail the length of the mound in order to consolidate in the rear and complete the concrete wall before the advent of the monsoon, as the mound minus the Concrete wall and with no large stones on the inside slopes suffers considerably from the monsoon seas. Also the large quantity of protection stones can be placed by the Crane travelling on the wall and the work thus rendered secure.
27

(5) You have shown me that the present level of the top of the mound is really a little too low as waves even in the fair weather top the mound and wash out small stones thus destroying the temporary track. I see no objection to raising the mound level two to three feet. More stones will be used but this will be compensated for by the saving in concrete, in time, and the wear and tear of plant.

Marine Lines.

(6) The season's work is complete with the exception of the protection stones to be set by the 20 ton Crane. The work is substantial and reflects credit on the Engineers in charge, but as at Colaba a good deal of the stone is on the small side. No time should be lost in finishing the protection pitching with the 20 ton Crane and next season, I hope, all the protection work will be finished before the break of the monsoon or alternatively the length of work curtailed.

Storm Water Drain and Cross Bands.

(7) We sent you our design for above along with our idea as to the method of construction. You propose an alternative method and as you are carrying out the work you must exercise your own discretion especially as no principle is involved.

(8) In the matter of Storm Water Drains and Bunds at Colaba and Marine Lines respectively which enclose the first area to be reclaimed by dredgers, I have proposed to move the bunds to one side of the drains instead of immediately over them, as otherwise, I see no prospect of completing the bunds in time to begin dredging in say November. I understood you agree to this procedure and the work should be pushed forward with all possible speed.

Dredging.

(9) It is understood that the scheme put forward in our letter dated 3rd May 1923 and shown on Drawing No. 3411, dated 2nd May, will be adopted and we hope that the additional length of pipe line and renewal parts for the "Kalis" will be out in time for both the Dredgers to do good work in the coming season.

(10) In Mr. Brims, the officer selected by us to take charge of dredging operations, you will have an Engineer of great experience and we suggest that he should have a fairly free hand and be made responsible for everything connected with dredging, i.e., control of dredgers and Dredging Masters, Laying of pipe lines, indenting through you for all stores required on Dredgers or elsewhere and generally in consultation with you the making of all necessary arrangements.

He should also be responsible for keeping the cost of dredging and should give you periodical reports and cost statements of which we should like copies. Mr. Brims should be provided with quarters on the works.

East Colaba Reclamation.

(11) I notice that a certain amount of work has been done and stone deposited but it is understood that at the present time work is to be concentrated on finishing the season's work at Colaba including the two cross walls at Colaba and Marine Lines respectively. I brought out with me Drawing No. 3435, dated 23rd June showing the section we propose for the East Colaba Wall.

You observe that for the same reason you wish to raise the level of the mound at Colaba you would like to raise the level of the stones on our section and to this I have no objection. I also agree that the concrete pavement might be of tar macadam.

We have discussed the Storm Water Drains across the area reclaimed and they present no difficulty.

(12) I consider that notwithstanding the shortage of output at the Quarries which has most seriously interfered with the completion of the Colaba Section, good progress on the whole has been made with the work since my last visit and we should like a special effort made to have the cross bunds finished, pipe lines laid and dredging begun in earnest at the end of the monsoon.

Yours faithfully,

(Signed) GEO. C. BUCHANAN.

(Through the Director of Development.)
From Bombay, 14th February, 1924.

To. SIR GEORGE BUCHANAN, K.C.I.E.,

Dear Sir,

I beg to submit the following report on the progress made with the Back Bay Reclamation Scheme.

WORK EXECUTED.

Sea Wall.

At the close of last season's operations the gantry at Marine Lines had reached Chainage 5,100 feet. Work was renewed on the 22nd October 1923 and by the 22nd December 1923 the total length was 6,550 feet which concluded the season's work on gantry construction. Tipping stone to form the rubble mound was begun on the 1st December at chainage 5,050 feet, was completed to chainage 5,920 feet on the 11th February and is expected to reach chainage 6,450 by the 7th March. The concrete superstructure was finished to chainage 5,800 feet on the 11th June 1923 and will begin on the new length about the 18th February and finish to chainage 6,450 about the middle of April.

At Colaba the rubble mound from chainage 3,000 to 5,705 was finished on the 28th August 1923, concreting on superstructure began on the 30th August and was completed on the 11th February 1924. Work on the rubble mound was renewed from chainage 5,705 feet on the 10th December, had reached chainage 7,800 feet on the 11th February 1924 and is expected to complete to chainage 11,978 feet by about the end of May, thus completing that section of rubble wall. Concreting the superstructure will not be taken in hand until towards the end of the Monsoon say the 7th September and will be finished about the end of February 1925.

The total length of wall to be executed at Marine Lines in the season i.e., 1,450 feet is about half that contemplated by the Chief Engineer, as given in my report to you dated 10th January 1923 but is in accordance with the programme suggested by my firm in their letter to you dated 3rd November 1923 and I believe with your own views, as there seemed no object in pushing ahead with the wall so far in advance of the filling operations.

At Colaba the work was 795 lin. feet behind the Chief Engineer's programme for 1922-1923 and he did not propose to finish the rubble mound this year, but on my recommendation is doing so.

Cross Bunds

As explained to you in my letter dated 10th January, 1924, eight cross walls had been allowed for by the Chief Engineer in his project estimate, but the nature of the material being dredged and deposited is such that I decided we could dispense with the bunds not yet built and utilize the masonry storm water drains as bunds to divide up the area to be reclaimed into suitable sections. No. 1 Cross Bund at Colaba has been completed and was necessary as a means of communication for the trains of stone to the wall under construction and because the storm water drain in that vicinity had not been built, and it is in order to avoid having to build a similar communication wall which would have been cross bund No. 2 that the whole of the rubble mound at Colaba is being completed this season. No. 7 cross bund (Marine Lines) was put in hand last season, because it was fully expected to begin dredging operations with the "Kaln" in Back Bay before any storm water drain could be built: this expectation has unfortunately not been realized.

Storm Water Drains.

No. 1 Storm Water Drain (Colaba) is in hand and will be finished about the end of May 1924 along with the drain running North to South. No. 8 Storm Water Drain (Marine Lines) is in hand and will be finished in the current season whilst No. 7 will be well under way.

Opinion of work executed.

In my report dated 10th January, 1923, I commented adversely on several matters, notably on the size of the stone being used in the wall. I am glad to say that those defects have been remedied at Colaba, the whole of the work reflects credit on the engineer in charge, the concrete superstructure is an excellent job and the pitching of the outside slope with large stones has been carried on simultaneously with wall construction. At Marine Lines the workmanship is also substantial and well executed,
Dredging and Reclamation.

It has always been realised that the successful reclamation of the area enclosed by pumping through pipe lines material dredged from the sea bed is the crux of the whole scheme. I commented at length on this phase of the undertaking in my report dated 10th January, 1923, and strongly recommended the appointment of an officer experienced in dredging with the rank of a Deputy Chief Engineer. This appointment was sanctioned and Mr. Brims arrived in Bombay in the month of August 1923. There was an immense amount of work to be done and we hoped to have the dredgers "Sir George Lloyd" and "Kalu" both operating this season, but it was unfortunately impossible to get the "Kalu" ready in time. The "Sir George Lloyd" however began work on the 6th December and had up to the 7th February pumped 212 hours.

I believe I may say that the result up to date has been quite satisfactory, the material in the harbour has proved much harder than we were led to suppose, and actual reclaimed land can be seen and walked upon by any one who chooses to go to Colaba.

To pump 28,000,000 cubic yards of material through pipe lines ranging from 5,000 feet to 12,000 feet in length is however bound to be many difficulties to overcome and setbacks in the execution of the work.

The present intention is to take 19 million cubic yards from the harbour side using the "Sir George Lloyd" and "Colaba" dredgers pumping through two pipe lines, and nine million cubic yards from Back Bay using the "Kalu" and possibly for a short time the "Kalu" in conjunction with the "Colaba." The full utilization of Back Bay depends on the removal of the Eastern Telegraph Co.'s material in the harbour has proved much harder than we were led to suppose, and actual reclaimed land can be seen and walked upon by anyone who chooses to go to Colaba.

I enclosed with my letter to you dated 10th January a memorandum of a conference I held with the Chief Engineer and the Deputy Chief Engineer, Dredging, and since then I have had the advantage of prolonged conferences with Mr. McMurray the representative of Messrs. Simons and Company the builders of the dredger and the Deputy Chief Engineer, Dredging, when the subject was looked at from all points of view. It may be taken as an axiom that in dredging operations of this magnitude ample skilled supervision is of the first importance and the shore men have to be specially trained on the spot. The best that can be said at present is that a good start has been made and every effort will be strained to work the dredgers both in Back Bay and the Harbour on double shifts at the end of the Monsoon.

Accounts.

I beg to invite a reference to paragraphs 33–36 in my report dated 11th February 1923, and to paragraph 10 in my report dated 10th January 1923.

I understand that accounts officers have been sanctioned and attached to the office of each Deputy Chief Engineer and I have satisfied myself, that cost accounts are being kept, and that the Deputy Chief Engineers know within certain limits what their work is costing. There has not however to my knowledge been any summary of these cost accounts or compilation in detail, against the heads of the project estimate in detail. They are therefore deprived of much of their value. I suggest that the whole work should from time to time be measured up in the way that would be done were it let by contract and the cost placed against each item, whilst in the case of the quarry, it should be considered a separate undertaking selling stone to the works, the total quarry output should correspond with the total sold to the Deputy Chief Engineers and they should be able to check their bills.

I have had very considerable experience in Engineering accounts and with your approval I should like to go into the matter on my return to Bombay after the Monsoon.

My next visit.

As you are aware I visited the works during last Monsoon and satisfied myself that under the most severe monsoon conditions we need have no fear of their stability. I propose therefore to make my next visit about the month of October or early November dependent on the date when dredging operations are renewed.

I am, Dear Sir

Yours faithfully,

(Signed) GEO. C. BUCHANAN.
From Sir GEORGE BUCHANAN, K.C.I.E.;
To THE DIRECTOR OF DEVELOPMENT,
 Bombay.

Dear Sir,

Since my last report dated 14th February 1924 on the progress made with the Back Bay Reclamation Scheme, work on the construction of the wall and the storm water drains has proceeded according to programme, the work has been well carried out and I have no remarks to make. At the end of the present season 1924-25 the Colaba Section of the wall 11,765 feet in length will be completed except the parapet, and the Marine Lines Section will be completed to 8,000 feet and the gantry to 8,100 feet leaving a gap of 1,771 feet between the Colaba scar end and the end of the gantry.

In 1925-26 it is proposed to build 1,500 feet of wall at the Marine Lines Section leaving a gap of 271 feet which will not be closed for some time as it is intended during the monsoons to house within the harbour created by the walls, the pontoons and pipes in use in Back Bay.

2. I propose in this report to review at some length the position in respect to dredging plant and dredging operations. It has always been realised that the successful reclamation of the area enclosed by the wall, by pumping through pipe lines material dredged from the sea-bed, is the crux of the entire undertaking, and I believe I am correct in saying that dredging operations on this scale have never before been attempted either in India or elsewhere.

Under these circumstances it is not surprising that there have been many difficulties to overcome and that the plan of operation has had to be changed or modified from time to time as new conditions arose.

In the first instance I will describe briefly the various plans discussed since my report dated September 1919 and thereafter I will place before you the programme of operations recommended by the Chief Engineer, the Deputy Chief Engineer, Dredging, and myself in the light of the practical experience obtained to date.

3. The proposal to obtain the material for filling in the area to be reclaimed from the sea, by dredging in the harbour and pumping the material in a fluid state across the Colaba Peninsula to Back Bay, was first considered in 1905 and the detailed survey on which the present scheme is based was prepared by Mr. Kidd in 1911 in connection with what was known as the 1919 project. In this scheme it was intended to have seven pipe lines across the Peninsula between the Harbour and Back Bay, the line farthest North being taken down Church Gate Street.

