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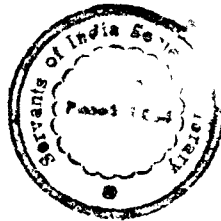
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Government of Bombay
Public Works Department

Rare section

Report
of the
Irrigation Inquiry Committee
appointed by the
Government of Bombay
1938



BOMBAY
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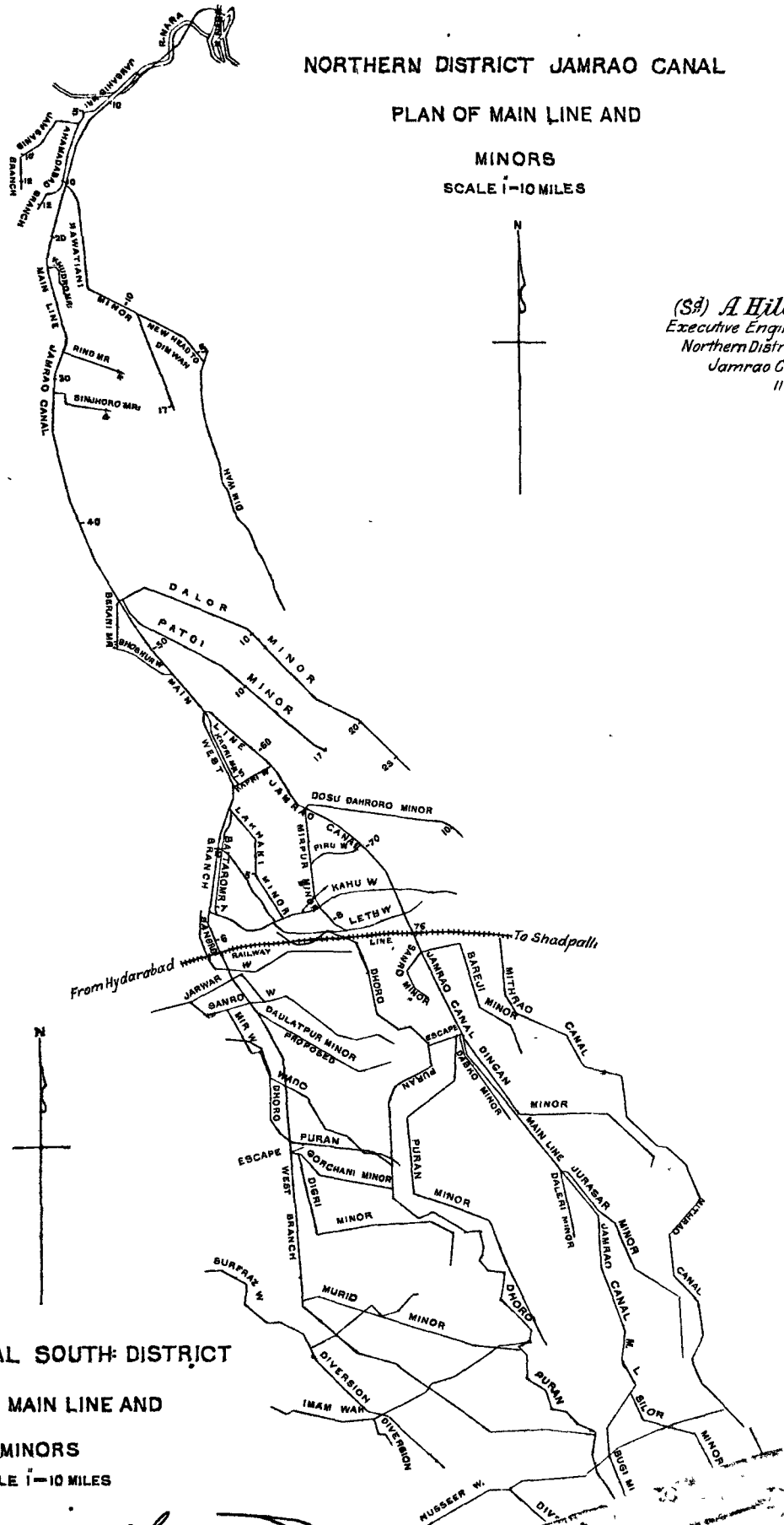
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NORTHERN DISTRICT JAMRAO CANAL

PLAN OF MAIN LINE AND

MINORS

SCALE 1"=10 MILES



(Sd) A.H.W.
Executive Engineer
Northern District
Jamrao Canal
11-5-00

JAMRAO CANAL SOUTH DISTRICT

PLAN OF MAIN LINE AND

MINORS

SCALE 1"=10 MILES

A. H. W. L.C.E.
Executive Engineer
S. District

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BOMBAY GOVERNMENT RESOLUTION, PUBLIC WORKS DEPARTMENT,
No. 1985/36, DATED THE 28TH DECEMBER 1937.

On 23rd November 1937 the Government of Bombay issued a Press Note stating that they were considering the necessity of examining the whole question of Irrigation policy and allied matters. On 28th December 1937 they published Government Resolution, No. 1985/36 in the Public Works Department appointing a Committee with the personnel given on the next page. The following are extracts from the Resolution dealing with the Terms of Reference to the Committee :—

“(1) What should the general irrigation policy of Government be as regards the supply of water to owner irrigators, tenant farmers and industrialised undertakings, such as sugar factories, and also in regard to the supply of water for non-agricultural purposes, e.g., water supplied to Municipalities, Mills, Railways, etc. ?

(2) If the present policy is suitable, is any revision of the water rates and canal rules necessary, taking into consideration the cost of the water and the value of the different crops ?

(3) If any other policy is recommended, what should be the basis of the assessment on account of the irrigation facility provided ?

(4) What steps should be taken in the case of land and villages damaged by water-logging ? ”

“ The Committee is requested to complete its investigations and submit its report as soon as possible.”

BOMBÁY IRRIGATION INQUIRY COMMITTEE.

Chairman.

Sir M. VISVESVARAYA, K.C.I.E., LL.D.

Members :

Mr. J. W. SMYTH, C.S.I., C.I.E., M.A. (Cantab.), I.C.S., Commissioner, Central Division.

Mr. W. J. JENKINS, M.A., B.Sc. (Edin.), I.A.S., Director of Agriculture.

