

(REPORTS)

ON THE

(DIRECT AND INDIRECT EFFECTS

OF THE

GODAVERY AND KRISHNA ANNICUTS,

RAJAHMUNDRY, MASULIPATAM, GUNTOOR, &c.

AND THE

COLEROON ANNICUTS,

TANJORE, AND SOUTH ARCOT.



MADRAS:

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No. 493.

Extract Minutes Consultation, dated 29th May 1852.

Resolved that the Board in the Revenue Department be requested to call upon the Collector of Rajahmundry for a statement, affording information upon the following points connected with the lands irrigated by the Godavery:—

1. Extent of irrigated land watered by the Godavery for the five years prior to the construction of the Annicut; the annual revenue derived therefrom, and the cost of channels or works for maintaining this irrigation.

2. The maximum extent of land in the most favorable years, irrigated during the last 20 years by the waters of the Godavery, prior to the construction of the Annicut, and the revenue derived therefrom. (An estimate, where the land was Zemindary and the Collector has not the accounts, will suffice.)

3. The whole extent of land now irrigable (in 1851) by the Godavery with its Annicut or otherwise; the amount of revenue derived therefrom; the annual increased extent of land irrigated each year since the Annicut was brought into use, with the increase of annual revenue therefrom.

4. The quantity of the newly irrigated land under cane, or other not ordinary produce, and the quantity of the same land under paddy or ordinary grains.

5. The prices of rice, cholum, &c., during the five years prior to the construction of the Annicut, and the prices of the same articles during the subsequent years.

(True Extract.)

(Signed) H. C. MONTGOMERY,

Chief Secretary.

No. 498.

Extract from the Proceedings of the Board of Revenue, dated 23rd October 1854.

Read again letter from the Sub-Collector in charge of Rajahmundry, dated 29th July 1854, transmitting a statement relative to the lands irrigated by the Godavery.

(Here enter No. 52.)

Read also letter from the Sub-Collector in charge of Rajahmundry, dated 23rd September 1854, furnishing reports on the effects of the Godavery Annicut upon the general circumstances of the district.

(Here enter No. 90.)

Para. 1. Resolved that the above letters, with their enclosures, be submitted for the information of Government, with reference to Extract Minutes Consultation dated 29th May 1852.

2 In pursuance of the instructions of Government, the Board called upon the Sub-Collector in charge of Rajahmundry to furnish the information required upon certain points connected with the lands irrigated by the Godavery Annicut.

3. In the first of the above letters that officer submitted a statement shewing the irrigated extent of the whole district both above and below the Annicut, the revenue derived from, and

the area of the lands under, cultivation in the irrigated villages of the Bicavole and Caupavaram Talooks only, both before and after the construction of the Tooliabaga and Samulcottah channels.

4. The Board, considering the information contained in this statement to be insufficient, requested the Sub-Collector to furnish a more detailed report on the subject.

5. Upon this requisition the Sub-Collector, in the second of the above letters, submits two elaborate reports on the effects of the several works of the Annicut upon the revenues of the Talooks of the subdivision and the principal division, the former being a copy of a communication to the Civil Engineer whilst Mr. Taylor was Sub-Collector, and the latter a statement drawn up whilst Acting Collector.

(A true Extract.)

(Signed) B. CUNLIFFE,
Sub-Secretary in charge.

REVENUE DEPARTMENT.

No. 1592.

Extract from the Minutes of Consultation under date the 7th December 1854.

Read the following Extract from the Proceedings of the Board of Revenue.

(Here enter 23rd October 1854, No. 498.)

The report of the effects of the Godavery works upon the District of Rajahmundry accompanying the foregoing letter, has been laid before Government without any opinion from the Board of Revenue. The Right Honorable the Governor in Council is desirous that the statements submitted by the Sub-Collector of Rajahmundry should be carefully tested by the Board, and that from them abstract statements should be prepared exhibiting the results in a clear and concise form. The Government take this opportunity of forwarding to the Board statements which have been received from the Collector of Tanjore, as also a memorandum with statement from Mr. Stokes, Collector of Guntoor, on the subject of the advantages derived from the Annicuts in those Districts. The Governor in Council proposes to publish all these reports for general information, and is therefore very desirous that they should exhibit, with the strictest accuracy possible, the utmost impartiality in the results of the outlay on the important works under notice. The Board are aware that the correctness of the accounts given by Colonel Cotton in his publication have been impugned, and other writers have argued that the large returns anticipated from the outlay on these works, have not been or cannot be realized. It is with a view of clearing up all doubts on this subject, so far as it is possible, that the Government have called for these reports, and it is therefore of the utmost importance that their accuracy should be rigidly tested by the Board both in the Revenue and Public Works Departments. The Board will give their earnest and early attention to the subject, and lay before Government their opinion.

2. Referring to the views which have been advanced in a recent printed pamphlet entitled "Modern Hydraulic Works in Tanjore and Rajahmundry examined," the Government would further wish that before submitting their report, the Board will communicate to the author of those remarks, their views and the result of their examination, for any further observations he may have to offer.

3. The Board should also obtain from the Collector of Masulipatam a statement of the effects of the Kistnah Annicut on that District, as it will be observed that Mr. Stokes' Memo. and statements refer solely to Guntoor.

(A True Extract.)

(Signed) H. C. MONTGOMERY,
Chief Secretary.

No. 822.

Extract from the Proceedings of the Board of Revenue, dated 2nd April 1855.

Read Extract from Minutes of Consultation, dated 7th December 1854.

(Here enter No. 1592.)

The Board are anxious to give the subject here brought before them the attention and close scrutiny which its great importance demands, but Government are aware that the Districts benefited by the Godavery and Kistnah Annicuts have been, for the last five years, under the separate control of the Commissioner for the Northern Circars; although, therefore, the Board can show from the records of their office the general revenues of those Districts from the commencement of our rule to the present time, they find that they do not possess that detailed and connected information as to the progress and condition of the Districts during the past five years, which is requisite for the full consideration of the subject under review.

2. The subsidiary works connected with these Annicuts are still incomplete, and arrangements have yet to be made for remodelling the land assessment, or introducing a water tax on the lands newly brought under irrigation. Returns of the revenue hitherto collected would not therefore, be a fair standard by which alone to judge these Annicuts, and Lieut. Col. Cotton evidently includes in his estimation of their value the additional revenue which they may be expected to bring to Government, when the irrigating channels are completed and the assessment has been revised upon the lands which are converted by them from dry to wet cultivation.

3. The Board therefore, think, that besides an account of the Revenue previous to and after the construction of these works, information should be laid before Government showing the time when their full benefit is likely to be felt and the amount of the additional revenue which may hereafter be expected from them. The Board have necessarily only imperfect information regarding the circumstances which have delayed the remodelment of the assessment, and the taxation which it is expedient to place upon the newly irrigated lands, they have also no opportunity of testing by personal enquiries the opinions of the local officers on this point, or of observing the effects which the Annicuts already show upon the people, by brightening their prospects and stimulating their commercial and manufacturing as well as agricultural industry.

4. They therefore request permission to transfer the papers regarding these two Annicuts to the Commissioner for the Northern Circars, whose means of collecting accurate local information on all branches of the subject are so much superior. As the Commissioner is a Member of the Board, this step might perhaps have been taken without requesting special permission, but the importance of the subject has led the Board to explain the grounds on which the proposal is made, and request the authority of Government for its adoption.

5. The Board are engaged in scrutinising the details of the Coleroon Annicuts, and hope to submit their report on them at an early period.

(True Extract)

(Signed) B. CUNLIFFE,

Secretary.

REVENUE DEPARTMENT.

No. 423.

Extract from the Minutes of Consultation, under date the 14th April 1855.

Read the following Extract from the Proceedings of the Board of Revenue.

(Here enter 2nd April 1855, No. 822.)

In forwarding to the Board of Revenue, in view to their accuracy being tested, the Statements and Memo. received from the Collectors of Tanjore and Guntoor regarding the advantages

derived from the Annicuts in those Districts, the Government commended them to the Board's "earnest and early attention," and they are now disappointed to find that as regards the Districts in the Northern Circars at least, the consideration of those statements has yet to begin. The Board are requested to return the papers connected with the Godavery and Kistnah works to Government, and to submit their reply on the Coleroon Annicuts at their earliest convenience.

(True Extract.)

(Signed) J. D. BOURDILLON,

Secretary to Government.

REVENUE BOARD OFFICE,
FORT ST. GEORGE, 19TH APRIL 1855.

No. 914.

FROM B. CUNLIFFE, Esq.,

Secretary to the Board of Revenue.

TO T. PYCROFT, Esq.,

Chief Secretary to Government.

SIR,

From Rajahmundry, 29th July, in Consultation 11th September 1854.

From Do. 23rd September, in Consultation 23d October 1854.
Memo. from Mr. Stokes, with 1 accompaniment on the Guntoor and Kistnah Annicuts.

with the papers connected with the Godavery and Kistnah works, called for therein.

2. The Board regret that delay should have occurred in furnishing the information called for regarding these works, but Government are aware how the Board have been lately situated, and the subject sent for their scrutiny and opinion is of an extensive and difficult nature, and they found that the records of their Office did not contain materials for its full investigation.

I have, &c.,

(Signed) B. CUNLIFFE,

Secretary.

Revenue Board Office, }
Fort Saint George, }
19th April 1855. }

RAJAHMUNDRY DISTRICT,
COCANADA, 29TH JULY 1854.

No. 52.

FROM G. N. TAYLOR, Esq.,

Sub-Collector in charge of Rajahmundry.

TO W. H. BAYLEY, Esq.,

Secretary to the Board of Revenue, Fort St. George.

SIR,

Para. 1. I have the honor to forward a statement exhibiting the information called for in the Extract from the Minutes of Consultation dated 29th May 1852, No. 493, received with the Board's Proceedings of the 10th June following, relative to the lands irrigated by the Godavery.

2. The lands under the Tooliabaga and Samulcottah channels alone, are included in this statement. The other channels were incomplete, and their influence was not felt till Fusly 1261. Previously to that year, no lands underwent the change from dry to wet or from wet to garden cultivation.

3. There are no accounts exhibiting the extent of irrigated land, the statement therefore contains the whole area of the cultivated lands of the irrigated villages for the five years preceding the commencement of the construction of the Annicut, with the revenue derived therefrom and the cost of the channels.

4. It is impossible to estimate the extent of land formerly irrigated, because no accounts are in existence; but the Bickavole mootah properly so called, consisting of thirty villages, which

now yield an assessment of Rupees 88,345-7-10
 Demand of Fusly 1251 (A. D 1841-42.) C Rs. A. P. 64,949 6 8 appears to have formerly paid to the Zemindar
 Collection....45,444 7 0 Rupees 64,949-6-8.

5. The statement now forwarded, and the foregoing paragraphs in explanation of its contents, were prepared and drafted by Mr. Prendergast before his departure from the district. I understand that it was his intention that the statement should be transmitted in its present form, but I fear that it conveys very little information, which will be useful at the present time to enable the Board to judge of the value of the Annicut.

6. The account does not profess to give the whole returns from the Thooliabaga and Samulcottah channels. It exhibits merely the revenue derived from the wet lands in a few villages of the Talooks of Bickavole and Capaveram, before and after the construction of the Annicut; and this information it appears to me can be more simply exhibited in the following abstract Table.

Statement shewing the extent and shist of wet land in the Bickavole and Capaveram Talooks, both before and after the construction of the Annicut.

A. D.	Fushies	Irrigated land.		Comparison with preceding Fusly.				Cost of Maramut works.	Price per Madtas Garce.	Remarks.
		Extent in Pooties of 8 acres	Shist	Increase.		Decrease.				
				Land.	Shist.	Land.	Shist.			
1	2	3	4	5	6	7	8	9	10	11
			Rs.	P.	Rs.	P.	Rs.		Rs.	
1842-43	1252	1,896	58,443	..	..	..	..	..	57	
43-44	53	1,818	56,871	..	..	78	1,572	..	53	
44-45	54	1,744	52,717	..	..	74	4,154	..	58	
45-46	55	1,612	41,624	..	..	132	1,193	21,381	85	The Maramut
46-47	56	1,648	49,652	36	8,028	..	..	15,697	85	works entered in
47-48	57	1,858	55,108	210	5,456	..	..	14,326	78	column 9, consist
48-49	58	2,172	68,509	314	13,401	..	..	17,641	71	entirely of earth
49-50	59	2,335	75,777	163	7,268	..	..	8,448	67	& masonry work,
50-51	60	2,488	82,601	153	6,824	..	..	27,258	63	to the Samulcot-
51-52	61	2,528	86,182	40	3,581	..	..	22,683	58	tah and Toooha-
52-53	62	3,203	1,06,292	675	20,110	..	..	19,540	57	baga channels.
53-54	63	3,638	1,17,935	435	11,643	..	..	56,616	99	
		26,940	8,51,711	2,026	76,311	284	6,919	2,03,590		

7. It will be seen therefore from the above statement, that both the extent and shist of the land irrigated in fusly 1263, are double the extent and shist of the whole cultivated land of those villages in fusly 1256, the year prior to the commencement of the Annicut. The net increase of revenue for the whole period of 12 years is about 70,000 Rupees, which at the rate of 5 per cent. per annum is equivalent to the interest on 1,75,000 for 8 years. The capital expended on the two channels, from which these lands are irrigated, having been 2,03,590. But how much of this expenditure ought fairly to be debited to those Talooks, I have no means of knowing, and as an account of profit and loss, this return is therefore of little value.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) G. N. TAYLOR,

Sub-Collector in charge.

Statement shewing the lands under the Thooliabaga and Samulcottah channels and their cist, as well as, other particulars called for in the Extract from the Minutes of Consultation dated 29th May, received with the Board's Proceedings of the 10th June 1852.

No.	Names of the Talooks.	Numbers.	Names of Channels.	Extent of the whole area of the cultivated lands of the irrigated villages by the Godavery, for the five years prior to the construction of the Annicut, the annual Revenue derived therefrom, and the cost of Channels or works for maintaining this Irrigation.																			
				Fusly 1255.					Fusly 1256.					Fusly 1257.									
				Land.		Cist.			Land.		Cist.			Land.		Cist.							
				4	5	6	7	8	9														
	1	2	3																				
1	Bickavole Talook	1	Thooliabaga Channel.....	P.	Γ.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.		
				1,088	4	6 $\frac{5}{16}$	25,157	3	1	962	4	8 $\frac{1}{16}$	28,596	4	1	1,134	8	$\frac{3}{4}$	31,437	12	6		
			2	Samulcottah Channel.....	240	19	15 $\frac{5}{8}$	6,092	2	6	403	1	1 $\frac{1}{2}$	13,199	2	5	465	...	9 $\frac{3}{4}$	15,446	12	4	
				1,329	4	6 $\frac{1}{16}$	31,249	5	7	1,365	6	4 $\frac{1}{2}$ $\frac{1}{16}$	41,795	6	6	1,599	8	10 $\frac{1}{2}$	46,884	8	10		
2	Capaveram Talook.....	1	Samulcottah Channel.....	283	11	15 $\frac{1}{16}$ $\frac{1}{16}$	10,375	4	10	283	11	15 $\frac{1}{16}$ $\frac{1}{16}$	7,857	2	5	259	19	10 $\frac{6}{16}$	8,224	6	6		
				Total.....	1,612	16	5 $\frac{1}{8}$ $\frac{1}{16}$	41,624	10	5	1,648	18	4	49,652	8	11	1,858	8	41 $\frac{1}{8}$	55,108	15	4	
				<i>Particulars.</i>																			
			1	Thooliabaga Channel.....	1,088	4	6 $\frac{5}{16}$	25,157	3	1	962	4	8 $\frac{1}{16}$	28,596	4	1	1,134	8	$\frac{3}{4}$	31,437	12	6	
	2	Samulcottah Channel.....	524	11	15 $\frac{1}{16}$ $\frac{1}{16}$	16,467	7	4	686	13	11 $\frac{1}{16}$ $\frac{1}{16}$	21,056	4	10	724	..	4 $\frac{9}{16}$	23,671	2	10			
			Total	1,612	16	5 $\frac{1}{8}$ $\frac{1}{16}$	41,624	10	5	1,648	18	4	49,652	8	11	1,858	8	41 $\frac{1}{8}$	55,108	15	4		

Statement shewing the lands under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued).

Numbers.	Names of Channels.	Extent of the whole area of the cultivated lands of the irrigated villages by the Godavery for five years prior to the Construction of the Anicut, the Annual Revenue derived therefrom, and the cost of Channels or works for maintaining this Irrigation.																							
		Fusly 1258. (1849)					Fusly 1259.					Total.					Average.								
		Land.		Cist.			Land.		Cist.			Land.		Cist.			Land.		Cist.						
		10		11			12			13			14			15			16		17				
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.
1	Thooliabaga Channel.....	1,342	7	4 $\frac{1}{8}$	37,906	7	9	1,400	2	4 $\frac{2}{8}$	39,314	5	11	5,927	6	7 $\frac{1}{8}$	1,62,412	1	4	1,185	9	4 $\frac{1}{2}$	32,482	6	9
2	Samulcottah Channel.....	568	12	...	20,355	1	6	677	3	3 $\frac{3}{4}$	24,398	1	4 $\frac{3}{4}$	2,354	17	9 $\frac{1}{4}$	79,491	4	1 $\frac{3}{4}$	470	19	8 $\frac{1}{4}$	15,898	4	...
		1,910	19	4 $\frac{1}{8}$	58,261	9	3	2,077	5	7 $\frac{1}{8}$	63,712	7	3 $\frac{3}{4}$	8,282	4	1 $\frac{1}{8}$	2,41,903	5	5 $\frac{1}{2}$	1,656	8	12 $\frac{3}{4}$	48,380	10	9
1	Samulcottah Channel.....	261	17	14 $\frac{6}{16}$	10,248	2	8	257	17	9	12,065	5	3	1,345	19	1 $\frac{3}{8}$	48,770	5	8	269	3	13	9,754	1	1 $\frac{1}{2}$
	Total.....	2,172	17	2 $\frac{7}{16}$	68,509	11	11	2,335	3	1 $\frac{1}{8}$	75,777	12	6 $\frac{3}{4}$	9,628	31	1 $\frac{2}{8}$	2,90,673	11	1 $\frac{1}{8}$	1,925	12	9 $\frac{3}{4}$	58,134	11	10 $\frac{1}{2}$
	Particulars.																								
1	Thooliabaga Channel.....	1,342	7	4 $\frac{1}{8}$	37,906	7	9	1,400	2	4 $\frac{2}{8}$	39,314	5	11	5,927	6	7 $\frac{1}{8}$	1,62,412	1	4	1,185	9	4 $\frac{1}{2}$	32,482	6	9
2	Samulcottah Channel.....	830	9	14 $\frac{6}{16}$	30,603	4	2	935	—	12 $\frac{3}{4}$	36,463	6	7 $\frac{3}{4}$	3,700	16	10 $\frac{1}{16}$	1,28,261	9	9 $\frac{1}{8}$	740	3	5 $\frac{1}{4}$	25,652	5	1 $\frac{1}{2}$
	Total.....	2,172	17	2 $\frac{7}{16}$	68,509	11	11	2,335	3	1 $\frac{1}{8}$	75,777	12	6 $\frac{3}{4}$	9,628	31	1 $\frac{2}{8}$	2,90,673	11	1 $\frac{1}{8}$	1,925	12	9 $\frac{3}{4}$	58,134	11	10 $\frac{1}{2}$

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Statement shewing the lands under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued.)

Numbers.	Names of Channels.	Cost of Channels from the Year 1846 to 1850.			Maximum Extent of land in the most favorable years irrigated during the last 20 years by the Waters of the Godavary, prior to the construction of the Anicut and the revenue derived therefrom.												The whole extent of the cultivated lands of the irrigated villages by the Godavary, with its Anicut or otherwise, the amount of revenue derived therefrom, the annual increased extent of land irrigated each year since the Anicut was brought into use, with the increase of Annual Revenue therefrom.											
		Fusly J260.																										
		Land irrigated.						Not irrigated.																				
		Land.	Cist.	Teerva justy	Total.	Land.	Cist.																					
18	19	20	21	22	23	24	25	26																				
	Rs.	A. P.	P.	T.	M.	Rs.	A. P.	P.	T.	M.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	P.	T.	M.	Rs.	A. P.							
1	Thooliabaga Channel.....	.....	.....	766	3	5	27,111	5	8	170	3	2	3,818	10	8	1,189	..	11	5,007	11	7	1,341	5	9 $\frac{1}{2}$	36,229	14	2
2	Samulcottah Channel.....	.....	.....	414	3	8	15,139	13	..	395	3	3	14,686	2	4	5,080	6	10	19,766	9	2	308	7	11 $\frac{1}{2}$	8,272	10	8
				1,180	6	13	42,251	2	8	565	6	5	18,504	13	..	6,269	7	9	24,774	4	9	1,650	12	10 $\frac{1}{2}$	44,502	8	10	
1	Samulcottah Channel.....	.....	.....	283	11	15 $\frac{1}{16}$	11,449	4	1	257	11	1	7,296	3	9	5,704	9	6	13,000	13	8	14	14	8 $\frac{1}{16}$	323	11	2
	Total.....	.....	.....	1,468	18	12 $\frac{1}{16}$	53,700	6	9	822	17	6	25,801	..	9	11,974	1	3	37,775	2	..	1,660	7	3 $\frac{10}{16}$	44,826	4	...
	<i>Particulars.</i>																											
1	Thooliabaga Channel.....	46,530	.....	766	3	5	27,111	5	8	170	3	2	3,818	10	8	1,189	..	11	5,007	11	7	1,341	5	9 $\frac{1}{2}$	36,229	14	2
2	Samulcottah Channel.....	30,963	.....	697	15	7 $\frac{1}{16}$	26,585	1	1	652	14	4	21,982	6	1	10,785	..	4	32,767	6	5	324	1	10 $\frac{9}{16}$	8,596	5	10
	Total.....	77,492	.....	1,463	18	12 $\frac{1}{16}$	53,700	6	9	822	17	6	25,801	..	9	11,974	1	3	37,775	2	..	1,660	7	3 $\frac{10}{16}$	44,826	4	...

Statement shewing the lands under The Thooliabaga and Samulcottah channels, and their cist, &c. (Continued.)

Number.	Names of channels.	The whole extent of the cultivated lands of the irrigated Villages by the Godavery, with its Anicut or otherwise, the amount of revenue derived therefrom, the Annual increased extent of land irrigated each year since the Anicut was brought into use, with the increase of Annual revenue therefrom.																							
		Fusly 1261.																							
		Total.					Land irrigated.										Not irrigated.								
		Land.		Cist.			Land.		Cist.		Teerva jasy.		Total.		Land.		Cist.								
27		28			29		30		31		32		33		34										
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.			
1	Thooliabaga Channel.....	1,511	8	11½	41,237	9	9	344	15	2	8,807	9	4	2,281	12	9	11,089	6	1	1,143	6	7½	31,814	2	6
2	Samulcottah Channel.....	704	10	4½	28,039	3	10	415	9	11	14,550	3	1	7,465	5	9	22,015	8	10	339	18	8	6,656	5	11
		2,215	18	15¾	69,276	13	7	760	4	13	23,357	12	5	9,747	2	6	33,104	14	11	1,483	4	15½	38,470	8	5
1	Samulcottah Channel..	272	5	9¼	13,324	8	5	281	11	14	8,176	10		6,431	6	8	14,607	7	6	...	...	...	...	...	...
	Total.....	2,488	4	9½	82,601	6	...	1,044	16	11	31,533	12	3	16,178	9	2	47,712	6	5	1,483	4	15½	38,470	8	5
	<i>Particulars.</i>																								
1	Thooliabaga Channel.....	1,511	8	11½	41,237	9	9	344	15	2	8,807	9	4	2,281	12	9	11,089	6	1	1,143	6	7½	31,814	2	6
2	Samulcottah Channel.....	976	15	14½	41,363	12	3	700	1	9	22,726	3	11	13,896	12	5	36,623	...	4	339	18	8	6,656	5	11
	Total.....	2,488	4	9½	82,601	6	...	1,044	16	11	31,533	12	3	16,178	9	2	47,712	6	5	1,483	4	15½	38,470	8	5

Statement shewing the lands under the Thooliabaga and Samulcottah channels, and their cist, &c. (Continued.)

Number.	Names of Channels.	The whole extent of the cultivated lands of the irrigated Villages by the Godavery, with its Anicut or otherwise, the amount of revenue derived therefrom, the Annual increased extent of land irrigated each year since the Anicut was brought into use, with the increase of Annual revenue therefrom.																							
		Fusly 1262.																							
		Total.					Irrigated.										Not irrigated.								
		Land.		Cist.			Land.		Cist.		Teerva jasty.		Total.		Land.		Cist.								
35	36	37	38	39	40	41	42																		
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.			
1	Thooliabaga Channel.....	1,488	1	9 $\frac{5}{8}$	42,903	8	7	1,132	1	2	29,752	6	7	6,058	5	2 $\frac{3}{4}$	35,810	11	9 $\frac{3}{4}$	712	17	15 $\frac{2}{8}$	17,958	14	2 $\frac{1}{4}$
2	Samulcottah Channel.....	755	8	3	28,671	14	9	517	12	1	17,117	6	3	4,878	10	4	21,996	...	7	200	..	12 $\frac{6}{8}$	4,307	10	5
		2,243	9	12 $\frac{6}{8}$	71,575	7	4	1,649	13	3	46,869	12	10	10,936	15	6 $\frac{3}{4}$	57,806	12	4 $\frac{3}{4}$	912	18	11 $\frac{1}{8}$	22,266	8	7 $\frac{1}{4}$
1	Samulcottah Channel.....	284	11	14	14,607	7	6	282	8	1	7,940	5	5	6,495	10	...	14,435	15	5	358	3	4	11,782	12	4
	Total.....	2,528	1	10 $\frac{4}{8}$	86,182	14	10	1,932	1	4	54,810	2	3	17,432	9	6 $\frac{3}{4}$	72,242	11	9 $\frac{3}{4}$	1,271	1	15 $\frac{1}{8}$	34,049	4	11 $\frac{1}{4}$
	<i>Particulars.</i>																								
1	Thooliabaga Channel.....	1,488	1	9 $\frac{5}{8}$	42,903	8	7	1,132	1	2	29,752	6	7	6,058	5	2 $\frac{3}{4}$	35,810	11	9 $\frac{3}{4}$	712	17	15 $\frac{2}{8}$	17,958	14	2 $\frac{1}{4}$
2	Samulcottah Channel.....	1,040	...	1	43,279	6	3	800	...	2	25,057	11	8	11,374	4	4	36,432	...	...	558	4	8 $\frac{6}{8}$	16,090	6	9
	Total.....	2,528	1	10 $\frac{6}{8}$	86,182	14	10	1,932	1	4	54,810	2	3	17,432	9	6 $\frac{3}{4}$	72,242	11	9 $\frac{3}{4}$	1,271	1	15 $\frac{1}{8}$	34,049	4	11 $\frac{1}{4}$

Statement shewing the lands under the Thooliabaga and Samulcottah channels, and their cist, &c. (Continued.)

Number.	Names of Channels.	The whole extent of the cultivated lands of the irrigated Villages by the Godavery with its Afficut or otherwise, the amount of revenue derived therefrom, the Annual increased extent of land irrigated each year since the Afficut was brought into use, with the increase of Annual revenue therefrom.																							
		Fusly 1263.																							
		Total.				Irrigated.								Not irrigated.											
		Land.		Cist.		Land.		Cist.		Land.		Cist.		Land.		Cist.									
		43	44	45	46	47	48	49	50																
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.			
1	Thooliabaga Channel.....	1,844	19	1 ⁹ / ₁₆	53,769	10	..	1,546	16	12 ⁹ / ₁₆	38,311	4	10	7,406	10 ⁵ / ₁₆	45,717	5	8 ⁷ / ₁₆	739	15	4 ⁹ / ₁₆	19,932	15	2 ¹ / ₁₆	
2	Samulcottah Channel.....	717	12	13 ⁶ / ₁₆	26,303	11	..	534	5	13 ⁵ / ₁₆	17,422	9	4	4,953	10	7	22,376	3	11	116	12	10 ¹ / ₁₆	3,274	1	2
		2,562	11	14 ¹ / ₁₆	80,073	6	..	2,081	7	9 ¹ / ₁₆	55,733	14	2	12,359	11	5 ¹ / ₁₆	68,093	9	7 ¹ / ₁₆	856	7	15 ¹ / ₁₆	23,207	..	4 ¹ / ₁₆
1	Samulcottah Channel.....	640	11	5	26,218	11	9	275	13	12 ¹ / ₁₆	7,589	4	2	6,608	5	9	14,197	9	11	425	4	11 ¹ / ₁₆	12,437	1	1
	Total.....	3,203	3	3 ¹ / ₁₆	1,06,292	..	..	2,356	14	6 ¹ / ₁₆	63,323	2	4	18,968	1	2 ¹ / ₁₆	82,291	3	6 ¹ / ₁₆	1,281	12	11 ¹ / ₁₆	35,644	15	1 ¹ / ₁₆
	Particulars.																								
1	Thooliabaga Channel.....	1,844	19	1 ⁹ / ₁₆	53,769	10	..	1,546	16	12 ⁹ / ₁₆	38,311	4	10	7,406	10 ⁵ / ₁₆	45,717	5	8 ⁷ / ₁₆	739	15	4 ⁹ / ₁₆	19,932	15	2 ¹ / ₁₆	
2	Samulcottah Channel.....	1,358	12	2 ⁹ / ₁₆	52,522	6	9	809	17	9 ¹ / ₁₆	25,011	13	6	11,562	..	4	36,573	13	10	541	17	6 ⁷ / ₁₆	15,711	2	3
	Total.....	3,203	3	3 ¹ / ₁₆	1,06,292	..	9	2,356	14	6 ¹ / ₁₆	63,323	2	4	18,968	1	2 ¹ / ₁₆	82,291	3	6 ¹ / ₁₆	1,281	12	11 ¹ / ₁₆	35,644	15	1 ¹ / ₁₆

Statement shewing the lands under the Thooliabaga and Samulcottah channels, and their cist, &c. (Continued.)

Number.	Names of Channels.	The whole extent of the cultivated lands of the irrigated villages by the Godavery with its Anicut or otherwise the amount of revenue derived therefrom, the Anicut increased extent of land irrigated each year since the Anicut was brought into use with the increase of Annual revenue therefrom.																							
		Total																							
		Total.					Irrigated.										Not irrigated.								
		Land.		Cist.			Land.		Cist.		Teerwa jasy.		Total.		Land.		Cist.								
51	52	53	54	55	56	57	58														59	60			
	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.				
1	Thooliabaga Channel.....	2,286	12	1 $\frac{1}{8}$	65,650	4	11	3,193	16	2 $\frac{9}{16}$	80,689	15	5	16,935	3	9 $\frac{1}{2}$	97,625	3	2 $\frac{1}{2}$	3,937	5	5 $\frac{1}{8}$	1,05,593	14	$\frac{1}{2}$
2	Samulcottah Channel.....	650	16	7 $\frac{1}{16}$	25,650	5	1	1,862	8	12 $\frac{5}{16}$	63,776	5	...	22,378	1	6	86,154	6	6	965	19	$\frac{1}{4}$	22,510	12	2
		2,937	8	9 $\frac{1}{16}$	91,300	10	...	5,056	4	14 $\frac{1}{16}$	1,44,466	4	5	39,313	5	3 $\frac{1}{2}$	1,83,779	9	8 $\frac{1}{2}$	4,903	4	5 $\frac{5}{16}$	1,28,446	10	2 $\frac{1}{2}$
1	Samulcottah Channel.....	700	18	8 $\frac{1}{16}$	26,634	11	...	1,100	4	12 $\frac{1}{16}$	31,001	14	2	25,239	15	11	56,241	14	1	798	2	8 $\frac{1}{16}$	24,543	8	7
	Total.....	3,638	7	1 $\frac{1}{16}$	1,17,935	5	...	6,156	9	11 $\frac{1}{16}$	1,75,468	2	7	64,553	5	2 $\frac{1}{2}$	2,40,021	7	9 $\frac{1}{2}$	5,701	6	14 $\frac{1}{16}$	1,52,990	2	9 $\frac{1}{2}$
	<i>Particulars.</i>																								
1	Thooliabaga Channel.....	2,286	12	1 $\frac{1}{8}$	65,650	4	11	3,193	16	2 $\frac{9}{16}$	80,689	15	5	16,935	3	9 $\frac{1}{2}$	97,625	3	2 $\frac{1}{2}$	3,937	5	5 $\frac{1}{8}$	1,05,935	14	$\frac{1}{2}$
2	Samulcottah Channel.....	1,351	15	$\frac{6}{16}$	52,285	...	1	2,962	13	8 $\frac{4}{16}$	94,778	3	2	47,618	1	5	1,42,396	4	7	1,764	18	1 $\frac{1}{16}$	47,054	4	9
	Total.....	3,638	7	1 $\frac{1}{16}$	1,17,935	5	...	6,156	9	11 $\frac{1}{16}$	1,75,468	2	7	64,553	5	2 $\frac{1}{2}$	2,40,021	7	9 $\frac{1}{2}$	5,701	6	14 $\frac{1}{16}$	1,52,990	2	9 $\frac{1}{2}$

Statement shewing the lands under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued).

Number.	Names of Channels.	The whole extent of the cultivated lands of the irrigated Villages by the Godavery with its Annicut or otherwise, the amount of revenue derived therefrom, the Annual increased extent of land irrigated each year since the Annicut was brought into use, with the increase of Annual revenue therefrom.																								
		Average																								
		Total.				Irrigated.								Not irrigated.												
		Land.		Cist.		Land.		Cist.		Teerva jasty.		Total.				Land.		Cist.								
		59		60		61		62		63		64				65		66								
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	
1	Thooliabaga Channel.....	7,131	17	$\frac{10\frac{1}{2}}{18}$	2,03,561	1	3	798	9	$\frac{10\frac{1}{2}}{18}$	20,172	7	10 $\frac{1}{2}$	4,233	12	11 $\frac{1}{2}$	24,406	4	9 $\frac{1}{2}$	984	6	$5\frac{1}{2}$	$\frac{1}{18}$	26,483	15	6
2	Samulcottah Channel.....	2,328	7	$12\frac{2}{18}$	1,08,665	2	8	465	12	$3\frac{1}{2}$	15,944	1	3	5,594	8	4 $\frac{1}{2}$	21,538	9	7 $\frac{1}{2}$	241	9	$12\frac{1}{18}$		5,627	11	$\frac{1}{2}$
		9,959	9	$4\frac{1}{2}$	3,12,226	3	11	1,264	13	$1\frac{1}{2}$	36,116	9	11 $\frac{1}{2}$	9,828	5	4	45,944	14	5 $\frac{1}{2}$	1,225	16	$1\frac{1}{18}$		32,111	10	6 $\frac{1}{2}$
1	Samulcottah Channel.....	1,898	7	$5\frac{1}{18}$	80,785	6	8	275	1	$3\frac{1}{2}$	7,750	7	6 $\frac{1}{2}$	6,310	...	...	14,060	7	6 $\frac{1}{2}$	199	10	$10\frac{1}{18}$		6,135	14	2
	Total.....	11,857	16	$9\frac{1}{18}$	3,93,011	10	7	1,539	2	$6\frac{1}{18}$	43,867	...	7 $\frac{1}{2}$	16,138	5	4	60,005	5	11 $\frac{1}{2}$	1,425	6	$11\frac{1}{18}$		38,247	8	8 $\frac{1}{2}$
	<i>Particulars.</i>																									
1	Thooliabaga Channel.....	7,131	17	$\frac{10\frac{1}{2}}{18}$	2,03,561	1	3	798	9	$\frac{10\frac{1}{2}}{18}$	20,172	7	10 $\frac{1}{2}$	4,233	12	11 $\frac{1}{2}$	24,406	4	9 $\frac{1}{2}$	984	6	$5\frac{1}{18}$		26,483	15	6
2	Samulcottah Channel.....	4,726	15	$1\frac{1}{2}$	1,89,450	9	4	740	13	$6\frac{1}{18}$	23,694	8	9 $\frac{1}{2}$	11,904	8	4 $\frac{1}{2}$	35,599	1	2	441	...	$6\frac{1}{2}$		11,763	9	2 $\frac{1}{2}$
	Total.....	11,857	16	$9\frac{1}{18}$	3,93,011	10	7	1,539	2	$6\frac{1}{18}$	43,867	...	7 $\frac{1}{2}$	16,138	5	4	60,005	5	11 $\frac{1}{2}$	1,425	6	$11\frac{1}{18}$		38,247	8	8 $\frac{1}{2}$

Statement shewing the lands under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued.)

Number.	Names of Channels	The whole extent of the cultivated lands of the irrigated villages, &c						Comparison between Columns 59,60 and 14, and 15.						Comparison between Fuslies 1260 and 1261.											
		Total.						Increase			Decrease.			Increase.			Decrease.								
		Land.		Cist.				Land.	Cist.		Land.	Cist.		Land	Cist.		Land.	Cist.							
		67		68				69	70		71	72		73	74		75	76							
		P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.	P.	T.	M.	Rs.	A.	P.
1	Thooliabaga Channel.....	1,782	15	5 $\frac{1}{2}$	50,890	4	3 $\frac{3}{4}$	1,203	14	15 $\frac{1}{16}$	41,148	15	11	...	...	...	1,665	14	10	23	7	2 $\frac{2}{16}$	...	...
2	Samulcottah Channel.....	707	11	5 $\frac{1}{8}$	27,166	4	8	473	10	3 $\frac{5}{16}$	29,173	14	6 $\frac{1}{4}$	...	...	...	50	17	14	...	...	...	...	...
		2,489	17	5 $\frac{3}{16}$	78,056	8	11 $\frac{3}{4}$	1,677	5	3 $\frac{1}{4}$	70,322	14	5 $\frac{1}{4}$	...	...	...	50	17	14	...	...	...	...	...
1	Samulcottah Channel.....	474	11	13 $\frac{1}{16}$	20,196	5	8 $\frac{1}{2}$	552	8	4 $\frac{1}{8}$	32,015	1	...	...	...	...	12	6	4	...	...	...	...	...
	Total.....	2,964	9	2 $\frac{1}{16}$	98,252	14	8 $\frac{1}{4}$	2,229	13	7 $\frac{3}{4}$	1,02,337	15	5 $\frac{1}{4}$	...	...	...	63	4	2	...	...	...	...	...
	<i>Particulars.</i>																								
1	Thooliabaga Channel.....	1,782	15	5 $\frac{1}{2}$	50,890	4	3 $\frac{3}{4}$	1,203	14	15 $\frac{1}{16}$	41,148	15	11	...	...	...	1,665	14	10	23	7	2 $\frac{2}{16}$	...	...
2	Samulcottah Channel.....	1,181	13	12 $\frac{3}{16}$	47,362	10	4 $\frac{1}{2}$	1,025	18	7 $\frac{1}{16}$	61,188	15	6 $\frac{1}{4}$	...	...	...	63	4	2	...	...	...	...	...
	Total.....	2,964	9	2 $\frac{1}{16}$	98,252	14	8 $\frac{1}{4}$	2,229	13	7 $\frac{3}{4}$	1,02,337	15	5 $\frac{1}{4}$	...	...	...	63	4	2	...	...	...	...	...