4. In my report dated September, 1919, I assumed that Mr. Kidd's borings and surveys were correct, and I accepted his conclusions both in regard to quality and quantity of material, but I reduced the number of pipe lines to three that farthest North being designed to be laid along Ormiston Street and thence across the Maidan, entering Back Bay a little to south of the Baths. On this plan the dredger "Sir George Lloyd" and intermediate booster dredger"Colaba" were ordered and designed to pump 9,000 cubic yards of soft clay per hour through 10,000 lineal feet of pipe line.

About the same time the Bombay Government purchased the cutter suction dredger "Kalu"; I believe with special reference to the East Colaba Reclamation Scheme, but the dredger was, on the creation of the Development Directorate, handed over to that Department for general service. The "Sir George Lloyd" arrived in Bombay on the 30th March, 1922, and the "Colaba" on the 29th April, 1922. The delivery of pipes and pontoons began at the end of October, 1921, and by the end of 1922, erection had been completed and the plant was ready to begin operations.

5. In April, 1921, we had sent the Chief Engineer a proposed programme of dredging operations accompanied by a plan No. 3244. We showed on the plan three pipe lines across the Colaba Peninsula, but had shifted the pipe line running along Ormiston Street to a line in the vicinity of Arthur Basin so as to avoid opening up an important public thoroughfare.

We realised that to reach the farthest points of the reclamation the distance of 5,000 feet from the intermediate pumping station "Colaba" would be exceeded, and that it might be necessary to install an additional land booster, but we wished, if possible, to avoid this complication by pumping through the longer line although the output would be diminished.

6. In May, 1921, the Chief Engineer in letters to us raised the question as to the suitability of the material in the harbour for reclamation purposes, he said it had been very favourably reported on by experts, and he discussed the possibility of obtaining more suitable material in Back Bay. In our letters dated the 22nd June, and the 2nd July, 1921, we quoted the specific statements on the subject made by Mr. Kidd in
his report dated the 3rd August, 1913, and said that we were unable to accept, without much more information, the pessimistic reports as to the unsuitability of the material in the harbour, and that it was impossible to come to any conclusion until a dredger had been actually at work for some time on the spot. With reference to dredging in Back Bay we advocated taking borings in the northern section of the Bay, as if there were sufficient soft material to warrant the "Kalu" being put to work, it would be easier and cheaper to reclaim the northern area of the land to be reclaimed by that means than by taking it from the harbour.

7. In September, 1921, we received a letter from the Chief Engineer informing us that the Port Trust and the Director of Indian Marine had raised objections to the dredging of the bed of the harbour in the neighbourhood of the Ballard Pier and Middle ground, and he enclosed a plan showing the revised limits for dredging operations. This reduction in area deprived us of some 16 million cubic yards of material which according to the borings was good clay, and to equalize matters the Chief Engineer had arranged to go farther into the harbour in a South Easterly direction.

8. I visited Bombay in the latter part of 1921 and in my report to you dated 11th February, 1922, I said that although it was impossible to fix definitely a date for starting dredging, I believed it should be practicable to do so towards the end of 1922, and I recommended the early laying of the first pipe line across the Peninsula and the erection of the floating pipe line. In October, 1922, the Chief Engineer submitted his detailed project estimate for the whole scheme and in the covering report he indicated the possibility of obtaining all the material required for the Reclamation from Back Bay itself, and he fixed the date for beginning dredging at one place or the other, for the season 1924-25.

9. In November 1922 I again visited Bombay and was accompanied by Mr. W. T. Halcrow (now a member of my firm). The Chief Engineer had been proceeding with his investigations in Back Bay since my last visit, and on the 8th of December 1922 I convened a conference on the subject of dredging at which were present the Chief Engineer (Mr. Lewis), Mr. Halcrow, Mr. McMurray of Messrs. Simons and Company, and myself. During the conference the Chief Engineer again expressed his fears about the suitability of the material in the harbour for reclamation purposes, and proposed to abandon the harbour and reclaim the whole area from Back Bay; but we pointed out that a deviation from the original sanctioned project required a departure from the plan and that the first thing to do was to ascertain the precise nature of the material in the harbour by a practical test, with a grab or other dredger which was agreed. I also pointed out that the Chief Engineer's programme of work, which did not contemplate beginning dredging until 1924-1925, was not in accordance with our views, which were, that by getting the first pipe line at Colaba laid as soon as possible and completing other preliminary work there should be no difficulty in beginning dredging not later than the end of 1923 monsoon.

10. The result of our deliberations was explained to you in my report dated 10th January 1923, when I said that although I should welcome a supply of good material from Back Bay, I doubted, from the nature of the borings already taken, whether there would be a sufficient depth of dredgable sand and clay in Back Bay to warrant the use of the large dredger, and, whilst agreeing that full investigations should be made in Back Bay area, I was adverse to delaying the arrangements already made for dredging from the harbour. I pointed out that dredging in Back Bay involved considerations of navigation, of dredging craft, the effect the deepening of the sea bed might have in increasing wave action, and the best method of dealing with the Eastern Telegraph Company's cables, which traversed the area over which it was proposed to dredge, and I further observed that in our programme we had fixed the date for beginning dredging and filling at Colaba for December 1922, and I still consider it should have been possible to commence dredging that season, if however, no action was taken in laying the first pipe line until all the borings in Back Bay had been made, I was afraid that another season might pass without getting the large dredger to work. I recommended that very early action be taken in putting the dredger "Kalu" into working order and arranging for any additional pipe line required, and lastly I recommended the early appointment of a Deputy Chief Engineer, Dredging, to take entire charge of dredging operations, if an officer with the necessary experience could be obtained.

The laying of the first pipe line at Colaba was put in hand in September 1923 and completed in November 1923. The repairs to the "Kalu" were begun in May 1923 and completed September 1924, and the Deputy Chief Engineer, Dredging, was appointed and arrived in Bombay in August 1923.

11. On the 26th March 1923 the Chief Engineer sent us a statement showing the results of borings taken in Back Bay during the year, which showed an average depth of 14-18 feet of dredgeable material over the area tested, and on the 3rd May 1923 we addressed the Chief Engineer on the subject, and said that with regard to the general
dredging programme we had prepared a scheme on the assumption that an effort would be made to put both dredgers into commission after the monsoon. Our letter was accompanied by plan No. 3411, and we showed the "Kalu" working in Back Bay in conjunction with the "Colaba," and the "Sir George Lloyd," working in the harbour alone on her own pipe line. We hoped that the "Kalu" and "Colaba" would during the season remove a great deal of the material in Back Bay farthest away from the wall, and that the following season the "Kalu" would operate with her own pipe line only, leaving the "Colaba" free to work in the harbour with the "Sir George Lloyd." Our letter dated 7th May 1923 from the Chief Engineer in which he gave us the final result of the borings in Back Bay showing that in area A, a volume of 25,333,000 cubic yards of material were available or more than the total required for the whole reclamation.

Mr. Lewis remarked that the material was decidedly good and much more suitable for filling than the material in harbour. He thought the use of this material was clearly indicated, and asked for the opinion on the matter so that arrangements could be made as soon as possible for the next year's work. In acknowledging receipt of this letter on the 21st June 1923, we said that as I was leaving Bombay the following week the matter could be discussed with me on the spot.

12. I arrived in Bombay during the second week in July 1923. By that time the experimental dredging in the harbour had been carried out, and, so far as one could judge, the silt and clay was perfectly suitable for reclamation purposes, so much so that after consideration and several conferences, I wrote to the Chief Engineer on the 26th July and said it was understood that the scheme put forward in our letter dated 3rd July, 1923, and shown on drawing No. 3411, would be adopted, and we hoped both dredgers would do good work in the coming season. I wrote to you on the 9th August confirming this arrangement, and said that the most important matter now was to get the dredgers started, and that the alteration I had made in the position of the Colaba cross bund should enable the "Sir George Lloyd" to begin operations some time in November.

13. I left Bombay on the 11th August 1923 and on the 3rd November we sent you a programme of operations on the assumption that the "Sir George Lloyd" would work in the harbour and the "Kalu" in Back Bay, and the "Colaba" partly with the "Sir George Lloyd" and partly with "Kalu," and we remarked that work in Back Bay would be subject to satisfactory arrangements being made with the Eastern Telegraph Company for the removal of their cables, that negotiations were in progress, but that it was matter for regret this matter had not been taken up many months ago.

14. I returned to Bombay in December 1923 and the dredger "Sir George Lloyd" had begun to work in the harbour on the 8th December 1923, but unfortunately the repairs to the "Kalu" were still incomplete, also the pipe line had not arrived from England, so that it was impossible to do any work in Back Bay.

At a conference on dredging operations held in the Chief Engineer's office on the 9th January, the following conclusions were arrived at:

(1) It will not be practicable, so far as one can see to work the "Sir George Lloyd" on double shift this season, or do any work with the "Kalu," but every effort must be made to work both dredgers on continual double shift next season.

(2) The proposed pipe line through the B. B. and C. I. Railway yard near Woodhouse bridge, or alternatively down Ormiston Street involves such an immense amount of costly and difficult work that all idea of a pipe line in that vicinity should be abandoned. Ample material for the reclamation can be obtained from the harbour and Back Bay combined, without dredging from the Northern side of the harbour area. It is proposed to fill areas 1 and 2, i.e., to near storm water drain No. 4 from the harbour pumping through pipe lines, Nos. 1 and 3, and the remaining area from Back Bay in which connection it will be advisable to remove the Telegraph Company's cables.

In forwarding the findings of the conference to you I observed in a covering letter dated 10th January 1924, that after the grave doubts which had been expressed at various times as to the suitability of the material in the bed of the harbour for reclamation purposes, it was an agreeable surprise to see that what was being pumped consisted largely of a hard compact clay with which we had reason to be quite satisfied. I also stated that in view of the nature of the material, I felt justified in dispensing with the stone cross bunds, which would effect a considerable saving.

15. On the 31st January, 1924, my partner Mr. Halcrow, interviewed Admiral Grant the Managing Director of the Eastern Telegraph Company in London, with respect to the removal of the cables in Back Bay, and after considerable negotiations and correspondence, it was agreed that the dredger "Kalu" should begin operations in Back Bay on the area North of the existing cables, and when dredging was completed in that area, the Company would lay new twin core shore cables across that area. The existing cables would then have to be removed and the dredger work over that area.
16. On the 2nd May 1924, the Chief Engineer addressed us at some length on the subject of dredging plant and dredging operations. He sent us a plan of operations showing the proposed locality in the harbour for the "Sir George Lloyd" and "Colaba" in 1924-25, and proposed that the "Kalu" should also work in the harbour pumping through pipe line No. 5 instead of in Back Bay, his reason being that the negotiations with the Eastern Telegraph Company on the subject of shifting the cable would not be finished in time to allow of the "Kalu" proceeding to Back Bay until the season was well advanced, and that she would not do much more than dig the approach channel and the Bell mouth by the end of the season. He also recommended the purchase of additional floating and short pipes and the installation of an intermediate pumping station to work with the "Kalu" in Back Bay. For this purpose he suggested that it might be possible to purchase the "Jinga" and plant the engines, boilers and pump on a barge or pontoon. In our reply dated 5th June 1924, we accepted the position of the "Sir George Lloyd" and "Colaba" for 1924-25, but adhered to our opinion that whatever the future decision respecting the cables in Back Bay, the "Kalu" should begin work in Back Bay operating in the area North of the cables and in order that the work might be begun without an Intermediate Station, we recommended that the "Kalu" should be taken in at high water to the nearest point to the new wall, where she would either dredge a hole for her own flotation or float in a hole already prepared by another dredger. This scheme had the advantage over the previous one that as soon as the hole was dredged the "Kalu" could begin actual reclamation, whereas in the former proposal she would have been occupied the greater part of the season in digging the approach channel and Bell mouth.

20. In the matter of the pipes we recommended the purchase of an additional 1,000 feet of 42 inches floating pipe line and 5,500 feet of shore pipe line which was less than the Chief Engineer had asked for and we suggested the whole subject might be discussed with me on my next visit to Bombay.

25. With reference to the Intermediate Booster Station for the "Kalu" we suggested that before taking any action the possibility of using an electrically worked pump should be investigated, as being probably cheaper both as regards capital cost and the working expenses.