Mr. N. B. BAXTER, I.S.E., Superintending Engineer, Central Circle.

Mr. C. E. AITKEN, B.Sc. (Edin.), I.S.E., Superintending Engineer, Deccan Irrigation Circle.

Mr. J. G. MORE, B.A., LL.B., M.L.A., of Pandharpur.

Mr. LALCHAND HIRACHAND, M.L.A., of Ravalgaon.

Mr. R. B. GIRME, M.L.A., of Kopergaon.

Rao Sahib G. G. SHEMAKAR, of Baramati.

Mr. JABIR A. ALI, B.A. (Cantab.), Dip. Ag. (Camb.), of Chembur, and

Mr. V. N. VARTAK, M.A., L.C.E., I.S.E. (Retired), of Poona.

Secretary.

Mr. W. X. MASCARENHAS, B.E., I.S.E., Deputy Secretary to the Government of Bombay, Public Works Department.

APPENDIX I.

LIST OF SOME OF THE WITNESSES EXAMINED.

1. Mr. C. C. Inglis, C.I.E., B.A., B.A.I. (Dub.), M.Inst.C.E., I.S.E., Director, Central Irrigation and Hydro-dynamic Research Station, Poona.
2. Mr. S. B. Tyabji, A.M.Inst.C.E., M.I.E. (Ind.), J.P., Superintending Engineer, Northern Circle.
3. Mr. V. S. Bhide, B.A., LL.B. (Cantab.), Bar-at-Law, I.C.S., Collector of Dharwar.
4. Mr. D. MacLachlan, I.C.S., Collector of Ahmedabad.
5. Mr. E. W. Trotman, I.C.S., Collector of Poona.
6. Mr. J. G. Simms, M.A. (Oxon.), I.C.S., Collector of Ahmednagar.
7. Mr. P. K. Shinde, B.A., I.S.E., Executive Engineer, Dharwar Division.
8. Mr. L. E. Greening, M.Inst.C.E., M.Inst.Struct.E., I.S.E., Executive Engineer, Belgaum Division.
9. Mr. C. G. Kale, B.A., B.Sc., B.E., A.M.I.E. (Ind.), I.S.E., Executive Engineer, Poona Irrigation Division.
10. Mr. E. P. Little, I.S.E., Executive Engineer, Nira Right Bank Canal Division.
11. Mr. U. N. Mahida, B.E., I.S.E., Executive Engineer, Irrigation Research Division.
12. Mr. K. V. Joshi, M.Ag., Deputy Director of Agriculture, North Central Division.
13. Mr. N. S. Joshi, B.E., A.M.I.E., Assistant Engineer attached to the office of the Superintending Engineer, Deccan Irrigation Circle.
14. Rao Sahib J. T. Desai, Assistant Engineer in charge of the Hathmati and Khari Cut Canals.
15. The Senior Inspector, the Bombay Provincial Co-operative Bank Ltd., Baramati Division.
16. Mr. H. P. Metha, M.L.A.
17. The President of the Poona City Municipality.
18. The President, Godavari Canal Irrigators' Association.
19. The President, Pravara Canals Bagaitdars' Sangh.
20. The President of the Nira Left Bank Canal Irrigators' Association.
21. The Secretary of the Mutha Canals Irrigators' Association.
22. The President of the Ashti Tank Irrigators' Association.
23. Representatives of the Belapur Company Ltd., the Saswad Mali Sugar Factory Ltd., the Phaltan Sugar Works Ltd, and the Maharashtra Sugar Mills Ltd.
24. Group of Representative Irrigators from the Nira Right Bank Canal and the Mhaswad Tank.
25. The President, Taluka Development Association, Gokak, and Representative Irrigators from the Gokak and Dharma Canals.
26. Mr. Zodge, Vice-President, Girna Canal Bagaitdar Sangh.
27. Mr. Mathurbhai Dungarbhai of Aslali, President, Irrigation and Revenue Relief Committee.
28. Representative Irrigators from the Hathmati and Khari Cut Canals.
29. Rao Sahib S. T. Jachak of Baramati, and Mr. Annasahib Khore, President of the Taluka Development Agricultural Association, Indapur.
30. Rao Sahib N. S. Borawke of Kopergaon.

APPENDIX II

STATISTICAL STATEMENTS AND DATA

STATEMENT No. 1

Cultivation, Irrigation, and Financial Results of Irrigation Works in the Provinces of British India for 1934-35

Serial No.	Name of Province	Total area sown in the Province	Area irrigated		Financial results of works for which capital and revenue accounts are kept		Estimated value of crops raised on all areas receiving State irrigation
			Under all Government irrigation works	Under irrigation works for which capital and revenue accounts are kept	Capital outlay	Net percentage return	
1	2	3	4	5	6	7	8
		Acres	Acres	Acres	Rs. Crores	Per cent	Rs. Crores
1	Madras	37,539,000	7,302,000	2,559,143	19.41	6.13	20.75
2	Sind	4,192,000	4,069,000	3,554,250	30.21	..	6.21
3	Bombay	26,405,000	388,000	213,603	10.68	1.36	2.43
4	Bengal	27,921,000	130,000	103,332	1.97	..	0.10
5	United Provinces ..	35,033,000	3,827,000	3,844,288	26.18	4.19	18.43
6	Punjab	29,833,000	*10,485,000	11,137,119	34.52	13.42	32.23
7	Bihar and Orissa ..	29,547,000	853,000	852,727	6.28	3.80	3.50
8	North West Frontier Province	2,555,000	410,000	409,572	3.02	3.67	0.93
9	Central Provinces ..	20,809,000	323,000	297,224	6.85	0.14	1.13
10	Rajputana	446,000	27,000	26,537	0.35	1.98	0.06
11	Baluchistan	410,000	20,000	20,533	0.35	.	0.03
12	Burma	18,164,000	2,054,000	710,910	4.08	3.12	5.31
	Total ..	232,854,000	29,888,000	23,729,243	143.90	5.08	91.11

* In addition 663,391 acres were irrigated on the Indian State channels of the Western Jumna Canal, the Sirhind and the Ghaggar canals.