Statement shewing the land under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued.)-

Number.	Names of Channels.	Comparison between Fushes 1260 and 1262.										Comparison between Fushes 1260 and 1263.												
		Increase.					Decrease					Increase-				Decrease.								
		Land		Cist.			Land.		Cist.			Land.		Cist.		Land.		Cist.						
		77	78	79	80	81	82	83	84															
		P.	T.	M.	Rs.	A. P.	P.	T.	M.	Rs.	A. P.	P.	T.	M.	Rs.	A. P.	P.	T.	M.	Rs.	A. P.			
1	Thooliabaga Channel.....	333	10	6 $\frac{1}{16}$	12,532	3	...	...	...	...	...	775	3	5 $\frac{11}{16}$	24,412	11	2	...	...	...	...	...
2	Samulcottah Channel.....	13	2	9 $\frac{2}{16}$	...	...	...	...	...	1,735	8	10	...	...	...	...	53	13	12 $\frac{5}{16}$	2,388	14	9		
		346	12	15 $\frac{5}{16}$	12,532	3	...	...	...	1,735	8	10	775	3	5 $\frac{11}{16}$	24,412	11	2	53	13	12 $\frac{5}{16}$	2,388	14	9
1	Samulcottah Channel.....	368	5	11 $\frac{2}{16}$	12,894	3	4	...	...	...	...	428	12	14 $\frac{9}{16}$	13,310	2	7	...	...	...	...	...
	Total.....	714	18	10 $\frac{5}{16}$	25,426	3	7	...	...	1,735	8	10	1,203	16	4 $\frac{1}{16}$	37,722	13	9	53	13	12 $\frac{5}{16}$	2,388	14	9
	<i>Particulars</i>																							
1	Thooliabaga Channel.....	333	10	6 $\frac{1}{16}$	12,532	3	...	...	...	...	...	775	3	5 $\frac{11}{16}$	24,412	11	2	...	...	...	...	...
2	Samulcottah Channel.....	381	8	4 $\frac{1}{16}$	12,894	3	4	...	...	1,735	8	10	428	12	14 $\frac{9}{16}$	13,310	2	7	53	13	12 $\frac{5}{16}$	2,388	14	9
	Total.....	714	18	10 $\frac{5}{16}$	25,426	3	7	...	...	1,735	8	10	1,203	16	4 $\frac{1}{16}$	37,722	13	9	53	13	12 $\frac{5}{16}$	2,388	14	9

Statement shewing the lands under the Thooliabaga and Samulcottah Channels, and their cist, &c. (Continued.)

Number.	Names of Channels.	Total.								Land irrigated under Cane cultivation.				Average prices of Paddy.						
		Increase.				Decrease.				Land.	Cst.	During the five years prior to the construction of the Anicut, per Madras Garce.	During the subsequent years, per Madras Garce.							
		Land.		Cist.		Land.		Cist.												
		85	86	87	88	89	90	91	92											
		P.	T.	M.	Rs.	A.P.	P.	T.	M.	Rs.	A.P.	P.	T.	M.	Rs.	A.P.	Rs.	A.P.	Rs.	A.P.
1	Thooliabaga Channel.....	1,108	13	11 $\frac{1}{16}$	38,610	10 3	23	7	2 $\frac{2}{16}$	...	...	...	...	...	...	...	...	...	...	...
2	Samulcottah Channel.....	64	...	7 $\frac{1}{16}$	632	10 11	53	13	12 $\frac{5}{16}$	4,124	7 7	...	...	...	...	...	...	...	...	...
		1,172	14	3 $\frac{1}{16}$	39,243	5 2	77	...	14 $\frac{7}{16}$	4,124	7 7	...	...	...	...	...	...	...	...	...
1	Samulcottah Channel.....	809	4	13 $\frac{1}{16}$	27,487	5 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total.....	1,981	19	1 $\frac{1}{16}$	66,730	10 2	77	...	14 $\frac{7}{16}$	4,124	7 7	...	...	...	77	...	...	69	...	...
	<i>Particulars.</i>																			
1	Thooliabaga Channel.....	1,108	13	11 $\frac{1}{16}$	38,610	10 3	23	7	2 $\frac{2}{16}$	...	...	...	...	...	...	...	...	...	...	...
2	Samulcottah Channel.....	873	5	5 $\frac{1}{16}$	28,119	15 11	53	13	12 $\frac{5}{16}$	4,124	7 7
	Total.....	1,981	19	1 $\frac{1}{16}$	66,730	10 2	77	...	14 $\frac{7}{16}$	4,124	7 7	77	69

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Rajahmundry District, Cocanada, }
29th July 1854.

E. E. G. N. TAYLOR,*
Sub-Collector in charge.

RAJAHMUNDRY DISTRICT,
DOWLAISWARUM,
23rd September 1854.

No. 90.

FROM

G. N. TAYLOR, Esq.,
Sub-Collector in charge.

TO

B. CUNLIFFE, Esq.,
*Sub-Secretary in charge Board of Revenue,
Fort Saint George.*

SIR,

1. With reference to the Extract from the Proceedings of the Board of Revenue dated 11th instant, desiring me to furnish a more detailed report than has yet been drawn out on the effects of the Annicut upon the general circumstances of this District, I have now the honor to submit for their consideration, transcript of a letter I addressed to the late Chief Engineer in May 1853, together with tables and statements regarding the Sub-Division: and a paper which I have drawn up from materials collected since I have had charge of the District, shewing the improvement produced by the Annicut on the talooks of the Collector's Division.

2. The former paper was written at a time, when considerable fear was entertained lest the estimates then before the Government should not receive their sanction, and that a portion of the project would in consequence be suspended—fears which were happily not realised. In the course of the remarks recorded in the paper more recently written, and which completes the subject as far as the whole District is concerned, enough has perhaps been said, in explanation of the reasons why I am unable to furnish the information in the exact form required by Government, with respect to the increase of wet cultivation, and in regard to the precise amount of benefit, direct and indirect, which has resulted from the Annicut project, both to Government and to the population.

3. With my letter to the Board, in the Department of Public Works, I have forwarded statements of the entire expenditure on the Annicut project, which with interest calculated at the rate of 5 per cent per annum on all monies expended, is found to amount to Rupees 31,89,729. Interest ought not properly to have been charged on the cost of those works which are in full operation and bring a large profit to Government; but, as I am desirous of avoiding the least appearance of under-valuing the expenditure, I have included the whole.

Pl.....	27,56,832	
Int.....	4,32,897	
	31,89,729	

4. It will be seen from the large, comprehensive statement which accompanies this letter, and copy of which has already been forwarded to one of the members of the Board by the Head Sheristadar, that the net aggregate increase to the Revenue of the whole District since the commencement of the Annicut, has been 8 lacs; and it will also be observed from the table annexed to para. 4 of the report on the Collector's talooks, and to para. 2 of the letter to Colonel Cotton, that, the excess Revenue actually realized during the 7 years from 1257 to 1263, in the Delta talooks alone, is 6 lacs. The Govern-

Marked Z.

ment are able to judge, whether or not I have fairly attributed this increase to the operation of the Annicut and its subsidiary works, and whether at the very lowest computation, the State has not been amply repaid for the entire outlay on the project, both in direct profit by increase of Revenue, and by the incalculable and lasting benefit which has resulted to the people, and to the general circumstances of the District.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) G. N. TAYLOR,

Sub-Collector in charge.

SAMULDINI, 4th May 1853.

No.

To COLONEL A. COTTON,

Chief Engineer, Madras.

SIR,

1. I have the honor to acknowledge your letter of the 4th April desiring information which will enable you to judge of the effects of the Annicut works, upon the several Talooks of the sub-division. The statements and tables which I have now the pleasure to send you, have been prepared in my Office and will be forwarded officially to the Collector of Rajahmundry, in order to show in what manner the Talooks under my charge have benefited by the Annicut project generally, and I trust that the following remarks will afford a clear explanation of my own views, upon all the subjects regarding which you require information.

2. It is necessary to premise, that it has not yet been possible to impose on the land of the Talooks of my division, Teervajasty properly so called, because none of the cultivated lands have hitherto changed their class from dry to wet, or from wet to garden, in consequence of improved irrigation. In order therefore to show how the sub-division has benefited by the Annicut project, it seemed to me necessary to frame such a return as should exhibit at one view, a comparison between the Revenue of these Talooks, for the Fusly 1256, year immediately preceding the commencement of the Annicut, and that for the present year, Fusly 1262; shewing at the same time, the depressed state of this part of the district for 12 or 20 years anterior to Fusly 1256, the gradual improvement of the revenue during the progress of the construction of the Annicut, and the increase in every year since its completion. To make this table more comprehensive, I have also endeavoured to show, in what manner the entire amount of this increase may fairly be attributed to the direct and indirect effects of the Government works, as distinguished from the amount to which the demand upon the ryots must have been restricted, if no such improvements had been undertaken for their benefit. The separate return forwarded with this letter, will be found to comprise complete information upon all the above points in regard to every village of the three talooks of Mogultoor, Woondy and Tankoo.

3. A statement which should exhibit the extent and kist of those lands only, which have been actually watered by the new Annicut channels, would be comparatively of little use, because as I said before, there has been no change of crop, nor has an acre of land been reclaimed from waste; but the entire extent of these three Talooks having been exposed more or less in former years to both the good and bad effects of the Godavery water, the whole of the land has benefited by the execution of these works, either by improved and certain irrigation, by protection from floods, or relief by drainage.

4. Before proceeding to notice individual villages, which I propose doing by and bye, choosing for that purpose for the sake of example, a few villages from each Talook, it will perhaps put the matter in a clearer light, if I show in the first place, what has been the increase of Revenue derived from those lands which are under the influence of the Godavery, as distinguished from those which, from their high level, the water of the river will probably never reach.

5. It is possible, that the above figures are not perfectly accurate, for, in order to save time, the calculations have been made from accounts in my Cutcherry, and from my general knowledge of the particulars of each Talook, but they cannot be materially incorrect. The land which is not affected by the Godavery, is chiefly in the Thademulla Talook, the kist of high land in the other three Talooks which the river has never yet reached, amounts to the insignificant sum of Rs. 12 or 14,000.

6. The following statement giving the actual collections of the three Talooks of Mogultoor, Woondy and Tankoo for the last 12 years, will shew the aggregate results of the six years from the 1st commencement of the Annicut, as compared with those of the corresponding period immediately preceding.

Statement shewing the increase of kist on lands capable of irrigation by the Godavery, in the sub-division of Rajahmundry; Comparison between Fusly 1256 and 1262.

No	Talooks.	Beriz of 1262.		Deduct shist of high land not irrigated by the Godavery.	Remainder shist of lands irrigated by the Godavery	Average collection of a series of years prior to Fusly 1255.	Average collections of 5 years from Fusly 1251 to 55 on land capable of irrigation by the Godavery.	Beriz of Fusly 1256			Increase of shist compare columns 4 and 7.	Increase of shist compare columns 3 and 8	Total.	Remarks.										
		7	8					Total.																
	1	2	3	4	5	6	7	8	9	10	11	12												
1	Mogultoor.	1,53,959	16 4	13,957	5 10	1,46,002	9 6	1,31,802	6 4	7,83,821	1 7	1,26,561	6 10	12,039	7 1	1,38,600	13 11	19,441	2 8	1 917	14 9	21,359	1 5	Note to Column 5. In the Tankoo Talook, the average of 20 years is given. In Woondy, the accounts of some villages were procurable only for 10 or 15 years, and in Mogultoor from 5 to 14 years.
2	Woondy.	1,42,369	11 6	490	...	1,41,879	11 6	1,00,360	10 11	6,34,448	7 8	1,22,604	8 11	410	...	1,22,414	8 11	10,875	2 7	80	...	19,955	2 7	
3	Tankoo.	1,75,591	11 ..	..	...	1,75,591	11 ..	1,48,140	4 1	8,71,925	7 6	1,52,275	11 7	..	...	1,52,275	11 7	23,915	15 5	..	...	23,315	15 6
		4,77,921	5 10	14,447	5 10	4,63,474	...	3,80,303	5 4	22,90,195	...	4,00,841	11 4	12,449	7 1	4,13,291	2 7	62,632	4 8	1,997	14 9	64,630	3 5	
4	Todemulla	34,810	...	34,810	...	...	...	...	...	7,72,721	2 10	...	...	34,865	1 9	34,865	1 9	...	...	55	1 9	..	...

Statement of the gross Land Revenue of the 3 talooks of Mogulloor, Woondy and Tankoo, from Fusly 1251 to 1262 inclusive.

A. D.	Fusly.	Collections.	Comparison of each year with Fusly 1251.				Prices for Madras garce.				
			Decrease.		Increase.		White paddy.		Black paddy.		
1841-42	1251	3,82,728 4 10					93 5 ...	54 9 ...			
1842-43	1252	3,80,432 15 7	2,295 5 3				57 9 3	46 13 5			
1843-44	1253	3,26,232 3 4	56,496 1 6				53 10 8	45 10 3			
1844-45	1254	3,87,886 9 9	58,791 6 9	5,158 4 11			58 1 4	52 1 5			
1845-46	1255	3,99,623 12 3		16,895 7 5			85 3 2	73 8 8			
1846-47	1256	4,13,291 2 5		30,562 13 7			83 1 10	74 11 8			
			58,791 6 9	52,616 9 11							
		Net decrease	6,174 12 10								
			Comparison with Fusly 1256								
1847-48	1257	4,23,475 4 2		10,184 1 9			76 4 .	67 2 ...			
1848-49	1258	4,40,660 9 5		27,369 7 .			72 4 .	63 8 .			
1849-50	1259	4,31,927 ... 3		18,635 13 10			75 14	60 4 ..			
				56,189 6 7							
1850-51	1260	4,43,232 1 10		29,990 15 5			72 6	65 2 ..			
1851-52	1261	4,62,789 8 8		49,498 6 3			59 . 8	52 9 4			
1852-53	1262	4,77,921 5 10		64,630 3 5			48	42			
			Aggregate increase	200,308 15 8							

7. Hence it appears that although the Revenue of Fusly 1256 was upwards of Rs. 30,000 beyond that of Fusly 1251, the net decrease for the period embraced by those two Fuslies is Rupees 6,174-12-10, or in other words the Government would have been a gainer to that amount, if the Revenue had remained stationary throughout that period—since the year 1256, the Revenue on the contrary has been steadily increasing, and while the collections of Fusly 1262 are Rs. 64,000 in excess of those of Fusly 1256, the aggregate increase for this last period amounts to Rupees 200,308—that is to say, the Government, are richer by two lacs of Rupees than they would have been, had the Revenue made no advance after the commencement of the Annicut.

8. This comparison however, would not of itself be sufficient to show the value of these works—because the commencement of the Annicut, was not the turning point in the Revenue. It had increased very considerably in Fusly 1254-55, and 56, although not sufficiently to compensate for the large diminution in Fusly 1253. The cause of this latter decrease, will enable us to appreciate the improvements which have been made since.

9. The loss in that Fusly was occasioned by a heavy flood of the Godavery, when the entire face of the country was exposed to the unchecked ravages of the inundation, but in Fusly 1259 there was a still higher flood, and the country being partially protected, although the Annicut was not finished, the loss was considerably less.

In Fusly 1262, when the river rose higher than on either of the previous occasions, and the flood continued at its height for a most unusual period, the loss was so trifling, that it has not been found necessary except in a very few cases to grant remissions. I have put down the collections of the three Talooks for the current Fusly at Rs. 4,77,921-5-10, which is Rs. 6,800 less than the demand, and is the amount which I consider will be collected without any difficulty.

It is proper to remark however, that although the figures 4,31,927 represent the collections belonging to Fusly 1259, Rs. 35,000 of that amount were postponed, and actually collected in Fusly 1260.

10. It is impossible to estimate with any approach to accuracy, the amount of loss which those talooks would have suffered in the present Fusly, had there been no embankments to protect the lands, no drainage to relieve them, and no irrigation channels to supply the after-crops when the first had perished. With the effects of previous floods before us, it is not too much to say that the inundation of the past year, which exceeded both the previous ones in volume if not in duration, would have reduced the Revenue 10 or 15 per cent, and caused an amount of damage which would have completely dispirited the people, and from the effects of which it would have taken them long years to recover.

11. It seems to me that the foregoing figures speak for themselves; it requires no argument to show, that with two such visitations as the floods of 1849 and 1852, a clear return of 200,000 on those six years, could not have been obtained by unaided Revenue management, however able and vigorous. Knowing the result of the previous period, we may presume on the contrary, that, without any improvement in the public works, there would have been a deficiency instead of a surplus. I think therefore, that I am justified in ascribing the entire increase and security of the Revenue during the last 6 years, to the operation of the Annicut works.

12. To put the matter in a yet stronger light, I here enter the following statement of the collections for the same two periods in the Todemulla Talook which is above the Annicut, and

Statement shewing the annual land Revenue of Todemulla from Fusly 1251 to 1262 inclusive.						
Fusly.	Collection.		Comparison with Fusly 1251.			
			Decrease.		Increase.	
1251	28,616	3 7	...	...	...	...
1252	26,683	0 10	1,933	2 9	...	...
1253	27,418	13 10	1,197	5 9	...	...
1254	29,572	12 4	...	...	956	8 9
1255	25,565	0 6	3,051	3 1	...	...
1256	34,865	1 9	...	...	6,248	14 2
			6,181	11 7	7,205 1,023	6 11
			Comparison with Fusly 1256.			
1257	29,297	15 ...	5,567	2 9	...	...
1258	28,679	11 ...	6,185	6 9	...	...
1259	27,745	11 10	7,119	5 11	...	...
1260	30,741	10 9	4,123	7 ...	...	...
1261	32,569	2 ...	2,295	15 9	...	...
1262	34,810	...	55	1 9	...	...
			25,346	7 11		

not directly affected by it. These figures exhibit a lamentable contrast to the results in the other three Talooks of the Division, and the remarkable fluctuation requires explanation. The first material advance was made in Fusly 1254, the year after Sir Henry Montgomery visited this District as Commissioner, and the first year of the subdivision, Fusly 1255, was a year of dearth. Fusly 1256, a year of plenty; many of the villages were then settled under the sharing system, and the produce of the Asara land in the former year was only 3 Candies, while in the latter it amounted to 400 Candies. In Fusly 1257, it fell again to 116; and in Fusly 1258 to 48 Candies. The same causes, viz. scanty, unseasonable or excessive rains, produced similar results in the rented villages of the Talook, and the Revenue gradu-

ally declined until Fusly 1259; since that year the village renting system has been established throughout the Talook, and the Revenue has steadily increased; but the Beriz even now is lower than it was six years ago, not from the total neglect of Public Works, but because it could not share to any extent, in those grand improvements, which have secured the other Talooks from similar loss.

13. I will now proceed to show more particularly in what manner I consider that the villages in the Talooks under my charge, have profited by the Annicut project. ^{* Direct and Indirect effects of the Annicut works.} The benefits have been both direct and indirect, and vary of course according to different localities. The direct benefits are three-fold, and are defined in the 1st question of your letter : 1st,—The preservation of the lands from floods by the new system of embankments ; 2nd,—Their relief by the cutting of drainage Channels ; 3rd,—The supply of the lands with water throughout the year.

14. But I do not consider that any one of these three causes had begun to operate upon the Revenue to any great extent, until the completion of the Annicut in Fusly 1260. It is true that the Godavery embankments were stronger and in better order than they had ever been before, but this improvement had not been found sufficient to avert the calamitous effects of the floods of Fusly 1259. The increase which occurred previous to that year, Fusly 1260, must be attributed almost entirely to the indirect effect produced by the large expenditure of money on the public works.

15. The employment of many thousands of people at seasons when they could not have found work elsewhere, opened out to the labouring class a new and profitable means of livelihood, and secured to the ryot, the tradesman, and the merchant, a large and certain market for agricultural products and merchandize of all kinds. No proof is wanting of the improved condition of the labouring class ; many of them have risen from a state approaching to slavery, to be independent cultivators, that is to say, that instead of working as before for an inadequate daily hire, some of them now possess small holdings of their own, paying kist to Government, while others are content to sell their labour to Government for the ample pay they receive at the public works. It must be admitted that the change bears very hard upon individuals among the better and more wealthy class of ryots, accustomed and entitled by long prescriptive right to the services of their serfs or under-labourers, who in return have enjoyed certain rights and immunities, and even the site upon which they live, at the will of their lord : those proprietors now find themselves deserted in favour of the Government works, and are frequently in want of hands for the tillage of their fields at the proper seasons. The natural effect has been a rise in the wages of labor, but, as compulsory attendance at the Government works is no longer enforced, the better class of ryot has no real grievance on that score. He admits that after a temporary absence, his under-labourer returns to the village with a bag of money, but because the latter surrenders no portion of his gains, he finds it difficult to realise the principle, that the money does find its way to him in some shape or other, and that the servant's prosperity is undoubtedly conducive to the benefit of the master. It will take some little time, perhaps, to impress this truth upon the natives generally, but in some villages they are already beginning to understand it.

16. You are aware that the subsidiary works for the irrigation of that portion of the Delta which lies to the West of the Vasista Godavery, were only commenced in the Spring of 1851—(Fusly 1261) but in Fusly 1260, a considerable sum was expended in repairing and strengthening the river embankments ; the two large mouths of the Boopyah and Jeggaz Kalvas were effectually

Dates of the Accomplishment of various Works on the Godavery Western bank.

May 1851, Wyair Project commenced.

August 1851, Chetty petta Calingalah finished. Head of Gosta Naries, opened.

Sept. 1851, First Dhony passes through Vizzaseavram Lock.

Feb. 1852 Nundumoor Lock opened.

April 1852 Kakrapurroon Channel opened.

August 1852 Yellamunchaly channel opened.

January 1853 Palacole Channel finished. Parimella Lock

opened.

February 1853 No. 1 Asunta Irrigation Channel opened.

March 1853 No. Asunta Irrigation Channel opened.

April 1853 Mookkamoola Lock opened.

and various other improvements executed to prevent a repetition of the disastrous effects of the inundation of Fusly 1259. But it was not until Fuslies 1261 and 62 that the country was relieved by the commencement of the drainage channels, or the people benefited by the certain supply of water, first in the Gosta Nuddee and Wyairoo, and afterwards in the other channels that are now in course of completion. In determining therefore what portion of this increase of Revenue is owing to the several direct and indirect effects of the Annicut works, I have been guided by those circumstances and have attributed the profit of the three years from Fusly 1257 to 59 inclusive, to the general expenditure ; that of Fusly 1260 and 61, to the effect of improved embankments and drainage ; and the increase of Fusly 1262, to the actual supply of water in all seasons.

17 The following is a Statement, exhibiting the advantage derived from the Government works in a few villages selected from each Delta Talook of the sub-division ; they will serve as an exemplification of the whole, for the separate Table which accompanies this letter, is prepared in the same form, and contains the particulars of every village in the three talooks.

Statement shewing the effect of the several works of the Annicut project upon the Revenue of a few villages of each of the three Delta Talooks in the sub-division of Rajahmundry.

Talooks	Irrigating Channels.	Villages.	Permanent Beriz.	Highest Collection		Lowest Collection.		Average Collection from Fusly 1251 to 1255.	Beriz for Fusly 1256
				Fusly.	Amount.	Fusly.	Amount.		
1	2	3	4	5	6	7	8	9	10
1 Mogultoore.....	Nuckkala.....	1 Asunta.....	18053 13 ..	1236	21665 1 2	1255	15100 12 9	13725 11 8	15108 1 ..
	Palacole.....	2 Padoor.....	4345 5 2	1243	7434 5 3	1255	3300	3110	3506 14 5
	Yellamunchely.....	3 Codumunchely.....	5553 12 ..	1204	5653 6 8	1247	3376 10 9	4454 14 4	4852 13 6
	Nuckkala.....	4 Vamanarum.....	3402 1 1	1261	6500	1298	2459 1 9	3459 7 2	3744 12 ..
				31354 15 3	...	39252 13 1	...	24736 9 3	24760 1 2
2 Woondy.....	Gosta.....	1 Sroongavroochum.....	7233 11 2	1223	7009 12 ..	1225	3229 4 9	4966 .. 2	5180
	Do.	2 Gollalakodair.....	3259 8 2	1229	3315 .. 6	1232	150 8 6	2139 12 4	2618 5 6
	Do.	3 Mahdepatam.....	6422 5 8	1226	4205 12 2	1231	1059 15 ..	1796 13 10	2450
	Do.	4 Royakodair	4696 8 9	1221	5159 2 2	1222	2326 1 11	3478 5 10	4071 .. 3
				21612 1 9	...	19689 10 10	..	6765 11 2	12381 .. 2	14319 5 9
3 Tankoo.....	Gosta.....	1 Velpoor.....	5795 2 1	1226	7177 2 6	1256	5000	4740 9 1	5000
	Do.	2 Ramasevarum.....	1921 11 10	1222	2725 8 5	1256	1411 15 ..	1100	1411 15 ..
	Do.	3 Mortair.....	1611 11 1	1222	2359 10 5	1256	1225	1100	1225
	Do.	4 Pengonda.....	5221 9 6	1224	6665 8 9	1253	2770 15 ..	3575	3650
				14550 2 7	...	18930 14 1	..	10407 14 ..	10515 9 1
			67517 3 7	..	77873 6	41910 5 5	47656 10 5	53115 13 8

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Aggregate increase of shunt from Fuslies 1257 to 1262 over Fusly 1256.												
Basis for Fusly 1262.		Increase in Fuslies 1257, 58 and 59, of profit by general expenditure.		Increase in Fuslies 1260 and 61, of profit by embankments and drainage.		Increase in Fusly 1262, of profit by actual supply of annicut water.		Total of Columns 13 and 14		Total of Columns 12 and 15.		Remarks
11		12		13		14		15		16		
17600	....	2110	13...	3389	14..	2494	15.	5884	13/..	7995	10/..	
5200	....	1232	13 9	2386	3 7	1693	1 7	4079	4 9	5312	2 6	
5350	....	423	8 ..	459	5 6	497	2 6	956	7 6	1379	15 6	
4500	....	235	12 ..	1635	12...	...	...	1635	12	1871	8...	
32650	....	4002	14 9	7871	2 2	4685	3 1	12556	5 3	16559	4...	
6150	....	1205	....	1450	....	970	....	2420	....	3625	....
3463	12 6	842	12 9	1277	1 6	845	7 ..	2122	8 6	2965	5 3	
3245	....	710	....	1098	14 5	795	....	1893	14 5	2663	14 5	
5130	....	1282	10 6	1631	15 6	1058	15 9	2690	15 3	3973	9 9	
17988	12 6	4040	7 3	5457	15 5	3669	6 9	6127	6 2	13167	13 5	
6100	....	1516	13 11	1500	....	1100	....	2600	....	4116	3 11	
2000	....	827	10.	816	1 ..	588	1 ..	1404	2 ..	2231	12..	
1865	....	475	....	571	....	640	....	1211	....	1686	....
4803	8 11	450	.. .	708	7...	853	8 11	1561	15 11	2011	15 11	
14768	8 11	3268	13 11	3598	8	3181	9 11	6777	1 11	10045	15 10	
65407	5 5	11312	3 11	16924	9 7	11536	3 9	28460	13 4	39773	1 3	

* 755 Rs. of this amount is the Increase in Fusly 1262, but as no water has yet been conducted to the village of Vamavarum, it is entered in Column 13.

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18. The first village is Asunta in the Mogultoor Talook, which is now watered by a cut from the Yellamunchelly channel. In Fusly 1257, 1258, and 59 during the construction of the Annicut, the ryots profited largely by the increased demand for products of all descriptions occasioned by the wages received on the Government works by large masses of the people; the amount under this head is Rs. 2,110-13 as entered in Column 12. The chief products are those of the most valuable kinds requiring careful culture, and a considerable amount of artificial irrigation. Until Fusly 1260, these lands had been exposed to the ravages of floods, and a large portion of the crop was annually destroyed, but by the repairs of bunds, and chiefly by the raising of an embankment across the mouth of the Jaggarazoo Codue, the crops in that and the following year, were preserved and the profit was very large. The increase of Revenue for those two years as entered in Column 13, was Rupees 3,389-14.

19. In the current fusly (1262) not only was there one of the largest floods on record, but the whole of the dry crops, the principal produce in this part of the district, were almost completely destroyed by the excessive and unseasonable rain which fell in December; considerable doubts were entertained whether it would have been possible to collect the large kists of that and the following months, but fortunately for the ryots and for Government, in consequence of the constant supply of water from the two channels branching from the Nuckkala Calva, the Pyra, or after-crops were excellent; the ryots were indemnified for their previous loss, and the Government demand has been realized in full. I have no hesitation in saying, that but for this timely aid, the loss in this village alone would have amounted to Rupees 4,000.

20. The other villages in this Talook were similarly watered by the Palacole, Yellamunchelly and Nuckkala channels, and the above remarks apply generally to them all.

21. In Tankoo, the improvement is not less conspicuous. In the villages selected, the crops of Bengal-gram, Oil-seeds, &c., have been brought forward, or revived by water from the Gosta Nadee and Palacole channels.

22. The effect of these works upon the Woondy Talook, has been still more remarkable. The almost constant supply of water in this and in last year, in the numerous old branch channels from the Gosta Nadee, has enabled the ryots to forestal by many weeks, the usual season for sowing, and afterwards transplanting their first paddy crop, a circumstance which ensures them a rich harvest. In many parts of the Talook, they are now certain of water for the irrigation of the Dalwa crop, which being before dependent on precarious rains, they seldom or never reaped; and in many villages, grain, cotton, &c., have been grown upon land, which was never known to produce a dry crop before.

23. Nor is this all;—the relief of the lands by what has been already effected in the way of drainage, is very striking. The value of the crops already grown on land so relieved, and which would have been nearly unproductive without drainage, is perhaps small, but when the large drain from Gollala Codaroo, following the old course of the Gosta Nadee is completed, a very large extent of land will I hope be reclaimed for cultivation.

24. Where the improvement has been so general, and the increase in the Revenue is owing to various direct and indirect causes, it is perhaps difficult to determine precisely, the proportion which is properly attributable to each particular part of the work. The division is necessarily arbitrary, but the arrangement which I have adopted in the separate return that accompanies this letter is borne out, as explained in the few instances selected, by the circumstances of each particular village. If it has been satisfactorily shown that those several effects have combined to produce this increase of Revenue, it matters little that we have over-rated the benefit derived from any one part of the project.

25. I ought not to close this part of the subject, without alluding to the very material effect which the Annicut has produced upon the Revenue derived from the sales of salt. The salt swamps in the Mogultoor Talook may be calculated to contain at least 5,000 acres. The names of the villages with the extent of land entered under this head in the accounts of each village, is

Matchapuru	50
Mullavarum . . . . .	..
Kumalabathapudi	9
Lossreguttapaudu	150
Vempa	40
Dirusumuru	20
Tundurru	50

given in the margin. Ten years ago, the Government incurred considerable expense for the protection of the salt produced upon these plains, and in Fusly 1251, realised Rupees 28,249-13 by the sale of that portion which the vigilance of its Officers had secured from illegal removal. The value of spontaneous salt formerly removed clandestinely, and consumed

Kulnapudi	20
Mamedipadi	15
Taduru	7-10
Yenamadduru	15

876-10

by the people may be estimated at 40 or 50,000 Rs. Since the month of March 1852, the flow of fresh water from the Gosta Nuddee, has entirely stopped the production of such salt except in one or two villages, and the sales at the Mogultoor Depôt from July 1852 up to April last, have already exceeded those of the previous Fusly by 8,000 Rs. and the sales to the end of the Fusly will probably amount to 20,000 Rs. more. When the soil of these plains becomes thoroughly sweetened by the continued washing of Godavery water, not only will the salt Revenue continue to increase, but a considerable tract will also be fit for cultivation.

26. With respect to the question, whether with this increase in the assessment, the ryots have improved in their circumstances, I think there can be but one opinion. There are of course individual exceptions, cases where taxation has pressed too heavily, and villages which it has been found necessary to relieve of part of their burden; but I can confidently point to those villages which have borne the highest increase of assessment, as being the richest and the most thriving of the sub-division. While on the other hand, those villages that have not yet shared in the improvements, have become impoverished and partially depopulated, through continual neglect or exposure to hopeless inundations, from which there appeared no relief. I am happy to say that the inhabitants of these villages are no longer desponding; they have not been unmoved spectators of what has been doing around them, and they look forward with hope to a share of those benefits, which others have already secured.

Have the circumstances of the ryots improved with the increase of Revenue.

27. I trust that I have succeeded in showing clearly, that the extraordinary increase of Revenue in these Talooks, is due mainly, if not entirely, to the Annicut works; that this improvement has been gradual, and annually progressive in proportion as the project proceeded; and that the pressure of this enhanced assessment has not been too severely felt by the ryots in general, who on the contrary have improved in their circumstances. The benefit which has already been secured, is an earnest of what may yet be done; to stop short at the point when the real fruit of our labor is about to be gathered, when the whole mass of the people are eagerly anticipating the completion of the project, seems to me to be the very worst policy. The results which have followed the partial relief in the Woondy Talook, testify to the importance of the immediate completion of the drainage of that part of the country—while the effects of the limited supply of water which has already reached the villages of Mogultoor, point to the expediency of extending the benefit to every other part of that, and the Tankoo Talook.

28. The ryots are not now, as heretofore, regardless of improvement; they are deeply interested in the progress of the works, and every village desires its own water course. It is no longer necessary to compel them to the adoption of measures for their own benefit—for they are not slow to recognise a personal advantage when it costs them nothing, and hence it may be confidently argued, that there will be an extensive use of these irrigation channels when once they are completed. Some villages are of course more backward than others, and whether it arises from difference of soil, or from other causes which have influenced the cultivation, it is remarkable that both in Mogultoor and Tankoo, the ryots have been satisfied with using the water, to ensure good returns of their usual crops, rather than attempt the culture of rice or other more valuable products. It is partly a want of confidence in their own resources, and an uncertainty of what is to befall them, that, I am persuaded, prevents them, in many instances from attempting improvements. It is not surprising that many are found to hesitate and hold back, when they know full well that the Revenue Officers of Government, are on the watch to increase their assessment. Let them first understand that it is really for their benefit that these works are undertaken, that the Government are not anxious to tax them beyond their resources, its first object being the prosperity of the people, and there need be no apprehension regarding the increase of Revenue. This it appears to me, will prove the surest means of creating and confirming private property, and it must have a beneficial effect upon the Revenues of Government.

29. I think that the assessment in some parts of the division is already too high, in other that it has been raised to a point which ought not to be exceeded, and that in general we ought

to be satisfied with the improvement that has already taken place, without pressing the ryots at a period when all their spirit and energy requires support and encouragement. If we are in too great a hurry to claim extra payment for every drop of water which is carried to their fields, we shall but drain their resources and destroy that hope of the future, which now pervades all classes, and ultimately fail to reap those benefits which a more liberal course would have undoubtedly secured.

30. In support of the truth of these remarks, I subjoin a table of the extent of cultivated fallow and waste land, in each talook of the division.

Table of the entire extent of cultivated and unculturable land of all description in three Talooks of the Sub-Division.

No.	Talooks,	Jeroytee land, included in Amarkum.						Immemorial waste.	Enam.						Grand Total.				
		Cultivated.		Fallow		Total.			Kuttoobady.		Doombala.		Total.		Pooties, Columns 4, 5 and 8.		Acres.		
	1	2		3		4		5		6		7		8		9		10	
		Pooties.																	
1	Mogultoor.	4,571	...	744	14 13	5,315	14 13	190	18 8	659	8 5	1,609	12 4	2,269	...	9	7,775	13 14	62,205
2	Woondy.....	4,334	9 5	1,569	17 8	5,904	6 13	27	4 5	464	5 13	1,544	11 9	2,008	17 6		7,940	8 8	63,524
3	Tankoo.	4,374	2 9	849	2 1	5,223	5 8	6	8 6	916	19 9	1,999	13 11	2,916	13 4		8,146	7 2	65,171
		13,279	11 14	3,163	15 4	16,443	7 2	224	11 3	2,040	13 11	5,153	17 8	7,194	11 3		23,862	9 8	1,90,900

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31. It is seen from the above table, that the whole area of assessed Jeroytee or Government land in the three Talooks, is, 16,443-7-2 Pootties or 1,31,547 Acres ; the assessment amounts to 4,71,957-1-10, and the average rent therefore paid to Government, is, Rupees 3-9-5 per acre. The following figures will be found to give the average in each talook.