17. In order that there might be no misunderstanding on the subject we wrote to the Chief Engineer on the 11th September, 1924, saying that as dredging and reclamation operations were shortly to be resumed we understood that the programme of work arranged for the next working season was as follows:

1. The "Sir George Lloyd" to commence dredging at the south-eastern extremity of the Harbour area limits in conjunction with the "Colaba" and discharging through pipe line No. 1 to reclaim the area south of storm water drain No. 1.

2. The "Kalu" to commence dredging within the dredging area limits north of the Eastern Telegraph Company's cables in Back Bay and reclaim the northern corner of the Back Bay Reclamation.

18. Every preparation was made to begin dredging operations at the earliest possible date for this season's work. It was impossible to dredge the basin for the "Colaba" last season as the floating pipe line in operation with the "Sir George Lloyd" crossed the site, but negotiations with the Royal Indian Marine for the hire of the bucket dredger "Cachalot" to dredge the basin were begun in May 1924, and it was arranged to commence operations about the middle of September 1924. Dredging was actually begun on the 20th September, which was the first day the weather was sufficiently calm, but on the 27th September the vessel sprung a leak on the port side of the ladder well, and had to dry dock for examination and repair. The "Cachalot" resumed work on Friday the 3rd October, after a delay of a week and on the 9th October, the officials of the R.I.M. decided the material was too hard to be dredged by their vessel and withdrew the "Cachalot" from the work.

The whole time Friestman Grab was then put on, but without satisfactory result and finally arrangements were made with the Port Trust for the use of their Dipper dredger and she commenced work on the 31st October and finished on the 17th November, but on the same evening broke her after spud and did not get clear of the berth until the 19th November. These delays in getting the basin dredged for the "Colaba" amounted in all to 27 days. The "Colaba" which has been lying at anchor in deep water in the vicinity of the new basin, was brought in and moored in position on Thursday the 20th November, and a start made the same day connecting up the pontoons to the shore and on the 21st November work was put in hand connecting the pontoons between the "Colaba" and the "Sir George Lloyd", which had been moored in position ready to commence work since the 19th October.
Ordinarily the connecting of the pontoons would have been completed in the course of about two weeks, but in spite of the fact that owing to the experience of strong ebb tides last season a number of additional moorings had been provided on the pontoons, they were not sufficient, the anchors dragged and the whole line had to be replaced, a slow and tedious operation. Additional operations on this scale have never before been attempted and difficulties occur which it is impossible to foresee. The delay in beginning actual operations amounts to four weeks which is a serious matter, but speaking with full knowledge, as I have been here all the time, I can say that I am satisfied that the dredging department personnel have done all that is humanly possible to get on with the work. As I have already pointed out, dredging operations on this scale have never before been attempted and difficulties occur which it is impossible to foresee. It is of the very first importance to take every precaution to avoid any breaking of the pipe line during pumping as if such occurred close to the bow of the "Colaba" when she was pumping full pressure, the consequences might be most serious.

It is also of paramount importance to maintain instantaneous communication between the "Sir George Lloyd" and the "Colaba" which are separated one mile from each other and to that end not only is there a telephone which must be maintained in perfect order, but alternative signalling arrangements have been arranged in case the telephone breaks down.

20. As already explained the arrangement for the "Kalu" was, to go into Back Bay and, after digging a hole for her own flotation, proceed with her own pipe line to dredge the area north of the cables. We had hoped that she would be able to rest on the sea bed during the period of Low Water, as she had done when employed upon the Sewree Reclamation, but the Deputy Chief Engineer, Dredging, considered the bottom too hard, and that there was some risk to the vessel involved, so that she had to be moored in deep water, go in at High Water and retire in time to get back to her base before grounding. Once the hole is completed she will dredge continuously. Operations were commenced by the dredger "Kalu" working tide work on the 28th November, and the reason she could not begin sooner was that the men were not yet trained and it was impossible to spare earlier the Senior Dredging Master, who was fully occupied in the harbour. The "Kalu" worked until the afternoon of the 1st December when operations had to cease owing to neap tides, and she resumed again on the 10th December, and had again to suspend on the 14th December. The material met with has proved to be very stiff, and in addition heavy swells have been experienced, making it extremely difficult to connect the stern pipe of the dredger to the first pontoon, this operation alone on several days taking as long as one hour over and above the time required for getting into position and picking up moorings.

21. The foregoing brings the history of the discussions and negotiations in respect to dredging plant and dredging operations up to date, and I have thought it desirable to describe them at some length so that this report may contain a complete record of what has occurred. I arrived in Bombay on the 24th October, 1924, and have spent most of my time working out, in consultation with the Chief Engineer and Deputy Chief Engineer, Dredging, what we hope may prove a final and complete programme which I will now describe.

22. Quantity of material required and locality from which it is to be dredged.

Twenty-eight million cubic yards of material is the total amount required for filling the area to be reclaimed, and it was originally intended to obtain the whole of the amount from the harbour.

This has now been found to be impracticable, partly on account of the curtailment of the original area by the Port Trust, and partly the unforeseen great difficulties and expense in laying the pipe lines across the Peninsula. The accompanying plan shows the area from which it is now proposed to dredge the material, and the following statement gives the figures in detail.

\[\text{Available in Harbour.} \]

<table>
<thead>
<tr>
<th>Cubic Yards</th>
<th>Material available in area hatched red on plan</th>
<th>14,364,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the assumption that 75 per cent. of the material available is pumped ashore and remains in the reclamation, 75 per cent. of 14,364,000</td>
<td>10,773,000</td>
<td></td>
</tr>
<tr>
<td>It is proposed to fill from the Harbour the area in Back Bay from Colaba point up to storm water drain No. 4</td>
<td>14,145,000</td>
<td></td>
</tr>
<tr>
<td>Amount available in area hatched red</td>
<td>10,773,000</td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td>3,312,000</td>
<td></td>
</tr>
</tbody>
</table>

This balance will be obtained by either dredging further out into the Harbour or in the enclosed but uncoloured area.
Available in Back Bay.

<table>
<thead>
<tr>
<th>Material available North of cables on area hatched red</th>
<th>Cubic Yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material available South of cables and area occupied by cables on area hatched blue</td>
<td>7,545,000</td>
</tr>
<tr>
<td></td>
<td>7,750,000</td>
</tr>
</tbody>
</table>

5

Take 75 per cent. as being the probable amount pumped and remaining in the reclamation.

| Total | 15,095,000 |

It is proposed to fill from Back Bay the whole of the area from Storm Water Drain No. 4 Northwards

| Amount available | 11,921,250 |
| Total balance   | 1,411,750  |

This balance will be obtained by dredging South of the coloured area.

Output of Dredgers.

23. The “Sir George Lloyd” and “Colaba” were designed to discharge 2,000 cubic yards of soft clay per hour through 10,000 feet of 42 inch pipes. Last season the material actually dealt with was not soft clay but silt and stiff clay with some sand and stones which although much better than soft clay from the point of view of suitable material for reclamation is heavier and more difficult to pass through the pipe line.

24. Until considerably more work has been done it is impossible to say of what the bulk of the material to be dredged will consist, but I think it is safe to assume that we shall not get to the full output of 2,000 cubic yards per hour, and that fact must be faced.

If we get two-thirds of the estimated total output we shall be doing well, but naturally the time required to complete the work, and the cost of pumping, will be increased.

Dredging Plant.

25. The sanctioned project estimate was on the assumption that there would be three pipe lines across the Colaba Peninsula and that the whole of the material would be obtained from the harbour, the use of Back Bay as a source of supply being noted in the Chief Engineer’s report as a possibility. The dredger “Kalu” was added to the plant specially purchased for the work, and it was stated she would be used either in connection with the “Sir George Lloyd” or independently, as might be found desirable, and 2,500 feet of floating pipe line was provided.

On the programme outlined in this report it was obvious that more floating pipe line is required to enable the “Sir George Lloyd” to reach the farthest points of the dredging area, and in actual practice it was found that insufficient shore pipe line had been provided to enable the material to be promptly distributed through various branches without causing delays to the dredger. The combined length of floating pipe line and the shore pipe line will at the greatest aggregate 12,000 feet, or even more, and as, theoretically, the plant is only calculated to pump 10,000 feet it has been a subject of consideration whether an additional booster on shore would be necessary. On the one hand there is the additional capital cost of the shore booster combined with the difficulty of working a line with three independent pumps on one pipe line, and on the other the disadvantage that with a pipe line much exceeding 10,000 feet in length the output per hour will be correspondingly reduced. Taking everything into consideration we are all agreed that the latter alternative is the most suitable, especially as the very long pipe line does not apply to the whole of the work.

26. In Back Bay for work in conjunction with the “Kalu” an Intermediate Boosting station is an absolute necessity, and we obtained a quotation from Messrs. Simons & Co. for a complete plant the cost of which delivered in Bombay amounts to Rs. 25,00,000, but we think a plant can be contrived at a much cheaper rate, and we recommend that negotiations be opened for purchase of the “Jinga” subject to inspection of the machinery by a competent Marine Engineer. Assuming that the inspection is satisfactory, and that the “Jinga” can be purchased for not exceeding Rs. 1,50,000, we estimate the complete booster plant should be installed for not exceeding Rs. 10,0,000.

Staff.

27. The vital importance on a work of such magnitude of an adequate and competent staff is not generally realised. When I arrived in Bombay last year I found the working of the dredger “Sir George Lloyd” dependent on the health and energy of one man, and if he had fallen sick the dredger would have had to suspend operations. I represented the matter to you and immediate measures were taken to obtain from
home an Assistant Dredging Master. I am disposed to think we still have, to use a
homely simile, "Too many eggs in one basket." Last September Mr. Speirs, the
Dredging Superintendent, was home on leave, and was ordered to pass a medical
examination before he returned to Bombay. He was definitely rejected by the Medical
Board, and had it not been for our urgent representations to the High Commissioner,
who passed the case on to you, he would not have been allowed to come out, in which
case dredging operations would have been very gravely delayed, because we have no
other man with such practical knowledge of suction cutter dredgers. The new men are
all inexperienced in this class of work, and are being trained by the Deputy Chief
Engineer, Dredging, and the Dredging Superintendent, but we have no underrstudy to
the Dredging Superintendent, and I think the necessity for such should be considered.

Summary.

27. It will be convenient now to summarize the position.

(1) It was originally proposed to obtain the whole of the material for the
reclamation from the harbour, and for that purpose the "Sir George Lloyd"
dredger and the "Colaba" Intermediate pumping station were purchased. It
was estimated that this plant, operating for 170 days per annum and working 15
hours a day, would deal with 5 million cubic yards per annum, and that the
work of the dredgers would be completed in six years from beginning of dredging
operations.

(2) Owing to the curtailment of the area in the harbour plus the difficulties of
laying pipe lines across the Peninsula it is necessary to go to Back Bay for a
portion of the material, and the proposal now is to take 145 million cubic yards
from the harbour and 13 million cubic yards from Back Bay.

(3) The dredger "Kalu" has been purchased and placed into thorough repair
and has cost along with her pipe line Rs. 29,63,367. It is proposed to utilize her
for the work in Back Bay, but, without an intermediate boosting station, the
"Kalu" can do but little; she could dredge up to near the 4,000 feet line in the
area hatched red on the plan but could do nothing in the blue area until the
Eastern Telegraph Company’s cables have been removed, and they cannot be
touched until the whole of the red area has been dredged.

(4) The "Sir George Lloyd" cannot herself work to advantage in Back Bay
as she is not built for shallow dredging, but the "Colaba" could work in conjunc­
tion with the "Kalu" were she not required to work in the harbour with the
"Sir George Lloyd".

(5) It is improbable, with the class of material now being taken from the
harbour, that the "Sir George Lloyd" will do her estimated output of 5 million
cubic yards per annum. The total quantity to be dredged is 14,145,000 cubic
yards and the time required may be put at, say, 6 years.

(6) If the "Kalu" and a new booster worked simultaneously with the "Sir
George Lloyd" and the "Colaba" the whole of the reclamation should be
completed in 6 years from the present time.

(7) The alternative procedure, on the assumption that it is decided to use the
"Colaba" in Back Bay thus saving the capital cost of the new booster, will be
to let the "Kalu" work on her own pipe line for the remainder of this season,
and possibly the greater part of next season, and then lay her up until the
"Colaba" is available, but this would probably prolong the completion of the
work by about 5 years.