STATEMENT No. 2

Cropped and Irrigated Areas in the Province of Bombay

Year	Tract	Gross area	Culturable area	Cropped area	Area irrigated				
					New irrigation tanks and canals	Older tanks and canals	Wells	Other sources	Total
1	2	3	4	5	6	7	8	9	10
		Acre	Acres	Acre	Acre	Acre	Acre	Acre	Acre
1920-21 ..	Gujarat ..	6,511,080	5,082,276	3,842,134	12,350	12,959	93,512	3,404	122,315
	Deccan ..	23,888,420	17,147,930	12,550,907	233,220	55,089	462,970	2,890	754,169
	Karnatak ..	9,552,695	8,017,091	6,618,393	15,595	88,778	60,694	7,720	172,788
	Konkan ..	8,767,013	4,124,208	2,114,429	..	18,085	24,811	13,239	56,134
	Total ..	48,719,208	34,371,505	25,125,863	261,255	174,911	641,987	27,253	1,105,406
1925-26 ..	Gujarat ..	6,526,661	5,088,180	4,202,776	17,654	16,306	87,419	14,152	135,531
	Deccan ..	23,888,101	17,181,369	14,530,405	208,133	47,347	351,903	2,765	610,148
	Karnatak ..	9,532,399	8,008,204	7,027,590	15,748	99,302	59,976	12,998	188,024
	Konkan ..	8,765,687	4,121,875	2,065,543	..	24,091	25,109	12,996	62,196
	Total ..	48,712,848	34,399,626	27,826,314	241,535	187,046	524,407	42,911	995,899
1930-31 ..	Gujarat ..	6,528,913	5,067,892	4,453,100	25,298	8,242	85,452	2,441	121,433
	Deccan ..	23,888,216	17,230,393	15,413,870	215,829	81,906	492,002	2,790	792,527
	Karnatak ..	9,538,228	8,026,651	7,169,875	15,770	98,740	79,194	8,701	202,406
	Konkan ..	8,764,778	4,142,709	2,095,747	..	26,154	17,425	18,001	61,580
	Total ..	48,720,135	34,467,645	29,132,592	256,897	215,042	674,073	31,933	1,177,945
1935-36 ..	Gujarat ..	6,525,819	5,078,807	4,602,561	14,075	6,429	78,729	2,247	101,480
	Deccan ..	23,888,984	17,277,969	15,606,553	209,194	99,621	546,625	4,456	859,896
	Karnatak ..	9,539,851	8,025,077	7,041,353	13,380	92,426	87,015	6,783	199,604
	Konkan ..	8,766,261	4,166,935	2,122,578	..	24,584	19,998	14,916	59,498
	Total ..	48,720,915	34,548,788	29,373,045	236,649	223,060	732,367	28,402	1,220,478

Notes.—(1) Total area of Province—76,126 square miles ; total cultivated area—294 million acres ; area irrigated by new irrigation works—0.24 million acres.

(2) Figures of area irrigated as shown in columns 6 to 10 for 1930-31 and 1935-36 include double cropped areas. Total for the Province in column No. 10 excluding double cropped area is 1,036,021 acres for 1930-31 and 1,061,316 acres for 1935-36.

STATEMENT No. 3

Rainfall at Selected Typical Stations

Year	Gujarat		Deccan								Konkan	Karnatak		
	Ahmedabad	Godhra (Panch Mahals)	Canal Tracts				Other areas				Alibeg	Belgaum	Dharwar	* Bijapur
			* Chitali (Godavari R. B. Canal)	* Songson (Pravara R. B. Canal)	* Baranati (Nira L. B. Canal)	Phaltan (Nira R. B. Canal)	Jalgaon	Satara	* Poona	* Ahmednagar				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rainfall in inches during the 12 months ending 31st May of each year														
1906-07	36	48					34	35	21	24	66	45	38	29
1907-08	33	37					23	47	89	15	95	51	40	13
1908-09	33	42	Not available	Not available	18	Not available	32	44	24	25	70	47	22	18
1909-10	31	44	Not available	Not available	28	Not available	35	34	17	19	78	47	20	18
1910-11	24	52	Not available	Not available	23	Not available	33	45	32	38	91	39	27	26
1911-12**	10	7			12		20	22	18	18	55	42	26	13
1912-13	41	48			14		26	53	29	10	76	74	41	19
1913-14	37	56	16	23	15		30	30	24	23	87	39	27	16
1914-15	39	46	21	27	17	17	41	57	35	24	102	90	50	25
1915-16	12	16	30	39	17	20	31	50	39	36	95	59	28	24
1916-17	31	39	39	34	29	32	34	37	28	47	121	49	33	89
1917-18	47	59	19	21	25	19	25	40	35	35	127	51	39	31
1918-19**	8	16	6	8	12	10	15	17	14	9	25	35	25	7
1919-20	33	47	25	29	20	17	36	32	29	23	80	47	42	18
1920-21	20	23	6	12	9	15	12	35	23	9	43	51	25	13
1921-22	43	56	13	10	17	13	32	37	19	23	80	51	32	23
1922-23	33	38	21	21	20	25	24	46	23	19	77	50	34	18
1923-24	12	21	11	13	10	10	33	28	14	18	90	49	25	10
1924-25	22	33	17	17	15	14	25	32	21	21	75	53	38	17
1925-26	22	24	10	13	13	10	21	28	15	27	58	42	32	19
1926-27	51	53	16	12	15	10	23	37	31	17	78	48	30	15
1927-28	77	89	24	17	23	20	30	44	24	24	86	44	35	19
1928-29	36	51	22	25	24	20	29	34	24	38	90	45	33	30
1929-30	24	41	15	7	23	16	22	43	20	17	73	42	30	25
1930-31	32	58	22	28	16	18	43	54	30	30	93	44	32	19
1931-32	39	59	21	19	27	24	55	56	26	31	101	59	37	27
1932-33	43	40	28	24	29	32	32	61	34	34	83	81	48	34
1933-34	48	52	32	27	26	19	40	47	31	33	85	64	43	22
1934-35	29	50	19	21	17	24	49	40	21	33	113	49	32	21
1935-36	23	38	16	24	19	24	31	29	24	27	90	36	28	24
Average	32	42	20*	20*	19*	19*	31	39	25*	25*	80	51	33	21*

Note.—Stations and years of scanty rainfall are marked with single and double asterisks respectively. The heaviest fall at each station is shown in bold figures.