Talooks.	Area of cultivated land in acres.			Kist.			Average per acre.		
Mogultoor.....	42,526	...	...	1,56,432	6	3	3	10	10
Woody.....	47,235	...	...	1,45,519	4	5	3	13	1/2
Tankoo.....	41,786	...	...	1,70,005	7	2	4	1	1
Total	1,31,547	...	...	4,71,957	1	10	3	9	5

I am not at this moment aware of the rates which obtain in other districts of this Presidency, but the average of the Talooks of Amalpoor and Nagarum on the other side of the river is also about 4 Rupees. In an able and interesting article upon the land Revenue of Madras in the Calcutta Review for June 1852, I find it stated that the average rent paid to Government in the North West Provinces, on the acres actually cultivated is Rupees 1-12 per acre, and that in the Salem District the average is Rupees 1-14-10 per acre. If therefore the above table can be depended upon, you will not be surprised at my doubting the possibility of materially increasing the land Revenue for the next few years, without bearing too heavily upon the ryots. But the fact is, that the above figures do not represent the entire extent of cultivated and cultivable land in the sub-division, if they did, the villages could not have borne their present burden without a decline of prosperity. In the forgoing calculation, I have allowed 8 acres to the pooty as being the general measurement of the country, but in many parts of the district, the pooty is much larger. Dotiputtah for instance, and other Lunka villages, where the Puggum of 96 cubits is used, the pooty contains 11 acres, and then again, no faith can be placed in a mode of measurement which varies in almost every village, so that I have little doubt we shall be under the mark, if we allow at least 50,000 acres in excess of the number entered as actually cultivated, but even with this increase the tax would still be very high.

32. The Revenue payable on the Cuttoobady Enam lands, the area of which is 16,320 acres, amounts to Rupees 22,016 -10-4. If this sum be added to the assessment on Jeroytee land, the taxation per head will be found to amount to Rupees 2-12-8 for the year; continuing the comparison afforded by the paper above referred to, the taxation per head, in the North West is stated to be Rupees 1-14, and in the Salem District Rupees 2-1-2 1/2 and in those calculations, the Revenue derived from the Abkary and Stamps has been taken into account, whereas in mine, every item but the land tax is excluded.

33. I have already alluded to the reluctance of the ryots to attempt a change of crop from dry to wet; it will not be uninteresting to compare the estimated return of 5 consecutive years.

4,74,957- 1-10
 22,016-10-4

 49,673-12-2
 The population of the 3
 Talooks by the censuses of 1851,
 was 2,01,504.

from dry crops, with a similar return from wet crops—both grown upon irrigated fallow land of the 1st class.

Years.	Crop.	Dry land.		Expenses.	Return.	Profit.	
		Nature of cultivation.					
1st.	Poonasa, black paddy, red grain, Cotton.....	Turning with Crowbar, Ploughing.....		32	80	..	..
	Pyra, Cholum, Lamp-oil seeds, Bengal and Horse-gram, Cotton, &c.	Labourers hire for sowing, cutting, weeding, &c.....		23 8	60	..	..
2nd.	.....	.....		55 8	140	84	8
3rd.	4th & 5th years at the same rate as the 2nd.....	.....		20	140	120	..
				60	420	360	..
						Total..	564 8
		<i>Wet land.</i>					
1st.	White paddy.....	Ploughing seeds, labourers hire for planting, watering, cutting, &c.		25	90	65	..
2nd.	White small crop of gingily oil-seed.....	.....		25	120 8	95	8
3rd.	.....	.....		25	169	144	..
4th.	& 5th years at the same rate as 3rd..	.....		50	338	288	..
						Total..	592 8

Note.—It may be thought that this comparison tells too favourably for dry cultivation, and it is proper to mention that in support of my argument, I have chosen the best light soil of Tankoo and Mogultoor, and have taken the highest return they have been known to yield in the very best seasons. Had the comparison extended to 10 years, the dry produce would probably have diminished one half. It must be borne in mind too, that the certain supply of water ensures a good crop of black Paddy and of oil-seeds; an average of 10 Rs. the pooty has been taken as the price of the Poonasa Crop, and 15 Rs. for the Pyra. The ordinary rates for black Paddy is between 7 and 8 Rs., Cotton 12, Doll 15, and the average selling price of Jomia is 12; of Oil seeds above 30, and Bengal-gram 20 Rs. the pooty.

In regard to the 2nd statement, it is to be observed that the price of a pair of bullocks is included in the cost of production of the 1st year, and that the expenses of the 2nd and following years on irrigated land, are larger than those in the former statement, because in the case of converting dry land into wet, the soil which has been exhausted by the production of dry grains, requires to be well manured to strengthen it for the rice crop.

34. The above results have been obtained from various sources within my reach, and I have no reason to believe that they are materially incorrect. It will be observed that for the first two years the return from dry crops is higher than from wet, that the advantage of white paddy cultivation shews itself in the 3rd year, and that after the lapse of 5 years, the profit in favor of the wet over the dry crop, is less than 30 Rupees. The above returns however presuppose good seasons, and it must be remembered that if one dry crop is abundant, another is scanty, and that the dry cultivation generally is subject to adverse influences of the weather, from which the wet is secure, and the returns are consequently more precarious.

35. The Statement underneath will show, the advantage of converting a pooty of unirrigated land into a rice field—Returns are given as above, for 5 years.

Comparative Statement of expenses and returns from a pooty of irrigated and unirrigated land of the 1st sort.

Years.	Unirrigated land.			Remainder or profit.	The same land when Irrigated.				Comparison of Columns 4 and 8.	
	Pooties of grain on a pooty of land.	Value.	Deduct cost of production.		Produce of white paddy per pooty.	Value at 9 Rs.	Deduct Cost of production.	Remainder or profit.	Increase.	Decrease.
	1	2	3		4	5	6	7	8	9	10
1	10	80	44	36	8	72	44	28	...	8
2	12	110	7	103	10	90	30	60	...	47
3	12	110	7	103	16	144	30	114	11	...
4	10	90	10	80	20	180	30	150	70	...
5	8	72	10	62	20	180	30	150	88	...
									169	55

It will be seen from the above results that although the dry cultivation deteriorates while the wet improves, the ryot loses by the change for the first two years. If it be admitted that the foregoing estimates approach the truth, it is evident that a too sudden rise in the assessment will press very heavily upon the ryots.

36. The following table shews the average assessment per acre of each description of land in the 3 Talooks.

Talooks.	Average, &c.											
	Dry.			Wet.			Garden.			Lunka.		
Mogultoor.	3	14	5	2	10	...	7	11	5	9	5	7
Woody.	2	13	3	3	3	1	...	...	...	...	...	...
Tankoo.	3	14	..	5	1	8	...	...	...	10	10	7
	3	11	2	3	1	6	7	11	5	9	15	1

It will be observed that the average rent of the dry land in Mogultoor and Tankoo is higher than the average of wet land in Mogultoor and Woody. This is explained by the fact that garden-produce, chillies, turmeric, sugarcane, &c. is grown upon what is entered in the accounts as dry land,—cocanuts, mangoes and betel only being entered as gardens.

37. I wish it were in my power to frame accurate returns of the gross value of crops grown on the lands of each Talook, or even of a few villages, but so long as it continues to be the interest of the cultivator to conceal the truth, and of the Native Government Officials to connive at the deception, so long will the estimates furnished to us be deficient, and our returns fictitious. Hence arises the difficulty of determining the true value of an acre of land, and until a new survey and assessment is set on foot, this inconvenience will continue.

38. It does seem to me that no better time than the present could be chosen for the commencement of this long deferred survey. The country is in a state of transition, the lands require classification, re-arrangement and fair distribution—rights have to be confirmed and inequalities removed, and the people are eagerly looking forward to an improvement in the existing state of things;—my own opinion, is, that if the Revenue from Jeroyte land were allowed to remain stationary, or nearly so for 2 or 3 years, the people would be stimulated to industry and induced to attempt every sort of improvement to their lands by manuring and irrigation, which, at the close of that period, would be in a condition to bear a reasonable increase of assessment. On Enam lands Tirvajasty can be levied forthwith, for they have already participated in, and will continue to receive, the several benefits produced by these Government works. The assess-

ment already fixed by the Collector, is one Rupee the pooty, and even at this moderate rate, there will be a considerable increase to the Revenue from this item alone.

39. Meanwhile, let the survey proceed, let it commence with those villages which have been the first to benefit by the new supply of water, and be thus carried gradually throughout each Talook. On the completion of the survey, the lands having been properly classified and their capabilities clearly ascertained, a just and moderate assessment might be imposed which should not be liable to fluctuation, and the ryots being no longer disheartened by the uncertainty of the Government demand, will regard their individual holdings as private property, and the Government Revenue will increase as they advance in prosperity.

40. I cannot however, undertake to say that the Revenue of the division can increase in the same ratio as heretofore, until the whole of the Annicut project be carried through, but that the return will then be amply remunerative, I have not the smallest doubt. The Godavery water has but just reached the lands of Tankoo and Mogultoor, and yet the assessment has increased within the last 6 years at the rate of half a Rupee an acre throughout the 3 Delta Talooks of the Division.

41. There is one point which I have not yet noticed, but which in all calculations affecting the Revenue must be taken into account, and that is, the price of agricultural produce. You will

Fusly.	Price per Madras Garce.			
	White paddy.		Black paddy.	
1251	93	5 ...	54	9 .
1252	57	5 3	46	13 5
2153	53	10 8	45	10 3
1254	58	1 4	52	1 5
1255	55	3 2	73	8 8
1256	53	1 10	74	11 8
1257	76	4 ..	67	2 ...
1258	72	4 ...	63	8 ...
1259	75	14 ...	64	... ..
1260	72	6 ...	65	2 ...
1261	59	4 8	52	9 4
1262	48	... ..	42	... ..

see by the marginal statement, that the prices of paddy have very materially declined, and you will understand that this has been very severely felt, particularly in the Talook of Woondy, where, until the last year or two, no other crop could be produced. As the ryot pays the same tax whether the selling price is 10 or 6 Rupees, his difficulties are very severe when grain is cheap. This gradual decline of prices therefore must not be overlooked, when we are considering the probability of an increase in the Revenue. Cheap food is no doubt a great blessing to the people, and the larger the quantity of rice grown, the cheaper it will be; but to the cultivator who has to meet the Government demand, it is absolutely necessary that the best market should be open to him, and that he should be put in a

position to compete with farmers in other parts of the country—and this brings me to the consideration of the 4th question in your letter.

Navigation.

42. I have been favoured by the Collector with the perusal of your Memo. dated 23rd February 1853, referring to an Extract from the Minutes of Consultation, dated 13th September 1852. On the subject of the Thooliabaga—The arguments you have used in favor of the completion of the navigation of that canal, are equally applicable to all the channels of the sub-division. I have not the means of showing by actual returns, the amount of Traffic which has already sprung up on the incompleated canals on this side of the river, but there cannot be a question of the immense advantage to all classes of the community, from cheap and easy transport which will be afforded by these channels. The importance of the navigation is attested by the eagerness with which the people already avail themselves of the water carriage within their reach, and by the disappointment which they express at the obstacles they necessarily meet with in the present incomplete state of the channels. Many instances have come under my own observation, of the efforts made by the ryots to carry their produce to the coast, and on several occasions they have applied to me for assistance which I heartily wish it had been in my power to give. That facility of communication, creates traffic, is a principle which is universally recognised in civilized countries. Before any project of the kind is undertaken, it seems to me only necessary to enquire, whether the circumstances of a province, and the wants of the population, demand improved communications; and if a reply can be given in the affirmative, an abundant traffic will certainly follow the construction of roads or canals. If again the agricultural products, or the manufactures of any two places be considerably in excess of the demand for home consumption, it is manifestly of the highest importance

to the welfare of those two communities, to secure the cheapest and readiest means of an interchange of commodities. To deny them all communication, would be to interpose an effectual barrier to their progress, to repress all enterprise and energy, and to withhold from them a most powerful stimulus to industry.

43. Now the majority of the towns and villages in the sub-division are precisely in this condition;—they have long groaned, apathetically it may be, under the want of good communications, for there is, scarcely a single road throughout the three Delta Talooks that deserves the name, and which is not impassable for bandies for more than half the year;—and when we add that the population is now rapidly increasing, that there is a large augmentation in the quantity of produce, the cost of which, as you have remarked diminishes every year,—and more than all that the agricultural community are fully alive to the value of improved communications, and are already making every effort to transport their produce to the best market;—I think we have a very powerful argument in favor of the speedy completion of these channels, and at the same time, a guarantee that the traffic will exceed any estimate we could now form of its extent.

44. From a paper just furnished to me by Lieut. Chambers, the Executive Engineer Officer superintending the works on this side of the river, I find that the number of boats which passed through the Vizasevarum Lock in last month (March 1853) was 204, and that the value of rice, oil-seeds, and other produce exported during the month, was about 9,000 Rupees. Even at this rate the export would amount to 1,08,000 Rupees annually, were the channels to remain in their present

Since writing this I have learnt that the value of the exports from the western Delta Talooks for the month of April 1853, amounted to Rs. 40,000 of which 14,000 was the value of the grain, and 21,000 the value of the Jaggery. In May the value of exports was Rs. 56,000.

state, but, when every village is supplied with water carriage for the interchange of traffic, and the navigation is open throughout the District, it may reasonably be expected, that these exports will increase to many times that amount.

45. Cocanada must continue to offer the best market for rice, oil-seeds, grain &c., as from the demand by English merchants and the facility it offers to the Shipping, there is no other port to compete with it; much of the produce of the sub-division however, will find its way to Masulipatam, to Elloor and to Nursapoor, where the decline of trade may be greatly attributed to the want of proper communications. I cannot consider that Nursapoor has been fairly treated in this matter. Deprived by the construction of the Annicut of the direct river communication to Rajahmundry, which was formerly open (at any rate) a great part of the year, this town has not yet been indemnified for so great a loss and inconvenience to its trade, by the completion of a single navigation channel for the conveyance of exports and imports. The Nuckala channel is now open, it is true, but the navigation is uncertain and imperfect, and I cannot too strongly urge the early completion of this and the Gosta Nuddee line.

46. The following is a statement showing in a clear point of view, the advantages of water carriage from different parts of the sub-division.

Comparative Statement of the Expense of land and water carriage for short and long distances in the Sub-division of Rajahmundry.

To and from what place.		Articles.	Land.....Water			Rate per mile water.			Remarks.	
No	Villages.		Distance in miles.	Hire paid for Bullocks, &c. per Footy.	Hire for Dhonies at present.	Probable price when Channels are full.	Land.	Cost at present.		Probable cost in future.
1	From Woondy to Cocanda on Gosta Nuddee.....	70	Paddy.....	8	3	14	1 10	8	2½	
2	From Woondy to Elloor on Colair.....	40	Do.	4	1	6	1 5	4	1½	
3	From Palaveram to Woondy on Gosta Nuddee....	60	1000 Bamboos including the water carriage on the Godavery.....	19	9	2	5 1	2 5	6½	The price of 1,000 Bamboos at Palaveram is 6 Rs the former selling price at Woondy was 25 Rupees, and is now 15 Rs. The difference between the cost and selling price, is put down as the hire for carriage.
4	From Samulcottah to Rajahmundry.....	55	Per candy of 20 Mds.	2	1	8	7	3½	1½	The great market for this article is Vizasevarum, where the price fluctuates from 40 to 50 Rs. the candy—none but the richest ryots can afford the land carriage from Rajahmundry. Local purchases are made from the poorer class at from 15 to 20 Rs. the candy, and the profit to the soucar is at least 50 per cent.
5	From Tankoo to Nursapoor on Palacole Channel.....	25	Bengal & Horse Gram Oil-Seeds, &c.....	2 8		8	1 7		4	Too high.
6	From Woondy to Nursapoor.....	20	Paddy.....	2		4	1 7		2½	
7	From Palacole to Nursapoor.....	6	Bengal & Horse Gram Oil-Seeds, &c.....	12	4	2	8		4	This estimate is probably too high.
8	From Nursapoor to Rajahmundry.....	45	Bearers for 2 Native Palakees, 10; Cavademen 2;.....	12	3		4 3	1 1		Small dingies capable of holding 6 or 8 persons have been hired at this rate, to convey court-suitors, traders, and their attendants from Nursapoor to Rayy. on the Palacole channel. This communication being now closed, the Unkkala is used instead—The comparison includes two Palakees only for the heads of the two families, and the expense by water is one fourth. Large quantities of Jaggery are sent to the Rajahmundry sugar works and the demand for this article will probably increase very considerably. The Supt. of Messrs. Arbuthnot and Co's factory is so sensible of the value of water carriage, that he has already constructed a number of boats for the conveyance of the supply of this article to Rajahmundry, and of sugar, &c. to the coast.
9	From Nursapoor to Chettypett.....	36	Jaggery.....	12	3	3	4		1	

47. I repeat with confidence that the people are all prepared to take immediate advantage of these improvements for their benefit,—that they ask nothing better than that the means be afforded them of making their own terms with the purchasers of their produce, and many of them will build their own boats, as soon as they know that the navigation is certain. In many parts of the Woody Talook, when the price at Cocanada was 10, and at Bunder 11 Rupees, the ryots were obliged to give their paddy to the soucar for 6 and 7 Rupees the pooty, to enable them to meet their heaviest kists, solely because there was no local demand, and they could not afford to send it to a distance—the same might be said of almost every description of produce—the ryot parts with it at a ruinous sacrifice, and the soucar is enriched at his expense.

48. It is in this way that prices affect the Revenue, when the Ryot can himself transport his produce at a trifling expense to the best market and feel himself independent of the soucar,—his returns will be increased 50 per cent, and his kists paid with ease. It does appear to me to be very hard, that, after all other restrictions upon commerce have been removed, the ryot should be still compelled to deal with the local merchant, because we virtually deprive him of access to the best market, and of the means of obtaining the full price of the produce of his industry.

49. I have not yet alluded to the new and abundant supply of river-water for men and cattle, which is now conveyed to villages where the want of it was before severely felt, and which has contributed so largely to the comfort and happiness of thousands of the people. This blessing can only be properly estimated by those who have benefited by the change, and I can testify that by them at all events, it is fully and gratefully appreciated.

50. But the interest and importance of the whole subject, have carried me on, and this letter has already far exceeded the limits I intended;—I will therefore now close my remarks with the expression of a hope, that no further delay may occur in the prosecution of any of the works, which form a part of your noble project.

I have, &c.,

(Signed) G. N. TAYLOR,

Sub-Collector.

Samuldive, 4th May 1853.

(True Copy)

G. N. TAYLOR,

Sub-Collector in charge.

Report on the direct and indirect effects of the Godavery Annicut, in the talooks of the Collector's division, in the District of Rajahmundry.

Para 1. In a former paper, it was attempted to show that the increase of Revenue in the sub-division, was due mainly, if not entirely, to the Annicut works. It was not meant to be affirmed that no other causes whatever, had contributed to produce the enhanced and still growing prosperity of the province. The introduction of a more healthy system of Revenue management, the striking off of heavy balances of former years, hopeless of realisation, while they pressed a sore burden on the people; larger and more certain protection to life and property, by improvement,—in the Police,—all these measures have without doubt powerfully affected the happiness of the people, and while fostering the steady increase of private property, have enabled the whole population to pursue their ordinary occupations, whether of agriculture or of trade, with a feeling of greater confidence, and with a surer knowledge that they will reap the fruits of their labor, than they ever possessed before. It was not contended, that the labors of the Revenue officers, the activity and vigilance of the Magistrate, combining fiscal and police improvements, had accomplished nothing; it was simply stated, that, under the operation of certain natural causes, the most vigorous administrator of the most perfect Revenue system, could not have extracted from the soil the amount of produce, nor realized from the ryot the aggregate collections of the last six years, without the aid of the scientific public works, projected by the Engineers.

2. It was argued that if the floods of 1843, had caused a certain amount of damage to produce and property, and a consequent loss of Revenue to Government, the probability was, that the higher floods of the subsequent years of 1849 and 1853, would have occasioned much greater loss, had no human means been employed to check or mitigate their ravages. The ability of the Collector, and his improved Revenue management, were not called in question; the security of the Revenue, was attributed to the natural operation of cause and effect. It was shown that the Annicut and its subsidiary works, had averted destruction which could not otherwise have been

prevented, and credit was fairly given to it, for the gain to the Government Exchequer. It was not pretended that the same results would have been obtained under inefficient management, nor even that the land Revenue would have declined, if no public improvements had been effected; but, it was argued that the successful efforts of the Collector for a series of years, to raise the Revenue, and to further the prosperity of the country, might have been rendered fertile, as they had been before, by disasters which were beyond his power to control, but which have been averted by the Godavery works.

3. This argument I now propose to apply to the talooks of the principal division, which are under the immediate management of the Collector. It must be observed, however, at starting, that in the Collector's division, there is a much larger proportion of Government territory above the influence of the Godavery Annicut, than in the sub-division; that the soil of those talooks is perhaps the richest in the district, and that a very considerable portion is irrigated by the unfailing water of the Yalairoo, and other hill streams, which, in ordinary seasons copiously supply the tanks and natural reservoirs, so that the comparison will not tell so favorably for the tract irrigated by the Annicut. For the sake of uniformity, I propose to take the same years and the same periods as were used for the purpose of comparison, in the paper regarding the effect of the Annicut on the talooks of the sub-division.

4. The following statement shews the increase of kist in Fusly 1262 over Fusly 1256 in the lower talooks of the Collector's division, distinguishing the assessment of the lands within the influence of the Annicut, and of those which are beyond its reach.

Statement shewing the increase of Kist in the talooks of the Collector's division of the Rajahmundry District, which are capable of irrigation.

Talooks.	Beriz of Fusly 1256.			Beriz of Fusly 1262.	Deduct kist of land, out of reach of Irrigation by Godavery.	Remainder kist of land, within influence of Annicut.	Increase.		Total income between 4 & 5
	Kist of land, within the influence of Annicut.	Kist of land, beyond reach of Annicut.	Total.				Comparison between 3 & 6.	Do. between 2 & 7	
1	2	3	4	5	6	7	8	9	10
1 Amalapoor.....	1,28,860	...	1,28,860	1,48,454	...	1,48,454	...	19,594	19,594
2 Nagarum.....	88,182	...	88,182	1,06,395	...	1,06,395	...	18,212	18,212
3 Rally.....	65,945	18,010	83,955	88,520	19,664	68,856	1,654	2,910	4,564
4 Kota Ramachendrapuram.	1,10,593	...	1,10,593	1,50,764	...	1,50,764	...	40,171	40,171
5 Bickavole.....	84,969	...	84,969	1,21,044	...	1,21,044	...	36,074	36,074
6 Kapaverum.	73,454	63,976	1,37,430	1,70,125	82,759	87,365	18,783	13,911	32,695
7 Undrunghy, &c. in Cocanada division.....	* 2,411	...	2,411	2,710	...	2,710	...	298	298
	5,54,417	81,986	6,36,403	7,88,015	1,02,424	6,85,591	20,437	1,31,173	1,51,611

5. The comparative beriz in Fusly 1256, and 1262 of the upper talooks, or those entirely out of reach of the Annicut water, is shewn below.

Statement shewing the increase of kist in those talooks of the Collector's division, which are not capable of irrigation.

Talooks.	Beriz of Fusly 1256.	Beriz of Fusly 1262.	Increase.	
1 Peddapoor	37,874	44,003	6,129	
2 Rajahmundry... ..	39,434	42,716	3,282	
3 Kottapilly	39,981	57,840	17,859	
4 Lingumpurroo... ..	18,469	26,753	8,285	
5 Wooppada, &c... ..	3,081	4,146	1,064	
6 Coringa	31	*31	...	*Quit rent.
	1,38,870	1,75,489	36,619	

6. The following is a statement of the actual land Revenue collections of the same portions of the District respectively, for a period of 12 years, exhibiting a comparison between the 6 years preceding, and the 6 years subsequent, to the commencement of the Annicut works.

Delta Talooks.

Talooks.	Before the commencement of Annicut.							After the commencement of Annicut.						
	Fusly 1251.	Fusly 1252.	Fusly 1253.	Fusly 1254.	Fusly 1255.	Fusly 1256.	Total.	Fusly 1257.	Fusly 1258.	Fusly 1259.	Fusly 1260.	Fusly 1261.	Fusly 1262.	Total
1 Amalapoor... ..	1,10,338	1,09,045	1,09,082	1,17,777	1,28,276	1,30,211	6,97,729	1,34,478	1,36,522	1,29,364	1,37,603	1,43,181	1,44,266	8,25,414
2 Nagarum	82,650	81,472	67,019	80,112	84,438	86,368	4,82,059	90,873	95,043	93,611	99,956	1,02,464	1,01,616	5,83,563
3 Rally	67,776	67,339	59,375	74,637	78,092	83,956	4,31,175	86,866	88,500	83,786	89,644	88,372	85,949	5,23,117
4 Kota Ramachendrapurum..	1,16,351	1,16,351	1,16,351	1,14,642	1,16,130	1,30,054	7,09,879	1,35,253	1,39,284	1,20,329	1,39,151	1,45,994	1,42,001	8,22,012
5 Bickavole... ..	88,144	88,144	88,144	88,144	88,144	85,272	5,25,992	88,351	1,02,314	1,04,671	1,14,496	1,19,638	1,16,743	6,46,213
6 Kapaverum, 27 villages ...	60,678	60,678	60,678	62,178	58,955	68,045	3,71,212	76,806	80,158	82,085	84,131	86,704	87,366	4,97,250
7 Undrunghy..	1,841	2,012	1,386	2,088	1,524	2,411	11,262	2,511	2,556	2,436	2,576	2,680	2,641	15,400
Total... ..	5,27,778	5,25,041	5,02,035	5,39,578	5,48,559	5,86,317	32,29,308	6,15,138	6,44,377	6,16,282	6,67,557	6,89,033	6,80,582	39,12,969
						Average.	5,38,218						Average.	6,52,161

Talooks above the Annicut.

Talooks.	Before the commencement of Annicut.							After the commencement of Annicut.						
	Fusly 1251.	Fusly 1252.	Fusly 1253.	Fusly 1254.	Fusly 1255.	Fusly 1256.	Total.	Fusly 1257.	Fusly 1258.	Fusly 1259.	Fusly 1260.	Fusly 1261.	Fusly 1262.	Total.
1 Peddapoor... ..	29,038	29,038	29,038	29,038	29,038	37,405	1,82,595	40,746	42,480	42,654	43,370	42,829	44,003	2,56,082
2 Kapaverum, 66 villages ...	61,435	59,263	61,029	56,145	53,217	63,885	3,54,944	66,569	69,910	71,544	74,362	76,708	82,759	4,41,852
3 Kottapilly	36,259	32,629	35,058	37,017	37,178	39,982	2,18,123	42,015	44,857	45,265	49,521	56,130	57,735	2,95,523
4 Lingumpurroo	17,696	17,696	17,696	17,696	17,696	14,210	1,02,690	15,882	16,871	17,585	20,391	20,822	21,089	1,12,640
5 Rajahundry	35,699	35,699	35,699	35,699	36,099	39,223	2,17,025	41,205	41,478	38,353	43,426	42,109	30,940	2,37,511
6 Wooppada, &c.... ..	405	1,403	1,796	1,796	3,000	3,082	12,532	3,165	3,250	3,487	3,650	4,071	4,138	21,761
Total... ..	1,80,532	1,75,728	1,80,316	1,77,348	1,76,228	1,97,757	10,87,909	2,09,582	2,18,846	2,18,888	2,34,720	2,42,669	2,40,664	13,65,369
						Average..	1,81,318						Average.	2,27,561

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Abstract.

Fuslies.	Delta Talooks.			Talooks above the Anment		
	Collection.	Increase.	Decrease.	Collection.	Increase.	Decrease.
		Comparison with Fusly		1251.		
1251	5,27,778	.. .	.. .	1,80,532	.. .	.. .
1252	5,25,041	.. .	2,737	1,75,728	....	4,804
1253	5,02,035	.. .	25,743	1,80,316		216
1254	5,39,578	11,800	.. .	1,77,348	.. .	3,184
1255	5,48,559	20,781	.. .	1,76,228		4,304
1256	5,86,317	58,539	.. .	1,97,757	17,225	
		91,220	28,480		17,225	12,508
		Comparison with Fusly		1256.		
1257	6,15,138	28,821	.. .	2,09,582	11,825	
1258	6,44,377	58,060	.. .	2,18,846	21,089	
1259	6,16,282	29,965	.. .	2,18,888	21,131	
1260	6,67,557	81,240	.. .	2,34,720	36,963	
1261	6,89,033	1,02,716	.. .	2,42,669	41,912	
1262	6,80,582	94,265	.. .	2,40,664	42,907	
		3,95,067	.. .		1,78,827	

7. The aggregate increase in the former is nearly 6 lacs, and in the latter, a little more than 2 lacs of Rupees; the per centage to the Revenue of the two parts of the district, being very nearly equal. From this, it might be argued that as the increase in the one case, is as conspicuous as in the other, no credit can be taken for the Annicut, similar results having been obtained without its influence. In order to a proper understanding of the subject, it will be better to give a brief explanation of the peculiar circumstances of each talook, in support of the remark which was made in para. 3.

8. The talook of Cottapilly is lightly assessed, possesses a peculiarly rich soil, and in ordinary years, the tanks are well supplied with water for irrigation. It came under Government management in Fusly 1251, the Revenue advanced only 3,000 Rupees during the first period, but is now nearly 18,000 Rupees higher than it was in Fusly 1256. Formerly subject to the incursions and depredations of marauders and freebooters, its present prosperity may fairly be ascribed to the improved management, and the successful efforts of the late Collector and Magistrate, by whom the successive outbreaks of the rebels were quelled, and the Revenue system put upon a better footing.

9. The same may be said of the adjoining talook of Lingumpunoo, which borders the hill country of Vizagapatam. It fell to Government in Fusly 1256, and the collections of that year fell short of the Peishcush by 3,000 Rupees; the Revenue has gradually advanced, as might have been expected after its lapse to our rule, and it now exceeds the permanent assessment by about the same amount. The most important villages in this talook, are watered by the only large tank in the district, which is fed by streams from the hills.

10. Peddapoor, in like manner, came under Government management in Fusly 1256, and the collections exceeded the Peishcush in the first year by 8,000 Rupees; and in the course of a further period of six years, the annual Revenue has increased from 37 to 44,000 Rupees. This talook is irrigated from the Yalairoo, whose waters are distributed by various natural and artificial channels, and by means of dams and calingulas, and are made to fertilise the largest extent of sugar cultivation in the district. Under these circumstances, the increase of Revenue is not very remarkable.

11. The talook of Rajahmundry is very differently situated; without irrigation of any sort its produce is chiefly Cholam and other dry grains. Its Revenue, which in Fusly 1252 was 35,000 Rupees, and had amounted in Fusly 1256 to 39,000 Rupees, is now in 1262, reduced to 31,000 Rupees.

12. Capaveram is the only remaining talook requiring notice. A portion of this talook is irrigated from the Godavery, but the increase in the villages not irrigated amounts to nearly 20,000 Rupees. This is without doubt, one of the finest talooks in the district, but is comparatively lightly assessed, and the enhanced collections are in no small degree owing to the expenditure of public money; for, being conveniently situated, many thousands of its population were constantly employed.

13. It is seen therefore that the average collections from the talooks composing the tract beyond the reach of the Annicut, which during the first period comprised in these statements amounted to 1,83,098, had increased during the second period to 2,35,000. It is admitted that this gradually progressive increase, though no doubt assisted by the life and energy infused into the people by public expenditure, and by the circulation of money produced by the large sugar works at Rajahmundry, is mainly and justly due to improved management, and better protection to life and property. It will be observed, that, as each estate or talook lapsed to Government, the Revenue recovered itself after the first year, and except in the case of Rajahmundry, progressively rose to the last year of the series, without break or check of any kind; until in almost every instance, it far exceeds the permanent Peishcush. This ought to be the natural result of an improved system of management in any portion of a province, favored as this has been, with a succession of propitious seasons, and exposed to no calamitous visitations, impossible to control; or, to the miseries of drought and famine.

14. Turning now to the statement of collections in the Delta talooks, we shall be able to note the comparative progress of the revenue, in that part of the district which is exposed to the inundations of the Godavery. In para. 6 of the foregoing paper, on the effects of the Annicut in the subdivision, mention is made of the disastrous floods of Fuslies 1253 and 1259, the losses occasioned by those inundations are no less conspicuous in the statement now before us. In the talooks of Ramachendrapoor, Bickavole and Capavaram, no check is discernible,—because the Peishcush was collected, whatever the loss to the then proprietors may have been; but in Amlapoor, Nagarem and Rally, it will be observed that the loss of Revenue was considerable; and we find by the abstract statement following, that the collections fell short of Fusly 1251, by 25,000 Rs. The talook of Nagarem which suffered most from the uncontrolled floods of the river, did not retrieve

82,650	Fusly 1251
86,368	" 1256
3,718	

its losses till the second year, and in Fusly 1256, we find that its revenue is barely 4,000 Rs. in advance of what it was in Fusly 1251. The reaction upon two of the talooks which paid their full Peishcush in 1253, is

also worthy of remark: Cotaramachendrapoor did not recover itself for several years, although under Government management even the Peishcush was not realized in fusly 1254; the collections barely reached that amount in fusly 1255, and the estate escheated to Government in Fusly 1256. In Biccavole, the revenue of Fusly 1256, was 2,000 Rs. below the Peishcush in Fusly 1251, and in 1255, the collections of 27 villages of Kapavaram, (now watered) were 2,000 Rs. below the same standard.

15. Glancing through the above statement to Fusly 1259, the same check and loss to the Revenue is again remarkable. Instead of the progressive advance hitherto made, it recedes nearly Rs. 30,000, as compared with the previous year; the diminution in the first four talooks being more than 33,000, Rs. while Biccavole and the Delta portion of Kapavaram, exhibit a small increase in consequence of direct irrigation derived from the Annicut.

1258	Fusly	6,44,377
1259	"	6,16,282
		28,095

Revenue is again remarkable. Instead of the progressive advance hitherto made, it recedes nearly Rs. 30,000, as compared with the previous year; the diminution in the first four talooks being more than

16. Looking further on, to the column of figures representing the collections for Fusly 1262, we find the progress of the revenue arrested indeed, but to a comparatively trifling extent;

6,89,033
6,80,582
8,451

the actual collections were only Rs. 8,000 less than in the preceding Fusly. Although the figures in the present instance do not present so strong a contrast as in the case of the talooks of the sub-division, which suffered more from inundation, still they are sufficiently significant, and the result is similar. It seems almost unnecessary to argue that if, out of a revenue of little more than 2½ lacs, a deficit of 25,000 or ⅓ is caused by river floods, some credit is due to the works, which, in their

F. 1253	
Amlapoor	1,09,082
Nagaram	67,019
Rally	59,375
	2,35,476

incomplete state, enabled the realization of more than 6 lacs, with a loss of only 30,000 (⅓th); and which, when nearer to completion, secured the collection of more than 6½ lacs, with a loss

of 8,500 ($\frac{1}{80}$ th); notwithstanding that in the two latter years, the inundations were as high, and if entirely uncontrolled would probably have been more destructive in their effects, than they ever had been before.

17. It is not fair there to compare two parts of the same district which are so totally different, both in their natural position, and with respect to the peculiar influences which are brought to bear upon them, and to say that the prosperity of the people, and the security of the revenue, are as little due to the Annicut in the one case as in the other. It seems to me on the contrary, that we ought in all honesty to confess, that without the relief and assistance afforded by these works, in the way of circulation of money, protection from floods, and improved irrigation, we should have been utterly unable to realise the enhanced demand of the last six years in the lower talooks of the district, and to show an aggregate surplus of nearly 4 lacs of rupees within that period; to compare with 62,000, the increase of the 6 years preceding the commencement of the Annicut, and most of which is due to the last year of the series, Fusly 1256, in which the Annicut was commenced.

18. It is of course quite impossible to say, how much of this 4 lacs can be directly attributed to the effect of the Annicut, because the value of produce saved, the loss and suffering averted from the population, could not be calculated nor can I hazard a guess as to the amount which might have been realised if these works had not been executed;—one assertion however can be made without the smallest reserve or hesitation, and that is, if no public works had been undertaken for the improvement of the Delta talooks of this district, the Revenue Officers would have had greater difficulty in realising during the last six years, the average collections of the former series of years (5,38,000) than they have actually experienced in collecting an average Revenue of 6 $\frac{1}{2}$ lacs.

19. As in the case of the sub-division, therefore, I assume the whole of this increase as due to the Annicut, and make the distribution of the amount as shewn in the subjoined table, which is an abstract of a separate statement, containing the particulars of each village of every talook.

Number.	Talooks.	Permanent Beitz.	Highest collection.	Lowest collection.	Average collections from Fusly 1251 to 1255	Collection of Fusly 1256.	Collection of Fusly 1262.	Comparison between columns 6 and 7.		Increase of collection from Fusly 1257 to 1262 over 1256.								Average collection previous to Fusly 1256.
								Increase.	Decrease.	Increase from Fusly 1257 to 1260, profit by general expenditure.	Increase.			Decrease.				
											Profit from irrigation from 1261 to 1262 inclusive	Total	Total of columns 10 and 13.	From Fusly 1267 to 1269.	From 1260 to 1262 Fusly.	Total.		
								By embankment, drainage, and continued expenditure of money.	By supply of water.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	Amlapoor.....	138378	220854	82359	110265	130211	144266	19218	5163	22981	47405	...	47405	70386	13239	14324	27563	105384
2	Nagaram.....	109931	155927	59065	78169	86367	101616	16286	1038	22526	46992	...	46992	69518	2005	2042	4051	73904
3	Rally.....	69410	119527	57159	71817	83956	85949	6103	4109	11624	21243	..	21243	32867	4328	8255	12583	91128
4	Cota Ramachendrapooram... }	116741	203884	95046	88567	130054	142001	19180	7233	41630	53563	...	53563	95193	20961	13161	34122	128689
5	Biccavole.....	88165	157684	64488	64407	85272	116743	36058	4587	60419	101163	32637	133800	194219	18176	11650	29826	64407
6	Undranghy..	3462	4920	1309	1783	2411	2641	230	..	409	663	...	663	1072	..	..	...	1447
7	Kapaveram 27 villages..... }	60678	107339	56632	64324	68045	87366	19551	230	34916	30867	24628	55525	90441	1253	973	1926	60935
	Total.....	586765	970135	416058	479332	586316	680582	116626	22360	194505	301926	57265	161653	553696	59966	50105	110071	525897

Explanatory figures and remarks might here be added similar to those contained in para 6th of the former paper on the sub-division, but it is unnecessary to exemplify by further facts what is already sufficiently palpable.