(8) On full consideration of all the circumstances, I strongly recommend that
the programme now submitted be approved, and that sanction be accorded to the
purchase of the "Jinga" for conversion into an intermediate pumping station
for use with the "Kalu" if after inspection she is proved to be fit for the work and
can be obtained at a moderate price, as from all points of view this seems to be
the most economic procedure.

Revised Project Estimate.

38. A revised project estimate for the whole work was submitted by Mr. Lewis,
the then Chief Engineer, in July last, and was sent to us for our remarks, when we
replied that the matter would be taken up by me on my return to Bombay.

The sanctioned project estimate amounted to Rs. 7,92,43,321, and the revised
estimate Rs. 7,25,54,401, an excess of Rs. 24,11,080.

There have been material savings in several directions notably in the sea walls and
cross walls, and the principal excesses are on dredging plant, dredging and filling, works
maintenance, medical and sanitary work and unforeseen charges.
I have gone into the matter very carefully with the Chief Engineer and understand he wishes to submit his revised estimate after the receipt of actuals at the end of the financial year.

So far as I can see Mr. Lewis's figures are generally acceptable, except that the cost of dredging and filling must be an uncertain quantity until we have had experience of this season's work, and that in any case there must be added the sum of 34 lakhs for removal of cables in Back Bay, and to dredging plant 5 lakhs for the intermediate pumping station to work the "Kalu" if that is approved, Mr. Lewis having already allowed 5 lakhs.

I have asked the Chief Engineer kindly to prepare at once a revised estimate for dredging plant, with an explanatory note of the excesses and final proposals.

I am, Dear Sir,

Yours faithfully,

(Signed) GEO. C. BUCHANAN.

15. V.—STATEMENT SHOWING THE TOTAL EXPENDITURE ON THE RECLAMATION UP TO JUNE 30TH, 1925.*

<table>
<thead>
<tr>
<th>Project Item No.</th>
<th>Project heads</th>
<th>Estimated Provision.</th>
<th>To end of 1924-25</th>
<th>During 1925-26</th>
<th>During 1926-27</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Geniey ...</td>
<td>13.88.481</td>
<td>10.84.307</td>
<td>5.469</td>
<td>2.619</td>
<td>10.81.457</td>
</tr>
<tr>
<td>II</td>
<td>Sea wall on rubble mound—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Tipped rubble...</td>
<td>7.15.685</td>
<td>1.50.561</td>
<td>7.991</td>
<td>8.74.357</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Protection stone wall.</td>
<td>40.773</td>
<td>996</td>
<td>—</td>
<td>17.699</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Mass concrete wall.</td>
<td>12.02.311</td>
<td>1.85.472</td>
<td>1.017</td>
<td>14.18.768</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colaba section—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Tipped rubble...</td>
<td>7.02.972</td>
<td>3.06.873</td>
<td>—</td>
<td>10.09.645</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Protection stone</td>
<td>89.517</td>
<td>31.98</td>
<td>—</td>
<td>1.40.897</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Mass concrete wall.</td>
<td>8.31.658</td>
<td>1.32.339</td>
<td>—</td>
<td>9.74.277</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Cement C.P. wall.</td>
<td>0.12.482</td>
<td>7.52.949</td>
<td>12.890</td>
<td>7.52.949</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Mass concrete wall, Colaba.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Cross wall—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Colaba section...</td>
<td>2.19.468</td>
<td>2.69</td>
<td>—</td>
<td>2.16.157</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Marine lines section.</td>
<td>19.40.400</td>
<td>98.991</td>
<td>1.834</td>
<td>5.08.996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Kandivlee Quarry acquisition.</td>
<td>1.50.000</td>
<td>4.69.844</td>
<td>98.991</td>
<td>5.70.293</td>
<td></td>
</tr>
<tr>
<td>Vs</td>
<td>Kandivlee Quarry opening.</td>
<td>18.38.399</td>
<td>17.73.328</td>
<td>40.812</td>
<td>—</td>
<td>18.50.140</td>
</tr>
<tr>
<td>Vc</td>
<td>Machinery and buildings, Kandivlee.</td>
<td>27.59.498</td>
<td>27.36.644</td>
<td>17.885</td>
<td>—</td>
<td>57.76.379</td>
</tr>
<tr>
<td>VIA</td>
<td>Capital cost, Marine lines.</td>
<td>9.04.290</td>
<td>8.74.490</td>
<td>7.605</td>
<td>293</td>
<td>8.02.372</td>
</tr>
<tr>
<td>Vlla</td>
<td>Colaba, preparation of site.</td>
<td>1.75.174</td>
<td>3.19.118</td>
<td>930</td>
<td>—</td>
<td>3.32.048</td>
</tr>
<tr>
<td>VIBa</td>
<td>Colaba, machinery and buildings.</td>
<td>9.03.313</td>
<td>9.80.105</td>
<td>—</td>
<td>—</td>
<td>9.80.105</td>
</tr>
<tr>
<td>VIII</td>
<td>Marine lines, Colaba wall.</td>
<td>7.72.534</td>
<td>8.46.366</td>
<td>8.010</td>
<td>—</td>
<td>8.38.356</td>
</tr>
<tr>
<td>IX</td>
<td>Transportation and reserve stock.</td>
<td>24.05.448</td>
<td>21.48.964</td>
<td>—</td>
<td>—</td>
<td>21.48.964</td>
</tr>
<tr>
<td>X</td>
<td>Dredging plant ...</td>
<td>1.34.04.860</td>
<td>1.44.29.799</td>
<td>8.07.356</td>
<td>10.769</td>
<td>15.64.194</td>
</tr>
<tr>
<td>XI</td>
<td>Shore pipe laying ...</td>
<td>3.89.349</td>
<td>1.03.911</td>
<td>10.928</td>
<td>—</td>
<td>1.73.739</td>
</tr>
<tr>
<td>XII</td>
<td>Dredging and filling ...</td>
<td>82.38.125</td>
<td>1.61.097</td>
<td>18.34.268</td>
<td>4.64.401</td>
<td>30.99.766</td>
</tr>
<tr>
<td>XIII</td>
<td>Movement filling ...</td>
<td>31.36.712</td>
<td>1.35.171</td>
<td>17.018</td>
<td>—</td>
<td>17.018</td>
</tr>
<tr>
<td>XIV</td>
<td>Equipment of area with drains and lighters.</td>
<td>1.19.35.762</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>XV</td>
<td>Equipment of area with drains.</td>
<td>27.88.750</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>XVI</td>
<td>Storm water drains—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Marine lines section...</td>
<td>4.37.193</td>
<td>2.55.548</td>
<td>40.569</td>
<td>7.28.293</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Colaba section...</td>
<td>94.28.100</td>
<td>12.15.170</td>
<td>4.14.089</td>
<td>—</td>
<td>10.79.289</td>
<td></td>
</tr>
<tr>
<td>(3) Kandivlee ...</td>
<td>1.53.987</td>
<td>6.329</td>
<td>—</td>
<td>1.60.316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carried forward</td>
<td>6.98.45.883</td>
<td>3.58.37.086</td>
<td>43.96.990</td>
<td>5.09.465</td>
<td>6.02.60.819</td>
<td></td>
</tr>
</tbody>
</table>

*Note.—These figures are published as received by the Committee. They are not, however, arithmetically correct. For instance the total given for machinery and buildings, Kandivlee (item Vc) is arrived at by deducting Rs. 17,885 from Rs. 27,36.44, whereas these two sums should have been added together. Further, the total expenditure to the end of June, 1926, excluding interest, is given as Rs. 4,720.06,441, whereas Statement VI states the expenditure over the same period to be Rs. 4,68,256,704. The latter sum appears to be the correct one.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>XVII</td>
<td>Brought forward ...</td>
<td>6.58.45.933</td>
<td>3.55.97.086</td>
<td>43.92.990</td>
</tr>
<tr>
<td></td>
<td>Consultant's fees ...</td>
<td>13.08.888</td>
<td>4.20.942</td>
<td>73.737</td>
</tr>
<tr>
<td></td>
<td>Unforeseen ...</td>
<td>10.00.000</td>
<td>97.345</td>
<td>14.024</td>
</tr>
<tr>
<td></td>
<td>Maintenance of work ...</td>
<td></td>
<td>3.25.455</td>
<td>1.06.276</td>
</tr>
<tr>
<td></td>
<td>Survey of mathematical instruments.</td>
<td></td>
<td>15.095</td>
<td>953</td>
</tr>
<tr>
<td>XXII</td>
<td>Medical and sanitary works.</td>
<td></td>
<td>1.70.302</td>
<td>73.861</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miscellaneous works for the convenience of the public.</td>
<td></td>
<td></td>
<td>433</td>
</tr>
<tr>
<td></td>
<td>Expense incurred on ...</td>
<td></td>
<td>8.68.924</td>
<td>73.865</td>
</tr>
<tr>
<td></td>
<td>Unallocated ...</td>
<td></td>
<td>3.81.720</td>
<td>3.81.720</td>
</tr>
<tr>
<td></td>
<td>Total, I works ...</td>
<td></td>
<td>7.32.14.721</td>
<td>3.76.78.212</td>
</tr>
<tr>
<td>XVII</td>
<td>Establishment ...</td>
<td>52.98.000</td>
<td>26.34.186</td>
<td>8.03.347</td>
</tr>
<tr>
<td></td>
<td>Interest and General charges.</td>
<td></td>
<td>82.65.048</td>
<td>32.49.587</td>
</tr>
<tr>
<td></td>
<td>E. Suspense ...</td>
<td></td>
<td>10.68.505</td>
<td>1.07.006</td>
</tr>
<tr>
<td></td>
<td>Share of tools and plant of S.E. IV.</td>
<td></td>
<td>2.279</td>
<td>2.279</td>
</tr>
<tr>
<td></td>
<td>Deduct (1) Value of plant and dredger at the end of work</td>
<td></td>
<td>67.00.000</td>
<td>10.58.503</td>
</tr>
<tr>
<td></td>
<td>(2) Credit for plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Receipts on capital account.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total ...</td>
<td></td>
<td>7.02.43.321</td>
<td>4.96.09.363</td>
</tr>
</tbody>
</table>

**VI.—ESTIMATE FOR THE COMPLETION OF THE BACK BAY RECLAMATION SCHEME.**

- **Block No. 8**: 21,99,969
- **Block No. 7**: 48,22,486
- **Block No. 6**: 59,76,473
- **Block No. 5**: 71,10,698
- **Block No. 4**: 75,58,873
- **Block No. 3**: 1,12,49,499
- **Block No. 2**: 33,60,726
- **Block No. 1**: 59,68,450

Total amount to complete: 4,63,16,955

Add Establishment charges at 12 per cent. 5,48,292

Add 5 per cent. for contingences: 5,07,54,490

Add total expenditure to 30th June, 1926: 5,32,92,770

Or say Rs: 10,00,96,504

*(Signed)* H. A. ELGEE,
Chief Engineer.

Back Bay Reclamation Scheme.
### Notes on estimate for the completion of the Back Bay Reclamation Scheme.

Block No. 8.—It is proposed to complete the filling with moorum dry filling.

Block No. 7.—To be completed by dredged filling from the Harbour and moorum dry filling.

5 Block No. 6.—As above.

Block No. 5.—As above.

Block No. 4.—To be completed by dredged filling from the Harbour and moorum dry filling. As the area cannot be entirely filled by dredging, one quarter of the filling required, after the sealing of the wall and moorum topping are deducted, is taken as moorum dry filling.

10 Block No. 3.—To be completed by moorum dry filling only.

Block No. 2.—To be completed by dredged filling from Back Bay and moorum dry filling.

Block No. 1.—To be completed by dredged filling from Back Bay and filling by motor lorries.