STATEMENT
Progress of Irrigation and Revenue on

Year	Nira Right Bank Canal			Nira Left Bank Canal			Mutha Canals			Pravara Canals		
	Area irrigated		Revenue	Area irrigated		Revenue	Area irrigated		Revenue	Area irrigated		Revenue
	Sugar cane	All crops		Sugar cane	All crops		Sugar cane	All crops		Sugar cane	All crops	
	2	3	4	5	6	7	8	9	10	11	12	13
Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs	
Results anticipated according to respective												
(Project of 1922)			(Project of 1922)			(Project of 1896)			(Completion Report of 1937)			
20,000*	148,500*	25.47*	9,000*	79,000*	16.12*	5,800	10,800	3.95	10,000	52,000	7.81	
Actual area irrigated and Revenue												
1910-11			7,541	37,962	3.19	5,058	11,153	3.96	271	2,628	0.14	
1911-12			9,439	39,227	4.36	5,696	14,029	4.34	604	7,977	0.18	
1912-13			7,825	52,399	5.03	4,326	13,062	3.60	496	20,747	0.27	
1913-14			9,043	76,683	5.43	4,558	16,665	3.92	487	4,243	0.43	
1914-15			6,741	54,133	5.88	4,670	12,298	3.90	636	3,884	0.16	
1915-16	The system came into operation in 1924-25.		8,491	50,859	5.55	4,179	11,524	3.67	1,023	4,726	0.19	
1916-17			8,700	34,228	4.97	5,075	10,402	4.27	1,330	2,278	0.22	
1917-18			10,133	34,451	4.26	5,530	14,796	4.26	1,578	5,439	0.16	
1918-19			11,600	64,642	2.16	5,059	17,215	3.56	892	9,319	0.22	
1919-20			7,851	82,977	4.85	2,872	24,601	3.71	369	16,924	0.23	
1920-21			8,220	73,779	9.50	4,127	18,582	3.53	855	26,574	0.41	
1921-22			7,335	68,714	7.85	3,723	16,047	3.04	966	34,949	0.71	
1922-23			9,250	75,024	7.57	3,442	26,402	3.59	3,113	49,984	1.67	
1923-24			10,012	77,340	5.94	4,709	18,118	3.28	5,953	39,229	3.35	
1924-25		2,786	6,775	78,630	7.16	2,899	20,754	3.46	8,830	36,856	4.37	
			6,729†			801†						
1925-26		17,825	7,968	82,970	8.01	2,836	24,469	3.78	9,256	49,230	5.29	
			2,228†			155†			1,914†			
1926-27	18	26,558	9,642	78,170	8.59	2,852	18,533	4.48	10,328	32,010	5.41	
			3,576†			931†			1,952†			
1927-28	12	17,045	9,341	73,109	10.15	2,510	14,887	3.71	10,583	23,911	8.29	
			4,114†			1,166†			3,369†			
1928-29	13	14,168	7,864	67,909	10.28	2,772	13,738	3.02	7,397	32,032	6.00	
			4,104†			996†			6,144†			
1929-30	64	16,146	7,093	71,965	8.15	2,256	14,478	4.38	5,888	37,030	4.75	
			3,473†			1,258†			2,876†			
1930-31	388	18,894	6,339	65,943	6.82	2,648	14,637	4.04	5,922	29,328	5.59	
	26†		5,134†			263†			2,137†			
1931-32	847	20,209	6,177	56,230	4.21	2,696	13,575	3.20	6,040	23,044	2.70	
	281†		2,886†			1,773†			1,855†			
1932-33	1,073	21,894	7,032	53,387	6.90	3,195	11,299	4.40	6,432	20,407	4.78	
	831†		3,060†			1,177†			3,104†			
1933-34	2,289	33,854	6,262	53,720	7.05	2,815	10,927	3.98	6,425	23,309	3.19	
	1,072†		4,760†			1,086†			3,646†			
1934-35	4,013	26,073	5,985	59,928	5.59	2,216	11,139	4.43	7,482	26,357	6.57	
	1,811†		4,460†			1,335†			2,848†			
1935-36	3,637	30,893	7,072	60,605	7.60	2,505	11,565	4.14	9,513	27,053	3.81	
	2,046†		7,971†			1,079†			3,862†			
1936-37	4,730	50,634	7,343	75,690	7.06	2,790	17,082	4.13	11,021	53,127	6.02	
	3,736†		6,959†			1,054†			8,119†			

* The 1922 project includes irrigation and revenue from the proposed Vir Storage Reservoir also. Until the latter is constructed, the

† Area of overlap.

No. 4

Irrigation Works in the Province of Bombay

Godavari Canals			Girna Canal			All Major Works			All First Class Works (both Major and Minor)		
Area irrigated		Revenue	Area irrigated		Revenue	Area irrigated		Revenue	Area irrigated		Revenue
Sugar cane	All crops		Sugar cane	All crops		Sugar cane	All crops		Sugar cane	All crops	
14	15	16	17	18	19	20	21	22	23	24	25
Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs	Acres	Acres	Rs. Lakhs
Projects or Completion Reports of Works			(Completion Report of 1917)			(Project of 1921)			(Not available)		
10,900	41,440	6.58	1,800	8,500	0.93	57,500	340,240	60.88			