20. It will now be proper to show what has been the increase of Revenue in that part of the district, where extra assessment has actually been imposed in consequence of improved irrigation from the Annicut. This had only been the case in Fusly 1262 in 30 villages of Biccavole, and 7 villages of Kapaveram, watered by the Samulcotta and Thooliabhaga channels. Hitherto we have been considering the general effects produced upon the District by the Annicut works; the Revenue has been secured by the combined assistance of river embankments, drainage, expenditure of money, abundant and certain, instead of a precarious supply of water to rice crops (as in Woondy) and the timely irrigation of valuable dry grains; but now we have before us the effect of a change from dry to wet cultivation, in a part of the District which has benefitted by Annicut channels for several years.

Statement shewing the land Revenue collections from Fusly 1251 to 1262, of the villages in Kapaveram and Biccavole, which have been irrigated by the Annicut since 1257.

Fushes.	Collection.	Increase.	Decrease
	Rs.	Rs.	Rs.
	Comparison	with Fusly,	1251.
1251	64,519	.....	.....
1252	54,179	.....	10,340
1253	63,112	.....	1,407
1254	68,622	4,103	.....
1255	51,742	.....	12,777
1256	72,352	7,833	.....
		11,936	24,524
	Comparison	with Fusly,	1256.
1257	80,620	8,268	.....
1258	93,490	21,138	.....
1259	1,00,589	28,237	.....
1260	1,09,557	37,205	.....
1261	1,14,500	42,148	.....
1262	1,14,654	42,302	.....
		1,79,298	.....

21 Compare with this, the collections of the same period, in the remaining talooks of the District in the Collector's Division.

Statement shewing the gross land Revenue collections of the rest of the Collector's Division not perfectly irrigated by the Annicut from Fusly 1251 to 1262.

Fuslies.	Collection.	Increase.	Decrease.
	Rs.	Rs.	Rs.
	Comparison	with Fusly	1251.
1251	6,43,791	.....	.....
1252	6,46,590	2,799	.....
1253	6,19,239	.....	24,552
1254	6,48,304	4,513	.....
1255	6,73,045	29,254	.....
1256	7,11,722	67,931	.....
		104,497	42,552
1257	Comparison	with Fusly	1256.
1258	7,44,100	32,378	.....
1259	7,69,733	58,011	.....
1260	7,34,581	22,859	.....
1261	7,92,721	80,999	.....
1262	8,17,202	1,05,480	.....
	8,06,592	94,870	.....
		3,94,597	.....

* Collections of Fusly 1256,—72,352.

Increase 1,79,298.

Collection of Fusly 1256, 7,11,722.

Increase 3,94 597-72,000 1,80,000..7,12,000...17,80,000.

Collection in Fusly 1262, 114,654.

72,000 : 1,15 000 . : 7,12,000 11,37,000.

F. 1262—1,14,654

„ 1256—72352

42,302

F. 1262—8,06,592

„ 1256—7,11,722

94,870

22. In the former case a capital of 72,000

* Rs. has been so improved as to produce in the course of six years an accumulated interest or profit of 1,80,000; but in the latter, a capital of 7,12,000 has gained no more than 4 lacs; whereas put out to the same advantage it ought to have realised 18 lacs. Again, this Rs. 72,000 in the lapse of 6 years has become 1,15,000; whereas the 7,12,000 of the 2nd statement, has reached only 8 lacs; though improved in the same proportion it ought to have become 11½ lacs. Once

more; the capital in the one case has increased in a ratio more than four times greater than in the other; for, as 72,000 : 42,000 :: 7,12,000 : 4,15,000; but instead of being 4,15,000, the increase in the latter case is only 95,000. This argument need not be carried further in order to prove the value of improved and certain irrigation.

23. It must not be expected that the assessment of every acre of land in the Delta, will eventually rise in the same proportion as the revenue derived from the lands already irrigated by the Samulcotta and Tholiabhaga channels; the Delta has not been accurately surveyed, and levelled in every part, so that nothing more would be required than to conduct the water to the land, in order to ascertain at once the degree of benefit which has accrued to the ryots, and the profit which ought to be returned to the state. Our information with respect to produce, area, and difference of soil, is admitted to be still imperfect, and nothing has yet been done towards fixing a uniform higher rate of assessment upon lands which have benefitted by Annicut water. Therefore it is that we find it impossible to calculate with any approach to accuracy the money value of the improvements which have been effected. The benefits which have resulted to the population

are, in point of fact, incalculable; while at the same time their hitherto uncertain and precarious nature has rendered it impossible to demand a direct return to Government in the shape of increased assessment. The Government-right to a share of the profits obtained by the people has never been lost sight of however, while the policy of moderation and liberality has been upheld; and the subject of the imposition of Teerwajasthi on all lands watered by Annicut channels has engaged the attention of the local Revenue officers, and of the Commissioner for the Northern Circars. An extract from a letter addressed by me to the late Collector in May last will best explain my view of the matter.

“ In my letter to Col. Cotton late Chief Engineer dated 4th May 1853, I endeavoured to show that the utmost caution would be necessary in raising the assessment in the talooks of the Sub-Division in consequence of the improved means of irrigation; and I stated my opinion that in order to stimulate the industry of the people, and induce them to attempt every sort of improvement to their land, it would be advisable to confirm the existing rates for a period of two or three years—to give them in short, for the present at any rate, a permanent Demand sufficiently favourable to tempt them to take advantage of the water within their reach, and such a certainty of our moderation as would enable them to undertake the expense of superior culture, with immediate benefit to themselves and without apprehension for the future.”

“ Subsequent observation has not induced me to alter this opinion. It will cost the Government positively nothing to be generous at a time like this; on the contrary it will be clear gain. The more we give up to the ryots now, the more we shall eventually receive. The State can well afford to forego for a time a direct return in the shape of increased land tax, for expenditure in improving the resources of the soil. The interest for capital expended in the construction of the Annicut and the distribution of water throughout the Delta, is amply realised in an increase of the indirect sources of taxation. Large exports, well stocked markets, circulation of money, brisk trade, and a greater consumption of home products and foreign manufactures; these are indications of prosperity which may already be discerned; and which will be more striking as the means of easy transit are improved and extended. But we look in vain for that general, unmistakeable, improvement in the condition of the ryots which such a state of things might have been expected to produce. The Commissioner has truly described the causes which have hitherto operated to check the extensive use by the ryots of the means of irrigation placed within their reach. It is impossible to overrate the feeling of uncertainty which prevails throughout the District. In many parts they are already depressed by an assessment, which, compared with the average * rates obtaining in other provinces, is very high, and the necessity of continuing advances for cultivation would seem to indicate that with a large body of the ryots at any rate, there can be nothing approaching to wealth or easy circumstances.”

* Vide para. 31 of the previous paper on Sub-Division.

“ It should also be borne in mind that the operations of the Engineer Department have not been productive of unmixed good, even in the most improved villages. In carrying out a complete system of irrigation for the entire Delta, the interests of individual villages are some times unavoidably sacrificed to the general good. The arrangements are still incomplete and imperfect, and the benefits uncertain and precarious. Bunds which have hitherto served to confine the water required by individual villages, are removed because they intercept the natural drainage of the country; and a great portion of the Delta land is now deprived of the rich alluvial deposit brought by the floods of the Godavery, whose waters are confined within the high embankments which run along its sides; to many of the villages so situated it has not been possible to conduct the water of the Annicut by newly formed channels. The interference too, with the ordinary habits and pursuits of the people, the various innovations to which they are not easily reconciled, the mere presence of an Engineer encampment in every part of each talook—the various wants, wishes and requirements which have to be met and satisfied and the secret exactions by the tribe of native goomastahs and peons employed in all directions; to which notwithstanding the vigilance of the European Officers the ryots are necessarily exposed; all these circumstances have contributed to cause the people to regard a change in their prospects with a feeling of distrust, and the proceedings of the Engineer department often with fear and distaste. Happily for them the efforts of the Civil Engineer who has the general control of the works, have been constantly directed to ensure the kind and con-

siderate treatment by his subordinates, of the native inhabitants of all grades-but there is naturally a want of sympathy on the one hand, and an absence of that confidence on the other, which long and intimate intercourse can alone remove."

I have wished to put these matters in the strongest possible light, because it appears to me that it is only with a most careful consideration of all the influences which have been brought to bear upon the ryots, that the subject of Teerwajasthi ought to be approached. Having had these difficulties to contend with, it seems to me, that we ought most carefully to abstain from still further disheartening them by any measure calculated to increase those difficulties."

24. The arrangements recommended by myself have been approved, and active measures are now in operation for assessing with Teerwajasthi, at the ensuing jumabundy, lands of every description which have enjoyed Annicut water for two years. A notification issued to every village in the Delta tells the people what they have to expect, and Proprietors and Enamdars will be called upon to pay for the benefits which they have received at the sole cost of Government.

25. The following statement will be found to contain some information of a useful nature as explaining the inequalities which prevail in the assessment in different parts of the District, and shewing that the remarks in the paper regarding the Sub-Division, are equally applicable to the talooks of the Collector's Division.

Para. 26.

Talooks.	No. of Villages.	Permanent Berz.	Population.	Total extent of Amarkum land in Fusly 1264.			
				Dry.			Land.
				Land.	Kist.	Average rate per acre.	
1	2	3	4	5	6	7	8
				Acres.	Rs.	Rs.	Acres.
1 Amalapoor.	80	1,43,378	72,162	17,102 $\frac{1}{2}$	64,224	3 $\frac{7}{8}$	17,122 $\frac{1}{2}$
2 Nagarum.	48	1,09,381	52,104	17,203	65,311	4	8,066
3 Rally.	40	69,871	43,979	12,726	53,910	4 $\frac{1}{2}$	475
4 Kapaverum.	93	1,32,769	56,562	52,707 $\frac{1}{2}$	1,06,457	2 $\frac{1}{2}$	14,396 $\frac{1}{2}$
5 Kota Ramachendrapuram.	55	1,15,557	58,316	26,003	1,15,767	4 $\frac{1}{2}$	2,001
6 Kotapilly.	57	44,468	18,709	35,843	17,990	2 $\frac{1}{8}$	9,908
7 Rajahundry.	18	35,569	29,348	7,376	34,024	4 $\frac{1}{2}$	.....
8 Bickavole.	48	88,132	40,666	12,685	35,297	3 $\frac{1}{2}$	20,717
9 Peddapore.	14	29,039	21,017	3,927	9,521	6	3,017
10 Lingumpurroo.	108	23,393	12,203	9,481	8,203	1 $\frac{1}{4}$	7,419
11 Wooppada, &c.	3	3,890	3,272	491	802	1 $\frac{1}{2}$	946
12 Andrunghy, &c.	3	3,462	6,685	554	1,743	6 $\frac{1}{8}$	326
Total.	567	7,98,909	4,15,023	1,96,099$\frac{1}{4}$	5,13,249	2$\frac{1}{4}$	84,494$\frac{1}{4}$
Sub-Division.							
1 Mogultoor.	69	1,76,127	86,549	28,068	1,07,530	4 $\frac{1}{2}$	12,841
2 Woondy.	91	1,64,095	44,955	14,661	41,853	2 $\frac{3}{4}$	32,596
3 Tankoo.	65	1,59,323	61,745	39,260	1,53,260	4	1,506
4 Tademullah.	49	33,601	21,220	19,365	22,599	1 $\frac{1}{8}$	4,636
	274	5,33,146	2,14,469	1,01,354	3,25,242	3$\frac{1}{4}$	51,579
Total of Government.	841	13,32,055	6,29,492	2,97,453$\frac{1}{4}$	8,34,491	2$\frac{1}{4}$	1,36,073$\frac{1}{4}$
Management.							
1 Cocanada.	53	94,984	53,508	10,818	.....	1 $\frac{1}{2}$	27,510
2 Pittapoor.	52	1,17,727	72,241	17,391	.....	3 $\frac{1}{2}$	27,108
3 Chelloor.	8	21,914	28,804	6,477	.....	3 $\frac{1}{4}$	799
4 Chullapilly.	5	14,824	22,734	2,915	.....	4 $\frac{1}{2}$	933
5 Kadiem.	13	22,968	24,687	8,519	.....	3 $\frac{1}{2}$	1,749
	131	2,72,417	2,01,974	46,127	.....	2$\frac{1}{2}$	58,099
6 Polaverum.	16	11,977	10,214	4,830	11,012	2 $\frac{1}{4}$	1,226
Total.	147	2,84,394	2,12,188	50,957	.....	.....	59,325
Other Zemindary and Proprietary Estates.	261	3,06,793	1,70,356	.....	.....	.....	.....
Total.	408	5,91,187	3,82,544	.....	.....	.....	.....
Grand Total.	1,249	19,23,242	10,12,036	.....	.....	.....	.....

land in Fusly 1262.

Total.			Deduct from amount in Column 18.			Remaining Beriz.	Ready money collections.	Total Jambundy Dowle for Fusly 1262.	Collection.	Collection for Fusly 1265.
Land.	Kint.	Average rate per acre.	Village allowance and usual remissions.	Remissions.	Total.					
17	18	19	20	21	22	23	24	25	26	27
Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
38,504	1,40,060	4 1/4	5,008	951	5,959	1,34,101	14,353	1,48,454	1,44,266	1,41,918
26,368	1,03,442	4 1/4	2,875	829	3,704	99,738	6,658	1,06,396	1,01,616	99,408
16,656	85,716	5 1/4	3,108	2,779	5,887	79,829	8,692	88,521	85,949	87,212
67,104	1,66,013	2 1/2	4,947	.....	4,947	1,61,066	9,060	1,70,126	1,70,125	1,63,924
29,692	1,37,851	5 1/4	4,471	206	4,677	1,33,174	17,591	1,50,765	1,42,025	1,43,417
45,784	56,027	2 1/4	1,160	51	1,211	54,816	3,024	57,840	57,735	52,385
8,328	41,824	5	1,312	365	1,677	40,147	2,570	42,717	31,087	40,790
34,010	1,19,904	3 1/4	2,858	145	3,003	1,16,901	4,142	1,21,043	1,16,750	1,21,119
7,121	45,275	9 1/4	1,349	.....	1,349	43,926	77	44,003	44,003	43,380
17,000	26,862	1 1/2	728	.....	728	26,134	620	26,754	26,754	19,940
1,437	4,212	2 1/4	71	.....	71	4,141	5	4,146	4,138	4,061
880	2,696	6	78	.....	78	2,618	92	2,710	2,641	2,485
2,92,884	9,29,882	3 1/4	27,965	5,326	33,291	8,96,591	66,884	9,63,475	9,26,091	9,19,679
42,672	1,56,707	5 1/4	5,659	2,185	7,844	1,48,862	10,668	1,59,530	1,58,128	1,55,526
47,281	1,46,292	3	3,628	3,818	7,446	1,38,846	4,890	1,43,736	1,40,661	1,42,446
41,727	1,70,523	4 1/4	5,089	2,547	7,636	1,62,887	11,458	1,74,345	1,70,239	1,74,382
24,001	33,917	2	1,566	60	1,626	32,291	2,519	34,810	34,636	32,661
1,55,681	5,07,438	3 1/4	15,942	8,610	24,552	4,82,886	29,535	5,12,421	5,03,644	5,05,015
4,48,565	14,37,320	3 1/4	43,907	13,936	57,843	13,79,477	96,419	14,75,896	14,29,735	14,24,694
38,362	.....	3 1/4	.....	.....	.....	.....	.....	1,23,090	1,16,233	1,04,868
44,306	.....	3 3/4	.....	.....	.....	.....	.....	1,65,533	1,41,105	1,38,811
7,276	.....	3 1/2	.....	.....	.....	.....	.....	24,806	21,473	23,289
3,968	.....	4 1/4	.....	.....	.....	.....	.....	18,109	17,062	18,236
11,185	.....	3 1/2	.....	.....	.....	.....	.....	38,929	31,299	34,343
1,05,297	.....	3 1/2	.....	.....	.....	.....	.....	3,70,467	3,27,172	3,19,547
6,800	19,291	3	.....	.....	214	18,077	.....	19,026	17,981	16,442
1,11,597	.....	.....	.....	.....	.....	.....	.....	3,89,493	3,45,153	3,35,989
.....	.....	.....	.....	.....	.....	.....	.....	3,06,793	3,06,793	2,79,000
.....	.....	.....	.....	.....	.....	.....	.....	6,96,286	6,51,946	6,14,989
.....	.....	.....	.....	.....	.....	.....	.....	21,72,182	20,81,681	20,39,683

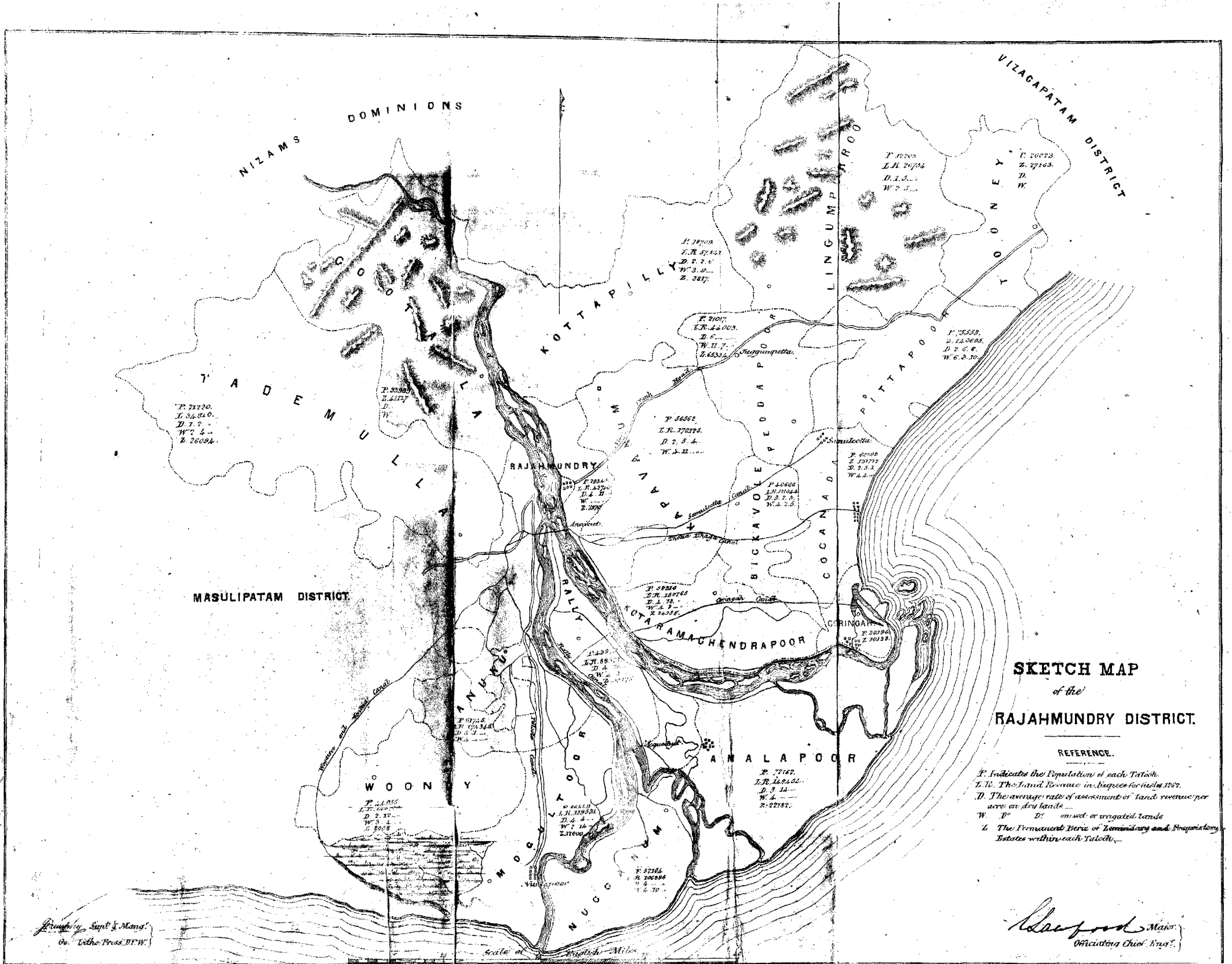
26. Admitting that averages are most uncertain data to argue from, they are the only available criterion for comparison with other districts; and in contrasting the assessment of different classes of land in the same district, the average on the whole area is a fair exponent of their relative value and fertility. It will be observed how frequently the assesment upon the dry land is higher than that of the wet, and it will at once be understood, how great will be the effect produced on the Delta talooks, when, protected from inundations, and the drainage completely under control, certain irrigation is supplied to the dry lands from which already the greatest returns are derived; and to the wet lands, which though sometimes producing, as in Woondy, a most luxuriant rice crop, are lowly assessed, because of the uncertainty to which they have hitherto been exposed.

27. Another observation will probably suggest itself on a perusal of the tables and papers now submitted; *viz.*, the immediate necessity which seems to exist for a full and accurate survey of that part of the district, which is directly under the influence of the Annicut. The accompanying small outline map of the district will be of assistance, in forming an opinion on this subject, and will be found useful for reference. Although, as observed by Government in a communication lately received, an accurate knowledge of the area may not be absolutely necessary in order to readjust the assessment, or to lower it where manifestly too high, I would respectfully urge that a scientific revenue and topographical survey of the Delta of the Godavery, which would have been of incalculable value if accomplished before the commencement of the excavation of the channels, will even now most materially assist the operations of the Engineers, and simplify the proceedings of the revenue officers.

28. The Board will not have failed to remark in the several survey plans submitted to them, that the village boundaries in this district are invariably well defined, by broad cattle roads or poontas, distinctly separating the lands of adjacent villages. In the altered circumstances of the Delta, this large proportion of waste land will be no longer necessary; much of it will come under the plough, to compensate for the loss of cultivated land, occupied by channels and banks; the boundary at the same time, being preserved in its integrity. This could not be satisfactorily effected, it seems to me without a survey. I am not disposed to think, that the numerous channels already existing, and in course of excavation, will increase the difficulty of the survey operations; the two might proceed hand in hand together, and with a competent staff for the purpose, the latter might be speedily completed, and at a comparatively moderate cost. I will not however, pursue this subject further, feeling certain that it will receive all the attention it merits. I forward a survey plan of a partially watered village, to exemplify what is said above. Taking only 10 acres as the average extent of the boundary Poontas of each village, the land of this description which might eventually be brought into cultivation in the Delta, would not be less than from 4 to 5,000 acres in Tossipoody;—it will be seen it amounts to more than 20.

29. The last column of the statement which follows para. 25, calls for particular remark. The tables and observations recorded in this paper, do not refer to Fusly 1263, they are brought up to Fusly 1262 only, but in the year which has lately closed, the value of the Annicut works has been most eminently conspicuous. In the letter above referred to, I wrote as follows.

“Some of the villages in the Delta talooks of my division, have now been watered for the last two or three years, others have been partially relieved by drainage, and in the present disastrous year, there are very few which have not in some way or other benefited by the Godavery works. The produce has been abundant both on dry and wet lands—the dry lands hitherto dependant on the falling rain, and periodical inundations of the Godavery, have produced abundantly wherever the channel water has reached them; and the wet lands particularly in some villages of the Woondy talook, have yielded a crop which I believe has rarely been equalled, and never exceeded; while in other parts of the division, where the early crops were damaged and the seed beds destroyed by the unusual inundation of the Kristna, the ryots have retrieved their losses by realising a fine Dalva crop, in consequence of the unfailing supply of Godavery water. In the present year therefore, the channels have been of the greatest service both to wet and dry lands,—the ryots have in general reaped the full benefit of the prevailing high prices, they have been saved from the distress to which others in this year of scarcity have been exposed, and their prospects are most cheering.”



NIZAM'S DOMINIONS

VIZAGAPATAM DISTRICT

P. 21720.
L. 34,810.
D. 7.7.
W. 2.4.
Z. 26084.

P. 18700.
L.R. 57421.
D. 2.2.0.
W. 3.0.
Z. 3817.

P. 18700.
L.R. 20724.
D. 1.3.
W. 2.5.

P. 20223.
L. 27123.
D.
W.

P. 21077.
L.R. 44,003.
D. 6.
W. 11.7.
Z. 65315.

P. 25323.
L. 14,065.
D. 2.6.4.
W. 6.3.30.

P. 56862.
L.R. 170224.
D. 2.5.4.
W. 1.1.

P. 40666.
L. 11,104.
D. 2.2.2.
W. 2.2.

P. 6000.
L. 10772.
D. 1.3.
W. 4.1.

P. 58218.
L.R. 38076.
D. 3.7.
W. 2.2.
Z. 12335.

P. 20286.
L. 10331.
D. 2.2.2.
W. 2.2.

P. 1420.
L.R. 88.
D. 4.
W. 2.
Z. 1700.

P. 6124.
L. 10,348.
D. 4.1.
W. 2.

P. 1100.
L. 100.
D. 2.1.
W. 3.
Z. 200.

P. 6513.
L. 10,950.
D. 4.4.
W. 7.14.
Z. 17000.

P. 7162.
L.R. 42224.
D. 3.14.
W. 4.
Z. 22187.

P. 5756.
L. 10,286.
D. 4.
W. 4.79.

SKETCH MAP
of the
RAJAHMUNDY DISTRICT.

REFERENCE.

- P. Indicates the Population of each Taluq.
- L.R. The Land Revenue in Rupees for each Taluq.
- D. The average rate of assessment or land revenue per acre on dry lands.
- W. D. The amount of irrigated lands.
- Z. The Permanent Value of Zemindari and Proprietary Estates within each Taluq.

Harford Mann
Officiating Chief Engr.

Printed by Supt. & Mans.
to Litho. Press, B.P.W.

Scale of English Miles

“ But I regard this, as the first dawn of hope,—I look upon it as a matter for deep thankfulness and congratulation, not as a reason for increasing a tax which they have hitherto paid with difficulty; anxious as I am to give all credit to the noble works which will yet be the means of regenerating this district, I am not the less desirous that the people should reap the whole benefit which these channels are calculated to confer upon them. I feel sure that we cannot err on the side of moderation.”

30. These remarks are of general application to the whole district, and I would fain hope that the Government concur in their propriety, satisfied that the circumstances of the district are gradually and surely improving; we are willing to acknowledge that there are difficulties and drawbacks, which time only can remove, and are content to forego for a Season, our claim to a direct and large enhancement of the Revenue.

31. The Commissioner for the Northern Circars has drawn up a memorandum of the probable value of produce saved in the past year, showing by figured statements and arguments, the general result of the Annicut project both in Fusly 1263, and in the previous years; and it seems almost a waste of words to add any thing to what is therein advanced, in support of the benefits this district has received from Godavery irrigation. He estimated the value of produce saved, at about 28 lacs; the actual increase of the Revenue he put down at 3,70,806; and the advance of 16,32,978 in the export trade he likewise attributed to the Annicut. The estimate of produce saved in this district alone, prepared by myself from the returns furnished by the Tahsildars, of the extent of land watered from the Godavery, whether by channels, by natural inundation, or by timely breaching of banks, &c. amounted to about 36 lacs. These are admitted to be nothing more than simple guesses, though framed upon legitimate data. But facts which are palpable to all, witness to the effects of the works in this disastrous year; and scarcely call for comment. A revenue realised very little short of the amount collected in the previous year, and higher than the average of any former period; exports valued at 18 lacs of Rupees; imports at 2,64,546, man and beast supplied throughout a scorching season of drought,—with abundance of river water, the ryots saved from the depression caused by a complete failure of the harvest as was the case in other less favored districts, we may indeed say that if the Annicut had done nothing more,—it has in this one year, realised one of the brightest predictions of its projector.

32. In page 80 of Col. Cotton's report written in April 1845, the following sentences occur. “ Take the case of one single year of famine, and consider the dreadful amount of suffering which it involves, to say nothing of the lasting injury to the revenue, which is the certain consequence of it, and the incalculable blessing that an Annicut would be to the district, may be well imagined. That such a thing as a famine, in any of the districts near the Godavery should ever take place, is indeed the deepest reproach to us. The consideration that such a time has been, and that it will inevitably occur again within a few years, if an Annicut is not built, ought alone to be sufficient to induce us to build one, even if there were no returns in ordinary years.” No servant of Government, who like myself, has witnessed the effect of the Annicut in the past year, but will rejoice that he has lived to see the day, when this reproach has been taken from us.

33. But we will examine more particularly, the operations of trade as revealed by the returns of exports and imports during the past, in comparison with former years. A separate statement in the Appendix, gives the export and import trade for the last ten years. The following is a statement of the value of exports by sea, for the last 19 years.

Statement showing the value of goods exported by sea from the District of Rajahmundry, from the official year 1835-36 to 1853-54.

Items.	1835-36	1836-37	1837-38	1838-39	1839-40	1840-41	1841-42	1842-43	1843-44	1844-45	1845-46	1846-47	1847-48	1848-49	1849-50	1850-51	1851-52	1852-53	1853-54	Quantity exported in last two years.	
																				1852-53	1853-54
Piece Goods...	491502	437451	408819	226768	194515	211353	167212	159312	108119	101100	135456	389006	175135	122059	153703	165884	131459	111461	158265	Corges	Corges.
Sugar .. ..	..	..	..	..	..	..	..	..	..	7280	16414	26281	721	46295	74273	217695	135289	298734	285652	cwt.	cwt.
																				23683	22698
																				Ben. Md.	Ben. Md.
Rice.. ..	40604	6094	46599	27706	27278	1374	17237	87112	119440	190518	355950	378422	253825	214655	102041	250410	333747	420711	333809	325541	214617
Gingely Seeds	..	..	1018	12156	4533	2459	7593	1509	9500	796	8215	27035	154959	97944	148676	252390	121047	148811	292036	79019	131202
Lamp Oil do..	1318	..	1656	2319	1390	..	3067	4725	5942	2205	14725	10950	16795	25923	10741	4711	4038	38511	6365	43752	4923
Bengal Gram.	10777	14809	30650	33250	3393	1181	7596	53476	58001	147131	99166	69664	147677	234964	225246	166587	223802	107056	302627	88224	188818
Other articles	159133	228014	157372	119942	133730	90279	256657	258241	332989	281468	277848	454978	348126	310216	254037	341390	357232	507695	454779	..	..
Total Rs	703334	686368	646114	422141	364839	306646	459362	564375	633991	730498	907774	1356336	1097238	1052056	968717	1399067	1306614	1632979	1833533	..	..
Prices per Madras garce in correspond- ing fusly year.																					
Rice.....	139	81	199	309	245	228	140	127	119	129	139	190	175	158	148	139	130	125	209	..	..
Gingely Seeds.	202	238	247	214	151	282	134	155	138	173	132	167	167	147	151	189	191	200	257	..	..
Bengal Gram	129	92	110	177	254	179	123	114	101	90	146	163	119	73	80	122	128	132	200	..	..

52

34. The gradual decline in piece goods is fully compensated for, by the increased exports of sugar, rice and gingely seeds. The prices of the different articles of produce taken in connection with the amount exported, is an indication of the character of the season. Although the

A large portion of this amount too was exported in May and June, before the drought was apprehended and before prices rose.

value of rice exported in the past year, is only one lac of Rupees below the preceding year, the price being nearly double the quantity exported, was little more than two-thirds of that which left the District in 1852-53. Besides maintaining its own population, the Delta had to supply food for the Upper Talooks of the district, where scarcely a wet crop reached maturity. But the increase in the more valuable products of gingely oil-seed and Bengal-gram is very striking, and testifies to the value of the crop, which was saved from perishing in Fusly 1263.

35. The stimulus imparted to the industry and productive resources of the Province, by large establishments like the Rajahmundry Sugar-factory, must not be overlooked. I understand that

Separate statement F. shows the extent and progressive increase of cane cultivation.

Messrs. Arbuthnot and Co.'s average expenditure, is not less than 3 lacs of Rupees per annum, and the value of sugar exported by them annually, is very little below 2 lacs. It is impossible to over-rate the importance or value of the water communication commanded by the Annicut to establishments of this character, and their success is in no slight degree attributable to the facility of communication, and the cheap transport of goods thus put within their reach; and I have no doubt that the managers of this, and of similar establishments, would be the first to admit that but for the main canals they must either have abandoned their undertakings, or continued them at a disheartening loss. We may safely leave then to the mercantile community the calculation of the value in money, of the benefits derived from the navigable canals dependant on the Annicut.

The statement of traffic on the main navigation lines during the last and the present year, will illustrate this part of the subject.

36. It has been tritely said, figures can be made to prove any thing. Statements of the demand and collection of the Revenue from land, and from extra items, may be framed, all too from authentic sources; but so put together, here taken and there left, as to suit the views of every

* Statement marked K. in Appendix.

writer who uses them. It has therefore occurred to me to compile a comprehensive table of the revenues of this District for the last 34 years* containing as it were an abstract history of the Province, which will be always useful for reference, and from which information can be derived in support of every argument it is desired to advance.

37. The progressive increase of the Government estates, and the decline of the Zemindaries, the steady enhancement and security of the current revenue in the last Decade, compared with any previous corresponding term of years; the diminution of the annual collection of arrears, which in former Fuslies reached two, three, and even four lacs of Rupees; the steady collection of the extra sources of revenue, notwithstanding the abolition of the Sayer in 1843, and the subsequent reduction of the Sea Custom duties; the rise in the price of salt; all these points and many more will be noted, and may be attributed, as reason or fancy suggest, to efficiency or laxity of management, to propitious or adverse seasons, to fluctuations of price, to a liberal or limited expenditure in the District of public and private money, and lastly,—to improvement in the Public Works, and a general and efficient system of irrigation. One thing, however, these figures cannot be made to reveal, namely, the improvement in the actual condition of the people. Much of the truth may doubtless be detected by an observant eye, but, personal inquiry among those who have passed from one state to the other, is necessary to a full understanding of the matter.

With this statement, I close the present remarks.

G. N. TAYLOR,

Sub-Collector in charge.

In No. 3775 of 1854.

Encloure B in Report on the sheets of the
Annual dated 22^d September 1854.

Chief Products.

- White Paddy.
- Black do.
- Cholera.
- Onions.
- Cotton.
- Ginseng Oil Seed.
- Garlic.
- Dhal.

General Character of Soil.

About one half
Black Terraiva.
The other half Grapes
and Masaka Sunly or
sand & black mud.

Village Statement

Description of Total area	3856 sq. miles within town		Houses	
	Sq. miles	Acres	Thatched	Other
Joyalty	308	1,242	50	
Asubminaha or land fit for cultivation			50	
Village site	9	5,715		
House or cultivated soil	21	2936	General caste of Inhabitants	
Peonahs &c	14	2,518	Brahmins	
Side of Tank			Squarres	
Enams	11	2,228	Kannabes	
			Total Population of House	
	366	1,808	Cottages	
			Flours	
			Resident Ryots	
			New Resident	
Detach'd area of boundary points belonging to other villages	21	2,824		
Total village area	365	1,986	Cattle	162. Floughs 26.

Assets	598 1/2
Permanent	392 1/2
Khamy Shiel	912 1/2
Average of 20 Years collection	765 1/2
Average of 5 Years do.	820
Highest Collection in 1852	825
Lowest Collection in 1855	714
Present Demand	775
Village Charges	25

Annual Bery

Year	Fusty	Shiel	Terra. Jaath		Total	Collection	Average amount most or poorly sown	Average that is irrigated land
			Land	available				
55	1195	716			716	716	31 1/2	
57	716				716	716	31 1/2	
58	800				800	800	31 1/2	
59	826				826	826	35	
60	888				888	888	35	
61	816-11-11		1-3-2	8-2-3	716	826	35	20
62	816-11-11		1-3-2	8-2-3	716	826	35	20
63	766-11-11		15-3-2	8-2-3	775	775	33	13
64	775							
65								

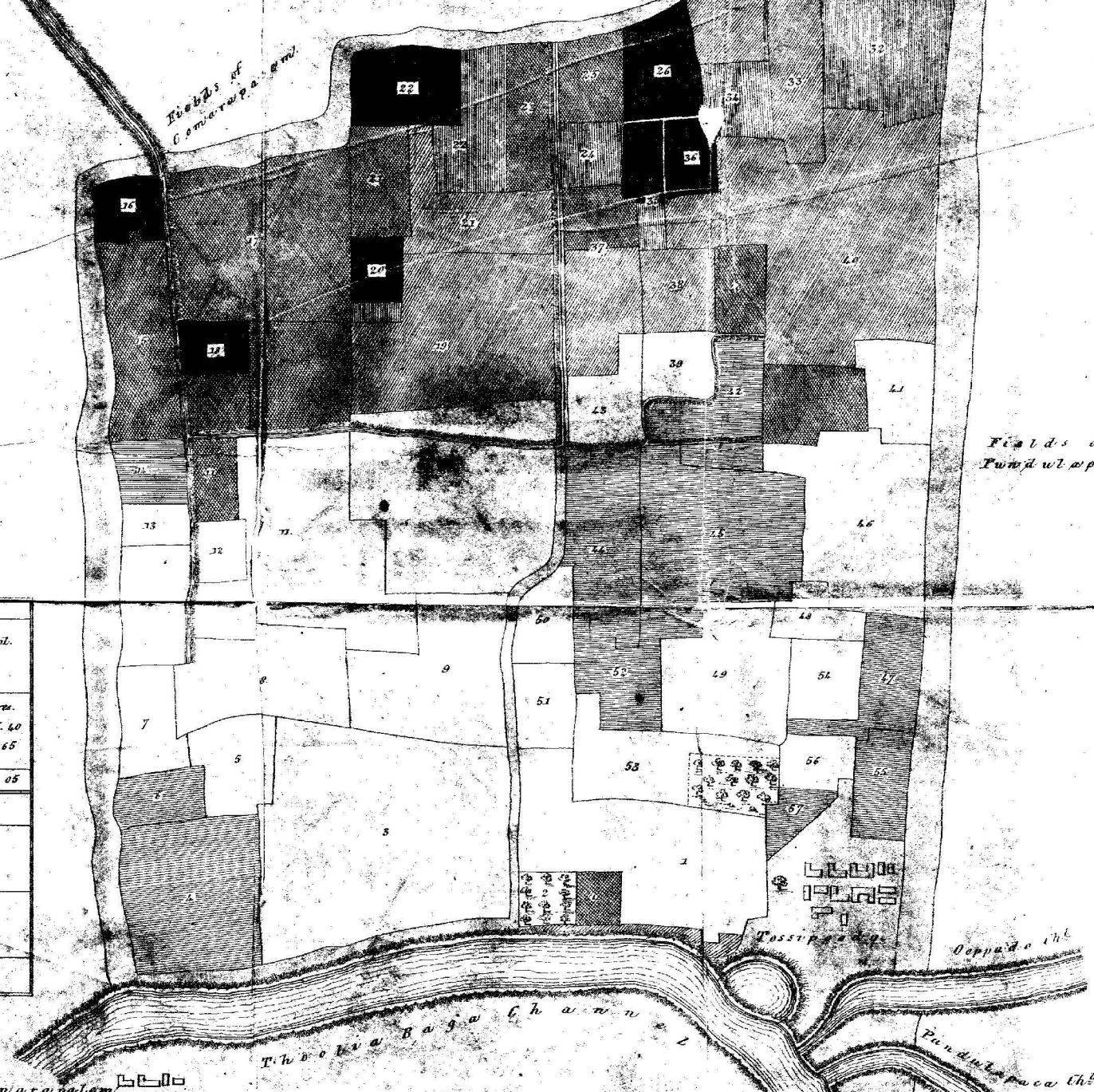
Explanation

- Joyalty land
- Land twice watered - two crops.
- Do once watered - one crop.
- Dry crop land - not watered.
- Rova.
- Enams or Mangam lands.
- Land twice watered - two crops.
- Do once watered - one crop.
- Dry crop land - not watered.
- Rova.
- Peonahs, Roads and paths & Village site.