Bunds.—Where dredgings are to be deposited the rubble mound will be sealed with moorum dry filling. The Cross Bunds, in the first instance, will be tipped to a top width of 30 feet and after dredging has been stopped will be widened out to a top width of 120 feet.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Block No. 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filling by lorries</td>
<td>296,700</td>
<td>C. Yd</td>
<td>9/70</td>
<td>6,125,000</td>
</tr>
<tr>
<td>Dredged filling from Back Bay</td>
<td>1,033,400</td>
<td>C. Yd</td>
<td>0/88</td>
<td>9,09,302</td>
</tr>
<tr>
<td>Concrete in parapet</td>
<td>2,073</td>
<td></td>
<td>48/60</td>
<td>1,00,746</td>
</tr>
<tr>
<td>S.W.D. No. 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation in rock and boulders</td>
<td>388</td>
<td></td>
<td>9/50</td>
<td>3,68,600</td>
</tr>
<tr>
<td>Excavation in sand and earth</td>
<td>388</td>
<td></td>
<td>7/70</td>
<td>1,04,800</td>
</tr>
<tr>
<td>Concrete 1 : 2 : 4 in founds</td>
<td>266</td>
<td></td>
<td>48/20</td>
<td>11,431,000</td>
</tr>
<tr>
<td>Do. in situ</td>
<td>634</td>
<td></td>
<td>48/25</td>
<td>28,063,000</td>
</tr>
<tr>
<td>Do. in precast blocks</td>
<td>907</td>
<td></td>
<td>48/20</td>
<td>41,342,000</td>
</tr>
<tr>
<td>Footpaths</td>
<td>38,028</td>
<td>Super yd.</td>
<td>4/50</td>
<td>1,361,117</td>
</tr>
<tr>
<td>Carriage way</td>
<td>31,013</td>
<td></td>
<td>12/50</td>
<td>3,721,156</td>
</tr>
<tr>
<td>Grass</td>
<td>7,214</td>
<td></td>
<td>2/50</td>
<td>18,055,000</td>
</tr>
<tr>
<td>Bales</td>
<td>9,025</td>
<td></td>
<td>2/50</td>
<td>22,563,000</td>
</tr>
<tr>
<td>Roads</td>
<td>36,261</td>
<td></td>
<td>12/50</td>
<td>36,736,000</td>
</tr>
<tr>
<td>Light ing</td>
<td>9,509</td>
<td>ft. run</td>
<td>1/00</td>
<td>9,509,000</td>
</tr>
<tr>
<td>Sewers</td>
<td>5,099</td>
<td></td>
<td>22/00</td>
<td>2,09,198</td>
</tr>
<tr>
<td>Minor S.W. Drains</td>
<td>6,099</td>
<td></td>
<td>25/00</td>
<td>1,52,475</td>
</tr>
<tr>
<td>Do.</td>
<td>3,410</td>
<td></td>
<td>10/50</td>
<td>35,805,000</td>
</tr>
<tr>
<td><strong>Total for Block No. 1</strong></td>
<td></td>
<td></td>
<td></td>
<td>29,48,880</td>
</tr>
</tbody>
</table>

| **Block No. 2**        |          |        |       |        |
| Murom filling          | 327,000  | C. yd  | 1/57  | 5,86,040  |
| Dredged filling from Back Bay | 1,878,050 | C. yd  | 0/88  | 14,75,684 |
| Reinforced concrete in parapet | 722     |       | 48/00 | 35,099,000|
| S.W.D. No. 6           |          |        |       |        |
| Excavation in rock and boulders | 2,095     |       | 9/50  | 19,903,000|
| Excavation in sand and earth | 1,385     |       | 7/70  | 9,797,000  |
| Concrete 1 : 2 : 4 in founds | 4,927     |       | 48/20 | 2,11,796 |
| Footpaths              | 23,961   | Super yd. | 4/50 | 1,07,875  |
| Carriage way           | 18,290   |       | 12/50 | 1,67,200  |
| Grass                  | 14,422   |       | 2/50  | 36,555,000|
| Roads                  | 37,478   |       | 12/50 | 4,49,736  |
| Lighting               | 6,751    | Ft. run | 1/00 | 6,751,000  |
| Sewers                 | 6,751    |       | 22/00 | 1,48,522  |
| Minor S.W. Drains      | 4,821    |       | 25/00 | 1,08,026  |
| Do.                    | 2,430    |       | 10/50 | 25,515,000|
| **Total for Block No. 2** | |        |       | 33,80,768 |

| **Block No. 3**        |          |        |       |        |
| Murom filling          | 4,309,078 | C. yd  | 1/57  | 69,06,502 |
| Parapet reinforced concrete | 983     |       | 48/20 | 47,744,000|
| Wall                   |          |        |       |        |
| Gantry                 | 26       | Bays   | 1/66  | 33,540,000|
| Rubble mound           | 5,975    | Tons   | 3/80  | 22,325,000|
| Protection store       | 1,066    |       | 3/40  | 8,991,000  |
| Mass concrete, 1 : 2 : 4 | 746     | C. yd  | 48/50 | 30,513,000|
| Storm Water Drain No. 5|          |        |       |        |
| Excavation in sand and earth | 1,381     |       | 2/70  | 3,729,000  |
| Rubble in founds       | 5,708    |       | 3/70  | 21,576,000|
| Concrete in founds     | 1,490    |       | 43/20 | 64,398,000|
| Concrete in situ       | 1,583    |       | 43/20 | 64,398,000|
| Do. precast blocks     | 5,839    |       | 43/20 | 2,52,945  |
| **Carried forward**    |          |        |       | 74,50,799 |

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Block No. 3—continued.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footpaths</td>
<td>5,490</td>
<td>Super yd.</td>
<td>4.50</td>
<td>24,570</td>
</tr>
<tr>
<td>Carriage way</td>
<td>19,058</td>
<td></td>
<td>2.00</td>
<td>38,116</td>
</tr>
<tr>
<td>Grass</td>
<td>24,110</td>
<td></td>
<td>2.50</td>
<td>60,275</td>
</tr>
<tr>
<td>Ride</td>
<td>2,656</td>
<td></td>
<td>2.50</td>
<td>6,635</td>
</tr>
<tr>
<td>Roads</td>
<td>170,312</td>
<td></td>
<td>10.00</td>
<td>1,703,120</td>
</tr>
<tr>
<td>Lighting</td>
<td>29,152</td>
<td>Ft. run</td>
<td>1.00</td>
<td>29,152</td>
</tr>
<tr>
<td>Sewers</td>
<td>29,152</td>
<td></td>
<td>25.00</td>
<td>641,284</td>
</tr>
<tr>
<td>Minor S.W. drains</td>
<td>17,824</td>
<td></td>
<td>26.00</td>
<td>445,600</td>
</tr>
<tr>
<td>Do.</td>
<td>11,262</td>
<td></td>
<td>10.50</td>
<td>118,864</td>
</tr>
</tbody>
</table>

Total for Block No. 3 | 1,124,494 |

### Block No. 4.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Quantity</td>
<td>Unit</td>
<td>Rate</td>
<td>Amount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total for Block No. 4 | 78,887 |

### Block No. 5.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Quantity</td>
<td>Unit</td>
<td>Rate</td>
<td>Amount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total for Block No. 5 | 71,699 |

### Block No. 6.

<table>
<thead>
<tr>
<th>Murihm filling</th>
<th>Dredged filling from Harbour</th>
<th>Reinforced concrete (Parapet) 1:3:4</th>
<th>S.W.D. No. 5</th>
<th>Excavation in rock and boulders</th>
<th>Rubble in founds</th>
<th>Concrete 1:2:4 in situ</th>
<th>Footpaths</th>
<th>Carriage way</th>
<th>Grass</th>
<th>Ride</th>
<th>Roads</th>
<th>Lighting</th>
<th>Sewers</th>
<th>Minor S.W. Drains</th>
<th>Do.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Quantity</td>
<td>Unit</td>
<td>Rate</td>
<td>Amount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total for Block No. 6 | 59,764 |

### Block No. 7.

| | | | | |
| | | | | |

Total for Block No. 7 | 7 |
VII.—SIR GEORGE CURTIS’ REPLIES TO THE QUESTIONS ADDRESSED TO HIM BY THE COMMITTEE.

Q. 1.—On 3rd August, 1920 (the date of the announcement of the creation of the Development Directorate), what position did you hold in the Government of Bombay?

Q. 2.—For how long had you held this position?

Q. 3.—When did you leave India?

Q. 4.—Were you the Member in Charge of the Development Directorate, and if so, over what period?

Q. 5.—Give as nearly as possible the date on which you first learnt that the Government of Bombay proposed to re-examine the question of the reclamation of Back Bay?

Q. 6.—How and from whom did you so learn it?

### Itemised Details

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block No. 7:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murram filling</td>
<td>728,700</td>
<td></td>
<td></td>
<td>11,44,069</td>
</tr>
<tr>
<td>Dredged filling from Harbour</td>
<td>2,060,000</td>
<td></td>
<td>0.94</td>
<td>18,13,000</td>
</tr>
<tr>
<td>Reinforced concrete Parapet 1: 2: 4</td>
<td>1,244</td>
<td></td>
<td>48.60</td>
<td>60,468</td>
</tr>
<tr>
<td>Footpaths</td>
<td>45,246</td>
<td>Super yd.</td>
<td>4.30</td>
<td>2,12,507</td>
</tr>
<tr>
<td>Carriage way</td>
<td>23,831</td>
<td></td>
<td>12.00</td>
<td>2,85,972</td>
</tr>
<tr>
<td>Grass</td>
<td>33,670</td>
<td></td>
<td>2.50</td>
<td>89,675</td>
</tr>
<tr>
<td>Roads</td>
<td>6,408</td>
<td></td>
<td>3.60</td>
<td>13,505</td>
</tr>
<tr>
<td>Roads</td>
<td>85,000</td>
<td></td>
<td>12.00</td>
<td>9,56,360</td>
</tr>
<tr>
<td>Lighting</td>
<td>18,462</td>
<td>Ft. run.</td>
<td>1.00</td>
<td>18,462</td>
</tr>
<tr>
<td>Sewerage</td>
<td>18,462</td>
<td></td>
<td>2.00</td>
<td>4,36,164</td>
</tr>
<tr>
<td>Minor S. W. Drainage</td>
<td>5,816</td>
<td></td>
<td>2.00</td>
<td>14,700</td>
</tr>
<tr>
<td>Do.</td>
<td>12,648</td>
<td></td>
<td>10.40</td>
<td>1,31,733</td>
</tr>
<tr>
<td>Total Block No. 7</td>
<td></td>
<td></td>
<td></td>
<td>48,25,855</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block No. 8:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murram filling</td>
<td>753,322</td>
<td></td>
<td></td>
<td>11,82,731</td>
</tr>
<tr>
<td>Dredged filling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parapet, Concrete 1: 2: 4 reinforced</td>
<td>2,635</td>
<td></td>
<td>48.60</td>
<td>1,28,061</td>
</tr>
<tr>
<td>Footpaths</td>
<td>30,690</td>
<td></td>
<td>4.00</td>
<td>1,25,505</td>
</tr>
<tr>
<td>Carriage way</td>
<td>50,542</td>
<td></td>
<td>12.00</td>
<td>636,504</td>
</tr>
<tr>
<td>Grass</td>
<td>3,300</td>
<td></td>
<td>12.00</td>
<td>33,900</td>
</tr>
<tr>
<td>Roads</td>
<td>10,155</td>
<td></td>
<td>12.00</td>
<td>121,660</td>
</tr>
<tr>
<td>Lighting</td>
<td>8,758</td>
<td>Ft. run.</td>
<td>1.00</td>
<td>8,758</td>
</tr>
<tr>
<td>Total for Block 8</td>
<td></td>
<td></td>
<td></td>
<td>21,99,969</td>
</tr>
</tbody>
</table>

A. 1, 3, 5 and 4.—I was Member of the Bombay Executive Council from 16th April, 1916, to 16th April, 1921. I had charge throughout that period of what was known as the Development Department, which was concerned with questions affecting the Development of Bombay, which did not include the Back Bay Reclamation Scheme. This was dealt with in the Public Works Department, of which His Excellency the Governor had charge. The Development Directorate was constituted on 2nd November, 1920, as far as I can remember. I was in charge of it until the end of December, 1920. I doubt, however, whether during these two months papers relating to the reclamation were dealt with by the Development Directorate; at any rate, no decision of any importance was arrived at.

I left India on 21st April, 1921.