realised year by year

2	2,562	.	..	1,137	0.04	12,872	55,442	7.33	15,734	126,555	12.51
2	16,444	0.15	2	2,758	0.06	15,743	81,435	9.09	19,021	146,074	13.76
480	34,331	0.74	3	3,247	0.11	13,130	123,786	11.21	15,210	200,455	14.14
1,491	23,807	2.20	1	2,799	0.16	15,580	124,157	12.14	18,206	214,293	17.39
2,436	17,102	1.56	3	2,243	0.16	14,486	89,660	11.66	16,977	170,676	16.99
2,791	18,898	1.91	31	1,710	0.11	16,443	87,717	11.43	19,629	147,356	15.84
4,187	19,002	2.28	97	1,887	0.13	19,372	67,797	11.87	23,013	121,139	16.47
6,441	21,729	2.17	125	3,473	0.08	23,807	79,888	10.93	28,616	149,402	15.43
7,084	45,893	2.12	63	4,495	0.20	24,698	131,564	8.26	29,742	214,003	12.72
3,764	32,488	4.43	34	3,842	0.23	14,800	160,832	13.45	16,410	242,316	19.26
6,478	51,445	2.82	52	5,286	0.20	19,732	175,666	16.46	22,515	273,367	22.98
6,669	40,767	6.98	133	5,623	0.31	18,226	166,100	18.89	21,208	259,129	25.62
9,549	50,224	5.38	345	7,618	0.36	25,699	209,283	18.56	28,745	286,925	25.45
9,726	51,461	5.56	687	7,745	0.54	31,087	193,893	18.67	34,822	267,382	24.65
8,507	43,724	5.36	560	9,239	0.58	27,571	191,989	17.93	37,455	270,566	26.83
8,221	40,252	4.72	377	7,893	0.44	28,658	222,639	22.36	36,873	295,579	28.26
1,367†						5,664†					
6,291	26,448	4.26	443	10,905	0.46	29,573	192,624	23.98	39,753	272,164	30.34
1,847†						8,307†					
7,241	26,816	6.73	269	6,132	0.40	29,956	161,900	30.73	42,579	243,222	36.63
1,437†						10,086†					
5,744	25,472	6.04	203	5,134	0.39	24,993	158,543	26.70	39,421	231,544	32.98
2,043†						7,143†					
4,194	23,996	5.21	432	3,920	0.44	19,827	195,570	24.23	31,314	246,065	30.29
1,148†						8,755†					
3,784	23,352	3.35	309	5,482	0.80	19,390	157,636	21.68	30,108	228,705	27.03
517†						8,077†					
3,502	18,110	2.30	489	4,210	0.19	19,751	135,378	13.01	30,450	207,151	16.61
444†						7,239†					
3,620	16,647	3.58	855	5,665	0.54	22,207	129,299	18.97	34,149	194,416	26.62
331†						8,542†					
2,896	16,751	3.99	1,146	5,873	0.63	21,793	144,434	19.75	36,277	212,816	25.46
222†						11,150†					
3,077	16,671	3.30	1,152	7,816	0.91	23,925	147,984	23.72	35,777	214,224	29.06
54†						10,851†					
3,532	17,248	2.56	1,694	8,870	0.86	27,953	156,234	22.29	45,107	214,374	28.30
205†						15,651†					
6,332	49,786	4.29	1,483	12,437	1.01	33,699	258,756	26.30	60,268	313,491	30.67
2,329†						23,370†					

†project figures for comparison may be assumed at, say, 75 per cent. of those given in this statement.

STATEMENT No. 5

Financial Results of Irrigation Works for which Capital and Revenue Accounts are kept, for the year 1936-37

Serial No.	District	Name of work	Storage capacity of tank and weir	Year in which work first came into operation	Capital outlay	Gross receipts	Working expenses	Net revenue	Percentage return	Interest charges on capital outlay (column 6)	Area irrigated	Estimated value of crops
1	2	3	4	5	6	7	8	9	10	11	12	13
		Major Works—Central Division	M. cft		Rs. Lakhs	Rs.	Rs.	Rs.	Per cent	Rs.	Acres	Rs. Lakhs
1	Satara and Sholapur	Nira Right Bank Canal	24,970	1924-25	412.29	2,71,215	3,58,490	— 87,275	.. . .	18,25,005	50,634	22.88
2	Poona	Nira Left Bank Canal (including Shetphal Tank)		1885-86	144.41	7,06,090	2,06,510	4,99,580	3.46	5,83,877	75,690	43.88
3	Do.	Mutha Canals (including Matoba Tank)	3,859	1874-75	69.81	4,12,954	91,244	— 3,21,710	4.61	2,28,967	17,082	16.48
4	Ahmednagar	Pravara Canals	10,557	1909-10	150.23	6,19,528	4,03,895	2,15,633	1.43	5,97,963	53,127	48.01
5	Ahmednagar and Nasik	Godavari Canals	8,287	1911-12	105.72	4,28,680	3,32,234	96,446	0.91	3,43,855	50,283	25.25
6	Nasik	Girna Canal	1,548	1909-10	20.57	90,592	51,087	39,505	1.92	68,529	12,437	4.80
		Total, Major Works	49,221	.. .	903.03	25,29,059	14,43,460	10,85,599	1.20	36,48,196	259,253	161.30
		Minor Works—Central Division										
7	West Khandesh	Shahada Channel	.. . .	1922-23	1.07	14,924	5,764	9,160	8.52	4,008	1,976	0.70
8	Do.	Lower Panjhra River Works	320	1851-52	4.69	25,042	4,148	20,894	4.46	14,810	2,459	0.65
9	East Khandesh	Jamda Canal	.. . .	1870-71	10.51	15,466	17,007	— 1,541	.. . .	33,455	1,731	0.89
10	Do.	Hartala Tank	134	1872-73	0.73	926	949	— 23	.. . .	1,594	21	0.01
11	Do.	Mhaswa Tank	172	1877-78	1.39	1,665	1,348	319	0.23	4,282	51	0.01
12	Nasik	Kadwa River Works	606	1868-69	10.36	23,770	29,673	— 5,903	.. . .	32,393	3,768	2.83
13	Do.	Parsul Tank	119	1889-90	2.15	1,805	1,767	38	0.02	6,917	973	0.43
14	Ahmednagar	Bhatodi Tank	40	1871-72	3.80	6,061	2,092	3,969	1.05	11,725	676	0.40
15	Poona	Kasurdi Tank	5	1869-70	0.46	1,117	951	166	0.36	1,357	19	.
16	Do.	Shirsuphal Tank	351	1879-80	2.25	5,236	2,715	2,521	1.12	7,056	997	0.77
17	Do.	Bhadalwadi Tank	161	1881-82	2.27	4,917	3,057	1,860	0.82	7,087	1,198	0.59
18	Satara	Krishna Canal	.. . .	1869-70	9.49	76,351	21,964	54,387	5.73	29,952	3,647	2.99
19	Do.	Rewari Canal	.. . .	1865-66	0.60	3,240	2,150	1,090	1.82	1,888	566	0.20
20	Do.	Upper Man River Works	192	1872-73	4.39	5,317	15,512	— 10,195	.. . .	13,827	849	0.29
21	Do.	Yerla River Irrigation Works	489	1869-70	7.82	13,819	11,784	2,035	0.26	24,729	4,379	1.88