Area of irrigated & unirrigated land in 1855

Description of land	Twice watered	Once watered	Dry crop land	Rova	Total
	Acre.	Acre.	Acre.	Acre.	Acre.
Joyalty	38. 20	63. 9	301. 8	21. 5	225. 40
Enams	73. 25	18. 5	45. .	4. 8	78. 65
Total	51. 45	82. 5	146. 8	26. 3	307. 05

Particulars of irrigated Joyalty			
	Once watered	Twice watered	Total
	Acre.	Acre.	Acre.
In former Years	5.	12.	17.
In 1855	64.	58.	122.
Newly watered in current fusty - S.	59.	27.	86.



SURVEY PLAN
of the lands of TOSSIPOODY Village in the
KAPAVERUM TALOOK
OF THE
Rajahmundry District.

Scale of 32 inches to a mile.
Surveyed with compass & chain by A. Levin, Engraver, New
Survey party, now patry Marumut, Madras, & J. V. S. S. S.

Phuapky, Sup't. of Mangs
6-1-1855, D.P.W.

Lawford, Major
Officiating Chief Engineer

Statement shewing the quantity and value of goods exported by sea, from the District of Rajahmundry, from the Official year 1835-36 to 1853-54.

Articles.	1835-36.			1836-37.			1837-38.			1838-39.			1839-40.			1840-41.			1841-42.		
	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.
Piece goods...	5,547	14	4,91,502	5,361	13	4,37,451	5,793	4	4,08,819	3,314	10	2,26,768	2,864	11	1,94,515	3,518	5	2,11,353	2,540	2	1,67,212
Sugar.....	...	...	.....	...	...	.....	...	...	.....	...	...	.....	...	...	.....	...	...	.....	...	...	.....
Rice.....	m. g.	m. s.		m. g.	m. s.		m. g.	m. s.		m. g.	m. s.		m. g.	m. s.		m. g.	m. s.		m. g.	m. s.	
	321	311	40,604	47	396	6,094	366	369	46,599	217	345	27,706	156	131	27,278	7	76	1,374	87	107	17,237
Gingily seeds.	...	...	.....	...	...	.....	5	382	1,018	69	75	12,156	26	345	4,533	10	156	2,459	49	21	7,593
Lamp oil do.	9	366	1,318	...	...	.....	12	62	1,656	17	137	2,319	10	180	1,390	...	...	.....	25	225	3,067
Bengal gram..	163	121	10,777	224	226	14,809	464	261	30,650	494	207	33,250	36	149	3,393	9	178	1,181	60	11	7,596
Other articles.	...	...	1,59,133	...	...	2,28,014	...	...	.....	...	...	1,19,942	...	...	1,33,730	...	...	90,279	...	...	2,56,657
Total...	...	...	7,03,334	...	...	6,86,368	...	...	6,46,114	...	...	4,22,141	...	...	3,64,839	...	...	3,06,646	...	...	4,59,362

55

Statement shewing the quantity and value of goods, &c. (Continued.)

1842-43.			1843-44.			1844-45.			1845-46.			1846-47.			1847-48.			1848-49.		
Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.
2,755	6	1,59,312	2,045	...	1,08,119	1,898	9	1,01,100	2,494	10	1,35,456	7,520	15	3,89,006	3,615	14	1,75,135	2,490	11	1,22,059 ✓
...	...	.....	...	...	.....	candies.	m. s.	7,280	candies.	m. s.	16,414	cwt.	lbs.	26,281	cwt.	lbs.	721	cwt.	lbs.	46,295 ✓
485	7					485	7		900	15		6,631	64		120	68		2,945	75	
m. g.	m. s.		m. g.	m. s.		B mds.	lbs.	1,90,518	B mds.	lbs.	3,55,950	cwt.	lbs.	3,73,422	97,542	74	2,53,825	B mds.		2,14,655 ✓
435	154	87,112	600	129	1,19,440	1,15,093	29		2,03,167	52		1,38,529	9		97,542	74		1,33,775	71	
8	312	1,509	59	154	9,500	m. g.	mds.	796	m. g.	mds.	8,215	Parrahs.	mds.	27,035	62,111	3	1,54,959	41,090	23	97,944 ✓
37	319	4,725	47	215	5,942	3	61		45	251		23,337	...		62,111	3		41,090	23	
37	319	4,725	47	215	5,942	17	347	2,205	115	313	14,725	6,381	...	10,950	2,423	1	16,795	21,285	37	25,923
325	333	53,476	414	111	58,001	B mds.	lbs.	1,47,131	B mds.		99,166	33,604	24	69,664	cwt.	lbs.	1,47,677	1,59,193	57	2,34,964
...	...	2,58,241	...	...	3,32,989	1,21,338	33		74,626	81		33,604	24		70,168	6		1,59,193	57	
...	...	2,58,241	...	...	3,32,989	.....	...	2,81,468	.....	...	2,77,848	.....	...	4,54,978	.....	...	3,48,126	.....	...	3,10,216
...	...	5,64,375	...	...	6,33,991	.....	...	7,30,498	.....	...	9,07,774	.....	...	13,56,336	.....	...	10,97,238	...	...	10,52,056 ✓

Statement shewing the quantity and value of goods &c. (Continued.)

1849-50.			1850-51.			1851-52.			1852-53.			1853-54.		
Quantity.		Value.	Quantity.		Value	Quantity.		Value	Quantity		Value.	Quantity.		Value.
Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.	Corges.	P.	Rs.
3,135	2	1,53,703	3,575	1	1,65,884	3,307	10	1,31,459	3,624	10	1,11,461	4,676	14	1,58,265 ✓
cwt.	lbs.		cwt.	lbs.		cwt.	lbs.		cwt.	lbs.		cwt.	lbs.	
10,664	13	74,273	19,117	40	2,17,695	13,853	55	1,35,289	23,683	4	2,98,734	22,698	100	2,85,652 ✓
B mds.			B mds.			B mds.			B mds.			B mds.		
67,304	23	1,02,041	1,79,066	68	2,50,410	2,29,183	61	3,33,747	3,25,541	...	4,20,711	2,14,617	25	3,33,809 ✓
93,270	15	1,48,676	1,56,423	30	2,52,390	64,511	53	1,21,047	79,019	24	1,48,811	1,31,202	69	2,92,036 ✓
8,952	36	10,741	4,027	46	4,711	4,594	76	4,038	43,752	14	38,511	4,923	51	6,365
1,51,279	23	2,25,246	1,13,304	60	1,66,587	1,50,092	10	2,23,802	88,224	53	1,27,056	1,88,818	27	3,02,627
.....	...	2,54,037	.....	...	3,41,390	.....	...	3,57,232	.....	..	5,07,695	.....	...	4,54,779
.....	..	9,68,717	...	...	13,99,067	.....	...	13,06,614	.....	..	16,32,979	...	...	18,33,533

Rajahmundry District Dowlaiswarm, }
22nd September 1854 }

G. N. TAYLOR,
Sub-Collector in charge.

Statement shewing the value of Imports and Exports by sea in

Official Years.	Coringa.			Cocanada.			Nurea	
	Value of British Goods.	Value of Foreign Goods	Total.	Value of British Goods.	Value of Foreign Goods.	Total.	Value of British Goods.	Value of British Goods.
1	2	3	4	5	6	7	8	9
	Rs.							
1844—45	4,08,481	...	4,08,481	2,26,076	...	2,26,076	95,941	...
1845—46	4,27,475	2,728	4,30,203	3,85,178	...	3,85,178	92,398	...
1846—47	7,54,290	...	7,54,295	4,66,345	...	4,66,345	1,35,690	...
1847—48	6,99,679	...	6,99,679	3,05,819	360	3,06,19	91,380	...
1848—49	6,51,914	3,852	6,55,766	3,12,050	110	3,12,160	84,130	...
1849—50	6,27,939	4,129	6,32,068	2,59,630	54	2,59,684	76,965	...
1850—51	7,52,872	2,086	7,54,958	5,40,556	136	5,40,692	1,03,417	...
1851—52	6,30,972	405	6,31,377	5,64,497	100	5,64,597	1,10,640	...
1852—53	5,78,941	288	5,79,229	9,04,725	18	9,04,747	1,49,000	...
1853—54	6,98,891	...	6,98,891	9,53,300	3,511	9,56,811	1,77,831	...
1844—45	2,91,079	605	2,91,684	11,868	316	12,184	27,774	...
1845—46	3,55,945	439	3,56,382	9,865	2,097	11,962	20,400	...
1846—47	3,05,849	211	3,06,060	55,422	212	55,634	49,671	...
1847—48	5,62,263	665	5,62,928	32,836	688	33,524	40,130	...
1848—49	3,89,491	60	3,89,551	14,513	1,586	16,099	38,250	...
1849—50	2,80,585	4,549	2,85,132	27,930	2,378	30,317	15,670	...
1850—51	2,24,773	...	2,24,773	21,460	4,457	25,920	51,101	...
1851—52	2,58,931	883	2,59,814	35,124	2,212	37,336	51,250	...
1852—53	1,53,395	...	1,53,395	34,611	1,628	36,239	48,330	...
1853—54	1,68,172	557	1,68,729	50,374	6,672	57,046	38,771	...

Rajahmundry District,
Dowlaiswaram, 22nd September 1856. }

the Rajahmundry District during the last 10 years.

poor	Total.			Particulars.				
	Total.	Value of British Goods.	Value of Foreign Goods.	Total.	Paddy, Rice, Jonnalu and Regooloo.	Pulses.	Gingly and Lamp oil seeds.	Sugar.	Gruff Goods.
10	11	12	13	14	15	16	17	18
95,941	7,30,498	...	7,30,498	1,99,502	2,66,368	3,001	7,280	2,54,347
92,393	9,05,046	2,728	9,07,774	3,78,969	2,01,739	22,940	16,414	2,87,712
1,35,696	13,56,336	...	13,56,336	4,21,481	2,86,492	37,985	26,281	5,84,097
91,380	10,96,878	360	10,97,238	2,59,705	2,22,885	1,71,754	721	4,42,173
84,130	10,48,094	3,962	10,52,056	2,23,004	3,12,353	1,23,867	46,295	3,46,537
76,965	9,64,534	4,183	9,68,717	1,07,503	2,74,414	1,59,417	74,273	3,53,110
1,03,417	13,96,845	2,222	13,99,067	2,85,073	2,90,851	2,58,338	2,17,695	3,47,110
1,10,640	13,06,109	505	13,06,614	4,36,266	3,04,538	1,28,870	1,35,289	3,01,651
1,49,003	16,32,673	306	16,32,979	4,61,244	2,18,390	2,00,963	2,98,734	4,53,648
1,77,831	18,30,022	3,511	18,33,533	3,75,248	4,53,749	2,99,999	2,85,652	4,18,885
27,774	3,30,721	921	3,31,642	1,87,661	841	696	...	1,42,444
20,405	3,86,213	2,536	3,88,749	2,48,384	4,764	...	...	1,35,601
49,671	4,10,942	423	4,11,365	1,86,916	1,735	1933	881	2,19,900
40,133	6,35,232	1,353	6,36,585	3,37,656	2,261	...	692	2,95,976
38,252	4,42,256	1,646	4,43,902	2,34,362	...	...	...	2,09,540
15,687	3,24,200	6,927	3,31,127	1,74,085	...	...	...	1,57,042
51,101	2,97,337	4,457	3,01,794	1,20,445	56	...	139	1,81,154
51,253	3,45,308	3,095	3,48,403	91,583	8,975	23064	1,939	2,22,842
48,332	2,36,333	1,628	2,37,966	33,473	3,290	5726	1,483	1,93,994
38,771	2,57,317	7,229	2,64,546	43,193	2,038	3073	1,397	2,14,845

G. N. TAYLOR,
Sub-Collector in charge.

Memorandum shewing the average Bazar wholesale Prices of Rice, Boot gram, gingely oil seeds and Lamp oil seeds in the District of Rajahmundry from Fusley 1245 to 1263.

Fusly Years.	Rice per Madras Garce.		Bengal gram per Madras Garce.		Gingily Oil Seeds per Madras garce.		Lamp Oil Seeds per Madras garce.	
1245	139	9 2	129	5 9	202	5 8	133	8 11
1246	181	1 ..	92	5 9	238	8 8	137	13 1
1247	199	5 3	110	11 ...	247	1 10	154	14 11
1248	309	11 9	177	14 3	214	8 10	73	2 3
1249	245	1 10	254	8 4	151	4 5	168	1 10
1250	228	6 1	179	7 9	282	1 10	147	1 ...
1251	140	11 1	123	6 2	134	15 9	126	2 6
1252	127	15 3	114	11 1	135	3 9	114	12 9.
1253	119	4 3	101	3 4	138	14 7	76	4 11
1254	129	1 9	90	8 4	173	... 5	83	14 2
1255	189	5 3	146	15 10	182	12 4	120	3 6
1256	190	9 5	163	14 ...	167	14 8	146	9 8
1257	175	1 8	119	10 6	167	10 7	121	5 4
1258	158	11 3	73	6 5	147	15 ...	116	14 3
1259	148	14 2	80	5 8	151	7 7	132	13 3
1260	139	14 4	122	12 9	189	8 1	157	14 11
1261	130	9 9	128	10 3	191	13 10	119	14 8
1262	125	8 2	131	11 4	200	14 10	111	15 8
1263	209	12 7	200	11 5	257	4 8	173	11 5

G. N. TAYLOR,
Sub-Collector in charge.

Rajahmundry District, Dowlaiswarum, }
22nd September 1854.

F.

Statement showing the extent of land cultivated with sugar-cane from Fusly 1249 to 1263 in the Rajahmundry District.

No.	Talooks.	Fusly 1249.	Fusly 1250.-	Fusly 1251.	Fusly 1252.	Fusly 1253.	Fusly 1254.	Fusly 1255.	Fusly 1256.	Fusly 1257.	Fusly 1258.	Fusly 1259.	Fusly 1260.	Fusly 1261.	Fusly 1262.	Fusly 1263.	
		Pooties of 8 Acres.															
		Pooties.	P.	P.	P.	P.	P.	P.	P.	P.	P.	P.	P.	P.	P.	P.	
1	Amalapore.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Nagarum.....	3	3½	2½	3½	2	2½	14½	15½	15	18	21½	24½	20½	21½	27½	
3	Rally.....	...	...	...	...	...	...	½	½	½	½	1½	2½	4	6½		
4	Kota Ramachendrapooram...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	½	
5	Bickavole.....	...	...	...	...	...	...	...	...	...	...	...	...	...	1/8	1/8	
6	Mogultoor.....	...	4	2½	1½	1/8	½	4½	9	8½	11½	12½	11½	10	16½	21 1/8	
7	Woondy.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	Tanuku.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	Peddapore.....	...	...	...	4½	...	13½	34½	36½	139	132½	113½	136½	128½	152½	205½	
10	Rajahmundry.....	...	...	...	...	...	...	½	1½	½	...	...	...	...	...	...
11	Kotapilly.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	½	
12	Lingumpurroo.....	8½	8½	9	7½	8	12	18	12½	17	19½	20½	21½	23½	31½	27½	
13	Pittapoor.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total...	11½	16	14½	17	10 1/8	28½	72½	73½	181½	181½	168½	195½	184	226½	289½	

Proper accounts not received from Amalapore & Pittapore.

Rajahmundry District, Dowlaiswarum, }
22nd September 1854.

G. N. TAYLOR,
Sub Collector in Charge.

G.
Memorandum shewing the Number of Dhonies &c. passed and re-passed through the Dhowlais-
warum Lock, commencing from 1st January to 31st December 1853.

Nos.	Names of articles.	No. of Dhonies.	Quantity of goods.			Value of goods.	Tonnage.	
			Measuring Caudies.	Weighing Caudies.	Number.			
1	Rice.....	90	448	...	...	9,856	319	At 64 Maunds per Candy
2	Paddy.....	89	585	...	...	5,850	325	At 50 Do. per Do.
3	Lamp oil seeds..	118	1,058	...	...	33,856	558	At 50 Do. per Do.
4	Gingely oil seeds	154	1,736	...	...	69,440	964	At 50 Do. per Do.
5	Horse Gram....	53	522	...	...	8,352	371	At 64 Do. per Do.
6	Bengal gram....	322	2,955	...	...	1,03,425	1871½	At 57 Do. per Do.
7	Bones.....	29	...	361	...	451	80	At 4½ Candies per Ton.
8	Tobacco.....	56	...	839	...	21,814	186	At 4½ Do. per Do.
9	Green gram.....	22	175	...	...	2,800	135½	At 64 Mds. per Do.
10	Red gram.....	19	189	...	...	2,646	135	At Do. per Do.
11	Raggy.....	...	8	...	...	96	5	At 50 Do. per Do.
12	Sand.....	1	6	...	...	6	5	At 70 Do. per Do.
13	Wheat.....	1	10	...	...	320	6	At 57 Do. per Do.
14	Tuntapoo seeds..	5	37	...	...	222	26	At 64 Do. per Do.
15	Black gram.....	7	64	...	...	896	46	At Do. per Do.
16	Salt.....	173	1,561	...	...	34,342	1,110	At Do. per Do.
17	Anoomooloo..	12	94	...	...	1,128	63	At 60 Do. per Do.
18	Hemp seeds.....	6	22	...	...	352	16	At 64 Do. per Do.
19	Soap nuts.....	1	16	...	...	320	6	At 32 Do. per Do.
20	Corraloo.....	1	39	...	...	468	25	At 75 Do. per Do.
21	Cholum.....	5	11	...	...	176	8	At 64 Do. per Do.
22	Shell chunam....	58	610	...	...	3,812	339	At 50 Do. per Do.
23	Chillies.....	24	...	60	...	1,800	13½	At 4½ Candies per Ton.
24	Saltpetre.....	10	...	146	...	5,840	32	At Do. per Do.
25	Empty boxes....	2	...	...	6	12	...	
26	Vine boxes.....	1	...	...	7	504	1	
27	Charcoal bales....	...	...	...	30	150	6½	
28	Jaggery.....	140	...	5,398	...	37,786	1,199	At 4½ Candies per Ton.
29	Sugar.....	141	...	4,478	...	2,23,900	995	At Do. per Do.
30	Gunners.....	11	...	...	16,650	5,550	66	At 3 Gunnies per Maund.
31	Vossums.....	7	...	...	5,281	4,222	59	At 1 Vossuim per Do.
32	Empty bags.....	3	...	...	6,625	993	7	At 10 Bags per Do.
33	Hemp.....	3	...	37½	...	450	8½	At 4½ Candies per Ton.
34	Cotton.....	34	...	354	...	22,656	78½	At Do. Do.
35	Chayaroot.....	2	...	10	...	150	2	At Do. Do.
36	Empty casks....	2	...	...	10	40	1	
37	Tiles.....	2	...	...	21,000	13	2	At 2 ½ each,
38	Firewood.....	878	...	18,348	...	6,880	4,080	At 4½ Candies per Ton.
39	Rough stone....	355	...	18,122	...	1,982	4,028	At Do. per Do.
40	Mats.....	...	...	...	300	3	...	
41	Coarse cloth....	2	...	...	91	318	...	
42	Palmira leaves...	4	...	...	3,600	7	1	
43	Hides.....	5	...	...	889	445	2	
44	Casks with Beer.	2	...	...	23	920	23	
45	Ghee dubbers....	2	...	...	648	10,368	33	At 4½ Candies per Ton.
46	Cumbalies.....	1	...	...	50	25	½	
47	Oil dubbers.....	...	...	...	398	3,582	20	At 4½ Candies per Ton.
48	Turmeric.....	...	...	...	...	24	1	
49	Travellers, &c...	103	...	...	...	...	...
50	Tufts.....	1	...	...	...	...	...
51	Records &c.....	5	...	...	...	...	...
52	Chunam.....	...	...	...	...	...	...
53	Carpets.....	...	...	...	750	3,000	8	At ½ Maund each.
54	Iron bars.....	9	...	...	1,068	3,204	24	At 2 Maunds each.
55	Moulding sand..	1	15	...	...	15	11	At 64 Do. per Do.
56	Cords.....	4	...	19	...	578	4	At 4½ Candies per Ton.
57	Pilescrew.....	2	...	...	6	96	1	
58	Boiler.....	1	...	...	...	1,000	10	
59	Cask.....	1	...	...	4,15,000	...	5	
60	Pots.....	1	...	...	2,000	40	2	
61	Palankeen.....	2	...	...	...	...	1	

Memorandum shewing the Number of Dhonies &c. passed and re-passed through the Dhowlais-
warum Lock, commencing from 1st January to 31st December 1853.

Nos.	Names of articles.	No. of Dhonies.	Quantity of goods			Value of goods.	Tonnage.	
			Measuring Candies.	Weighing Candies.	Number.			
62	Fish.	11	..	39	...	975	9	At Candies per Ton.
63	Getherchecka....	2	..	12	...	24	3	At Do. per Do.
64	Tamarind.....	3	..	32	..	256	7	At Do. per Do.
65	Stag horns.....	3	..	...	2,449	1,225	1	
66	Buffalohorns....	4	..	...	3,966	661	3	
67	Long cloths.....	1	..	...	4,000	16,000	22	At 1½ Maunds each.
68	Momaties.....	...	..	...	80	60	$\frac{1}{4}$	
69	Cocoanuts.....	6	..	...	23,700	296	10	
70	Iron.....	12	..	78½	...	2,355	17½	At 4½ Candies per Ton.
71	Maurjaty beams.	19	..	...	619	1,547	62	
72	Beer casks.....	1	..	...	...	...	..
73	Pitch.....	..	..	2	...	40	$\frac{1}{2}$	At 4½ Candies per Ton.
74	Chalk.....	2	..	32½	...	487	7	At Do. per Do.
75	Chairs.....	2	..	...	30	90	$\frac{1}{4}$	
76	Bamboos ...	...	..	...	2,72,239	2,723	680	At 1¼ Ton per 1000
77	Circar deep boats	255	..	...	...	...	...
78	Paddle boat &c..	77	..	...	...	...	...
			Total.....			6,63,920	18,148½	

*Abstract Statement shewing the number of boats passed through the Dhowlaiswarum,
Robaralunka and Vezaiseram Locks &c., during the year 1854.*

Months.	Thoolabaga channel.		Simulcottah channel.		Rallee channel.		Apparow channel.		Total.	
	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.
January	750	125	59	16	274	54	296	70	1,379	273
February.....	1,034	171	99	7	267	7	162	147	1,562	332
March.....	600	234	90	45	198	64	255	125	1,143	468
April.....	307	29	56	...	58	21	425	53	846	103
May.....	651	141	...	...	195	42	539	165	1,385	348
June	393	76	...	...	212	96	346	139	951	311
July.....	629	67	66	11	155	3	398	123	1,248	204
August.....	533	7	...	...	96	...	347	1	976	8
Total	4,897	850	370	79	1,455	287	2,768	£31	9,490	2,047

Rajahmundry District, Dhowlaiswarum, }
22nd September 1854.

G. N. TAYLOR,
Sub-Collector in charge.

Abstract Statement shewing the Number of Boats passed through the Dhowlaiswarum, Bobburlunka and Vizaiswarum Locks, in the year 1853.

Months.	Thoolabaga Channel.		Samulcottah Channel.		Rallee Channel.		Apparow Channel.		Total.	
	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.	Boats.	Rafts.
In January.....	99	69	...	...	...	...	...	...	99	69
„ February.....	120	291	...	...	...	...	...	...	120	291
„ March.....	154	247	...	...	...	...	...	...	154	247
„ April.....	258	310	...	...	100	30	350	145	708	485
„ May.....	302	129	25	2	136	36	365	351	828	518
„ June.....	373	314	25	4	115	68	125	97	630	483
„ July.....	360	55	79	17	38	3	21	...	498	75
„ August.....	386	174	62	15	16	...	21	..	485	189
„ September....	292	13	56	1	25	...	107	11	480	25
„ October.....	702	15	35	...	45	...	196	4	978	19
„ November....	631	39	64	1	44	2	294	24	1,033	66
„ December...	1,137	144	66	13	205	23	318	74	1,726	254
Total.....	4,814	1,800	432	53	724	168	1,797	706	7,767	2,727

H.

Statement shewing the collections of Extra Sources in the District of Rajahmundry, from Fusly 1230 to 1263.

No.	Items.	1230 Fusly.	1231 Fusly.	1232 Fusly.	1233 Fusly.	1234 Fusly.	1235 Fusly.	1236 Fusly.	1237 Fusly.	1238 Fusly.	1239 Fusly.	1240 Fusly.
1	Salt.....	94,033	2,08,834	1,88,589	2,32,856	2,49,582	2,00,325	2,08,660	3,05,458	2,49,891	2,70,729	3,18,974
2	Sayer.....	1,19,313	1,20,534	1,26,079	1,17,480	1,35,976	1,12,689	1,29,241	1,49,167	1,60,149	1,53,832	1,52,794
3	Sea Custom.....	...	10,834	12,823	11,497	18,792	16,078	15,712	9,150	16,243	15,614	13,994
4	Abkary.....	47,215	44,619	42,543	42,913	42,740	45,634	47,370	49,656	57,799	53,766	50,763
5	Sundry small farms.....	...	...	...	...	...	...	...	...	...	...	6,499
6	Moturpha.....	15,928	15,759	21,720	18,707	44,646	45,480	53,540	48,300	50,107	43,085	40,875
7	Stamp.....	26,412	24,048	19,054	21,491	19,566	13,868	15,531	27,668	3,657	18,951	16,231
	Total Rupees.....	3,02,901	4,24,628	4,10,808	4,44,944	5,11,302	4,34,074	4,70,054	5,89,399	5,57,846	5,55,977	6,00,130

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Statement shewing the collections of Extra Sources in the District of Rajahmundry, from Fusly 1230 to 1263.

No.	Items.	1241 Fusly.	1242 Fusly.	1243 Fusly.	1244 Fusly.	1245 Fusly.	1246 Fusly.	1247 Fusly.	1248 Fusly.	1249 Fusly.	1250 Fusly.	1251 Fusly.	1252 Fusly.	1253 Fusly.
1	Salt.....	3,13,372	2,58,042	3,63,738	4,25,055	1,25,192	2,71,664	1,51,610	1,32,306	1,26,670	1,20,572	2,59,929	2,28,565	2,80,239
2	Sayer.....	1,52,671	1,26,600	1,42,796	1,21,112	1,25,515	1,23,235	95,912	91,497	91,358	90,600	91,394	91,605	64,761
3	Sea Custom...	12,452	12,879	11,383	13,104	14,392	14,496	17,384	13,735	12,841	8,081	13,424	13,923	28,806
4	Abkary.....	47,597	43,096	41,469	42,969	44,960	44,090	44,599	51,220	46,230	47,299	43,579	48,118	49,175
5	Sundry small farms...	6,313	4,105	3,562	3,848	3,808	5,302	3,723	5,539	4,416	5,609	5,766	5,809	6,990
6	Moturpha.....	39,018	35,694	33,836	35,706	38,030	45,743	46,296	40,421	38,506	38,505	40,274	41,495	46,388
7	Stamp.....	18,906	19,980	22,993	19,585	18,238	23,109	25,871	23,262	20,479	23,011	21,780	19,457	15,191
	Total Rupees....	5,90,329	5,00,396	6,19,777	6,61,379	3,70,135	5,27,647	3,85,395	3,57,980	3,40,500	3,33,677	4,76,146	4,48,972	4,91,550

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Statement shewing the collections of Extra Sources in the District of Rajahmundry, from Fusly 1230 to 1263.

No.	Items.	1254 Fusly.	1255 Fusly.	1256 Fusly.	1257 Fusly.	1258 Fusly.	1259 Fusly.	1260 Fusly.	1261 Fusly.	1262 Fusly.	1263 Fusly.
1	Salt.....	1,50,417	1,50,766	2,03,131	1,90,917	1,86,822	2,00,160	1,78,496	2,13,945	2,56,692	2,24,461
2	Sayer.....	4,276	5,820	5,276	4,544	4,558	5,208	3,296	3,476	4,840	4,990
3	Sea Custom.....	33,767	61,891	63,568	49,770	35,645	35,424	34,534	35,577	42,736	35,365
4	Abkary.....	51,383	58,052	64,330	75,888	88,395	80,941	75,975	80,707	75,105	81,965
5	Sundry small farms.....	7,492	7,702	8,270	8,892	9,136	9,553	9,772	10,269	12,451	10,566
6	Moturpha.....	47,331	48,890	52,563	57,877	50,972	54,927	56,089	55,214	58,588	52,732
7	Stamp.....	11,880	9,738	10,610	13,841	15,966	14,872	16,562	16,517	14,835	16,016
	Total Rupees...	3,06,546	3,42,859	4,07,748	4,01,729	3,91,494	4,01,085	3,74,724	4,15,705	4,65,247	4,26,095

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Rajahmundry District, Dowlaiswarum, }
22nd September, 1854. }

G. N. TAYLOR.

Sub-Collector in charge.

STATEMENT Z.

Statement shewing the Demand, Collection, and Balance of the Government Estates in the District Fusly 1257

Description.	Names of the Channels.	ITEMS.	FUSLY 1261.											
			List of Fusly 1261, on the Lands on which the Channel water availed.	Comparison between Columns 27 and 28.						Centage.				
				Increase.			Decrease.							
				28	29	30	31							
			C. RS.	A. P.	C. RS.	A. P.	C. RS.	A. P.	C. RS.	A. P.	C. RS.	A. P.		
Lands irrigated by the Channels.	Thoolabaga Channel.	1 Dry land, converted into wet ..	655	8 10	166	12 10					32			
		2 Usual wet, irrigated by the Channel water ..	10,433	13 3	2,114	15 11					25	6 7		
		Total	11,089	6 1	2,281	12 9					25	14 6		
	Samulcottah Channel.	1 Dry land, converted into wet ..	2,688	4 ..	1,246	2 7					86		9	
		2 Usual wet, irrigated by the Channel water ..	32,924	12 4	12,650	9 10					59	6 7		
		Total ..	36,623	.. 4	13,896	12 5					61	2 5		
Total	1 Dry land, converted into wet ..	3,343	12 10	1,412	15 6					83	6 2			
	2 Usual wet, irrigated by the Channel water ..	44,368	9 7	14,765	9 9					49	14 2			
	Total ..	47,712	6 5	16,178	9 2					50	6 11			
Teerwahasy on the Enams.	1 Thoolabaga Channel ..	435	14 8	435	14 8									
	2 Samulcottah do ..	205	2 3	205	2 3									
	Total ..	641	0 11	641	.. 11									
Grand Total.....		48,353	7 4	16,819	10 1					53	5 4			
	Deduct Jeeroytee and Enam Lands occupied under the Channels.	1 Amount of Remissions allowed on account of the lands of Jeeroytee and Enam occupied under Channels ..												
		2 Enams from Fusly 1255 to 1261												
Total ..														
Remainder.....														
	On account of the old Estates.	1 Lands, not under the influence of the Channels ..	13,70,513	14 10	1,69,321	10 6					14	1 6		
		2 Lands, under the influence of the Channels ..	47,512	.. 2	16,578	1 1					53	9 5		
Total		14,18,025	15 ..	1,85,899	11 7					15	1 5			
On account of the Estates since re-verted from Fusly 1257.	1 Lands, not under the influence of the Channels ..	36,437	9 10	36,437	9 10									
	2 Lands, under the influence of the Channels ..	841	7 2	241	9 ..					40	4 2			
	Total ..	37,279	1 ..	36,679	2 10									
Grand Total ..		14,55,305	.. ..	2,22,578	14 5					18	11 11		
	Deduct the amount paid to the Proprietors, as well as, the sum given credit to the Peishcush, being the collections made prior to the sale of the Estate ..		2,425	10 9	2,425	10 9								
		Remainder.	Government Estates ..	14,52,879	5 3	2,20,153	3 1					17	1 9	
Proprietary Estates			5,92,657	11 4			27,733	10 10			4	7 6		
Total ..	20,45,537		.. 7	2,20,153	3 1	27,733	10 10							
Collector and Balance of the District.	Balance.	Government Estates	20,249	11 11										
		Remissions												
		Total	20,249	11 11										
Proprietary Estates.....														
	Grand Total.....		20,249	11 11										
		Collections.	Government Estates ..	14,32,629	9 4									
Proprietary Estates ..			5,92,657	11 4										
Total ..	20,25,287		4 8											
Centage ..		99	.. 2											

Statement shewing the Demand, Collection, and Balance of the Government Estates in the District Fusly 1257

Description	Names of the Channels	Number.	ITEMS.	Total.													
				Total Kist of the 6 Fuslyes.		Comparison between Columns 39 and 40.						Centage.					
						Increase.			Decrease.								
				40		41			42			43					
C. Rs. A. P.		C. Rs. A. P.		C. Rs. A. P.		C. Rs. A. P.		C. Rs. A. P.									
Lands irrigated by the Channels	Thoolisbaga Channel.	1	Dry land, converted into wet...	12,328	8	1	3,245	2	4					35	11	7	
		2	Usual wet, irrigated by the Channel water...	48,034	6	2	8,182	13	9						20	8	11
			Total..	60,362	14	3	11,428		1						23	6	11
	Samulcotta Channel.	1	Dry land, converted into wet...	13,131	3		6,664	2	10						103	9	
		2	Usual wet, irrigated by the Channel water...	1,80,326	4	8	39,172	8	10						42	14	6
			Total..	1,43,457	7	8	45,836	11	8						46	15	6
	Total.	1	Dry land, converted into wet...	25,459	11	1	9,909	5	2						63	11	9
		2	Usual wet, irrigated by the Channel water...	1,78,360	10	10	47,355	6	7						36	2	5
			Total	2,03,820	5	11	57,264	11	9						39	1	3
	Teeravajasty on the Enams.	1	Thoolisbaga Channel..	1,004	9	11	1,004	9	11								
2		Samulcotta do.	427	9	7	427	9	7									
		Total..	1,432	3	6	1,432	3	6									
Deduct Jeroytee and Enam Lands occupied under the Channels.	1	Amount of Remission allowed, on account of the Lands of Jeroytee and Enam occupied under Channels..	2,493	11	2	2,493	11	2									
	2	Enams, from Fusly 1255 to 1261.....	13,579	1	5	13,579	1	5									
		Total..	*16,072	12	7	16,072	12	7									
On account of the old Estates.	1	Lands, not under the influence of the Channels..	79,15	435	11	708,282	1							9	13	3	
	2	Lands, under the influence of the Channels..	2,03	587	5	7	458,230	5	11					40		11	
		Total..	81,19	023		7	7,66,512	6	11					10	6	9	
Revenue of the whole District.	1	Lands, not under the influence of the Channels..	84,669	8	10	84,669	8	10									
	2	Lands, under the influence of the Channels...	1,665	8	10	466	9	4						38	15		
		Total..	86,334	12	8	85,136	2	2						11	9	4	
Collection and Balance of the District.		Deduct the amount paid to the Proprietors, as well as the sum given credit to the Peishcush, being the collections made prior to the sale of the Estate..	2,735	10	9	2,735	10	9									
		Remainder.															
		Government Estates..	82,02,622	2	6	8,48,912	14	4						11	8	8	
	Proprietary Estates ..	36,53,147	9	4				69,200	11	8			1	12	9		
	Total..	11,855,769	11	10	8,48,912	14	4	69,200	11	8							
		Decrease				69,200	11	8									
		Balance.															
		Government Estates...	Net.....			7,79,712	2	8									
		Remissions..	66,044	12	3												
		Total..	76,534	11	4												
		Proprietary Estates..	793	14	4												
		Grand Total ..	1,43,373	5	11												
		Collections.															
		Government Estates...	80,00,042	10	11												
		Proprietary Estates..	36,52,353	11													
		Total..	11,712,396	6	11												
		Centage..				98	12	8									

MEMORANDUM ON GUNTOOR AND THE KRISHNA WATER WORKS BY MR. STOKES.