A. 5 and 6.—I first heard of the proposal to re-examine the Reclamation scheme in 1909. I was then Survey Commissioner engaged on a scheme to re-map Bombay Island, and I remember Mr. W. L. Cameron, then chief engineer, mentioning the project to reclaim and emphasising the importance to the engineers of an up-to-date map which would show accurately the littoral and other important areas. In spite of opposition the survey scheme went through, and the result has been the existing map. At the end of 1913, I think, I remember Lord Sydenham’s Government placing before the Legislative Council Mr. Kidd’s report with a sketch of the Reclamation proposed. I read the report, but, as I was then a fossils officer, I did not pay much attention to it. In 1914 or 1915, when I was Chief Secretary, I remember Mr. Kemball, then Chief Engineer, trying to arrange a meeting between myself and Mr. Kidd, who was then in Bombay, with a view to a consideration of the Reclamation project. Mr. Kemball stated that Mr. Kidd was an engineer of the highest qualifications and that in his opinion the scheme was feasible and “had come.” In 1916 and 1917 I became aware that there were two big syndicates backed by Indian capital, as well as two English
firms, who were endeavouring to obtain the concession to reclaim. Having been familiar from my youth with the history and financial results of the first Back Bay Company, I was very unwilling to grant a concession to any private firm, and I was intensely relieved on my return from leave in September, 1918, to learn from my colleague, Sir Ibrahim Rahimtulla, that his proposal to have the project re-examined by a competent engineer on Government behalf had been accepted. My next recollection of the scheme is of a conversation with Sir Claude Hill in April, 1919, and the appearance on the scene of Sir George Buchanan.

Q. 7.—Between the period 16th December, 1918 (the date of Lord Lloyd’s arrival), and the 31st May, 1919 (the date of Sir George Buchanan’s departure from India), did you have any, and what, conversations or consultations with—
1. Lord Lloyd.
2. Sir George Buchanan.
3. Any other and what members of Government.
4. Any and what officers of Government subordinate to you.
5. Any and what officials of the Public Works Department relating to—
   a. the feasibility of the scheme;
   b. the expediency of undertaking the work at the prices of material, plant and labour then prevailing,
   c. or on some other and what cognate subject?

Please answer specifically in relation to each and all of the person or persons, officials or public bodies above mentioned.

A. 7.—As regards conversations with the persons mentioned in your question, I must ask the Committee to remember that the period from January, 1919, to June, 1919, was one of the most anxious periods for the British Government since the Mutiny, that I was the member of Council primarily responsible for the maintenance of law and order, and in that capacity I passed through a most trying time. To make matters worse, there was a bad epidemic of influenza at Mahabaleshwar in May, which laid low my colleague, Sir George Carmichael, the Chief Secretary, Mr. Mead, and my own Secretary, Mr. Thomas. I had stayed in Bombay in order that in the event of trouble there should be someone on the spot; so I escaped. But for most of the month I was doing three men’s work. Consequently I find myself quite unable at this distance of time to recall conversations with individuals, with the exceptions to which I refer below. Further, it must be remembered that except as member of the Government I had no direct concern with the Reclamation Scheme. My own task—a very difficult one—was to evolve a scheme for the adequate housing of 200,000 of the working classes and to elaborate projects for the development of Bombay City which would do away with the appalling overcrowding, which was the cause of so much disease and misery. At the risk of seeming egotistical, I would add that every one from the Secretary of State downwards looked to me to accomplish this task. The “Times of India” went so far in 1918 as to make unflattering comparisons between the expectations based on my reputation as an active mofussil officer and the poverty of my performance in Bombay. Consequently I am compelled to admit that the Reclamation scheme did not occupy the first place in my thoughts. As Mr. Kemball had said, the Reclamation “had to come.” Three Chief Engineers, as well as Mr. Kidd, had pronounced the project feasible, and from an intimate knowledge of land values I was certain then, as I am certain now, that all land in the first six blocks would fetch at least fifty rupees a square yard. Provided, therefore, the Engineer was competent, there was no possible ground on which the scheme could be opposed.

The exceptions to which I refer are the following:

1. This conversation was with Lord Lloyd.

I must premise that when I took charge of “Development” I was handed by my predecessor Sir William Sheppard a thick volume containing the evidence recorded before a committee convened by Sir Claude Hill to consider the Development of Bombay. The Committee was remarkable in that nearly every one who was anybody in Bombay was either a member or a witness; for instance, Sir Stanley Reed, Sir Ibrahim Rahimtulla, Sir Phersona Mehta were members; Sir Lawless Hepper was a witness. This committee, in due course, submitted a report at the beginning of which they remarked that the first question to be settled by them, on which all others depended, was whether Colaba station was to be retained or not. They answered this question in the affirmative. I held and had the opposite opinion. Leaving on one side historical considerations, as well as those of the convenience of the travelling public, I felt that from the point of view of the Reclamation this question was one of crucial importance. Here, I reflected, was Bombay about to spend five millions sterling on a reclamation,
to which the only access from the business quarter as regards two-thirds of the land was by the level crossing at Church Gate Station, a crossing which, as the line came to be electrified, and the trains are frequent, must of necessity be closed to traffic for thirty minutes in the hour. Consequently I determined, as my contribution to the reclamation, to devote my energies to the removal of Colaba. I was encouraged in this course by the discovery, on closely examining the surroundings of the station, that its removal would make available an area which, when combined with the Cotton Green and other vacant spaces and the small reclamation on the East of the military area (see paragraph 21 of Mr. Kidd’s report), could be developed into a most attractive high-class residential area (for detailed lay-out please see the plans and project prepared by Mr. Mirams).

The result of this was that when Lord Lloyd arrived I took him on his first trip, not to the classic slum areas, to which Lord Sandhurst, Lord Northcoot, Lord Lamington, Lord Sydenham and Lord Willingdon had always been conducted, but to Colaba Station, the Cotton Green, the disused docks to the south of this, and to the site at which the small reclamation was projected by Mr. Kidd. Eventually, as a result of the visit, he agreed to support me in my struggle to remove Colaba, and it is pleasing to think that its contemplated removal has since received the approval of every section of the public. But the station was not the only feature which attracted our attention. The small reclamation was obviously an easy scheme to carry through, and when combined with the vacant areas existing it might provide the additional land for which the public were clamouring in a minimum of time without any great expense. Consequently, somewhere in April, after the consideration of the big Reclamation scheme, I was summoned to Lord Lloyd’s Office in order to discuss the smaller scheme with him and Sir George Buchanan.

(2) Conversation with Lord Lloyd and Sir George Buchanan.

I must remark that I did not as a rule take part in discussions of this nature because the Reclamation was not my subject; also that at the time I was so busy with my own immediate duty of keeping the peace and controlling the forces that made for disorder that Lord Lloyd and my colleagues kindly spared me as much as possible. But on this occasion I was present because the development of the eastern side of Colaba was my pet project. After the discussion, I remember that Lord Lloyd asked Sir George Buchanan whether, in the event of Government deciding to proceed at once with the smaller reclamation scheme, it would be possible to procure a small dredger without delay at a reasonable price. Sir George, if I remember right, replied that he had just been working in Mesopotamia with several dredgers, that these would shortly be for sale, and that it would be easy to procure a small dredger, which would be useful for the small reclamation and for general work. He promised to communicate with the Admiralty and let us know his views. His letter to me, addressed dated 24th September was, I think, it may be inferred, the result of this conversation. It was the only letter which I ever received from him, just as the conversation was the only one which I ever had with him. Consequently the purchase of this dredger was the direct result of his recommendation.

I notice in your questionnaire that you ask whether I had any conversation with the officers of the Royal Indian Marine on the subject of the Reclamation. The question puzzles me, because I cannot conceive what rights or responsibilities the Royal Indian Marine can have outside their own dockyard. In any case they were (they have since been abolished) an Imperial Department who prided themselves on the fact that they were independent of the local Government and it was for the Government of India to see that their privileges were not infringed.

Q. 8.—Between the period 31st May, 1919, and 3rd August, 1920, did you have any, and what, conversations, of the kind referred to in the preceding question with all or some, and which of the persons or public bodies set out in the preceding question? Please deal with each person or group of persons, or public bodies specifically.

A. 8.—I find it impossible to recall with any definiteness conversations which occurred seven years ago, except in the following cases:

I had an interview with the Viceroy, Lord Chelmsford, at which Lord Lloyd was present, in July, 1919. On this occasion the question of Bombay Development was discussed and the Reclamation was mentioned. But the Viceroy laid special stress on the urgent necessity of evolving some scheme for industrial housing and the orderly development of the city in order to enable the lower classes of the population to obtain decent habitations at a reasonable price. I had received a similar admonishment from the Secretary of State personally in 1918. This was followed by an interview with certain members of the Government of India, at which the principal matter discussed was whether Colaba Station should be retained. It was decided to transfer the terminus to Grant Road, and to notify accordingly.
In August I had an interview with the most prominent mill-owners of Bombay in order to discuss various schemes for constructing industrial tenements as a co-operative or contributory basis. In the course of the discussion the plan was evolved (which was eventually adopted), of constructing these tenements by departmental agency and financing it by the levy of a town duty of one rupee per bale on raw cotton.

In August Mr. Lewis arrived on his way home and after inspection informed me that he did not consider that the Reclamation offered any difficulties.

Apart from these conversations I frequently discussed the Reclamation with my colleagues and subordinates as well as officers of other departments and members of the public. There was no question of any secrecy about the plans. I have never heard any doubts raised as to the feasibility of the work or the reasonableness of the estimates.

Note 1.

As regards your question concerning my conversations on the subject of the feasibility and cost of the reclamation between June, 1919, and August, 1920, it seems to me that the Committee are under some misapprehension regarding the place occupied by that scheme in the general development of Bombay. Your printed note states that the Committee convened by Sir Claude Hill submitted their report but that it was not dealt with owing to the War. This is incorrect. The report was under consideration for five years and the speech delivered by Lord Lloyd on 3rd August, 1920, was intended to be and was accepted by the Press and public at the time as being the views of Government on the Committee's proposals. The fact is that the Committee's report started with the enunciation of what is now recognised as a wrong principle, viz.: the necessity of retaining Colaba station, and was silent regarding the policy to be pursued in connexion with the burning question of the time, the housing of the industrial classes, as well as the policy to be followed in connexion with the Improvement Trust, its future control and utilization and the general lines on which the future development of the City was to proceed. And this leads me to the enunciation of what was and still is my general conception regarding the problem facing us in Bombay. Looking back over sixty years our troubles have been nearly always due to a failure to take a sufficiently long view. The Back Bay scheme in 1866 was based on the idea that the proper place for the docks and industrial quarters of Bombay was at Chupatti and under what is now the road to Government House. It failed with a crash that brought down the Bank of Bombay. This failure was the greatest blessing that could have befallen the City. It gave Bombay its western sea-front, it led to the opening up of Malabar Hill and it relegated the docks to the eastern side of the Island. But this was entirely unforeseen. The Government of India imposed the Cotton Excise Duty in 1896. The yield was not much to start with but by 1917 had risen to something like a million pounds a year. If, instead of diverting the proceeds to Imperial purposes, some reasonable proportion had been left to the local Government to be used in subsidizing the construction of industrial tenements, we should not have had to face the scandalous state of things, which brought about the Secretary of State's Government selecting as the site for the Central Post Office a spot immediately facing the Eastern approach to the Victoria Terminus. If they had foreseen the removal of Colaba and convenience of bringing long-distance Baroda trains in to the Eastern side of the Terminus, we should not, in 1920, have been faced with the objection that, owing to the Post Office, the carriage traffic could neither enter or leave the station and had to consider a terminus at Grant Road. The same Government about the same time allowed the G.I.P. Railway to erect huge carriage and wagon shops at Parel, completely blocking all traffic from Mahim to the Eastern side of the Island. And so on. In my judgment the great point about the Reclamation is and was that it furnishes (in view of the completion of Block 8, I advisedly use the present tense) the administration with what the French call a "masse de manœuvre" which can be utilized to put in motion a general re-arrangement of the southern half of the City. Let us see what I mean. Block 6 is finished. Block 8 must go. That removes Wodehouse Bridge, and leaves the whole of the Station with its yard free for amalgamation with the cotton green, the godown area behind and all the miscellaneous docks and prehistoric cotton presses down to the Colaba Land and Mill and transformation into a modern residential area. Next, with the purchase of Block 8 by the Military authorities the infantry barracks, hospital, and bungalows in Marine Lines will be vacated. There will be space at once for a bridge or subway connecting Blocks 1 and 2 with the business quarter of the Fort as well of course for flats suitable for housing the ordinary business man. Next to this again we now know that, as foreseen by me in 1920, the Royal Indian Marine is to be abolished, and that the Bombay Dockyard is to let. Incidentally anyone who had seen as I did, the manner in which the 8,000 men employed in that Dockyard during the war were
housed, would say that any Government who were parties to the continued employment of a large body of artisans in this yard without providing housing accommodation ought to be impeached. The staff required for the new Indian Navy consists of a few Royal Navy Officers who can be comfortably accommodated in flats on Block 8. This will leave the whole of Campbell Park free for office or residential purposes. The greatest danger which faces Bombay and India at the present moment is Yellow fever. It is bound to come via the Panama Canal in the next ten years. When it does, Bombay has no quarantine station. The only possible site for such a station—Butcher's Island—is occupied by the Military wireless installation. Obviously this installation must and can be moved to Block 8, or if that is not big enough, to a site on the Colaba Reclamation and Bombay will be saved a repetition of the horrors of the plague visitation.