22	Do.	Main Tank	193	1875-76	4.96	9,563	4,625	4,938	0.99	15,786	893	0.31
23	Do.	Chikhli Canal	..	1870-71	0.57	3,704	1,489	2,215	3.86	1,789	353	0.24
24	Sholapur	Ekrak Tank	2,616	1872-73	13.40	1,48,884	10,066	1,29,818	9.68	40,837	4,318	2.44
25	Do.	Mhaswad Tank	2,601	1884-85	20.96	20,900	13,996	6,913	0.33	66,688	4,504	0.75
26	Do.	Koregaon Tank	.88	1868-69	0.39	2,359	1,894	465	1.19	1,261	63	0.04
27	Do.	Ashti Tank	1,419	1881-82	8.41	17,869	11,496	6,373	0.76	25,445	3,767	0.92
28	Do.	Pathri Tank	407	1906-07	6.43	11,795	3,523	8,272	1.29	20,876	675	0.12
Total			9,903	....	117.14	4,14,739	1,76,968	2,37,771	2.03	3,67,762	37,883	17.46
Total, Central Division			59,124	..	1020.17	29,43,798	16,20,428	13,23,370	1.30	40,15,958	297,136	178.76
Minor Works—Northern Division												
29	Ahmedabad	Hathmati and Khari Canals	481	1873-74	13.19	37,069	39,701	-2,632	....	41,398	129	0.07
30	Ksira	Wangroli Tank	212	1904-05	2.93	2,451	6,856	-4,405	....	8,123	68	0.04
31	Do.	Tranza Nagrama Tank	177	1904-05	2.81	977	1,935	-958	....	7,915	1	*
32	Do.	Savli Tank	172	1908-09	2.55	1,402	5,564	-4,162	....	7,787	266	0.12
33	Do.	Shastri Tank	130	1910-11	1.84	2,179	3,307	-1,128	....	5,269	148	0.06
34	Broach and Panch Mahala	Futelao Tank	56	1915-16	1.16	23	1,277	-1,254	...	3,570	....	....
Total			1,228		24.48	44,101	58,640	-14,539	...	74,062	612	0.29
Minor Works—Southern Division												
35	Bijapur	Muchkundi Tank	624	1884-85	1.59	882	1,502	-620	....	4,663	8	*
36	Belgaum	Gokak Canal 1st Section and Storage Works	1,469	1884-85	14.66	66,312	11,959	54,353	3.70	47,339	8,293	2.39
37	Do.	Gadikeri Tank	28	1892-63	0.17	1,833	321	1,512	8.94	544	418	0.19
38	Dharwar	Medleri Tank	58	1884-85	0.81	664	626	38	0.05	2,605	44	0.06
39	Do.	Madag Tank	55	1866-67	1.68	2,905	3,173	-268	....	5,362	604	0.30
40	Do.	Asundi Tank	74	1884-85	0.75	1,395	826	569	0.76	2,020	203	0.03
41	Do.	Dambal Tank	97	1890-81	0.64	2,061	29,135	-26,474	...	2,023	444	0.11
42	Do.	Dharma Canal	....	1913-14	0.98	5	2,134	-2,129	...	3,341	5,703	0.95
43	Kanara	Mavinkop Tank	44	1882-83	0.33	2,085	1,186	899	2.68	1,004	479	0.11
Total			2,449		21.61	78,742	50,862	27,880	1.29	68,901	16,196	4.14
Grand total for 1936-37			62,991	...	1075.12†	30,66,641	17,29,930	13,36,711	1.24	41,88,754‡	313,944	183.19
Average for 3 years ending 1936-37			62,470		1071.86	29,64,264	16,66,116	12,98,148	1.21	42,30,297	247,273	180.50

* Asterisks in column 13 indicate amounts less than Rs. 500.

† Includes Rs. 86 lakhs capital outlay on incomplete works.

‡ Includes Rs. 29,533 interest on outlay on incomplete works.

STATEMENT
Forecast of Financial Results

Name of work	Capital outlay	Culturable area	Area annually irrigated.		
			Cane including equivalent areas of overlap (a)	Other perennial crops	Seasonals
1	2	3	4	5	6
	Rs. Lakhs	Acres	Acres	Acres	Acres
Section (i) Forecast according to latest					
Nira Right Bank Canal (b) ..	512.17	447,726	20,000	....	128,500
Nira Left Bank Canal (including Shetphal Tank) (b)	173.81	149,821	9,000	..	70,000
Mutha Canals including Matoba Tank	68.99	49,800	5,800	1,000	4,000
Pravara Canals ..	151.83	182,976	10,000	....	42,000
Godavari Canals ..	105.43	219,380	10,900	....	30,540
Girna Canal ..	20.56	25,200	1,800	..	6,700
Total ..	1032.79	1,074,913	57,500	1,000	281,740
Section (ii) Actuals					
Nira Right Bank Canal ..	412.29		5,789	307	41,861
Nira Left Bank Canal (including Shetphal Tank)	144.41		9,208	614	60,774
Mutha Canals including Matoba Tank	69.81	Same as above	3,055	3,435	9,803
Pravara Canals ..	150.23		13,376	2,402	31,595
Godavari Canals ..	105.71		6,956	1,768	39,357
Girna Canal ..	20.57		1,862	374	9,407
Total ..	903.02		40,246	8,900	192,787
Section (iii) Results Anticipated					
Nira Right Bank Canal ..			18,813	3,224	78,205
Nira Left Bank Canal (including Shetphal Tank)	Same as above but will slightly increase with remodelling	Same as above.	12,657	2,717	66,116
Mutha Canals including Matoba Tank			2,816	845	20,557
Pravara Canals ..			15,557	1,967	47,866
Godavari Canals ..			8,287	2,486	60,495
Girna Canal ..			2,585	215	5,241
Total ..	928.02(d)	....	60,715	11,444	278,480
Section (iv) Results for five Major Canals only					
Forecast figures ..	520.62	627,187	37,500	1,000	153,240
Actuals of 1936-37 ..	490.73	627,187	34,457	6,595	180,926
Results now anticipated ..	490.73	627,187	41,902	8,230	200,275

(a) Figures in column 4 section (i), are obtained by adding 1/4th for short term overlap and 3/8th for long term overlap to the area of basic cane as reported during the year.

(b) The 1922 project includes irrigation and revenue from the proposed Vir Storage Reservoir also. Until the reservoir is constructed the project figures for purposes of comparison may be taken at, say, 75 per cent. of those given in this statement.