Design of this paper. 1. The important Hydraulic works recently undertaken on the Godavery and Krishna rivers, have attracted a considerable share of Public attention. In a pamphlet by a Member of the Civil Service of high standing, professing full acquaintance with the subject, the value of these works has been disputed and the wisdom of Government in sanctioning them, impugned. It has therefore been thought well to draw up some account of them from authentic sources, for the information of those who have not access to Official Records.

2. It is scarcely necessary to explain, that on both rivers the works consist of a solid masonry dam or wear called in these parts Annicut, thrown across the stream to turn its waters over the sub-jacent country for Agricultural purposes and navigable canals.

To give information about Guntoor & the Krishna works. 3. The design of the following paper is to supply this information, so far as relates to the District of Guntoor.

Too late to stop the outlay. 4. True it is, that if Government have been misled, it is too late now to retrieve the error. The money has been spent, and the works so far completed, that in the Godavery Delta, their incipient results are patent to Public observation, and in that of the Krishna, they are beginning to take effect.

Objections. 5. The objections raised to the Krishna works may be thus stated :

That the project was hastily adopted, that the over-sanguine recommendations of the Engineers, especially Colonel Cotton, were too implicitly accepted—that the calculations by which it was supported, were loose and fallacious, the preliminary inquiries not having been duly substantiated on the spot by Revenue Officers of local experience, that the Delta consists of black soil unsuited to irrigation, to which the people are consequently believed to be indifferent; and that the proved failure of certain such works in that locality, forbids the anticipation of more favorable results from these costlier schemes: while another line of argument proceeds upon the position, that without these works, the rental of the Guntoor District at no distant period, exceeded its present average by a sum at least equal to their probable net profits, and that as its depression has resulted mainly from bad management, a vigorous executive will suffice for its restoration without this vast and hazardous outlay, which under such circumstances, is a gratuitous waste of the public funds. This assumption is represented to be borne out by the Financial improvement which did actually follow the reforms introduced in Guntoor by the Commissioner in 1845, before these works were commenced. The objector indeed seems to say further, that no profit is to be claimed from the works, until the rental shall exceed its former standard.

Topography History-works. 6. To furnish the means of testing these objections, and at the same time to throw light on some important questions connected with the author's argument, and with our Madras Revenue Administration, of late so much canvassed, it may be found convenient to notice in their order, First,—the local features of the province, more especially as they influence the Revenue;—Second,—the history of its more recent administration; and Lastly,—the works themselves. For the purpose of illustration, there are appended a Sketch Map of Guntoor, shewing its Revenue-divisions with the position of the new channels, a drawing of the wear, and tables of such available statistics of the District, as serve to show its annual condition for a series of years, with explanatory remarks and deductions.

Topography. 7. The topographical features of Guntoor may be traced as follows :

North-western tracts. In the North-western tracts which include the Palnad, and what are called the Payacutta, on Highlands of Kurapad, Nursarowpet and Innaconda, a large space is occupied by rugged hills, from which extend rocky or gravelly slopes rarely fit for the plough, yet affording fine pasture for flocks, while the woody hills with the dates that intersect them, serve as a valuable retreat for cattle during several months in the year, when they cannot be kept in the Delta. About a fifth of the Revenue is derived from grass-rents, and an equal proportion from irrigated lands under small tanks. The average rate of assessment on dry land is very moderate. The population, except in the Palnad, is thin. The crops sown in the early rains in May or June, are early Millet and spiked Millet (*Holcus Spicatum*,) Indian Hemp, Sesamum and Cucumbers; and with the later rain Cotton, pulse, a kind of dwarf Millet called Verega, and oil-seeds; but only a small proportion of land bears two crops on the same season. The Palnad Cotton is in great repute among Native weavers, and it is the staple export from that quarter.

Central tracts. 8. Between the Hill Districts and the Delta, the country is of an intermediate character interspersed with several chains of hills, yet

containing fine tracts of rich, arable plains,—flat, but not exposed to floods. The irrigation tanks are few and inconsiderable.

Productions. 9. In the plains nearest the Delta in Pretepaud and Martur, tobacco and chillies are grown extensively, and being in demand for Export, prove very remunerating. The soil here is also favorable for wheat and linseed, but the cultivation of both is far more limited than might be expected for products so much in request. These plants are easily killed by unseasonable rain, and hence probably are disliked by the poorer Ryots who shrink from risk.

Pasture. 10. In the Central Talooks and the Upper Delta, are several patches of low, moist ground, which yields grass of the finest quality, and Guntoor like Nellore has been long celebrated for its fine, short-horned cattle. In the Delta itself, the pasture is superior, and whenever land is kept from the plough, the Tumma-tree (*Acacia Arabica*) of spontaneous growth, quickly springs up, and supplies by its pods nourishing aliment for the cattle, while its gum and wood are in great request for various purposes. Fallow land thus kept for pasture and Tumma-wood, is currently looked upon among the Natives as equally remunerative with land under crop, and under the Zemindars was paid for on the same terms.

Delta. 11. The Delta itself may be seen on the Map as lying between the high level Channel, the Krishna and the Sea. From the river bank on one side, and the Condaveed Hills on the other, the land falls towards the South-East. The Tungabhadra brook which first shows itself not far from Mangalagerry, winds through the lowest level of the plain to Nizampatam, supplying a natural drain to the lands intersected by it; and between Chinnaganjam and Bapetta, there is a basin, little if at all above the mean sea-level. The inland streams, of which several cross the Northern road between Guntoor and Incole, where that road enters the District from the South after filling the Delta tanks, empty themselves into this basin, converting it into a large lake till it is drained by evaporation. In the Central Delta all the land may be said to be under occupation.

Production. 12. The favorite crops here are great millet on the higher levels and coarse or red paddy on the flats, and as a second crop, pulse of all varieties and oil-seeds, chiefly the dwarf castor-plant, *ricinus*. But besides these staples, a variety of valuable products are grown in smaller quantities, as Indian-corn, Coriander, Fencegreek, Chillies, Garlic, Mustard, Turmeric and Tobacco. In the tract between the river and the Tungabhadra, the water lies near the surface, and being raised by bullocks for garden-cultivation, shows what can be effected by irrigation in the dry season. The yield of the land thus cultivated with Betel, Plantains, Turmeric, Ginger, Yams, Indian-corn and Raggy is enormous.

Coast. 13. Lastly, a belt of sand from three to ten miles in breadth, separates the alluvial soil of the Delta from the sea, and confines the drainage of the plain to the two small outlets at Nizampatam and Chinnaganjam. In this section of the Delta the water lies a few feet from the surface, and by its unfailing abundance more than compensates for the poverty of the soil. Near Nizampatam and Bapetta are extensive tracts

Productions. covered with Palmyras, and every where valuable crops of Rice, Raggy, Cheyroot, or Tobacco are cultivated in little patches of garden, watered by the hand from small ponds. Indeed this is among the most populous and least fluctuating parts of the District. It contains many large villages of weavers and the proportion of the non-agricultural to the agricultural classes is greater on these Talooks than in others, except Guntoor itself. The drawback unhappily is that the teeming population, chiefly of the lower castes, Shepherds, Fishermen, Toddydrawers and Pariahs, are inveterately addicted to the use of Toddy and Arrack.

For the relative value of land in each Section, See Appendix No.

Exposure to floods 14. From its conformation as now described, it has resulted that the Delta is peculiarly exposed to floods. Whether from the Krishna or the more Southern streams, these inundations are of frequent occurrence in August or October,—sweeping the whole flat country and leaving the roads impassable for weeks.

Also to drought. 15. At the same time the country has been no less exposed to the opposite extreme from the absence of irrigation. The whole Dis-

tract has contained less irrigated land than any other in the Presidency. The chief reservoirs in the Delta lie towards the coast. They are shallow, and the banks formed of the loose alluvial soil unprotected by stone which has to be brought from a distance, are easily breached or melted away by the floods.

16. But in addition to these causes there is another less inherent. Until of late years the Ryots have tenaciously clung to Jorma, great Millet, as their favorite crop. This plant is most uncertain. If healthy to the last, its yield is enormous, but it is so liable to blights of various kinds, and so easily injured by too much or too little rain, or by any rain at all when in blossom, that failures may be looked for in four seasons out of five. Indeed the climate, soil, and landed tenures have concurred to encourage indolent and timid Farming. Attention has only been directed to raising the almost spontaneous growth of the soil from year to year at the least cost or trouble.

Liability to famine.

17. Whether the causes explained be sufficient or not to account for the fact, certain it is that the famines which at times have visited all South India, except the Western Coast, have had their focus of severity in Guntoor.

Need of Public Works.

18. On the whole it may be assumed that, notwithstanding the great advantage of its rich alluvial plain, none of our districts has stood more in need than Guntoor of the artificial appliances of reservoirs, channels, embankments, drainage and roads. Yet none has been left so destitute of them.

Later History of Guntoor.

19. A cursory review of the later history of the province which has now to be given, will partly account for this neglect of improvements.

The Circar and Palnad.

20. The Guntoor Collectorate consists of the Circar so called, and the District of Palnad which was acquired in 1800, and has since been managed under Ryotwar tenure.

Nature of Palnad Ryotwary.

21. The term Ryotwary, however familiarly it has of late been used, is still frequently misunderstood. It may be safe therefore to explain its essential characteristics as it prevails in the Palnad. The land has been classified, and rates of assessment fixed for each class. The fields measured and numbered. No distinctions of rate are recognized with reference to the crop grown, or the caste of the cultivator. Every Ryot has the liberty of taking up or relinquishing any field he chooses at the proper season. He cannot be ousted of land so long as he pays for it, nor is any property recognized in land not occupied and paid for. Land that has been five or more years fallow, is allowed on reduced terms. Shepherds pay for their cattle at so much a head. All other farmers are exempt.

Zemindary Estates.

22. The Circar comprised several estates which came under British Rule in 1778, but continued to be managed, as previously, by Zemindars. In 1802 by the Permanent Settlement, they were consolidated into two large and three smaller

Zemindaries.	Families.	Peshcush.
1. Vasserreddy.....	Vasserreddy...	5,40,737
2. Malraz	Malraz....	3,38,792
3. Chilkalurpand....	Manoor....	1,26,700
4. Satanpully.....	do.	1,26,700
5. Reypilly.....	Mamccarom..	92,528

nistering the affairs of the Province.

Origin of Zemindary divisions.

23. It may be well here to explain that this allocation was made with no regard to territorial limits, or convenience of management. The Malraz family had acquired the Rachoor division of the Reypilly estates, and had parted with a portion of the Innaconda district to the Vasserreddywar, while the latter had purchased the Colloor villages, and Nizampatam. The Manoor family had obtained as official endowment the richest villages picked out of the Condaveed country, and these had been equally partitioned between two brothers forming the Chilkaloorpand and Satanpully estates. Under this arrangement not only were villages of different estates intermingled, but many were split into halves



belonging to different Zemindars, and one village was actually shared by four different proprietors.

24. Practically they exercised absolute power with the exception of Police and Judicial functions. By the Permanent Settlement, the sum to be annually paid to Government was fixed in perpetuity under the term of Peishcush, default of payment rendering the estates liable to sequestration, and eventually, if necessary, to sale.

25. The Zemindars varied their terms with the Ryots. On wet lands every where their rent was taken in kind, and on some dry lands also, where local circumstances made the produce uncertain. The most usual practice was a progressively increasing village-lease for a term of three or five years. Balances were never cancelled, but were allowed in bad years to lie over. The great check against abuse of their power was the liberty of the Ryot to move off with his stock to another Zemindary; on the other hand the policy of the Zemindar was to keep a claim for arrears against him, and to threaten him, should he quit, with its legal enforcement.

26. For nearly thirty years after the Settlement, things went on smoothly. The first Zemindars were men of ability and energy. The Peishcush was punctually paid, and the Collector had little to do but look after the Palnad which continued to thrive. Mr. Oakes and Mr. Whish were each of them about ten years in charge, and even after the death of the first Zemindars, no difficulty was found in managing their property, when under Orders of the Court it became necessary to do so.

27. Under such circumstances, it is no wonder that the importance of Public Works was lost sight of. The advantage of banking the Krishna was indeed forced upon Mr. Whish by a destructive inundation of that river, and he at once had a bank constructed from Bezwada nearly to the Sea. He also paid some attention to roads, and the planting of groves and avenues.

28. In 1831 however the elements of weakness began to appear; the Vassereddy family were engrossed in an endless litigation; the rental began to decline, and in 1832 came the failure of rain, followed by the famine of 1833, and the fever of 1834. The ravages of these fearful visitations are described at length from authentic sources in the Report of the Public Works Commissioners. (Para. 289, &c.)

29. As the statistics given in the Appendix contain all the recorded information on the subject, the Commissioners' remarks need not be transcribed here. Suffice it to say that they show the population to have diminished in two years by more than one half (2,56,000) of which they suppose 20,000 must have actually perished.

30. By an elaborate calculation through which it is unnecessary here to follow them, they compute the whole loss as far as it can be expressed in monetary value at 2 crores and 27 lacks of Rupees or two and a quarter Millions Sterling.

31. With the aid of the rental of the District which the Commissioners had not before them, the loss may be calculated by a simpler process. The average for the five years preceding the famine was Rupees. 19,09,897
The average of the next eighteen years. 12,38,873
Difference. 6,71,024
which being multiplied by 18 gives. 12,078,432

Taking this as representing half the gross produce, the total loss of produce on the 18 years will be 24,156,864

32. The Commissioners set down the loss to Government on other branches of Revenue as fifteen lacks and thirty seven thousand, and the value of agricultural live stock that perished as eighteen lacks.

33. After such a calamitous experience, it might have been expected that no measures within the compass of human skill and our financial capabilities would have been spared to guard against its recurrence. Yet though the value of artificial irrigation as a precaution against famine had been demonstrated forty years before, eight more passed away before attention was again directed to it.

34. So great indeed was the dread of the district after the report-
 From constant change of Collectors ed horrors of which it had been the scene, that whoever was sent there
 seems to have made it his first care to get away. From the 21st July
 1831 when Mr. Whish's management ceased, till 20th July 1837 when Mr. Goldingham's began,
 the district changed hands no less than seventeen times. With such a transitory executive, any
 well-considered remedial measures must have been impossible.

35. The only important measure of this period though conceived
 Insolvent Proprietors, ma- in a liberal and benevolent spirit, utterly failed of its object. The
 management of their estates, insolvent estates had, as a matter of course, been attached and placed
 under the Collector's management. On his recommendation, the Zemindars, with the exception
 of the Malraz Proprietrix, a widow, and the Reypilly Zemindar, a minor, were replaced in charge
 as Managing proprietors on behalf of Government, to account professedly for all the Revenues
 after charging their establishments and their own maintenance.

36. The Zemindars however losing sight of their reversionary
 Abuse of their trust, interests, deemed it their policy to make the most of present oppor-
 tunities. For private considerations they granted villages on favorable leases, and allowed
 partial and arbitrary reduction of rates. Division of the crop came to be the tenure of most of
 the best dry lands, as it had always been of the wet. They furnished imperfect or falsified
 accounts, and so greatly did they abuse their trust, that the Commissioner Mr. W. Elliot consid-
 ered from information collected by him in his enquiries in 1845, that they must have misappropri-
 ated about one-third of the Revenues.

37. The universal corruption fostered under such a state of things,
 Universal corruption, and the expertness acquired by the Head Ryots and Revenue servants
 at combination and intrigues to enrich themselves at the cost of Government, have ever since
 presented a formidable obstacle to the Collector's authority.

38. Notwithstanding these disadvantages however, the district
 Gradual recovery of Revenues, from its inherent fertility and returning population, slowly yet steadily
 improved during this period.

39. With Mr. Goldingham's appointment a new era com-
 Mr. Goldingham's management, menced.

40. His attention was quickly turned to Public Works, and with the aid of Captain Buckle,
 the Vellatoor Channel was opened to admit the Krishna freshes to a line of tanks lying near the
 seaward limits of the Delta. Tanks were repaired, the Moonaugy Channel planned and com-
 menced, the Emamy Tank constructed. The Tungabhadra Channel planned, and an extensive
 improvement of the Madras Road with several bridges undertaken. Meantime he was actively
 engaged in revising the rates and measurements of the Malraz villages;—lastly, and as opening
 the door for all the subsequent improvement, he fully exposed the vices of the Zemindary
 management, pointed to the Palnad system as the only remedy, and suggested as the legitimate and
 safest mode of attaining this object, the sale of the estates for the arrears due to Government.

41. And this recommendation was based not simply on the fiscal
 Sale of Estates to facilitate Works, abuses inseparable from Zemindary tenure, but also on the impractica-
 bility of any comprehensive scheme for irrigation, so long as the Delta
 lands were parcelled out among so many proprietors, whose conflicting claims and liabilities it
 seemed impossible to adjust. This consideration, as will afterwards be noticed, led Captain Buckle
 in 1839 while recalling attention to the Annicut, to despair of its execution under existing circum-
 stances.

42. The Malraz estate had, as noticed above, remained under
 1840-42, Resumption of two Zemindaries, the Collector's management. To this was added Chilkaloorpau on the
 death of the Zemindar in 1840, and in the beginning of 1842, Mr.
 Goldingham was so satisfied of the malversation of Vassreddy Ramnatha Baboo, that he then
 resumed this estate also. The crops were abundant, and there was a prospect of a large increase
 in the collections from the newly resumed estate, while the rest of the district was prospering
 and in good order.

Mr. Goldingham's removal,
check to the district.

43. At this crisis, the district was suddenly taken aback. Mr. Goldingham was appointed to another charge; and during the short interregnum, and a few days before the arrival of the new Collector nearly all his establishment were removed. This change took place in the month of April, when the crops of the Vasserreddy estate on which the Government dues for the most part had to be taken in kind, were still in the field and unmeasured. At this time they had to be transferred from one set of temporary servants employed for the season to another. The Collector was fully occupied in trying the principal servants who had been suspended under charges of malversation, and his difficulties were greatly complicated by the extensive and well organized combination among the establishment to maintain their own position, secure their illicit spoils, and prevent as long as they could, the success of every measure which would facilitate justice, check corruption, or transfer power from their own hands to those where it ought to reside.

Effect of low prices.

44. Upon these disadvantages supervened a depression of prices of grain extending through three years, 1842 to 1844, such as has never been on record in that province before or since.

Court's Orders.

45. In the close of 1842, the decision of the Court of Directors was received upon Mr. Goldingham's recommendations. Instead of alienating the estates in perpetuity by selling them for arrears, they desired that the proprietors should be asked to surrender them on the understanding of receiving them back again when all requisite reforms had been introduced. The Zemindars evaded these orders in every possible way, and months had elapsed before they were all in the hands of the Collector. So soon as this was effected, the necessity was felt of Re-mapping the district in compact portions called talooks, each capable of management by a single Tahsildar.

Note.—A Subordinate with
Revenue and Police power.

Gale of May 1843.

The project was recommended to the Board, but was deferred. In May 1843, occurred a disastrous hurricane, which swept away much of the harvest, and supplied the servants and Ryots with a pretext for misappropriating much of what was left. The management dragged heavily along until in 1844 the Collector's health broke down, and he had to proceed to Sea. The decrease of the Settlement, the large balances, and the slow progress of the ordered reforms at this juncture, led to the appointment of a Member of the Board of Revenue, to investigate the state of the district.

Mr. Elliot's Inquiry.

46. The result of his inquiries was to charge the depression of the Revenue chiefly upon the corruption of the establishment. Nearly all the principal servants were dismissed, and the way was made plain for the introduction of the measures previously recommended by Mr. Goldingham, which were now ordered to be vigorously carried out. It had been considered that a field-survey conducted by a special establishment entertained for that purpose was an indispensable preliminary in all such reform; consequently the Commissioner sketched out a plan for this operation, and commenced work by way of a normal experiment. But, owing as is supposed to the great difference of opinion, on the subject of surveys giving rise to discussions which have only now come to a close, no orders were passed to go on with it. Meantime the Collector acting on his own judgment ventured to try what could be done with the means at his disposal. How far he succeeded will be seen in the sequel.

1845-46, sudden rise of Re-
venue.

47. The year 1845-46 was marked by one of the most sudden and striking augmentations of Revenue recorded in any of our provinces. The increase in the collections of land Revenue alone amounted to four lacks of Rupees upon 9,67,000 Rupees, while the Revenue from all sources collectively, rose from 12,82,000 to 17,83,000 or one-third more. The causes of this startling improvement are thus explained in the Settlement Report for that year.

Collector's explanation.

48. "It will thus be seen that in the year under review, all those influences which tended to produce the depression of the Revenue in the three preceding years, were simultaneously replaced by others of an exactly opposite tendency. Instead of a combination for purposes of speculation under an unprincipled and unfit Head Serishtadar, there has been an active, able and experienced servant, trained in a good school at the head of the Native establishment. Instead of Ameens whose hands were tied by corruption, several

very efficient servants have been obtained unconnected with the district; and while the crops were unusually good, the Ryots participated in the profits of scarcity prices. The consequence has been, that the rise of the revenue was even more striking than its fall. "The increase" it was remarked, extended to every part of the District comprehending both current and arrears. It would be as unreasonable to ascribe the increase entirely to alterations in the establishment or administration, as it would be to limit to those causes the previous depression of the revenue, for though combinations of the kind which are found to have existed may succeed in concealing the true extent of cultivation and the true amount of collections, I do not see how they could tamper with the market. If our price currents are true, and there is as great disproportion between the prices of Fusly 1253 (1843-44) and 1255 (1845-46) as these indicate, to deny their corresponding influences on the Revenue in both years, would seem to be alike contrary to reason and experience. As an instance of the fluctuations in the Revenue, depending on prices, the account of three villages were adduced, for which see Appendix H.

Concurrence of heavy-crops and scarcity-prices. 49. From the beginning of 1846, the several changes necessary to assimilate the Guntoor Circar to the Palnad in its Revenue practice were carried out, for the most part in the following order.

Guntoor assimilated to Palnad. 50. The five Zemindaries were put up to auction, and bought in on account of Government.

Zemindaries purchased. 51. The territorial division shown in the map, which included an exchange of villages with Nellore, as they lay within or without the boundary, and the transfer of the village of Kytapilly on the right bank of the Krishna from Masulipatam to Guntoor, with a corresponding re-arrangement of the establishment was sanctioned and took effect from the 1st September 1846.

Re-division of Guntoor. 52. Under this arrangement, the villages of the five Zemindaries which had before with great difficulty been managed by fourteen Revenue Officers (called Ameens.) some of them having to look after villages 80 miles apart, fell conveniently into twelve talooks the Central Office in each being only an easy walk from most of the villages, and in scarcely any instance 20 miles from the remotest point.

Advantages thus secured. 53. The commencement of the collections in each year in accordance with a previous recommendation, was fixed later, so as not to fall till the crops were available, and all restrictions on the crops whether cut or standing removed, unless where payments had still to be taken in kind, a practice which by the end of 1849 had ceased through the district.

Later Collections. 54. Village accounts of an improved form, substituting books for loose papers, and providing additional checks against exaction or misappropriation of the Ryots-payments, with receipt-books for the latter were adopted in 1845, and brought into general operation.

Improved Village Accounts. 55. The revision of the Palnad field-measurements was completed, and the wet lands for the first time classed and brought under a field assessment. All fields were defined by boundary stones, and the registered number was proposed to have been cut on one stone for each field. In about a third of the Palnad this was done, and the whole might have been finished for the trifling cost of 400 Rupees, but the suggestion was not approved by the Board and the attempt was dropped.

Revision of Palnad Assessment. 56. Field-registers were commenced, numbering each field consecutively in the order of its site. All lands under share, first the dry and then the irrigated of Guntoor, were brought under field-assessment. With the abolition of the division of the crop, were for ever swept away hosts of petty extortioners, who, under the name of temporary establishment entertained yearly to watch, appraise, measure, and sell the grain, had been in the habit of fattening on the Ryots.

Field-registers. 57. The English acre was adopted as the recognised land measure in all public accounts for Guntoor, as it had long been for Palnad. In many villages, the assessment was revised and simplified, and the

Adoption of Acre standard.

lands measured. It must not be supposed that these measurements, or Registers lay claim to the merit of professional nicety, but they answered effectually the great end of preventing arbitrary alterations by the Village Accountants. Each Ryot knows what he has to pay for his field, and that unless he encroaches, the demand cannot be increased. Moreover it may be assumed that the falsity where it exists, is in the Ryot's favor.

Lands rated by Villagers themselves.

Distinction varying with crop, or caste, abolished

Note—This is called "Vundra."

Note—The exemption from tax on cattle enjoyed by farmers in the Palnad, was recommended for Guntoor more recently. It is under consideration.

Reforms effected by ordinary establishment.

58. Neither was any technical exactness attempted in the classification and rating of the land. It was chiefly done under the inspection of the Tahsildars by the villagers themselves. The existing arrangements every where supplied a safe and satisfactory basis. The relative value of land has already practically found its level.

59. Distinctions of rate founded on the nature of the crop or on the caste of the cultivator, were abrogated, except the abatement of 25 per cent on lands held by Brahmans,* and this was restricted within the narrowest possible limits and withheld on all land newly acquired. The coast villages of the Nizampatam Circar were brought under an improved system. The village establishments were completed; and a scheme was drawn up for their remuneration. But it was only carried out so far as regards the village Mohtauds or lowest grade of paid Revenue servant. Pains were taken to restore the Heads of Villages to their proper place, and use them for their proper duties.

60. These various measures except the Guntoor wet land assessment which was not completed till 1850, were prosecuted to completion in the course of the three years 1846, 1847 and 1848, with scarcely any extra establishment or additional cost. It is remarkable that though no special selection of agency had been made for the occasion, all seemed to be ready to the Collector's hands. The Head Assistant, Mr. Newill, was indefatigable not only in managing his own charge, but in relieving the Collector of all details connected with the Public Works, and other able and zealous young Officers had each a full share of the current duties of Revenue and Police. The native servants were found able and ready for every part of the work to be done. Indeed without the assistance of the two Serishtadars, the reforms could not have been effected.

Revised attention to works.

61. Side by side with reforms of management, the extension of public works had proceeded. For the first time, an Officer of the line but qualified in surveying, was under the Civil Engineer of the Division, Captain Lake, employed exclusively for Guntoor. No permission could be procured to do any thing for the roads, but every tank, channel, or public building that stood in need of attention, received it.

Re-action in 1848.

62. But in the close of 1848, a reaction began to appear. The harvest in the Delta and Krishna lands was a failure, and several of the Tahsildars had apparently ceased to sweep like new brooms. Wistful reminiscences were indulged after the laxity of the sharing tenure, and both Ryots and servants manifested a feeling of discontent.

Combination.

63. In Mangalagery, Tenally and Reypilly, a determined combination not to pay, rendered it necessary to issue stringent orders for enforcing the collections. These orders were not carried out in good faith, and made to appear of no avail, except to harass the Ryots by process of distraint, which were not carried out to the extent of sale of property.

64. In 1849 and 1850, the Krishna again overflowed its banks, and a determined effort was made on the approach of the Commissioner to represent the management as oppressive and make a golden harvest of remission, and this was successful.

Inland talooks advancing.

65. Still it is found that the Palnad and inland talooks continued steadily to advance, while the two nearest the coast did not retrograde. The depression indeed seemed limited to the villages exposed to floods in the centre of the district or skirts of the Delta.

- Appendix tables. 66. Additional and more detailed information as to the internal condition of Guntoor, and the working of the various modes in which it has been managed, will be found in the figured statements and notes given in the Appendix.
- History of works. 67. Having brought down the Revenue history of Guntoor to 1850, we may now enter on that of the Works.
- Krishna works projected in 1792. 68. The advantages and feasibility of a Wear at Bezwada, were first brought before the Government of Madras by Major Beatson in December 1792, and 18th January 1793. After pointing out the benefits to the country of providing means for raising two crops of rice where only one was raised before, and for the production of several important articles such as Sugar and Indigo, he winds up by saying that the expense, whatever it be, must not be put in competition with the great advantages that would accrue from the accomplishment of such a work.
- Advocacy of Mr. Topping's Report in 1792. 69. The project was then submitted for examination to Mr. Topping, the Company's Astronomer, who reported upon it in 1794. His view of its advantages seems to have in no wise fallen short of Major Beatson's.
- Execution deferred. 70. It does not appear what prevented Government from acting on such favorable recommendations. Most likely their attention and resources were fully occupied in the wars which intervened between that time and the Permanent Settlement, after which, as already shewn, the difficulties in the way of execution were greatly increased, and the inducement at the same time diminished.
- In 1839, again recommended by Captain Buckle. 71. In 1839, the undertaking was again brought forward by Captain Buckle, who, for many years had been Civil Engineer in the Division and was well acquainted with Guntoor. He recommended it strongly as Major Beatson, on the ground of humanity, no less than of Revenue, at the same time pointing out the impediments that existed under the Zemindary tenure in the way of its success. His report was submitted to Government with the Board's opinion, dated 30th May 1840. By the Bezwada Annicut, they observed, Masulipatam (and they might have added Guntoor also) might, like Tanjore, be converted into a garden or granary for adjacent districts, but, from certain causes, they considered it at that time impracticable. In 1845, Captain Shaw took up the subject again, and in consequence of his report, Colonel, then Major Cotton, was requested to investigate it further and report the result to the Board. From this time, until the estimate was finally sanctioned, the matter in all its bearings was under inquiry and discussion, both by the Revenue authorities and the Public Works Department.
- And by the Board of Revenue, Department of Public Works. 72. Colonel Cotton met the two Collectors on the spot in November 1846, with Captain Lake, and the latter Officer with his subordinates continued the investigation until he forwarded his report upon the work on the 9th August 1847. In this report, he estimated the cost of the Annicut at four, and of Subsidiary works for both districts, including a bridge over the annicut, at thirteen—Total seventeen lacs of Rupees. The Annual increase of Revenue was loosely estimated at forty lacks of Rupees. He had calculated that the Delta contained on both sides of the river about one Million acres which the Annicut could command, and that most of this would eventually be watered. But as regarded such Revenue details, Captain Lake suggested that his report should be submitted for examination to the two Collectors, both of whom fully concurred with him as to the general advantages of the works.
- By Captain Shaw. 73. This report with others, including voluminous statements from the Revenue authorities, was referred by the Board, Department of Public Works, on the 7th August 1848, to Government, who, in accordance with their recommendation, nominated a Committee to investigate the project on the spot, composed as follows :—
- Colonel Cotton examines on the spot.
- Captain Lake reports August 1847.
- Guntoor 22,40,000.
Masulipatam 17,50,000.
- Submitted to Government, August 1848.
Report from Collector, Masulipatam, 5th February 1849.
Report from Collector, Guntoor, 4th November 1847.
Civil Engineer, 1st Division, 14th March 1848.
Committee of Examination, December 1848.

Captain E. Buckle, late Civil Engineer in the Division.
 Captain J. H. Bell, Secretary to the Board of Revenue D. P. W.
 Captain C. A. Orr, Civil Engineer of the Division.
 H. Stokes, Esquire, Collector of Guntoor.
 H. Forbes, Esquire, Sub Collector of Rajahmundry.

Project recommended, 74. The Committee were engaged from the middle of December first at the Godavery, then on the Krishna project, till they sent in their report on the 26th January 1849. They had prolonged personal conferences with the other Revenue Officers, and the principal native servants of both districts. From the progress that had meantime been made in detailed field accounts, they had now access to more trustworthy data than had been afforded to Captain Lake. Their examination was directed to these three points, 1st. The probable returns,—2nd. The selection of the site,—and 3rd. The plan and cost of the work itself.

Estimate of returns reduced. 75. The estimate of returns appended to the Committee's report, shows for both sides of the river, an Annual increase of Revenue from irrigation, of seven lacks of Rupees. How cautiously their calculations were framed will now be seen.

76. Keeping to round numbers and presenting the Committee's deductions in a simplified form, we find the estimate for Guntoor to stand thus :

The available area (Ayacut) classed as irrigated land in the Talooks of Poonoor, Bapetta and Reypilly, was returned as 36,000 acres.* This at the medium rate per acre in that locality of 6 Rupees, gives.....	2,16,000
But the annual return under present sources of irrigation, cannot be taken at more than.....	80,000
Difference, being profits expected, is.....	1,36,000
Again in the Talooks of Tenally, Poonoor and Pretepaud, there are computed to be 76,000 acres of flat land commanded by the Annicut, usually cropped with coarse paddy depending on the rains, assessed at...	1,25,000
This being irrigated and assessed accordingly, will bear at least three times this amount (less than 5 Rupees an acre) or.....	3,75,000
Difference or profit	2,50,000
Lastly there is in Reypilly a computed area of waste land, capable under irrigation, of yielding a Revenue of.....	79,000
	†4,64,000

From this aggregate, they reserved 64,000 Rupees as doubtful.

82. Now, as regards the two first items, no doubt can be started as to suitability of soil, nor as to the willingness of Ryots, to avail themselves of water. It is not a question of raising wet instead of dry crops, but of providing a full, instead of a partial, supply to lands where rice is already grown. The last item, is only uncertain as regards the extent of land that may be taken up, as the Reypilly Ryots already use water for their crops wherever they can get it. All these items together, only contain about 1,25,000 acres, or a fourth of the area computed to be under the command of the new Guntoor channels.

Canal navigation, not to be overlooked. 77. In these estimates, no account is taken of the advantages of inland navigation, nor of the stimulus to industry and intelligence, which will assuredly be given by the works. These are benefits which cannot be expressed in money, yet it is scarcely too much to say that they would alone suffice to justify the undertaking.

Bezawada, decided on as the site. 78. Bezawada, had been preferred as a site by Major Cotton and Captain Lake, but as the river is here confined by two hills to a channel of only 1,300 yards wide, with a velocity of four miles an hour, with nothing but sand for a foundation, its suitability had been questioned. The Committee decided however, in its favor.

* Note.—This appears much in excess of the land actually laid out in beds as Paddy-fields, as subsequently returned in the Wet land Assessment Report.

† So in Original.

79. In the plan and estimates, the chief alteration made by the Committee, was to raise the crown of the Wear four feet higher than proposed by Captain Lake. They also allowed for higher rates under some items, and in all, raised the charge for the works on the river from a little more than four, to seven and a half lacs. With the details of subsidiary works, they did not occupy themselves.

80. As finally settled, the Annicut occupies 2,990 feet of the river channel and the sluices and bridge-abutments the remaining 870 feet, which complete the width of the river. The height above summer-level being 16 feet, the width of the crest 12 feet, and that of the slope 48 feet.

81. Government expressed their satisfaction with the Committee's report and adopted their recommendations. They allowed however, 8 instead of 13 lacs for the details of irrigation works, and calculating that this total of fifteen and half lacs would be distributed over seven years, recommended it for the sanction of the Government of India on the 20th July 1849, with an intimation that the execution would not be commenced, till the Godavery work had been completed, and stood the test of one year's freshes.

82. But a further delay took place; by the Government of India the project was referred to the Home Government. Their sanction was given on the 5th January, and announced by the Government of Madras on the 30th March 1851. But from the want of Executive Officers, no preparations were made for another year. About the end of 1852, under the Superintendence of Captain Orr, the sluices and locks were commenced, and finished by the middle of the year following. After the rains of 1853, the Annicut was itself begun, and by the 25th of March last, it had spanned the river, being raised to the height of $10\frac{1}{2}$ feet above the summer-level, or $15\frac{1}{2}$ feet above the deep bed.

83. Meantime the outline of the other works had been planned. On the Guntoor side, the main channel being led round the Seetana-gram hill by the head of the Tungabhadra for about four miles, branches out into three Canals, all of which are to answer the double purpose of navigation and irrigation.

84. The high level channel leads nearly due South towards Incole, and is intended to meet the coast canal from Madras. Another is carried along the river's bank, and a third takes the line to Nizampatam, which port it will thus connect with the river and the canals on its left bank.

85. The progress report of the undertaking to the end of September last, shows an expenditure as follows:—

On the river works comprising Wear, sluices, and locks.....	5,88,598
On works beyond the river on both sides.....	2,08,440
7,96,858 expended.	
Total expended.....	7,96,838
To complete the wear, will probably take a further sum of.....	17,800
To complete other works, already sanctioned.....	46,000
Estimates now under submission.....	3,73,000
All which are expected to be finished in two years; and about ten lacs more, may eventually be required. Thus, the total cost may be stated as, River works.....	7,66,000
Channel and river works already estimated for.....	10,41,000
To be estimated.....	1,00,000
	<hr/>
	28,07,000

86. The result of the whole enquiry may be thus summed up:

Summary,

That agriculture in Guntoor, with singular fertility of soil, has been specially obnoxious to damage, from either extreme of season; that being destitute of artificial protection, either from floods or from drought, and possessing less watered land than any other in this Presidency, this District has suffered the most in the famines. That so far from being rashly adopted, sixty years passed between the first projection and the commencement of the Krishna Works, for the last ten of which they were under the diligent scrutiny of both Engineers and Revenue Officers on the spot and at Head Quarters, and at last came before Government with the suffrages of every Officer in each Department, who had given an opinion about them, the strongest advocates being those of the longest local experience; that the revised estimates of returns were most cautiously framed, the only assumption being that the Ryots who now irrigate their lands partially, will, when they can, be glad to do so fully, and that they will not hesitate to pay a mean rate of 5 or 6 Rupees an acre. That the Delta already contains 36,000 acres in different localities appropriated to the cultivation of fine, and 76,000 acres to that of coarse paddy, that the channels already dug have yielded ample profit, as shown in the margin; and the only irrigation works that failed, are a channel that never was finished, and a tank which, with two or three exceptions, was breached in every year that it was filled.

Sixty years passed after the project was mooted.

Delta already irrigated, where possible.

✓ Annual per Centage on the prime cost, deducting repairs.

✓ Vellatoor Channel 88½.

✓ Tungabhadra Channel 47½.

✓ Cochinapooddy Channel 197½.

See, Return appended to Public Works Commissioner's Report.

Management, not sufficient.