I could go indefinitely but will not. I set down these observations as one who started forty years ago with associations with two at least of the members of the Bombay Government who were concerned in the first Back Bay scheme. For thirty years I harboured a fixed resolve to have nothing to do with any Reclamation scheme, but in 1918 I had to change.

Note 2.

There is a statement on page 19 of the printed note which appears in a different form in some of the witnesses' statements and which it would be as well to amplify, viz.: ‘The final sanction to the proposed taxation and to the draft bill was received in June, 1920.’

The schemes conceived dealt with a number of projects of which the Reclamation was only one. From the humanitarian point of view the most important was that for industrial housing. It is important to note that this was the only project which required legislation and the only project that required taxation. And in this case the legislation as originally conceived was of the simplest kind, namely, an addition to the octroi schedule of the Bombay Municipality empowering it to levy a town duty of rupee one per bale on all raw cotton imported into Bombay, the proceeds of the duty so levied on cotton subsequently exported to Japan and elsewhere being allocated to financing a scheme for the construction of 50,000* industrial tenements and the duty on the cotton retained for consumption in the local mills being retained by the Municipality in order to finance schemes of local improvement, more especially to meet a possible loss on housing schemes undertaken by themselves or through the Improvement Trust in the North and East of the Island. It would have been perfectly simple to put this scheme before the Legislative Council by itself. But in order to give the greatest possible publicity to the views of Government, which were eagerly awaited, the whole scheme was explained in the speech which introduced this small measure, discussion was invited and special care was taken to make the Select Committee of the Council which dealt with it as influential and representative as possible. Writing from memory, that Committee included Sir Dinahaw Petit, Sir P. C. Sethna, Sir Henry Macnaughten, Sir Parstumadas Thakurdas, Sir Chunilal Mehta, Sir Lalbai Samuldas, Sir Guncals Parekh, Mr. Mannohandas Ramji and Mr. E. G. Turner, I.C.S. Among these there must have been at least five, possibly six, members of the Port Trust. At the meeting of the Legislative Council, in September, which dealt with this Bill, another measure promoted by the Bombay Port Trust was taken into consideration for which Mr. Etnch, I.C.S., the Chairman of the Trust, was appointed an additional member. So that at least half the Port Trust members were present when the general scheme received unanimous approval.

Q. 9.—As regards questions 7 and 8, do you know if there exists any written record made by you of any such conversations? If so, where can it be found?

A. 9.—

Q. 10.—Did you study Mr. Kidd’s report of 1912?

A. 10.—I read Mr. Kidd’s report in 1912 when it was first prepared and many times since. It was a common subject of jesting 12 years ago that he drew up the estimates and at one time proposed to carry out the work, stipulating for a commission of 5 per cent. on all savings effected.

Q. 11.—Did you study Sir George Buchanan’s report of September, 1919?

A. 11.—Yes.

Q. 12.—Did you appreciate that the success of the scheme depended upon the existence of a clay of a character and extent suitable and sufficient for the proposed reclamation?

A. 12.—I realized that the work involved dredging, and knew that Mr. Kidd had found sufficient material for the purpose. As to the character of the staff to be moved

*Note.—25,000 tenements, costing £3,000,000, have been built free of charge in Bombay.
knew nothing. I presumed that it was similar to that used for the huge reclamations at
the north end of the docks, which I had myself seen converted by the Sun from soft
pudding-like material into hard stuff resembling "the pem", used for building cottages
on the Continent.

Q. 13.—Did you notice that Mr. Kidd described the clay as " stiff "? 5
Q. 14.—Did you notice that Sir George Buchanan described it as " hard "? 10
Q. 15.—Did you notice that Messrs. Simons & Co. in their letter of 12th September
attached to the Report of Sir George Buchanan limited their specification of a dredger to
one capable of dealing with " soft clay "? 15
Q. 16.—If you did notice it did you consult any and what person or persons and what
opinion and/or advice did one or more give you? Who were they? 20
Q. 17.—In particular, did you on any and what date mention these discrepancies of
description to:— 25
(a) Lord Lloyd,
(b) Sir George Buchanan,
(c) Sir Lawless Hopper,
or any other and what person or persons?

Q. 18.—Did you notice the broad similarity of the Reports of Mr. Kidd and Sir
George Buchanan in relation to the details by which the amounts of the estimates were
arrived at? (Compare page 13, Tables A and B of Sir George Buchanan’s report.)

A. 18, 14, 15, 16, 17 and 18.—I cannot say whether I did or did not notice the de-
scription given by these persons of the clay. The matter was one for experts. I was far
more concerned at the time with rates for reinforced concrete used in building industrial
tenements and that for filling up rice land with earth in the north of the island, which
were of importance in connexion with the projects, for which I was responsible.

Q. 19.—Were you generally aware that there was a great rise in prices of plant,
material and labour in the year 1919 as compared with the year 1912? 30
Did you not know that the prices in 1919 were at least twice as high as those in
1912?

A. 19.—I knew that prices had risen but they were not as a matter of fact double
those of 1912. I considered that as the currency Commission had recommended in
1919 that the rupee should be stabilized at two shillings, general prices must fall, as
soon as the effects of the War had passed away. I did not foresee that when the
Committee had enunciated this principle Government would let the rupee drop to
Is. 4d. in ten months. I should be a richer man now if I had. 35

Q. 20.—Did it occur to you that if Mr. Kidd’s estimate of 325’23 lakhs was a fair
and proper one it was impossible for the work to be done in 1919 and onwards at a
cost of 367’61 lakhs? 40
Q. 21.—If you did notice this point did you discuss it with:—
(1) Lord Lloyd,
(2) Sir George Buchanan,
(3) Any official of the Secretariat,
(4) Any official of the Public Works Department,
(5) Any other and what person or persons?

Q. 22.—If so, state the substance of the conversations and the advice (if any) given
by any such persons?

A. 20, 21 and 22.—It had always been understood that Mr. Kidd’s estimates were
too high. I considered that Sir George Buchanan’s reasons for his estimates were
adequate. I did not discuss whether his figures were sufficiently high or not. He had
come to us with the recommendation of the Government of India, and I considered
then and consider now that I was not responsible for details of a technical nature. I have
dealt in the past with irrigation projects involving millions and have always been
strictly warned that I was debarred from criticizing or making suggestions regarding
technical matters.

I noticed in the reports of the evidence that some of the witnesses state that there
was undue secrecy over the preliminary proceedings connected with the preparation
of plans and estimates for the Reclamation. One at least claims to have found
justification for his statement in a remark of my own in a paper which I wrote for the
Royal Society of Arts. I have not a copy of the paper here, but my impression is that
I intended to refer to the very large schemes of improvement contemplated in the north
of the island, not to the Reclamation. The fact is that about this time values of land were
so much, to use a slang expression, "on the jump" that it was necessary to be ultra-
careful in order to avoid leakage. An instance of this occurred in the case of the Colaba
scheme, the estimates for which were entirely upset by the gambling which took place in
the shares of the Colaba Land and Mill Company, due to the fact that the existence of the scheme became known in May 1919. The situation was complicated by the fact that there were numerous proposals involving the acquisition of land, some in Bombay Island, some in Salsette, which had nothing directly to do with the Development scheme. I may mention the following: Removal of Jail, removal of Mint, removal of Government Press, removal of Technical Institute (since carried out), removal of Byculla schools (since carried out), removal of B.B. & C.I. workshops (now proceeding), removal of G.I.P. workshops (decided on), construction of Musalmun College (proceeding I believe), construction of Edward VII Hospital (completed), construction of aerodrome (completed), removal of headquarters of Thana district etc. It is, I submit, obvious that in launching big schemes involving large acquisitions in the north of the island it was necessary to secure as much secrecy as possible. But this did not apply to the Reclamation.

G. S. CURTIS.

VIII.—SIR CLAUDE HILL’S REPLY TO THE COMMITTEE’S INVITATION TO HIM TO GIVE EVIDENCE.

Government Office,
Isle of Man.
8th October, 1926.

My dear Ewbank,

I have received your letter of the 6th October, with enclosures, and I write to say that my official engagements here preclude the possibility of my absenting myself from the Island within the next ten days, or indeed during the month of October.

In regard to the first of the terms of reference of the Back Bay Inquiry Committee, I would refer you to the Bombay Development Committee’s Report of 1912/13. That Committee was presided over by me, and the Report records my views at that date as to the need for expanding the area of the southern portion of the Island of Bombay, and for developing the North of the Island. I have reason to believe that that Report was the foundation upon which was later developed the detailed scheme of Back Bay Reclamation. I have nothing that I can usefully add to it as to the urgent need for providing an enlarged area around the business centre of the City. I believe that the views then expressed were sound and are so still.

I have perused the questions drawn up by the Committee, but I cannot see that I can give the Committee answers to any of them, as I left the Government of Bombay in April, 1915, and have not had first hand contact with the Reclamation problem since that date.

As Member of the Viceroy’s Council in charge of the Public Works Department, I was made acquainted officially with the project for proceeding with the Back Bay Reclamation Scheme which had been foreshadowed and recommended by the Bombay Development Committee. I was naturally in favour of the scheme in the abstract, but the Government of India’s interest and responsibility in connection with the scheme as submitted was limited to the technical and financial aspects of the project. On the technical side the Committee have already had the advantage of hearing the evidence of Sir Sidney Crookshank, who was my technical adviser on the scheme when it came under examination in the Public Works Department; and I could add nothing to what he has said. The investigation of the proposals on the financial side was made in the Finance Department.

Reverting to the second of the terms of reference of the Committee—namely, “to make recommendations as regards future operations”—I do not imagine that I could furnish material help to the Committee, since anything I could say would be merely matter of opinion. I would only like to offer the remark that I noted with approval that one or two of the witnesses examined (as reported in the "Times") have drawn attention to the fact that the whole project was not merely a scheme designed to be profitable financially, but one to meet the urgent needs of the City of Bombay if she is to expand and develop, and at the same time to safeguard the health and amenities of the inhabitants. For what it is worth, my opinion is that if it is at all possible to finance it, the whole scheme should be carried to completion. It is, in my opinion, the sole means whereby the future expansion of Bombay can be assured.

Since, as I have already stated, I am not able to answer any of the questions, and since this letter states all that I am in a position to state, I venture to think that the Committee will not consider it worth while that I should come to London.

Yours sincerely,

(Signed) CLAUDE H. HILL.

R. Ewbank, Esq., C.I.E.
6, Richmond Terrace,
IX.—REPLIES OF THE G.I.P. AND B.B. & C.I. RAILWAY ADMINISTRATIONS TO THE COMMITTEE'S INQUIRIES REGARDING THE TRANSPORT OF MOORUM.

Copy.

GREAT INDIAN PENINSULA RAILWAY.
Agent's Office,
Victoria Terminus,
Bombay.

27th August, 1926.

No. 12640 H/6.