No. 6

on the six Major Canals

Total	Percentage of area irrigated to culturable area	Gross revenue	Working expenses	Net revenue	Percentage return on capital outlay	Remarks
7	8	9	10	11	12	13
Acres	Per cent.	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Per cent	
Revised Project or Completion Report						
148,500	33.2	25.47	3.71	21.76	4.25	The capital outlay on Nira Left Bank Canal and Nira Right Bank Canal has been arrived at after distributing expenditure on the old and new Bhatgar Dam and the proposed dam at Vir, in the ratio of 31 per cent and 69 per cent respectively.
79,000	54.7	16.12	2.23	13.89	7.99	
10,800	21.6	3.95	0.84	3.11	4.51	
52,000	28.5	7.81	2.00	5.81	3.83	
41,440	18.9	6.58	1.55	5.03	4.77	
8,500	33.7	0.93	0.34	0.59	2.86	
340,240	31.6	60.86	10.67	50.19	4.86	
of 1936-37						
47,957	10.7	2.71	3.58	-0.87	....
70,596	47.1	7.06	2.07	4.99	3.46	
16,293	33.0	4.13	0.91	3.22	4.61	
47,363	25.9	6.20	4.04	2.16	1.43	
48,081	22.0	4.28	3.32	0.96	0.91	
11,643	46.6	0.91	0.51	0.40	1.92	
241,933	22.5	25.29	14.43	10.86	1.20	
under the changes now proposed. (c)						
100,232	22.4	13.05	4.35	8.70	2.12	
81,496	54.3	9.62	3.21	6.41	4.44	
24,218	48.6	3.82*	1.27	2.55	3.65	*Including an approximate revenue of Rs. 1,25,000 on account of water supply to Poona City and Cantonment.
65,390	35.7	9.75	3.25	6.50	4.33	
17,268	22.9	7.36	2.45	4.91	4.64	
8,041	31.9	1.02	0.34	0.68	3.32	
350,639	32.6	44.62	14.87	29.75	3.20	
i.e. excluding Nira Right Bank Canal)						
191,740	30.6	35.39	6.96	28.43	5.46	
193,976	30.9	22.58	10.85	11.73	2.39	
250,407	39.9	31.57	10.52	21.05	4.29	

(c) As regards crop areas estimated as irrigable by one million cubic feet of storage, reference is invited to paragraph 28 of the report.

(d) Includes Rs. 25 lakhs for proposed extensions and improvements.

STATEMENT No. 7

Particulars of working of Sugar Factories in the Canal Areas of the Province of Bombay during 1936-37

(Compiled from information supplied by the Sugar Factories)

Serial No.	Name of factory	Present crushing capacity of plant	Guaranteed basic annual cane area as on 15th February 1938	Actual area of cane crushed during working season, 1936-37	Total tonnage of cane crushed	Total out-turn of sugar	Yield of sugar per acre of cane	Yield of sugar per ton of cane.	Irrigation assessment	Excise duty	Crushing capacity of plant recommended	Guaranteed basic cane area recommended	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Tons	Acres	Acres	Tons	Tons	Tons	Tons	Rs.	Rs.	Tons	Acres	
1	Belapur Co. Ltd.	600	2,750	2,701	(a) 1,10,939 (b) 3,453	13,072	4.693	0.114	1,56,397	4,19,255	750	3,375	(a) Grown by factories
2	The Maharashtra Sugar Mills Ltd.	600	2,350	1,501	(a) 61,250 (b) 14,503	8,341	4.488	0.110	85,890	2,68,615	750	3,375	(b) Purchased from irrigators
3	The Saswad Mali Sugar Factory Ltd.	300	1,200	884	(a) 35,221	3,497	3.955	0.099	72,206	1,24,929	450	2,025	(c) On nalla lift
4	The Phaltan Sugar Works Ltd.	500	2,500	1,620	(a) 54,723 (b) 7,648	6,855	3.712	0.1099	1,12,148	2,41,704	600	2,700	(d) On wells
5	Messrs. Marsland Price & Co. Ltd.	300	1,400	1,483	(a) 62,730 (b) 10,506	7,533	4.360	0.103	82,490	2,21,367	600	2,700	(e) Exclusive of guarantee to Belvandi Sugar Farm
6	The Ravalgaon Sugar Farm Ltd.	200	1,400	1,069	(a) 42,529 (b) 2,159	4,416	3.951	0.0988	75,208	1,42,994	300	1,400	(f) This factory is on Visapur Canal which is a second class work in Ahmednagar District.
7	The Belvandi Sugar Farm Ltd. (f)	200	3 of the quantity of water in the Visapur tank to be given to the Coy.	279	(a) 14,251	1,398	4.084	0.099	8,178	42,896	200	Same as column 13	
				(c) 48									
				(d) 14									
8	The Brihan Maharashtra Sugar Syndicate Ltd.	300	1,250	(Factory not yet erected)					2,861	722	300	1,350	
	Total ..	3,000	(e) 12,850	9,599	(a) 3,81,643 (b) 38,269	45,112	....	0.108	5,95,378	14,62,492	3,950	(e) 16,925	

STATEMENT No. 8

Areas damaged by Water-logging and Salt-efflorescence under some of the Major Canals

(Figures obtained from actual surveys are shown in bold figures ; others are interpolated)

Serial No.	Name of Canal	1931-32			1932-33			1933-34			1934-35			1935-36			1936-37		
		Water-logged	Salt affected	Total	Water-logged	Salt affected	Total	Water-logged	Salt affected	Total	Water-logged	Salt affected	Total	Water-logged	Salt affected	Total	Water-logged	Salt affected	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Area in acres damaged under each Major Canal

1	Nira Right Bank Canal	1,238	2,182	3,420	1,684	2,841	4,525	2,180	3,500	5,630	2,920	5,660	8,580	3,710	7,820	11,530	3,710	7,820	11,530
2	Nira Left Bank Canal	8,400	8,200	16,600	8,400	8,200	16,600	8,400	8,200	16,600	7,360	8,695	16,055	6,320	9,190	15,510	6,320	9,190	15,510
3	Pravara Canals ..	3,778	10,845	14,623	3,778	10,845	14,623	3,489	10,478	13,947	3,160	10,110	13,270	4,255	10,425	14,680	5,350	10,740	16,090
4	Godavari Canals ..	3,632	12,560	16,192	3,881	11,765	15,646	4,130	10,970	15,100	3,630	11,830	15,460	3,130	12,690	15,820	3,130	12,690	15,820
	Total ..	17,048	33,787	50,835	17,743	33,651	51,394	18,129	33,148	51,277	17,070	36,295	53,365	17,415	40,125	57,540	18,510	40,440	58,950