87 The argument, that the prosperity of the Revenue depends on the mode of collection, or the efficiency of the Collector, and that outlay on Hydraulic Works is supererogatory, is met by the simple fact that the first great element of the farmer's solvency, is produce, and the next, price; neither of which can be reached by the Collector's management strictly so called. But whatever improvement is attainable by good management instead of being displaced, will rather be promoted by the works, and it is obvious on a moment's reflexion, that whatever additional sum is paid to Government in consideration of the use of water, is to be set down as Irrigation Returns, altogether independent of the yield from lands not irrigated. Past experience does not warrant the hope that management alone, can carry forward the district in a course of prosperity, but should it do so, the progress of half a century would be swallowed up by one such reverse as these works are intended to guard against, while after all, the end of Government is not the creation of revenue, but the good of the people.

88. Incalculable benefit may reasonably be expected from the new operations, especially the inland navigation. If Government have been justified in public opinion, in laying out the sum they have done for the Electric Telegraph, merely to accelerate the transmission of intelligence, how much more in a work of this kind, which might, were it only once in a century, avert the horrors of famine.

89. It is indeed much safer not to look at the Question simply as a money speculation. For cautious as have been the calculations in this instance, we must not forget the many unforeseen adversities that may arise. In particular, the difficulty of draining the Delta, and protecting the works and the lands from the tremendous inundations which occasionally occur, will demand all the talent, skill, attention and perseverance the Engineer Department can supply. Yet with the Divine blessing, success need not be despaired of. After allowing for every contingency, and a large annual outlay for Superintendence, new works, and wear and tear, there need be no fear that a large interest in actual revenue will be realized on the Capital sunk.

90. This review of the whole question, however, will be incomplete, without one cautionary reflexion. Unless measures of moral amelioration proceed simultaneously with the development of material resources, wealth and population may be multiplied indefinitely,—and yet no substantial addition be made to the sum of human happiness. After all now proposed shall have been done,—our Deltas may still be behind those of China in artificial advantages, and the people, as miserable as the Chinese.

Moral improvement, also required.

APPENDIX.

Containing Statistical Tables of the Guntoor Collectorate, illustrating its Topography, and Annual condition as respects Population, Revenue and Finance, for Thirty years ending 11th July 1852.

The Guntoor Collectorate under Zemindary Tenure, was distinguished into the Guntoor Circar, and the District of Palnad. When its boundaries were revised in 1856, one village with its dependencies was transferred to Nellore, seven were acquired from Nellore, one from Masulipatam, and one village forming part of the Venkatagerry Zemindary in Nellore, was placed under the Police and jurisdiction of Guntoor. This brought an accession to the population of about 15,000 souls, and to the Revenue of 16,000 Rupees. Three villages which belonged to the Zemindaries, but were situated within the Palnad, were annexed to the Talook of Datchapally. The statements which follow have reference to this revised division of the district. To follow the old arrangement on this occasion, would be inconvenient, and is not necessary to the end in view.

The Guntoor Collectorate then, as at present defined, is divided for Revenue and Police purposes into fourteen Talooks, each under a Tahsildar. These are sub-divided into circuits of villages called Muttas, each under the supervision of an inferior Revenue servant in that district termed Samatdar. Many villages again have their dependencies or hamlets attached, but those only are called villages which have distinct village establishment of Accountant, &c., and have from former times been entered as such in the accounts. Many of the so-called-hamlets are larger and more important than some villages. For instance Bapetta and Pratepad are classed as single villages, though round each there is a wide circle of large and rich subordinate villages. Under the Zemindars eleven villages were partitioned into two, and one into four shares, and each share was numbered as a separate village in the accounts. This arrangement has now been rectified.

Of the villages some have been granted to individuals or bodies, rent free. Others have been given, chiefly as Agraharams for the residence of Brahmins, or for other causes on a reduced Quit Rent. All others are called Seri or Government villages.

The first three statements, No. 1 to 3, show the distribution of the land, population and stock, in a Tabular form. Statement No. 1 shows only the whole agricultural area, and does not distinguish the alienated lands, nor include what is unfit for farming purposes.

In the printed review by the Commissioner for the Northern Circars of the Settlement of the five districts for the year 1852-53, the following particulars are given of the area of Guntoor :

	Acres.
Barren land, such as village-sites, hills, &c.....	8,59,300
Fit for cultivation.....	17,76,895
Total area.....	<u>26,36,195</u>

The Agricultural area again is divided into :

	Acres.
Dry.....	12,66,755
Garden.....	10,593
Wet.....	51,336
Total.....	<u>13,28,684</u>
Alienated on rent-free tenure.....	1,71,867
On quit-rent tenure.....	2,76,344
Total.....	<u>4,48,211</u>

* 17,76,895
17,40,544
36,351

This agricultural area differs from that given in Statement No. 1 by acres 36,351.* The area of barren land is of course only an approximation, only a small portion, if any, having been measured.

It is observable that the Enams or alienated lands comprise one-fourth of the agricultural area. A large portion of them are held on in-valid titles.

Distribution of Land as returned in 1851-52.

1	Talooks.	Muttahs.	Villages.								Agricultural Area	Under occupation in 1851-52.																			
			Favorably assessed.		Fully assessed.		Total.		Exclusive of exempted Lands.																						
			As Dry.		As Garden.		As Wct.			As pasture.																					
			Land	Full Assessment.	Mean rate.	Land	Full Assessment.	Mean rate.	Land.	Full Assessment.		Mean rate.	Land.	Full Assessment.	Mean rate.																
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23											
								Acres.	Acres	Rupees.	R. A. P	Acres	Rupees	R. A. P	Acres	Rupees	R. A. P	Acres	Rupees	R. A. P.											
Western. Guntoor, Palnad. Central. Guntoor. Coast Upper Delta, Delta. Repalli. Bapetta.	1	Tunmerecothah.	6	1	8	0	80	39	89	39	1,68,473	67,587	83,402	1	3	9	723	1,681	2	5	2	878	6,273	7	2	3	...	...	0	0	0
	2	Dutchapally...	4	0	9	0	57	14	66	14	1,43,215	44,057	62,739	1	6	9	193	721	3	12	6	1,063	8,044	7	9	0	...	...	0	0	0
	3	Innacondah...	6	5	21	5	83	61	109	66	1,89,287	37,647	35,958	0	15	3	1,902	6,388	3	5	8	515	3,151	6	1	10	86,730	16,374	0	3	0
	4	Narsarowpet...	8	1	18	0	80	53	99	55	1,86,681	43,030	63,185	1	7	5	348	1,081	3	1	8	1,108	7,278	6	9	1	83,027	18,068	0	3	5
	5	Curapad.....	8	1	20	0	122	19	143	19	1,75,670	59,032	94,386	1	9	6	179	675	3	12	4	315	3,112	9	14	0	80,782	18,404	0	3	7
	6	Martur.....	7	0	14	2	55	68	69	70	1,53,934	54,986	1,01,178	1	13	5	486	1,714	3	8	5	402	2,373	5	14	5	40,573	8,570	0	3	4
	7	Conduveed....	6	0	4	1	24	46	25	70,484	34,244	62,369	1	13	2	4	24	6	0	0	342	2,341	6	13	6	28,215	6,400	0	3	7	
	8	Guntoor.....	7	0	4	0	57	37	61	37	1,09,737	46,921	78,709	1	10	10	505	4,080	8	1	3	445	2,720	6	0	11	36,249	7,414	0	3	3
	9	Mangalagirry..	9	1	5	0	66	19	72	19	1,10,494	37,387	89,282	2	6	2	673	4,923	7	5	0	548	3,989	7	4	5	52,853	13,857	0	4	2
	10	Prattipad.....	8	0	5	1	42	34	47	35	97,970	62,687	1,50,331	2	6	4	43	255	5	5	0	415	695	1	10	9	17,650	8,175	0	7	5
	11	Ponnur.....	10	0	10	1	58	63	68	64	1,01,154	50,025	91,182	1	13	2	779	5,139	6	9	6	5,443	29,274	5	6	0	19,226	5,913	0	4	11
	12	Tenally.....	9	0	12	1	46	36	58	37	92,616	60,987	1,04,212	1	11	4	1,814	11,087	6	1	9	14	44	3	2	3	10,010	2,304	0	3	8
	13	Repalli.....	10	0	8	13	69	218	77	231	76,568	43,097	73,468	1	11	3	913	6,055	6	10	1	4,052	20,846	5	2	3	4,212	1,006	0	3	9
	14	Bapetta.....	8	0	1	0	22	108	23	108	64,254	22,694	43,524	1	14	8	1,246	20,906	16	12	5	6,402	37,477	5	13	7	12,202	5,588	0	7	4
Total.			107	9	139	24	879	795	1,027	819	17,40,544	6,64,390	11,33,931	1	11	3	9,820	64,740	6	9	5	21,951	1,27,623	5	13	0	4,71,729	1,12,073	0	3	9

Notes.—1. Columns 2, 4 to 10, are taken from the Settlement Return of the year.

2. Columns 12, 13, 15, 16, 18, 19, Do. but being intended to show the relative rating of the land and not the actual revenue of the year, deductions for various causes are not shown.

3. Columns 21, 22, and 23 are taken from a Statement sent to the Commissioner N. C. dated 24th May 1858.

4. The Area shown is only an approximation and does not profess to include the barren land. In the Palnad, all wet lands and the dry lands of some villages, have been measured in Acres, but of other land, the old recorded native measures, have been converted into Acres.

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No. 2.

• Population as returned in 1850-51.

Talooks.	Hindus.									Others.									Grand Total.	
	Houses.	Families.	Adults.		Children.		Total.			Houses.	Families.	Adults.		Children.		Total.			Agricultural.	Non-Agricultural.
			Males.	Females.	Males.	Females.	Total.	Males.	Females.			Males.	Females.	Males.	Females.	Total.				
																	Males.	Females.			Total.	Males.	Females.	Total.
1	8,613	10,730	13,139	13,617	8,678	8,120	21,817	21,737	43,554	645	781	992	1,026	709	634	1,701	1,660	3,361	35,085	11,830
2	6,426	7,768	9,436	10,106	6,289	5,643	15,725	15,749	31,474	512	599	731	771	579	514	1,310	1,285	2,595	26,251	7,818
3	6,983	8,788	11,906	11,618	7,764	7,123	19,670	18,741	38,411	349	413	540	517	419	376	959	893	1,852	26,998	13,265
4	6,644	8,220	10,569	10,613	6,827	6,340	17,396	16,953	34,349	597	702	901	885	691	621	1,592	1,506	3,098	25,365	12,082
5	7,599	9,362	11,411	11,556	7,401	6,585	18,812	18,141	36,953	561	655	823	804	578	510	1,401	1,314	2,715	24,182	15,486
6	8,068	10,114	13,652	13,445	8,060	7,443	21,712	20,888	42,600	569	722	927	919	621	591	1,548	1,510	3,058	29,622	16,036
7	3,458	4,160	5,560	5,658	3,285	3,078	8,845	8,736	17,581	627	733	928	976	652	593	1,580	1,562	3,149	11,913	8,817
8	7,947	9,770	12,279	12,582	7,341	6,511	19,620	19,093	38,713	1,003	1,238	1,561	1,616	1,032	921	2,593	2,537	5,130	20,268	23,575
9	7,870	9,540	12,187	12,224	7,347	6,430	19,534	18,654	38,188	339	405	531	532	354	301	885	833	1,718	20,476	19,430
10	6,271	7,680	10,213	10,370	6,371	5,851	16,584	16,221	32,805	305	355	462	460	360	266	822	726	1,548	20,995	13,358
11	6,453	8,210	11,080	10,735	6,952	6,506	18,032	17,241	35,273	308	375	513	482	338	300	851	791	1,642	25,490	11,425
12	7,486	9,620	12,888	12,563	7,799	7,206	20,687	19,769	40,456	194	242	303	307	207	201	510	508	1,018	29,123	12,351
13	9,422	12,011	15,921	15,257	10,065	8,617	25,986	23,874	49,860	440	508	660	631	523	410	1,183	1,041	2,224	34,518	17,566
14	11,396	13,829	18,220	17,717	9,714	8,774	27,934	26,491	54,425	459	525	706	660	468	384	1,174	1,044	2,218	28,460	28,183
	1,04,636	1,29,808	1,68,461	1,68,061	1,03,893	94,227	2,72,354	2,62,288	5,34,642	6,908	8,253	10,578	10,586	7,531	6,631	18,100	17,217	35,326	3,58,746	2,11,222

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Talooks	Agricultural area.	Population.	Agricultural stock as returned in 1851 and 52.				Proportion per hundred acres of area.		Proportion of un-agricultural Population to the whole	Talooks.
			Sheep and Goats.	Oxen and He-Buf- faloes.	Cows and She- Buffaloes.	Total.	Persons.	Stock.		
1	1,68,473	46,915	48,666	14,896	51,330	1,14,892	28	68	25	Timmercotah
2	1,43,215	34,069	49,851	11,044	36,126	97,021	24	68	23	Datchapally.
3	1,89,287	40,263	92,404	8,835	43,432	1,44,671	21	76	33	Innacondah.
4	1,86,681	37,447	59,100	8,667	38,236	1,06,003	20	56	32	Narsarowpet.
5	1,75,670	39,668	53,226	9,682	49,102	1,12,010	22	64	39	Curapad.
6	1,53,934	45,658	34,650	9,956	38,602	83,208	29	54	34	Martur.
7	70,484	20,730	14,431	4,273	19,361	38,065	29	54	42	Condaveed.
8	1,09,737	43,843	30,127	7,347	31,229	68,703	40	63	54	Guntoor.
9	1,10,494	39,906	13,553	8,180	31,402	53,135	36	48	49	Mangalagurry.
10	97,970	34,353	16,167	7,251	30,119	53,537	35	55	39	Prattipad.
11	1,01,154	36,915	12,478	11,012	31,084	54,574	36	54	31	Ponnur.
12	92,616	41,474	9,146	9,981	27,743	46,870	45	51	40	Tenaly.
13	76,5638	52,084	34,984	12,395	30,716	78,095	68	102	34	Repalli.
14	64,254	56,643	38,268	10,110	33,825	82,203	88	128	50	Bapetta.
	17,40,544	5,69,968	5,07,051	1,33,629	4,92,307	11,32,987	33	65	37	

The next Statement, No. 4, shews the annual rental, omitting fractions, of the whole district for 30 years. By rental is meant the aggregate sum demandable from each village on account of land Revenue, as annually settled. It is also known by the names of Demand, or Settlement and by the native Revenue terms of Dowl, Beriz or Jummah, &c.; it is composed of Quit Rent on favorably assessed villages; the same on Enam lands; assessment on dry, garden and wet lands occupied during the year, rent of fruit trees, and pasture lands, under which last head, is included the rent of wild Chāya-root. Under village rents these various items were not brought separately to account. Until the accounts for Guntoor ceased to be kept as for a permanently settled District, the Peishcush, or Permanent Demand on the Zemindaries, was alone shewn in the Collector's Account of the Rental for the Zemindary villages, unless they happened to be under sequestration. The account now shewn was obtained by collecting the annual settlement accounts from the Talook or Village records and arranging them. In a few instances the accounts of a village for some one year were missing, and the gap has been supplied by taking the memo. of the previous and following years in the series. It is however sufficiently accurate for the object intended.

In some Districts, the term Rental or Beriz is applied, not to the land in occupation in any single year, but to the aggregate amount of the rent on all lands that have at any time been brought to account. No such account exists for Guntoor.

Prior to the year 1846, the particulars of the several descriptions of land-rent comprised in the rental, were not separately recorded. From that year the sum charged, though not the land, under each head is shewn in Table No. 5.

The same Table shews the annual collections and balance remaining for those years.

Statement No. 6 shews the result of the assessment and measurement of the wet lands, so far as they have been laid out.

No. 4. Rental of each Talook

	Year	Western.				Cen		
		Palnad.		Inacandah.	Nursarowpet.	Curapad.	Martur.	Condaveed.
		Hummercotah.	Datchapally.					
		2	3	4	5	6	7	8	9
		Rupees.	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.
1	1822-3	1,20,638	1,18,228	81,358	1,21,555	1 81 905	1 41,098	1,06 933
2	1823-4	1,12,976	1,05,410	77 839	1,21,505	2,00,214	1 42 321	1,08,112
3	1824-5	1,17,475	106,174	86,932	1,45,992	2 31,715	166,171	1,13,713
4	1825-6	1,21 946	1,12,997	903,81	1,40,708	2 19,993	174,102	1,10 677
5	1826-7	1,22,908	1,14,577	91,137	1,38,031	2,10,983	1,74,187	1,13,460
6	1827-8	1,15,424	1,14,056	75,420	1,29,722	2,04,307	1,67,843	1,15,537
7	1828-9	1,18,302	1,15,231	83,837	1 30 340	1,72 299	1,67,533	1,15,261
8	1829-30	1,10,497	99,581	80,053	1,19,276	1,70 260	1,63,645	1,12 493
9	1830-31	1,10,533	1,02,212	89,743	1,26,637	1,53,765	1,57 733	1,10,986
10	1831-2	1,06 818	88,206	86,953	1,18,044	1,20 993	1,53 773	1,06,150
11	1832-3	1,07,237	87,533	84 145	1 01,326	1,03,047	1,45,823	90 686
12	1833-4	85,574	67,699	52,536	55,500	77 594	1 21,932	76,437
13	1834-5	89,287	70,837	42 532	45,992	56,291	1,09,534	60 278
14	1835-6	88,624	63,252	34,934	34,731	43 753	93,820	45,776
15	1836-7	91,207	66,941	35,752	35,409	45 235	74,855	42,029
16	1837-8	1,01,725	82 085	41 963	43,300	51 602	84,411	44,626
17	1838-9	1,00,750	78,642	42,520	47,226	53 998	93,485	44 826
18	1839-40	1,07,242	83,631	55,334	63,382	64,675	1 07,372	51,907
19	1840-41	99,476	74 396	53,224	63,742	67,702	1,10 889	55,419
20	1841-2	99,131	71,228	56,110	66,895	66,914	1 12,136	57,978
21	1842-3	90,300	64,467	46,992	61,458	66,211	1,04 263	56,606
22	1843-4	84,161	66,258	49,973	60,423	65,711	98,222	56 735
23	1844 5	78,633	65,465	50,072	58,310	67,879	96,944	48,412
24	1845-6	90,447	77,550	53,625	68,828	77,307	1,05,035	54,802
25	1846-7	1,02,215	83,859	56,867	78,553	96,685	1 11,929	64,948
26	1847-8	1,03,794	87 310	57,809	79,045	1,11,628	1,13 475	68,451
27	1848-9	1,06,248	98,175	59,309	83,427	1,28 062	1,14 935	71,418
28	1849-50	1,10,477	92 651	63,488	91,779	1 28 310	1,14,869	72,998
29	1850-51	1,11,360	93,876	63,167	94,056	1,21,249	1,14 424	73,039
30	1851-2	1,14,296	92,423	63,123	91 305	1,15,732	1,10,661	71,555
Quinquennial average.	First.....	1,19,188	1,11,477	85,529	1,33,558	2,08,962	1 59,573	1,10 579
	Second....	1,12,315	1,03,857	83,201	1,24,804	1 64,325	1,62 105	1 12,085
	Third.....	92 386	72,252	49 980	54,592	65,184	1,09,193	63,041
	Fourth....	1 01 665	78 397	49,830	56,909	60,978	1,01,658	50,951
	Fifth.....	89 151	71,540	52,506	65,514	74,759	1 03 279	56 301
	Sixth.....	1,09 235	90 887	61,380	87,922	1,20,996	1,13 673	71,492

for 30 years, ending 11th July, 1851-2.

tral.		Upper Delta.			Coast Delta.		Grand Total.
Guntoor	Mungalagurry.	Prattipad.	Ponnur.	Tenally.	Repall.	Bapetta.	
10	11	12	13	14	15	16	17
Rupees.	Rupees.	Rupes.	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.
1,39,378	1,97,390	1 91,969	1,46 405	1,04,520	1 09 886	1,48,516	19,09,779
1,40,479	1,99 369	1,93,897	1,23 086	1,21,702	1,07,343	1,43,213	18,97,466
1,49,963	2,14,617	1,98,719	1,22,795	1,37,294	106,622	1,31 603	20,29,771
1,51,019	2,19,543	2,04 393	1 60 866	1 33,478	1,27,803	1,50,715	21,18,621
1,50,314	2,26,387	2,09,961	1,49,184	1,34,852	1,30,151	1,56,316	21,22 448
1,40,686	2,28,040	2,05,127	1,39,306	1,27,076	1 13,420	1,34,273	20,10,237
1,36,870	2 06,653	2,08,186	1,32,351	99,483	1,06,376	1,24,891	19,17,613
1 38,200	2,12,337	2,06,718	1,34,182	1,09 404	1 01,960	1,35,333	18,93,939
137,204	2 01,822	2,05,639	1,56,106	1,17,208	1,14,547	1 61,944	19,46,079
1,32 195	1,88,193	1,96,029	1,27,141	1,21,113	1,00,371	1,35,637	17,81,616
1,12,072	1,50,292	1,77 241	1,19,567	96,318	99,454	1 02,568	15,77,309
1,00,921	1,34 800	1,61,450	1,10 884	95,124	88 046	1,02 866	13,31 363
81,392	1,16,568	1,33,493	90 138	65 760	93 762	99,410	11,45,274
67,858	1,00,435	1,04,533	76,795	77 128	82,308	82,329	1,001,276
63,896	93,556	95,508	64 003	94,412	82 548	83,409	9,68,760
64,498	91,062	1 02,032	67 236	66,010	72,566	88,283	10,01,399
67,246	1,06,773	1,09,925	73,778	1,52,683	84,858	93 666	11,50,376
74 076	1 15,265	1,22,277	98,778	90,018	90,926	1,25,023	12,51,906
71,032	1,10 967	1,27,641	91,765	94,146	80,453	91 897	11,92,749
79,121	1,06,956	1,31,679	85,238	75,890	85 273	1 09,520	12,04,069
76,530	93,757	1,30,418	78,341	90,007	78 416	92,138	11 29,904
74,270	90 912	1,31 845	74 813	64,120	76,786	82 299	10,76,528
69,828	95,441	1,15,526	80,590	78,258	82 468	85 920	10,73,746
79,124	1,29 674	1,17,595	99,940	1,25,769	90,501	1,11 257	12,86 554
86 733	1,44,612	1 33,101	1 20,634	1 06,235	1,05 680	1,37,643	14,29,694
93,480	1,54 414	1,45,790	1,21 978	1,24,022	89,929	1,01,246	14 52,371
97,993	1,48,570	1,55,642	1,24,755	1,29,650	1,05,682	1,01,447	15 15 313
97,035	1,28 262	1,62,252	1,16,501	1 29,996	92,707	1:09 793	15,11,118
80,189	87 446	1 35,536	1,12 522	1,10 106	87,311	1,16,254	14,00 535
92,292	1,07,087	1 46,129	1,30 099	1,11,963	97,492	1,11,574	14,55,733
1,46,231	2,11,461	1,99,788	1,40,467	1,26 369	1,16,361	1,46,072	20,15,615
1,37,031	2 07,409	2,04,340	1 37,817	1 14 857	1,07,335	1,38,416	19 09,897
85 228	1,19,130	1,34,445	92,277	85,748	87 224	94,116	12,04,796
71,196	1 06 204	1,18 711	83,359	95,749	82,815	1 01,678	11,60,100
77,297	1,10,879	1,25,697	90 863	92 878	86,770	1,01,851	11,99 285
92 198	1 25,156	1,49,070	1 21 171	1 21 147	94,624	1 08 063	14 67 014

No. 5. Particulars of the Rental for seven years, ending 11th July, 1852.

Year.	Dry and Garden land.	Wet land.	Quit rent on partially assessed Fields.	Quit rent on partially assessed Villages.	Grass rents	Fruit trees	Total.	Collections.			Balance of each Year at its close.
								Current	Arrears.	Total.	
	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.	Rs.	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.
1845-6	10,21,668	1,10,214	65,320	18,096	58,779	3,001	12,77,081	11,66,403	1,99,627	13,66,031	1,10,678
1846-7	10,99,644	1,41,100	68,099	18,096	85,361	6,459	14,18,761	13,25,751	1,03,056	14,28,807	93,010
1847-8	11,44,130	99,179	74,414	18,359	1,11,420	8,440	14,55,944	13,79,080	86,209	14,65,289	76,864
1848-9	12,01,767	94,268	75,246	18,359	1,22,104	6,706	15,18,462	14,41,321	47,932	14,89,753	76,641
1849-50	11,91,819	98,871	74,680	18,359	1,23,334	6,329	15,13,395	13,82,376	28,235	14,11,111	1,30,519
1850-1	10,43,615	1,34,911	74,623	18,359	1,22,926	8,622	14,03,058	12,83,541	17,496	13,01,037	1,19,517
1851-2	11,08,872	1,29,071	72,026	18,359	1,23,453	6,186	14,57,969	13,60,612	44,690	14,05,303	97,357

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No. 6. Irrigated Rice lands in the Guntoor District, actually laid out and assessed.

Talooks.	Villages.	Area.	Assessment	Rate per acre.			Settlement.						
				Average.	Highest.	Lowest.	1845-6	1846-7.	1847-8	1848-9.	1849-50.	1850-1.	1851-2
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	29	1,150	8,375	7 4 5	18 14 6	3 2...	2,302	2,342	2,312	1,620	3,369	4,629	6,273
2	27	1,842	15,038	8 2 7	16 8	4	9,723	6,181	6,171	4,898	9,082	10,502	8,045
3	34	1,233	9,402	7 10...	12	3	7,141	2,765	532	1,486	4,408	4,955	3,151
4	34	1,366	12,373	9 10	16	3 10..	9,495	10,746	1,592	2,663	8,828	10,055	7,278
5	18	958	9,920	10 5 6	15	7	3,352	3,072	3,296	3,008	4,511	4,738	3,112
6	12	697	5,262	7 8 8	11	5	6,966	4,032	3,005	1,704	3,320	3,741	2,373
7	9	478	3,476	7 4 4	13	3 4	1,197	3,384	1,039	726	2,239	2,632	2,331
8	14	389	2,520	6 7 5	9	4	2,347	825	1,575	575	2,407	2,643	2,747
9	7	622	4,431	7 1 10	10	4 4...	1,226	458	4,490	830	2,969	2,711	4,020
10	5	478	2,796	5 13 6	9 10	2 14.	1,547	1,851	792	17	2,175	2,487	695
11	16	7,464	46,927	6 4 7	9	3	24,085	37,412	26,120	21,195	11,841	19,573	30,159
12	1	385	1,542	4	4	4	200	1,307	220	598	27	20	44
13	40	8,045	43,831	5 7 2	8	1 12...	4,776	19,948	10,997	23,253	5,661	21,749	21,180
14	17	10,692	66,955	6 4 2	14	4	35,852	46,770	37,029	31,688	35,022	44,468	37,657
Total.	263	35,807	2,32,848	6 8...	...	...	1,10,214	1,41,100	99,179	94,268	95,864	1,34,911	1,29,071

For Palnad, See To Board of Revenue, 25th April 1848.
For Guntoor, See To Commissioner, 13th March 1851.

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The next Statement No. 7, will serve the threefold purpose of shewing the effect of the famine, the influence of prices on the land Revenue, and the operation of our management. It shews for each year the Population, Prices, Rental, Collection and Charges of every branch of Revenue, and the Total sum annually withdrawn, chiefly in specie, from the District in the shape of Net Revenue.

In this Statement, the following points chiefly deserve attention :

1. The results of the famine. These having been enlarged on in paras. 29-33 of the Memo need not be further noticed here.

2. The decline in the prices of grain ; the average per garce in the first period having been 166 Millet 155 Paddy, and in the last 115 Millet Paddy 99. The ratio of the assessment to the gross produce, varies annually with the range of the market price, during the season of collection of wet and dry produce respectively. Thus the ratio in any given year, is expressedly a fraction, of which the denominator is the selling price of, say, a garce of grain, and the numerator, the assessment of the land, on which that quantity has been raised.

It is currently supposed by the Ryots that an acre of dry land may yield 5 Tooms or one sixteenth of a Garce, nearly. Taking then the mean rate of dry land for the whole district per acre at Rupee 1-11. This $\times 16 = 27$ the sum payable per garce of produce, which is seen to have ranged from $\frac{27}{13\frac{7}{8}}$ or $13\frac{5}{8}$ per cent in 1823 to $\frac{27}{4\frac{2}{3}}$ or $58\frac{5}{8}$ per cent in 1844. By a similar calculation and assuming the medium produce of an acre of wet land to be one-fourth of a garce and the mean rate of assessment to be Rupees 6-8. The assessment on wet land has ranged from $\frac{6}{19\frac{6}{7}}$ to $\frac{8}{11}$ or from $13\frac{2}{1}$ to $32\frac{1}{16}$ per cent of the gross produce.

3. The next point, is the large difference between the present and maximum Rental.

4. Another, and a very important, point is the exhausting tendency of our present system, unless counteracted by public improvements. The difference between the land rental, plus the gross collections from all other sources, and the net revenue as shewn in Column 91, represents it may be assumed, the maximum that can have been spent in the District. In the first ten years it stands thus :

Rental land.....	196,27,569
Gross collections from extra sources	49,13,655
Total.....	245,41,224
Deduct net revenue.....	160,61,810
Difference retained in the District.....	84,79,414

In the last ten years it is thus :

Rental land.....	133,31,496
Gross collections from extra sources.	45,67,219
Total.....	17,898,715
Deduct net revenue.....	12,654,639
Difference retained in the District.....	52,44,076

The effect of this silent but steady drain must necessarily be the impoverishment of Agriculture.

5. The small expenditure on roads is the fourth point. During 30 years it has amounted to Rupees 1,16,171.

6. The expenditure on Tanks and Watercourses by the Zemindars for their villages, nowhere appears. The amount disbursed by Government is included in Column 60 under charges of management. But in Column 6 of the Statement of expenditure on Irrigation appended to the Report of the Commissioners on Public Works, it is given as Rupees 275,522 during 30 years, of which Rupees 210,261 has been since the middle of 1846.

7. The sum expended on Public Instruction, Rupees 1,316 during 30 years, suggests many regrets that the Education Despatch was not issued half a Century ago.

No. 7. Revenue and Finance Transactions of

Number	Year.	Population.	Price per Garce.		Land Rental	Land Collections.									
			Millet.	Paddy		Current.	Arrears.	Total.	Extra Revenue.	Total.					
											1	2	3	4	5	6	7	8	9	10
1	1822-23	..	199	154	19,09,779	11,36,801	2,49,025	1385,830	44,567	14,30,397					
2	1823-24	..	187	165	18,97,466	13,01,555	3,14,508	16,16,063	16,635	16,32,698					
3	1824-25	..	182	178	20,29,771	14,09,943	1,33,190	15,43,133	11,713	15,54,846					
4	1825-26	..	151	175	21,18,621	13,91,746	26,935	14,18,685	10,580	14,29,265					
5	1826-27	4,76,787	112	103	21,22,448	14,12,606	55,311	14,67,917	13,277	14,81,194					
6	1827-28	4,78,259	97	92	20,10,237	14,36,038	36,836	14,72,874	29,341	15,02,215					
7	1828-29	4,78,053	124	101	19,17,613	14,07,430	4,207	14,11,637	14,479	14,26,116					
8	1829-30	4,78,608	129	122	18,93,939	14,20,121	34,007	14,54,128	11,973	14,66,101					
9	1830-31	5,09,365	122	111	19,46,079	13,03,091	5,628	13,08,719	15,309	13,24,028					
10	1831-32	5,12,317	111	89	17,81,616	11,29,036	1,20,696	12,49,732	13,923	12,63,655					
11	1832-33	3,57,038	192	192	15,77,309	5,92,824	65,676	6,58,500	4,114	6,62,614					
12	1833-34	2,55,511	195	242	13,31,363	6,59,371	3,15,261	9,74,632	59,718	10,34,350					
13	1834-35	2,24,413	151	125	11,45,274	4,93,037	18,556	5,11,593	30,387	5,41,980					
14	1835-36	2,34,667	97	97	10,01,276	7,17,938	1,66,474	8,84,412	11,357	8,95,769					
15	1836-37	2,54,902	100	115	9,68,760	7,17,476	65,146	7,82,622	11,540	7,94,162					
16	1837-38	2,67,426	98	109	10,01,399	7,21,719	63,477	7,85,196	10,869	7,96,065					
17	1838-39	3,02,155	167	167	11,50,376	7,82,339	66,629	8,48,968	8,510	8,57,478					
18	1839-40	3,08,860	119	126	12,51,906	8,68,552	68,095	9,36,647	8,225	9,44,872					
19	1840-41	3,15,396	101	104	11,92,749	9,13,794	85,343	9,99,137	15,814	10,14,951					
20	1841-42	3,18,888	77	90	12,04,069	8,77,762	27,418	9,05,180	10,533	9,15,713					
21	1842-43	3,44,729	59	79	11,29,904	8,08,352	36,529	8,44,881	11,632	8,56,513					
22	1843-44	3,66,164	46	81	10,76,528	6,34,487	53,345	6,87,832	14,757	7,02,589					
23	1844-45	3,78,310	69	87	10,73,746	7,64,202	78,370	8,42,572	15,757	8,58,329					
24	1845-46	3,82,819	135	115	12,86,554	10,61,679	2,22,524	12,84,203	38,417	13,22,620					
25	1846-47	4,11,619	125	116	14,29,694	13,25,781	1,06,263	14,32,044	14,678	14,46,722					
26	1847-48	4,83,831	123	104	14,52,371	13,79,080	96,824	14,75,904	12,562	14,88,466					
27	1848-49	4,87,172	104	99	15,15,313	14,41,821	56,820	14,98,641	10,820	15,09,461					
28	1849-50	4,87,172	97	92	15,11,118	13,82,877	2,07,520	15,90,397	14,771	16,05,168					
29	1850-51	5,70,083	126	112	14,00,535	12,83,541	17,496	13,01,037	16,858	13,17,895					
30	1851-52	5,70,083	123	92	14,55,733	13,60,612	44,691	14,05,303	19,333	14,24,636					
Total.		102,54,627	3,718	3,632	447,83,546	321,35,611	28,42,808	349,78,419	5,22,449	355,00,868					
Average		3,94,408	124	121	14,92,785	10,71,187	94,760	11,65,947	17,415	11,83,362					
Quinquennial average.	First....	.....	166	155	20,15,615	13,30,530	1,55,795	14,86,325	9,354	15,05,680				
	Second..	4,84,214	117	103	19,09,897	13,39,143	40,275	13,79,418	17,005	13,96,423					
	Third...	3,16,789	147	154	12,04,796	6,36,129	1,26,222	7,62,351	23,424	7,85,775					
	Fourth..	2,89,748	112	119	11,60,100	8,32,833	62,192	8,95,025	10,791	9,05,816					
	Fifth....	3,58,182	87	96	11,99,285	9,18,900	99,406	10,18,306	19,048	10,37,354					
	Sixth....	4,87,975	115	99	14,67,014	13,69,586	84,671	14,54,257	14,868	14,69,125					

30 years ending 11th July 1852.