R. B. Ewbank, Esq., C.I.E., I.C.S.,
Secretary,
Back Bay Inquiry Committee, Bombay.

Dear Sir,

Your Letter No. 441, dated 21/8/26.

In reply to your letter quoted above, I beg to inform you that it will be possible for this Administration to work 10 trains of moorum into Bombay daily provided a fixed time table is worked, and also provided the B.B. & C.I. Railway are able to take them over from us at Dadar Junction.

2. The charge for a train of 50 wagons, each of 16-ton capacity, will be Rs. 225/- per train. This does not include the supply of trucks. It is understood the Bombay Development Department could supply a certain number, and this railway would be asked to supply the balance. The charge for G.I.P. Railway trucks with be Rs. 2/8/0 per truck per day, this, of course, in addition to the train charge quoted above.

Yours faithfully,

(Signed) T. G. RUSSELL,
Ag. Agent.

Copy.

BOMBAY, BARODA & CENTRAL INDIA RAILWAY COMPANY.
Agent's Office,
Bombay.

27th August, 1926.

From The Agent.
To R. B. Ewbank, Esq., C.I.E., I.C.S.,
Secretary,
Back Bay Inquiry Committee, Bombay.

Subject:
Carriage of ballast trains of the Bombay Development Department.

Dear Sir,

With reference to your letter, No. 442, of the 21st inst., and the interview I had yesterday with Sir M. Visvesvaraya and Sir F. T. Hopkinson, I understand the Committee desires to have a reply before sailing for England on Saturday. In the short time available I have not been able to examine the matter in great detail, but I give below an estimate of what we could do. As intimated in your letter, this estimate is to give an idea of the position; and is not to be taken as a definite undertaking.

At the interview of yesterday I gathered that, in addition to 10 trains a day from quarries on the B.B. & C.I. Railway, the possibility of running 10 trains a day at the same time from quarries on the G.I.P. Railway should be considered. These 10 trains would come on to this railway at Dadar Junction, and thus 20 trains a day would have to be dealt with from that point to Chowpatti Junction.

I estimate that we could take this number of trains a day from the time that the erection of our electrification overhead gear is completed, but it would require close working, and it would be essential that the trains should be worked rigidly to a time table which would be fixed with reference to our services. It would be necessary for the Development Department to provide ample facilities in the way of reception lines, etc., at Kandivli and Chowpatti to permit of working to such a time table.

It will not be possible for us to take more than four or five trains a day until the erection of electrification overhead gear is completed. The date for completion of this work is the 1st May, 1927, but some delay is anticipated owing to the coal strike in England. The extent of this delay is not known, but for purpose of estimating it might be taken as three months.
The Bombay Development Department at present run two trains a day from Kandivili, and the scale of charges is:

1. Rs. 300/- per train when only one train is run per day.
2. Rs. 275/- per train when two and up to four trains are run per day.
3. Rs. 250/- per train when over four trains are run per day.

I estimate that we could quote Rs. 295/- per train for over six trains a day, and we might be able to quote Rs. 200/- per train for 10 trains.

These charges are for trains from Kandivili to Chowpatti, and do not include the supply of trucks. The Bombay Development Department at present supply their own trucks.

I understand that the railway would be asked to supply the balance of trucks required. The number required for 10 trains a day would depend on the rate at which they were turned round. I think, however, that we could supply all that would be required either from our own stocks or from other railways. The charge for trucks supplied by this railway would be Rs. 2/8/- per diem per truck, this being in addition to the train charge quoted above.

Yours faithfully,
(Signed) M. W., for Agent.

---

X.—BOMBAY GOVERNMENT'S PRESS NOTE, DATED 16TH OCTOBER, 1926:

BACK BAY RECLAMATION.

Government Decide to Complete Block 7.

An ad interim report submitted by the Back Bay Enquiry Committee at the request of the Government of Bombay regarding the next season's work has been published for general information by the Government of India.

2. In that report the Committee unanimously recommend the reclamation of Blocks 1, 2 and 8; block 1 by dredging from Back Bay in the next working season, and thereafter both blocks 1 and 2 by either dredging or dry filling, whichever may prove more economical—or advantageous. The dredger, they say, should work three shifts. Block 8 should be completed as quickly as possible by dry filling. Storm-water drains 6 and 7 in blocks 1 and 8 should also be completed, and parapets in blocks 1 and 8 constructed in due course. This recommendation, confirming, as it does, the recommendations of the majority of the Advisory Committee and Mr. Kay's Committee, has been accepted by the Government of Bombay, and work in blocks 1 and 8 will proceed accordingly during the ensuing working season.

3. With regard to block 7, the Committee note that its area is 6,54,000 square yards, and that the quantity of dredged filling required to fill this block is two million and fifty thousand cubic yards. They consider that if the dredger is worked efficiently for three shifts daily, the block should be completed, so far as the dredged material only is concerned, in the course of the season, at a rate of eight annas per cubic yard, and that this rate is much below the cost of any other method of filling at some future date. The cost of moorum topping, development, interest and depreciation has, of course, to be added to this. The Committee note also that dredging plant is available on the spot, and that the superior staff cannot be dispensed with without six months' notice.

At the same time, they are impressed with the uncertainty regarding the date and rates at which the land, if reclaimed, could be disposed of, and this makes them doubtful if it would be a sound proposition financially. They therefore consider, in the circumstances, that it is for the local Government to decide for themselves whether any action, and if so, what, should be taken in respect of this block pending the decision of Government on the final report of the Committee.

4. In paragraphs 30 and 31 of their report, the Kay Committee recorded their conclusion, on the figures of cost adopted by Mr. Neilson's Committee, that the present value of the total cost of completing block 7 would amount to Rs. 48.50 lakhs, as compared with Rs. 36.97 lakhs, the estimated present value of the recompense, and that the reclamation and development of the area would not be a paying proposition. They accordingly recommended that the reclamation of block 7 should not be proceeded with at present.

5. Government have now re-examined the financial aspect of the completion of this block in the light of the remarks made by the Back Bay Enquiry...
Committee in their ad interim report, with the following result. It would not be possible to work the dredgers three eight-hour shifts until additional staff could be obtained from England, and it would be necessary to provide accommodation on shore for the extra men, as that on the dredgers is fully occupied. It is quite possible, however, under suitable arrangements, to work the plant two 12-hour shifts with the existing crews; and it is estimated, on the actual figures of the season 1925-26, that, if this is done, it should be possible to obtain an output of 20,21,500 cubic yards of consolidated filling during the coming season at a cost of Re. 0.62 per cubic yard, based on the total working costs of the plant incurred, and to be incurred, during the period 1st June, 1926, to 31st May, 1927.

6. As regards the output, the quantity of dredged filling required to complete block 7 is 30,50,000 cubic yards, which is slightly more than the estimated output of the plant for 2 twelve-hour shifts, based on the actuals of 1925-26. During that season, however, 17 working days were lost owing to the necessity of stiffening the Colaba, and 10 working days on account of bad weather, and there seems no reason to suppose that in a normal season's working, with 2 twelve-hour shifts, the quantity of dredged filling required for block 7 cannot be obtained.

7. In regard to the rate, this, as stated above, is estimated at Re. 0.62 per cubic yard, which includes, however, the expenditure on dredging staff, maintenance, etc., already incurred during the current year since the close of the last dredging season on 31st May, 1926. Moreover, if it is decided to abandon dredging, the present superior staff have to be given 6 months notice. These two items total Rs. 3.50 lakhs and represent expenditure, which cannot in any case be avoided, corresponding to a cost of Re. 0.17 per cubic yard of consolidated filling. Allowing for this, the difference between the rate of Re. 0.50 per cubic yard suggested by the Back Bay Inquiry Committee, and the departmental estimate of Re. 0.62 per cubic yard, is only Re. 0.05, and it seems reasonable to suppose that the rate given by the Committee represents the additional expenditure in which they consider Government will be involved, if it is decided to continue dredging during the coming season, the fact that the departmental estimate is slightly lower being probably due to its being based on 2 twelve-hour, instead of 3 eight-hour, shifts.

8. Apart from the question of output and rate due to working the plant 24 hours per day, Government are of opinion that in one other respect the forecast on which Mr. Kay's Committee based their conclusions may reasonably be modified. The forecast is based on the assumption that the disposal of the land will take 20 years, but provision is made for the completion of the development, i.e., roads, drains, lighting, etc., in 5 years. It is unusual to undertake such expenditure so far in advance of actual disposal of the land, and it is considered reasonable to spread it over 15 years, the development being completed, even then, 6 years before the last plot is sold.

9. On the basis of working the plant 24 hours per day, and taking 15 years for the development of the area, the financial position is estimated to be as follows:

**Cost of Reclamation.**

*Season 1st October, 1926, to 31st May, 1927.*

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Moorum filling (sealing wall and bund)</td>
<td></td>
</tr>
<tr>
<td>1,44,000 cubic yards @ Re. 1.57</td>
<td>2.26</td>
</tr>
<tr>
<td>(b) Dredged filing</td>
<td></td>
</tr>
<tr>
<td>20,50,000 cubic yards @ Re. 0.62</td>
<td>12.71</td>
</tr>
<tr>
<td>Establishment charges @ 15 per cent.</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Deduct expenditure already incurred or inevitably to be incurred: 3.50

Total cost: 13.72
Assuming this expenditure to be evenly distributed over the eight months, and writing it back to 1st October, 1926, the present value cost on that date would be Rs. 13.45 lakhs.

Season 1927-28 No work done.
Season 1928-29 Work of moorum topping to be spread over these 2 years.

<table>
<thead>
<tr>
<th>Moorum topping</th>
<th>Rs. lakhs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,84,000 cubic yards @ Rs. 1.57</td>
<td>... ... ... ... 9.17</td>
</tr>
<tr>
<td>Establishment at 15 per cent.</td>
<td>... ... ... ... 1.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10.55</strong></td>
</tr>
</tbody>
</table>

Written back from 1st April, 1929, to 1st October, 1926, i.e., 2½ years, the present value cost is, therefore

13.45 plus 9.12 = 22.57 lakhs.

10. Cost of Development.—Mr. Kay’s Committee assumed that the gross area of 6'54 lakhs square yards in block 7 would yield a net building area of 3'40 lakhs square yards based on Mr. Davidge’s provisional lay-out. This can be increased by a further 60,000 square yards by (1) throwing part of the proposed recreation ground into the building area, and (2) reducing by 20,000 square yards the area under roads. Thus a total building area of 4'00 lakhs square yards can be obtained, and the cost of development be reduced by Rs. 2.40 lakhs. This Rs. 2.40 lakhs may, for purposes of the forecast, be taken to balance the extra expenditure which Mr. Kay’s Committee anticipate may have to be incurred on temporary arrangements for disposal of sewage. Taking then the figure accepted by Mr. Kay’s Committee, Rs. 26'5 lakhs, as the cost of development spread over 15 years from 1930-31, the present value of the expenditure on 1st October, 1926, would be Rs. 13'96 lakhs. The total present value of the cost of completion of block 7 is, therefore:

- Present value cost of reclamation ... ... ... ... Rs. 22.57 lakhs
- Present value cost of development ... ... ... ... Rs. 13'96 lakhs

Total present value cost of completion ... ... ... ... Rs. 36'53 lakhs

11. Recoupment.—4'00 lakhs square yards at Rs. 25/- per square yard spread over 20 years, i.e., 20,000 square yards per year, bringing in Rs. 5 lakhs per annum for 20 years from 1931-32.

The value on 1st October, 1926, of Rs. 5 lakhs per annum for 20 years from 1931-32 is ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ......
flow into a neighbouring storm-water drain. The additional cost of the temporary work, over and above the cost of the sewers included in the cost of development, will amount to approximately Rs. 1'13 lakhs which will be more than covered by the saving, Rs. 2'40 lakhs, due to the proposed reduction of the area under roads.

14. After taking all the factors in the case into consideration, Government have come to the conclusion that the balance of advantage is in favour of the completion of block 7, and they have accordingly decided to proceed with dredging from the harbour into block 7 during the coming season, working the plant 24 hours a day.

Government do not propose to take any further action until they have had an opportunity of considering the report of the Enquiry Committee appointed by the Government of India.