Area in acres damaged in each Sugar Factory area

1	Phaltan (old area)	..	..	243	..	..	731	..	..	731	..	..	913	..	..	1,095	..	..	931
2	Phaltan (extension area)	..	..	176	..	..	325	..	..	473	..	..	488	..	..	503	..	..	459
3	Saewad Mali ..	..	..	..	..	..	65	..	..	188	..	..	310	..	..	425	..	..	540
4	Kalamb ..	..	..	..	..	..	199	..	..	1,181	..	..	2,163	..	..	1,768	..	..	1,828
5	Belapur ..	..	..	..	..	..	1,252	..	..	1,104	..	..	955	..	..	1,050	..	..	1,701
6	Maharashtra ..	..	..	..	..	..	1,350	..	..	1,204	..	..	1,057	..	..	1,345	..	..	2,176
	Total ..	..	..	..	..	..	3,922	..	..	4,881	..	..	5,886	..	..	6,186	..	..	7,135

Note.—Figures for the Mutha and Girna Canal, Brhan Maharashtra Sugar Syndicate, Belwandi Sugar Farm and Ravalgaon Sugar Farm are not available.

STATEMENT No. 9

Cost of Cultivation and Value of Outturn of Crops with and without Irrigation

(Compiled from information supplied by the Department of Agriculture)

Serial No.	Name of Crop	Cost of Cultivation per acre		Outturn per acre		Increase of outturn on account of irrigation	Value of increase of outturn due to irrigation			Net profit after deducting increase in cost of cultivation	Water rates	Remarks
		Without irrigation	With irrigation including water rates	Without irrigation	With irrigation		Rate	Per	Value			
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs. a. p.	Rs. a. p.	lbs.	lbs.	lbs.	Rs. a. p.		Rs. a. p.	Per acre Rs. a. p.	Rs.	
1	Sugarcane	*381 0 0	400 0 0	6,250	11,250	5,000	9 8 0	250 lbs. (palla) ..	190 0 0	171 0 0	45 + 10 (a) = 55	* On wells
2	Rice	Not available		300	800	500	6 10 0	80 ,, (Maund) ..	41 10 0	....	12 (b)	(a) For overlap
3	Cotton	16 12 0	46 4 0	250	750	500	62 0 0	782 ,, (Khandi) ..	39 9 0	12 2 0	3 + 5 (c)	(b) Widely varies from work to work. The rate given is for major canals
4	Groundnut	24 0 0	54 4 0	600	1,800	1,200	8 0 0	240 ,, (Palla) ..	40 0 0	9 12 0	3 (d)	
5	Jowar	17 12 0	48 4 0	450(e)	1,500(e)	1,050(e)	2 8 0	80 ,, (Maund) ..	46 0 0	15 8 0	5	(c) Pre-seasonal watering from April 25th
				900(f)	3,000(f)	2,100(f)	3 0 0	500 ,,				(d) Erect variety
6	Wheat	17 8 0	46 12 0	300	1,000	700	5 5 0	80 ,, (Maund) ..	46 10 0	17 6 0	5	(e) Grain
7	Gram	Not available		500	900	400	3 5 0	,, ,, (,,) ..	16 9 0	....	5	(f) Fodder
8	Bajari	15 8 0	39 8 0	350(e)	1,000(e)	650(e)	3 3 0	,, ,, (,,) ..	29 3 0	5 3 0	3	
				900(f)	2,500(f)	1,600(f)	1 0 0	500 ,,				
9	Nilva Fodder	Not available		3,000(f)	6,000(f)	3,000(f)	1 0 0	150 ,,	30 0 0	....	3	
				200(e)	600(e)	400(e)	2 0 0	80 ,, (Maund)				

STATEMENT No. 10

Particulars of Expenditure incurred on Famines and Remission of Land Revenue during years of drought in four districts of the Bombay-Deccan

N. B. P. 11-13

BOMBAY : PRINTED AT THE GOVERNMENT CENTRAL PRESS

Years of famine 1	Details of expenditure incurred in lakhs of rupees											
	Poona District			Nasik District			Ahmednagar District			Sholapur District		
	Direct and Indirect famine expenditure 2	Remission of land Revenue 3	Total 4	Direct and Indirect famine expenditure 5	Remission of land Revenue 6	Total 7	Direct and Indirect famine expenditure 8	Remission of land Revenue 9	Total 10	Direct and Indirect famine expenditure 11	Remission of land Revenue 12	Total 13
1896-97	12.52	*	12.52	6.81	....	6.81	26.05	*	26.05	36.73	0.01	36.74
1899-02	31.38	12.48	43.86	31.27	11.83	43.10	105.75	24.07	129.82	65.72	4.99	70.71
1905-06	5.00	0.64	5.64	0.81	2.35	3.16	3.83	1.28	5.11	1.99	0.89	2.88
1911-12	0.09	1.77	1.86	0.02	1.94	1.96	0.18	2.42	2.60	0.01	1.24	1.25
Total ..	48.99	14.89	63.88	38.91	16.12	55.03	135.81	27.77	163.58	104.45	7.13	111.58
1918-21	13.12	....	13.12	1.55	....	1.55	24.86	....	24.86	1.95	....	1.95
1921-26	1.27	....	1.27	1.07	....	1.07	5.69	....	5.69	3.53	...	3.53
Total ..	14.39	....	14.39	2.62	....	2.62	30.55	...	30.55	5.48	...	5.48
1926-28	0.57	....	0.57	....	....	....	0.79	....	0.79	0.70	....	0.70
1936-38 (a)	1.53	....	1.53	....	....	....	4.76	....	4.76	3.50	....	3.50
Total ..	2.10	....	2.10	....	...	....	5.55	....	5.55	4.20	....	4.20

(a) The figures for these years are approximate as final reports have not been received.
* Amount less than Rs. 500.