Revenue.			Salt.						
Charges.			Net Revenue	Per Cent.	Collections.	Extra Revenue.	Total.	Charges, Management, and Manufacturers share.	Net Revenue.
Management	Allowances to Zemindars, Pagodas, &c.	Total.							
11	12	13	14	15	16	17	18	19	20
79,451	9,874	89,326	13,41,071	6 3/11	2,32,451	1,888	2,34,339	44,451	1,89,888
89,330	10,263	99,593	15,33,105	5 1/5	2,16,208	3,121	2,19,329	46,329	1,73,000
84,531	9,445	93,976	14,60,868	6 ..	2,05,800	8,775	2,14,575	41,797	1,72,778
84,331	6,461	90,792	13,38,467	6 5/8	2,45,309	4,127	2,49,436	44,006	2,05,430
1,16,410	6,635	1,23,045	13,58,149	8 4/10	2,46,269	4,852	2,51,121	80,160	1,70,961
1,11,815	6,501	1,18,320	13,83,895	7 1/4	2,39,447	4,705	2,44,152	64,627	1,79,525
96,611	6,651	1,03,266	13,22,850	7 3/10	2,62,157	2,607	2,64,664	33,060	2,31,604
86,091	92,352	1,78,443	13,73,749	6 4/8	4,28,166	5,911	4,34,117	61,808	3,72,309
98,501	6,171	1,04,672	12,19,356	7 1/4	3,14,706	2,059	3,16,765	40,143	2,76,622
83,941	6,063	90,004	11,73,651	7 2/..	3,85,213	4,838	3,90,051	54,975	3,35,076
75,001	5,852	80,860	5,81,754	12 3/3	1,59,885	4,430	1,64,315	51,498	1,12,817
1,36,891	7,515	1,44,408	8,89,942	13 1/5	2,98,138	2,857	3,00,995	34,446	2,66,549
82,175	6,095	88,270	4,53,710	16 4/3	2,29,243	4,798	2,34,041	34,284	1,99,757
81,375	5,919	87,294	8,08,475	9 1/11	2,49,229	2,593	2,51,822	29,858	2,21,964
93,155	5,848	99,003	6,95,159	12 7/6	2,38,243	2,017	2,40,260	21,918	2,18,342
99,822	5,829	1,05,651	6,90,414	13 4/4	2,92,487	141	2,92,628	35,197	2,57,431
1,05,684	5,798	1,11,482	7,45,996	12 1/10	3,38,781	2,716	3,41,497	33,741	3,07,756
99,523	5,801	1,05,324	8,39,548	11 2/4	3,53,955	1,963	3,55,918	45,934	3,09,984
1,04,977	5,812	1,10,789	9,04,162	10 1/8	2,91,940	1,659	2,93,599	43,746	2,49,853
97,443	5,813	1,03,256	8,12,457	11 4/5	3,03,621	598	3,04,219	34,239	2,69,980
97,276	5,329	1,02,605	7,53,908	11 1/8	2,76,886	2,075	2,78,961	52,985	2,25,976
95,712	5,592	1,01,304	6,01,285	14 1/8	3,46,178	1,915	3,48,093	21,375	3,26,718
93,360	5,587	98,947	7,59,382	11 1/5	3,55,330	1,283	3,56,613	52,580	3,04,033
1,43,781	16,683	1,60,464	11,62,156	12 1/1	3,45,133	2,808	3,47,941	27,330	3,20,611
1,54,061	52,405	2,06,473	12,40,249	14 4/4	3,10,754	5	3,10,759	36,025	2,74,734
2,29,817	55,590	2,85,407	12,03,059	19 2/9	3,87,023	2,305	3,89,328	39,089	3,50,239
2,01,651	45,144	2,46,795	12,62,666	16 5/7	4,06,736	580	4,07,316	31,871	3,75,445
1,98,593	61,700	2,60,293	13,44,875	16 ..	3,84,656	5,124	3,89,780	56,168	3,33,612
2,14,001	61,846	2,75,847	10,42,048	20 1/10	4,12,919	1,803	4,14,722	25,903	3,88,819
2,05,782	53,054	2,58,836	11,65,800	18 2/9	3,33,787	2,684	3,36,471	45,157	2,91,314
35,41,026	4,97,636	43,38,662	31,462,206	.. ..	90,90,550	87,277	91,77,827	12,64,700	79,13,127
1,18,034	16,588	1,34,622	10,48,740	.. ..	3,03,018	2,909	3,05,927	42,156	2,63,771
90,812	8,531	99,348	14,06,332	6 9/6	2,29,207	4,553	2,33,760	51,349	1,82,411
95,394	6,321	1,01,723	12,94,700	7 4/6	3,25,918	4,032	3,29,950	60,923	2,79,027
93,721	6,241	99,967	6,85,808	12 1/9	2,34,948	3,339	2,38,287	34,401	2,03,886
1,01,490	5,810	1,07,300	7,98,515	11 1/3	3,16,157	1,415	3,17,572	38,571	2,79,001
1,16,839	17,111	1,33,958	9,03,396	12 1/4	3,26,856	1,617	3,28,473	38,059	2,90,414
2,09,969	55,461	2,65,435	12,03,690	18 1/..	3,85,024	2,499	3,87,523	39,637	3,47,886

Revenue and Finance transactions of

Number.	Land Customs.							Sea		
	Per Cent.	Collection.	Extra Revenue.	Total.	Charges.	Net Revenue.	Per Cent.	Collection	Extra Revenue.	Total.
	21	22	23	24	25	26	27	28	29	30
1	18 15 6	1,11,718	676	1,12,394	39,416	72,978	...	1,674	72	1,746
2	21 2 3	90,782	1,706	92,488	40,435	52,053	...	1,482	59	1,541
3	19 11 10	80,801	4,471	85,272	10,960	74,312	12 13 7	3,183	59	3,242
4	17 10 4	91,453	1,483	92,936	29,080	63,856	11 4 8	5,070	335	5,405
5	31 14 1	96,641	1,462	98,103	29,325	68,778	29 14 3	4,409	280	4,689
6	26 7 6	1,11,394	4,972	1,16,366	38,498	77,868	33 1 4	5,898	264	6,162
7	12 7 11	1,05,636	551	1,06,187	27,659	78,528	26 .. 9	6,603	53	6,656
8	14 3 9	1,05,511	210	1,05,721	25,204	80,517	23 13 5	5,859	71	5,930
9	12 10 9	96,861	231	97,092	24,722	72,370	25 7 4	2,387	63	2,450
10	14 1 6	92,586	201	92,787	24,383	68,404	26 4 6	1,958	65	2,023
11	31 5 6	64,555	180	64,735	24,181	40,554	37 5 7	3,142	135	3,277
12	11 7 1	45,707	150	45,857	23,437	22,420	51 1 9	2,001	17	2,018
13	14 10 7	48,756	240	48,996	21,992	27,004	14 14 2	3,328	18	3,346
14	11 13 8	59,848	244	60,092	20,115	39,977	33 7 6	4,050	42	4,092
15	9 1 11	60,699	27	60,726	18,569	42,157	30 8 6	2,233	138	2,371
16	12 .. 5	59,283	127	59,410	15,366	44,044	25 13 9	3,015	13	3,028
17	9 14 1	59,142	291	59,433	14,322	45,111	24 1 6	2,468	295	2,763
18	12 14 6	62,382	54	62,436	14,001	48,435	22 6 9	2,778	290	3,068
19	14 14 5	64,385	79	64,464	13,620	50,844	21 2 1	2,458	320	2,778
20	11 4 1	56,331	19	56,350	13,529	42,821	24 .. 1	2,978	50	3,028
21	18 1 1	57,406	25	57,431	13,598	43,833	23 10 10	3,591	32	3,623
22	6 2 3	43,422	140	43,562	10,305	33,257	33 9 2	4,970	176	5,146
23	14 11 10	10,986	57	11,043	868	10,175	7 13 10	7,275	22	7,297
24	7 1 8	5,958	248	6,206	1,961	4,245	31 9 6	7,622	172	7,794
25	11 10 ..	4,769	9	4,778	1,913	2,865	10 .. 6	4,194	193	4,387
26	10 .. 7	3,924	86	4,010	1,981	2,029	49 6 6	4,021	94	4,115
27	7 13 2	3,005	37	3,042	2,008	1,034	36 .. 4	7,421	18	7,439
28	14 6 6	3,439	..	3,439	1,991	1,448	37 9 3	755	81	836
29	6 11	3,746	88	3,834	2,051	1,783	33 8 ..	1,924	11	1,935
30	13 6 9	2,932	8	2,940	2,020	920	38 11 3	2,069	..	2,069
Total	...	17,04,058	18,072	17,22,130	5,07,510	12,14,620	...	1,10,816	3,438	1,14,254
Average	...	56,802	623	57,404	16,917	40,487	...	3,694	118	3,808
Quinquennial Average.	21 17 5	94,279	1,900	96,239	29,843	66,396	31 1 1	3,164	161	3,325
	15 6 11	1,02,398	1,233	1,03,631	28,093	75,538	27 1 8	4,541	103	4,644
	14 6 11	55,913	168	56,081	21,659	34,422	38 9 11	2,951	70	3,021
	12 1 3	60,305	114	60,419	14,168	46,251	13 7 2	2,739	194	2,933
	11 6 4	24,508	90	24,604	5,729	18,875	23 4 6	5,530	119	5,649
	10 1 4	3,409	44	3,453	2,010	1,443	58 3 4	3,238	41	3,279

30 years ending 11th July 1852.

Customs.			Arrack and Toddy farm							
Charges.	Net revenue	Per Cent	Collections.					Charges.	Net revenue.	Per Cent.
			Current.	Arrears.	Total.	Extra revenue.	Total.			
31	32	33	34	35	36	37	38	39	40	41
804	942	46 0/8	25 11/8	725	25 840	584	26 424	684	25 740	2 9/5
1,250	29	81 1/11	25,308	1,822	27,127	314	27,441	793	26,648	2 14/2
672	2,570	20 11/7	25,038	2,123	27,162	375	27,535	695	26,840	2 8/4
713	4 69/8	13 3/0	27 18/8	2 578	29,763	921	30 684	670	30 014	2 2/11
709	3,980	15 1/10	28,358	673	29,026	472	29,498	1,709	27,789	5 12/8
675	5,487	10 15/3	28,278	166	28,438	928	29,366	578	28 788	1 15/5
660	5,996	10 1/1	29,091	706	29,797	1,464	31,261	600	30 661	1 14/8
597	5,330	10 1/8	28,730	213	28,943	710	29,653	577	29,076	1 15/1
571	1 87/8	23 4/10	27,929	239	28,168	433	28,601	581	28 020	2 0/6
532	1,491	26 4/10	28,028	984	29,012	547	29,559	560	28,999	1 14/3
540	2,737	16 7/8	21,684	213	21,897	392	22,289	519	21,770	2 5/3
1,466	552	72 10/4	12 587	506	13,093	198	13 292	468	12 824	3 8/4
557	2,780	16 10/4	14 388	3 245	17,634	291	17,925	498	17,427	2 12/5
564	3,528	13 12/8	16,284	3,617	19,901	292	20,193	454	19,739	2 3/11
518	1,858	21 13/7	17 880	3,368	21,248	263	21 511	363	21,148	1 11/0
504	2,524	16 10/4	18,831	3,000	21,831	1,069	22,900	327	22,573	1 6/10
506	2,257	18 5/0	21,018	3,144	24 162	360	24 523	339	24,189	1 6/1
507	2,561	16 8/8	21,718	646	22,361	296	22,657	337	22 320	1 7/9
504	2,274	18 2/8	21,948	903	22 846	184	23,030	341	22,689	1 7/8
523	2,508	17 4/8	22 917	681	23,598	140	23,738	348	23 390	1 7/5
504	3,118	13 14/8	23,468	504	23,972	178	24,145	338	23,807	1 6/4
505	4,641	9 13/0	21,417	802	22 219	768	22 987	330	22,657	1 6/11
503	6,794	6 14/4	24,498	2,508	27,001	196	27,197	315	26,882	1 2/6
642	7,158	8 3/9	25 562	290	25 852	449	26 301	370	25,931	1 6/6
502	3,888	11 7/0	26,284	2,450	28,734	469	29,203	157	29,046	0 6/7
503	3 61/8	12 3/8	28,710	196	28,906	653	29 559	..	29,559	0 0/0
514	6,920	6 14/8	33,535	347	33,882	578	34 460	..	34,460	0 0/0
517	318	61 13/10	33 600	100	33,706	789	34 495	1	34,494	0 0/0
421	1,514	21 12/0	33 350	29	33 382	1,430	34 818	49	34,769	0 2/3
348	1,721	16 13/4	29,847	288	30,135	1,122	31,257	..	31,257	0 0/0
18,331	95 928	..	7,42 565	37 066	7,79,631	16,876	7,96,507	13 001	7,83,506	..
611	3 197	..	24,752	1 235	2 598	562	26,550	481	26,117	..
830	2,498	24 15/4	26,190	1 584	27,783	533	28,316	910	27,406	3 2/5
607	4,037	13 1/1	28,410	462	28,872	817	29 688	579	29,109	1 17/2
729	2,292	24 2/1	16 562	2 189	18,755	288	19 042	460	18,582	2 6/7
509	2,424	17 5/8	21 287	1,675	22 962	411	23 370	338	23,032	1 7/1
531	5,118	9 6/4	24,244	1,311	25 555	412	25,967	302	25 665	1 2/7
461	2 818	14 0/11	31,810	192	32,002	916	32 918	10	32 908	0 0/5

Note.—This includes the two heads of Abkerry, and sundry small farms in the District accounts.

Number	Moturpha.								Stamps		
	Collections.					Charges.	Net revenue.	Per Cent	Collection.	Extra revenue.	Total
	Current.	Arrears	Total	Extra revenue.	Total.						
42	43	44	45	46	47	48	49	50	51	52	
1	36,532	15,633	52,165	94	52,259	4,904	47,355	9 6/11	14,614	..	14,614
2	55,618	..	55,618	151	55,769	4,883	50,886	8 12/11	14,406	..	14,406
3	41,395	17,060	58,455	303	58,758	4,996	53,762	8 8/10	13,597	4	13,601
4	54,966	13,909	68,905	351	69,256	4,973	64,283	7 2/11	16,462	12	16,474
5	61,320	5,739	67,059	1,102	68,161	5,408	62,753	7 14/11	16,756	2	16,758
6	61,132	824	61,956	3,880	65,836	5,846	59,990	8 14/11	14,748	117	14,865
7	61,242	748	61,990	446	62,436	4,422	58,014	7 1/4	15,202	42	15,244
8	60,987	725	61,712	59	61,771	4,247	57,524	6 14/10	14,770	3	14,773
9	60,768	1,698	62,466	75	62,541	4,210	58,331	6 11/8	13,090	3	13,093
10	60,526	2,183	62,709	319	63,028	4,161	58,867	6 9/7	12,169	82	12,251
11	39,900	991	40,891	81	40,972	3,814	37,158	9 4/11	8,019	145	8,164
12	22,069	1,152	23,221	14	23,235	3,536	19,699	15 3/6	6,265	..	6,265
13	24,361	1,480	25,841	17	25,858	15,701	10,157	60 12/1	6,438	..	6,438
14	29,936	2,374	32,310	57	32,367	15,685	16,682	48 7/4	7,340	45	7,385
15	34,990	4,097	39,087	40	39,127	3,374	35,753	8 10/0	7,753	108	7,861
16	40,663	10,422	51,085	4	51,089	3,342	47,747	6 9/2	3,283	1	3,284
17	44,412	7,451	51,863	66	51,929	3,362	48,567	6 7/7	7,815	17	7,832
18	34,092	3,632	37,724	..	37,724	3,326	34,398	8 13/1	8,421	9	8,430
19	31,785	10,317	42,102	40	42,142	3,322	38,820	7 14/1	14,398	..	14,398
20	34,026	7,291	41,317	..	41,317	3,250	38,067	7 13/10	7,024	..	7,024
21	31,360	4,893	36,253	16	36,269	3,073	33,196	8 7/6	6,675	3	6,678
22	33,989	3,839	37,822	..	37,822	3,088	34,734	8 2/8	7,032	..	7,032
23	33,054	1,095	34,149	..	34,149	3,109	31,040	9 1/8	5,296	399	5,695
24	36,657	5,555	42,212	1,583	43,795	3,078	40,717	7 0/6	3,236	1,329	4,565
25	41,173	5,226	46,399	28	46,427	1,900	44,527	4 1/6	4,652	546	5,198
26	45,567	1,872	47,439	11	47,450	306	47,144	0 10/4	3,415	287	3,702
27	46,980	1,412	48,392	455	48,847	335	48,512	0 10/11	8,740	812	9,552
28	47,653	839	48,492	26	48,518	322	48,196	0 10/7	7,860	1,204	9,064
29	45,358	611	45,969	33	46,002	317	45,685	0 11/0	8,479	523	9,002
30	46,374	1,437	47,811	17	47,828	320	47,508	0 8/10	9,719	573	10,292
Total.	12,98,915	1,34,499	14,33,414	9,268	14,42,682	1,22,610	13,20,072	...	2,92,674	6,266	2,98,940
Average	43,297	4,638	47,780	356	48,089	4,087	44,002	...	9,756	272	9,964
Quinquennial Average.	49,972	10,468	60,440	400	60,840	5,033	55,807	8 1/4	15,167	4	15,171
	60,931	1,236	62,167	956	63,123	4,577	58,546	7 4/0	13,996	49	14,045
	30,251	2,019	32,270	42	32,312	8,422	23,890	26 1/0	7,163	60	7,223
	36,996	7,822	44,818	22	44,840	3,320	41,520	7 6/5	9,188	5	9,193
	35,247	4,120	39,367	325	39,692	2,850	36,842	7 2/10	5,378	455	5,833
	46,386	1,234	47,620	109	47,729	320	47,409	0 10/8	7,642	680	8,322

30 years ending 11th July 1852.

Stamp.				Grand Total.					
Charges.	Net revenue.	Per cent.	Items, not connected with any particular source of revenue.	Collections.		Charges.		Allowances to Zermitudate pagodas &c	Total
				Current and Ar-rears	Extra revenue.	Total.	Management		
53	54	55	56	57	58	59	60	61	62
1,475	13,139	10 1 7	.....	18,24,292	47,881	18,72,173	1,71,186	9,874	1,81,060
1,440	12,966	9 15 11	57	20,21,686	22,043	20,43,729	1,84,460	10,263	1,94,723
1,360	12,241	10 .. ..	.....	19,32,131	25,698	19,57,829	1,45,013	9,445	1,54,458
1,646	14,828	9 15 11	62	18,75,647	17,871	18,93,518	1,65,425	6,461	1,71,886
1,597	15,161	9 8 5	211	19,28,077	21,658	19,49,735	2,35,318	6,635	2,41,953
1,664	13,201	11 3 1	81	19,34,755	44,288	19,79,043	2,23,707	6,501	2,30,208
1,531	13,713	10 .. 8	1,036	18,92,922	20,678	19,13,600	1,64,548	6,650	1,71,198
1,504	13,269	10 2 10	1,104	20,99,089	20,081	21,19,170	1,80,028	6,261	1,86,289
1,211	11,882	9 4 ..	249	18,26,397	18,422	18,44,819	1,69,939	6,171	1,76,110
2,330	9,921	19 .. 10	559	18,33,379	20,534	18,53,913	1,70,882	6,003	1,76,945
854	7,310	10 7 4	1,988	9,56,889	11,465	9,68,354	1,56,414	5,852	1,62,266
612	5,653	9 12 4	289	13,63,056	63,244	14,26,300	2,00,858	7,515	2,08,373
597	5,841	9 4 4	381	8,42,833	36,132	8,78,965	1,55,804	6,095	1,61,899
729	6,656	9 14 ..	105	12,57,090	14,735	12,71,825	1,48,780	5,919	1,54,699
366	7,495	4 10 6	222	11,51,885	14,355	11,66,240	1,38,263	5,848	1,44,111
393	7,891	4 12 ..	50	12,21,180	12,274	12,33,454	1,54,951	5,829	1,60,780
538	7,294	6 13 11	242	13,33,199	12,503	13,45,702	1,58,492	5,798	1,64,290
428	8,002	5 1 3	112	14,24,268	10,949	14,35,217	1,64,056	5,801	1,69,857
714	13,684	4 15 4	49	14,37,266	18,145	14,55,411	1,67,224	5,812	1,73,036
393	6,631	5 9 6	742	13,40,049	12,082	13,52,131	1,49,725	5,813	1,55,538
368	6,310	5 8 2	31	12,49,659	13,992	12,63,651	1,68,142	5,329	1,73,471
1,676	5,356	23 13 3	115	11,49,475	17,871	11,67,346	1,32,991	5,592	1,38,583
411	5,284	7 3 4	200	12,82,609	17,914	13,00,523	1,51,146	5,587	1,56,733
217	4,348	4 11 10	430	17,14,216	45,436	17,59,652	1,77,379	16,683	1,94,062
377	4,821	7 4 ..	1,444	18,31,546	17,372	18,48,918	1,94,942	52,405	2,47,347
237	3,465	6 6 6	947	19,50,632	16,945	19,67,577	2,71,933	55,590	3,27,523
701	8,851	7 5 5	416	20,06,817	13,716	20,20,533	2,37,080	45,144	2,82,224
792	8,272	8 11 10	539	20,69,305	22,534	20,91,839	2,58,384	61,700	3,20,084
802	8,200	8 14 7	459	18,07,456	21,211	18,28,667	2,43,544	61,846	3,05,390
993	9,299	9 10 4	129	18,31,756	23,866	18,55,622	2,54,620	53,054	3,07,674
27,956	2,70,984	.. ..	12,249	483,89,561	6,75,895	490,65,456	54,95,234	4,97,536	59,92,770
932	90,337	.. ..	437	16,12,985	22,529	1,35,515	1,83,174	16,584	1,99,759
1,504	13,667	9 14 7	66	19,16,365	27,031	19,43,396	1,80,281	8,536	1,88,817
1,648	12,397	11 11 8	606	19,17,308	24,801	19,42,109	1,81,821	6,329	1,88,150
632	6,591	8 11 11	597	11,14,350	27,986	11,42,336	1,60,024	6,246	1,66,270
493	8,703	5 5 9	239	13,51,192	13,191	13,64,383	1,58,890	5,810	1,64,700
610	5,223	10 7 3	444	14,45,501	22,517	14,68,018	1,64,920	17,119	1,82,039
705	7,116	8 7 6	498	19,33,193	19,654	19,52,847	2,53,112	55,467	3,08,579

Revenue and Finance transactions of

Number	Other Items.									
	Net Revenue	Per Cent	Judicial.						Charges.	
			Receipts.			Charges.			Sundry Items received.	Post Establishment.
			Institution fees	Fines.	Total.	Judicial.	Police.	Total.		
63	64	65	66	67	68	69	70	71	72	
1	16,91,113	8 9 8	.....	2 985	2,985	.....	47,004	47,004	2 371	4,178
2	18,49 006	5 8 5	.....	2,338	2,338	.....	44,607	44 607	2,796	4 832
3	18,03 371	7 14 2	.....	2 554	2,554	.....	45,123	45,123	197	3,708
4	17 21,632	9 1 4	.....	3 323	3 323	.....	45 693	45,693	1 409	3,377
5	17 07,782	12 6 7	.....	3 474	3 474	.....	52,185	52 185	1 884	.....
6	17 48 835	11 10 1	.....	.....	.....	.....	69,522	69,522	3,453	3,856
7	17,42 402	8 15 1	9C4	2 645	3,549	59,036	51 591	1,10 527	3 546	3,420
8	19 32,881	8 12 6	706	2 234	2 940	59 150	50,617	1 09,767	2,713	3,390
9	16,68,709	9 8 9	648	2,346	2,994	45,68-	50 130	95 814	2,202	3,504
10	16 76 968	9 8 9	1 416	1,249	2 665	34,322	51,746	86,069	1,731	2 978
11	8 06 088	16 12 1	847	688	1 535	78,727	62,029	1,30 756	2 858	2 336
12	12,17,927	14 9 8	1,455	720	2 175	96 381	57 262	1 53 643	3 759	2 362
13	7,17,066	18 6 9	1,138	597	1,735	61,236	51 373	1,12 611	4 377	2,100
14	11 17,126	12 2 10	1,592	646	2 238	46 836	50,393	97,229	2 460	1 977
15	10,22,129	12 5 8	3 582	820	4 411	50,103	52 958	1 03,061	3 059	1,081
16	10,72 674	13 .. 7	2,849	571	3,420	49,009	54 997	1,04 006	5 155	2 121
17	11 81,412	12 3 6	1 924	749	2,673	51 956	60,772	1 12 728	5 973	9 040
18	12,65,360	11 13 4	4,431	1,006	5,437	57 829	58 720	1,16,549	3 984	3 553
19	12 82,375	11 14 3	1 978	652	2 630	46 177	60 506	1 06 683	3 676	5 247
20	11,96,593	11 8 1	2 034	814	2,848	44,296	60,208	1,04,504	3,631	4,975
21	10,90,180	13 11 8	2,652	1 835	4,487	45 855	57,365	1,03,220	3 619	4,707
22	10,28 763	11 13 10	2 215	1,835	4 050	66,662	56,567	1 23 229	3 409	3,438
23	11,43,790	12 .. 8	2 341	1,543	3 884	68 978	56,644	1,25 622	3 066	3,408
24	15,65,590	11 .. 6	3 859	3,619	7,458	72 398	50,621	1 23,019	3 286	4,664
25	16,01 571	13 6 ..	5 927	3,410	9,337	66,504	49,186	1,15,690	3 699	5 252
26	16,40 054	16 10 4	3 797	3,078	6 875	57 679	47,738	1,05,417	3,646	5,234
27	17,38 309	13 15 6	3 001	3 499	6,500	53 087	48 670	1 01,757	3 883	5,110
28	17,71 755	15 4 10	3 65	2 975	3,340	52,693	49,935	1,02,628	3,894	4 743
29	15,23 277	16 11 1	205	2 229	2 434	59,442	49 094	1,08,536	3 483	4,728
30	15,47,948	16 9 4	348	1,566	1,914	56 652	48 434	1,05,086	3,798	6,965
Total	430 72,686	.....	50,197	56,010	1,06 207	13,80 695	15,91,690	29,72,385	98,317	1,07,287
Average	14,35 756	.....	2,091	1,039	3,662	57,525	53,356	99,079	3 278	3,699
Quinquennial Average.	17,54 580	9 11 5	.....	2,935	2 935	.....	46 922	46,922	1,731	3,219
	17,53,959	9 11 ..	735	1 695	2,430	39,639	54,721	94,360	2 229	8,430
	9,76,066	14 8 10	1,723	696	2,419	66,657	54,803	1,21,460	3 362	1,971
	11 99 683	12 1 1	2,642	758	3,401	49,853	59,041	1,08,894	4 484	3,787
	12,85 979	12 6 4	3,395	2,448	5,843	64,079	54 077	1,18,156	3 316	4,294
	16 44,268	15 12 9	1 542	2,669	4,212	55 911	48,774	1,04,685	3 741	4 756

30 years ending 11th July 1852.

Other items.									
Charges.									
Office rent.	Pensions.	Civil Hospitals, and Vaccine Establishment.	Charges; Merchandise on Treasure.	Ordinary, General Miscellaneous charges.	Allowances to un-employed Civil Servants.	Public roads, and repairs of roads.	General Charges extraordinary.	General Buildings and repairs of do.	Extra, general charges, arrears of do
73	74	75	76	77	78	79	80	81	82
1,014	4 829	1 344	1,574	...	..	..	2,202	..	..
725	3,667	1 344	942	...	..	..	4,775	..	..
420	2 701	1,344	913	...	..	..	957	..	..
711	2,313	1,344	869	...	..	..	21,361	..	..
225	2,376	1,344	888	...	..	..	33,139	..	..
613	3,255	1,344	947	...	..	..	1,447	..	..
5 121	4,486	1 344	804	...	..	..	11,156	..	..
744	5,499	1,344	943	...	..	..	4,465	..	..
739	4 854	1 291	785	...	..	..	10 074	..	..
730	4 595	1,052	819	...	..	..	12,093	..	..
408	4,564	1,538	364	...	..	..	..	..	23,362
421	3,792	1,068	410	...	..	63,341	..	..	34,538
420	2 917	937	302	...	..	..	..	43	4,246
601	2,644	799	382	...	..	..	..	110	1,781
445	2,219	541	373	...	2,580	1 670	..	66	1,488
759	2 511	541	504	...	..	431	..	1,063	1,457
700	2,649	546	764	...	..	591	..	395	1 976
840	2,682	546	572	...	..	471	..	266	1,840
676	2 672	570	530	...	474	1,085	..	..	1,690
759	2,565	554	641	...	..	1 672	..	93	2,513
911	2,315	546	421	430	..	21,653	..	46	2,050
925	2,323	546	443	2,432	..	1 015	..	..	47
931	1 952	546	433	2,537	1 625	1,674	..	..	..
456	1,891	541	511	2,364	..	609	..	2,899	..
631	2,185	640	561	2,736	..	747	5	..	74
975	2,191	742	447	2,558	..	2,534	..	995	7 65
1,120	2,109	794	445	1,579	..	3,957	379	284	..
835	1,673	881	369	1,497	..	6,271	..	395	59
857	1,555	1,543	328	1 185	..	5,315	214	454	35
1,185	1,489	1,342	386	1,098	..	3,098	96	418	107
25,900	87,478	28,870	18,670	18,466	4,685	1,18,171	1,02,363	7,527	78,028
863	2,916	962	622	1 846	1,561	6,453	7,311	537	459
619	3,177	1,344	1,037	..	..	..	12,487	..	..
1 589	4 538	1,275	860	..	..	..	7,847	..	..
459	3 228	978	366	..	517	13 007	..	44	13 083
747	2,616	552	602	..	95	852	..	363	1,895
772	2,133	565	474	2,110	325	5,140	1	589	434
994	1,803	1,060	395	1,583	..	4,235	138	509	193

Note. In Column No 74 are included.

1 Pensions of General Nature.

2 Native Pension Fund.

3 Superannuation Pension.

4 Carnatic stipends.

5 Families of deceased servants.

In the Official Accounts each is separately shown.

Revenue and Finance transactions of 30 years ending 11th, July 1852.

Number.	Other charges.								Net Revenue after deducting the charges in column 90 from column 89.
	hCharges.					Total.		Net charges after deducting the amount in columns 88 from column 89.	
	Public Instruction.	Thug Department, Law charges, Refunds of medical Funds.	Military Books.	Refunds of Subscriptions to the late N. P. F.	Total.	Receipt of Columns 67 and 71.	Charges of Columns 70 and 67.		
1	1,441	..	16,582	5,356	63,586	58,230	16,32,882
2	16,285	5,134	60,892	55,758	17,93,248
3	..	69	47,915	..	58,027	2,751	1,03,150	1,00,399	17,02,972
4	72,490	..	1,02,465	4,732	1,48,158	1,43,426	15,78,206
5	1,19,629	..	1,57,601	5,358	2,09,786	2,04,428	15,03,354
6	83,716	..	95,178	4,453	1,64,700	1,60,247	15,88,588
7	87,491	..	1,13,822	-7,095	2,24,449	2,17,354	15,25,048
8	..	633	54,553	..	71,574	3,653	1,81,341	1,75,688	17,57,192
9	63,945	..	85,192	5,196	1,81,006	1,75,810	14,92,899
10	85,609	..	1,07,876	4,396	1,93,945	1,89,549	14,87,418
11	324	..	81,933	..	1,14,834	4,393	2,55,590	2,51,197	5,54,891
12	324	..	70,828	..	1,77,083	5,934	3,30,726	3,24,792	8,93,135
13	324	..	52,629	..	63,918	6,112	1,76,529	1,70,417	8,46,649
14	344	..	55,489	..	64,153	4,698	1,61,382	1,56,684	9,60,442
15	77,691	..	88,165	7,774	1,91,226	1,83,452	8,38,677
16	58,820	..	68,217	8,575	1,72,223	1,63,648	9,09,026
17	..	2	54,599	..	65,264	8,646	1,77,992	1,69,346	10,12,066
18	..	1	63,731	1,650	76,154	9,421	1,92,703	1,83,282	10,82,078
19	..	123	68,811	176	82,054	6,306	1,88,737	1,82,431	10,99,944
20	94,209	18,855	1,26,836	6,479	2,31,340	2,24,861	9,71,732
21	75,028	11,300	1,10,409	8,106	2,22,629	2,14,523	8,75,657
22	..	1	90,220	1,189	1,02,629	7,459	2,25,858	2,18,399	8,10,364
23	66,753	..	79,859	6,950	2,05,481	1,98,531	9,45,259
24	76,024	142	90,107	10,744	2,13,126	2,02,382	13,63,208
25	91,007	141	1,03,983	13,036	2,19,673	2,06,637	13,94,934
26	77,551	391	94,383	10,521	1,99,800	1,89,279	14,50,775
27	79,412	126	95,315	10,383	1,97,072	1,86,689	15,51,620
28	79,759	212	96,693	7,234	1,99,321	1,92,087	15,79,668
29	78,936	2	95,152	5,917	2,03,668	1,97,771	13,25,506
30	77,681	61	90,926	5,712	1,96,012	1,90,300	13,57,648
Total.	1,316	829	20,87,900	34,245	27,19,763	2,04,524	56,92,121	54,87,597	37,585,089
Average	329	138	71,996	2,853	90,658	6,817	1,89,737	1,82,919	12,52,836
Quinquennial Average.	..	14	48,295	..	70,192	4,666	1,17,114	1,12,448	16,42,132
..	..	127	75,063	..	94,728	5,359	1,89,088	1,83,730	15,70,229
..	263	..	67,714	..	1,01,631	5,782	2,23,091	2,17,308	7,58,759
..	..	25	68,034	4,136	83,705	7,885	1,92,599	1,84,714	10,14,969
..	79,806	2,554	99,197	9,259	2,17,353	2,08,094	10,77,884
..	78,668	158	94,494	7,953	1,99,179	1,91,225	14,53,043

On a general review of all that has been adduced in the foregoing Memo and Statements, these three reflections suggest themselves.

First, the great use of collecting and arranging all our available statistical information.

Second, that a vast amount of such information, quite accurate enough for practical purposes, can be obtained as in the case of Guntoor, without a professional Survey. Indeed, every particular except a mathematically exact measurement of land, can be supplied by our own agency.

Third, that the rates of Assessment in Guntoor both in wet and dry land are exceedingly moderate, and that the District is now well peopled and stocked; yet that it has not progressed for some years. This is explained apparently by the absence of export Traffic, and hence the need of Canals and other communications.

(Signed) H. STOKES.

REVENUE DEPARTMENT.

No. 491.

Extract from the Minutes of Consultation under date the 26th April 1855.

Read the following letter from the Secretary to the Board of Revenue.

Returning, with reference to Extract Minutes Consultation, 14th April 1855, the papers connected with the Godavery and Krishna Works, and stating the reason why delay has occurred in furnishing the information called for, regarding these works } Here enter 19th April 1855, No. 914. /

1. The Government resolve to transmit the papers received with the foregoing letter to the Commissioner for the Northern Circars, together with copy of Extract Minutes Consultation of May 29th 1852, No. 493, and Paras. 1 and 3 of that of December 7th 1854, No. 1592, as well as, of the Board's Proceedings of April 2nd 1855, No. 822, with the request that he will supply at his early convenience, the information required.

2. The Commissioner will perceive that it is the wish of the Government, for the complete avoidance of error on a subject of so much importance, and on which such different opinions are entertained, that, the interesting and able reports by Mr. Taylor on the works in Rajahmundry, should be carefully tested; and, that in order to complete the subject, information similar to that afforded by Mr. Stokes respecting the Guntoor District, should be obtained from that of Masulipatam. The Governor in Council hopes, that Mr. Goldingham will be able to give the subject his very early attention.

3. It is here only necessary to notice one subject treated of in Mr. Taylor's reports, viz. that of Teerwajasty, or addition of demand on account of the irrigation supplied by the new works. The Government are fully alive to the good policy of liberality in this matter, and wish the increased demand to be made, neither too soon nor at too high a rate. But there is a proper limit to this indulgence. The Government are obliged to consider alike the interests of all parts of its territories; and extraordinary moderation can only be shown in Rajahmundry, by continuing burdens admitted to be excessive in other Districts. The fact noticed by Mr. Taylor*

* Report, without date, para. 28. that in many instances, the assessment of Poonjah land is higher than that of Nunjah, does not appear of much consequence in the matter. It is certain, that, in peculiarly favourable localities, such as are to be found in parts of the Rajahmundry District, Poonjah land yields more than poor and precariously irrigated Nunjah, such as much of that in this district has hitherto been.

4. A good survey and a careful and skilful re-assessment are no doubt necessary to adjust the old assessments to the new state of things; but, meanwhile something may be done towards obtaining a moderate return to Government for its outlay. In Extract Minutes of Consultation January 5th 1855, the Government passed orders on the late Commissioner's proposal for doing that, by levying a sum on each kind of crop raised by the aid of Government-water, supposed to be equivalent to a certain proportion of the profits to the Ryots from such crop. Though objecting to the principle of making the rate vary with the crop, the Government sanctioned the proposed measure, pending the introduction of a survey. It would seem very desirable however, that

it should be considered whether even retaining that principle, a certain rate for an acre or other given extent, for each of the kinds of crop, might not be fixed so as to lessen the large quantity of inquisitorial interference, apparently involved in the plan as it now stands. The present Commissioner may also consider, whether a uniform rate per acre might not be adopted in place of varying the rate with the crop; only making a difference between those kinds of crop which need full irrigation, and those which consume a much smaller quantity of water. This would still further lessen interference, and would also abolish the premium on the cultivation of inferior Crops held out by this opposite plan.

5. In submitting the information called for above in para. 2, Mr. Goldingham will be good enough to give attention also to this part of the subject, and to give both a statement of the extent of land now liable to Teerwajasty, and the amount, with as much accuracy as may be attainable; and also an estimate of the probable extent and amount still to be anticipated;—similar information should be given respecting the Zemindaries.

(True Extract.)

(Signed) J. D. BOURDILLON,

Secretary to Government.

REVENUE DEPARTMENT.

Extract from the Proceedings of the Board of Revenue, dated 21st May 1855, No. 1325.

In accordance with the instructions of Government conveyed in Extract Minutes of Consultation, dated 7th December and 14th April last, the Board proceeds to scrutinize the detailed statements furnished by the Collector of Tanjore regarding the Revenues and Maramut* expenditure of his District, and to offer remarks on the effect which the Coleroon Annicuts have had upon the Government revenue and prosperity of that Province. The subject to which the attention of the Board is thus directed includes some of the statements which were made by Colonel A. Cotton in his book on Public Works in India, and are contradicted by P. B. Smollett, Esq., in his Pamphlet "Modern Hydraulic Works in Tanjore and Rajahmundry examined," as Government make special allusion to the discordant publications of those two gentlemen.

2. The Board will first offer remarks on the Collector's detailed statement of the revenues of Tanjore, which has been forwarded for their scrutiny. It exhibits the revenues of that province as realized "from all sources, from fusly 1210 to 1262, A. D. 1800 to 1852," and is accompanied by a Memorandum explaining the manner in which, for the sake of clearness, it has been drawn out. Modifications, for example, have been made in the revenue entries on account of occasional alterations in the area of the District, such as the transference of the Karical villages to the French, and the incorporation of Tranquebar, which would otherwise have vitiated the comparison of one period with another; the collections have been carried to the account of the year for which they were due, although made in a subsequent one, and the provincial currency of chuckrums and fanams has been converted into Madras Pagodas at one uniform rate, although there was a difference in rates of conversion employed previously to and after 1817. The Collector's statement thus differs from the detail of the Revenues of the Province in the Board's Office, but, allowing for the causes which have led to this variance, the Board see no season to question its substantial accuracy, and propose to make use of it in these Proceedings. A comparison between the Board's accounts and the Collector's statement gives the following result.

QUINQUENNIAL AVERAGES OF TANJORE REVENUES ACCORDING TO ACTUAL COLLECTIONS.

	From Collector's Statement.			From Board's Records.		
	Land Revenue.	Extra Revenue.	Total.	Land Revenue.	Extra Revenue.	Total.
Five years. $\frac{1810}{1800}$ to $\frac{1814}{1804}$	31,77,639	1,63,047	33,40,686	Incomplete	in the	Board's Office.
Do.... 1215 to 1219.. . . .	32,77,314	3,05,733	35,83,047	32,35,843	3,05,365	35,41,208
Do. 1220 to 1224	32,47,593	5,77,064	38,24,657	33,58,266	5,81,147	39,39,413
Do..... 1225 to 1229...	32,15,128	6,82,704	38,97,832	31,61,382	6,79,773	38,41,155
Do 1230 to 1234...	37,58,763	8,82,975	46,42,738	38,65,535	8,93,194	47,58,729
Do..... 1235 to 1239...	32,76,131	9,63,353	42,39,484	32,14,397	9,47,300	41,61,697
Do..... 1240 to 1244	36,34,147	9,37,012	45,71,159	36,88,654	9,47,109	46,35,763
Do..... 1245 to 1249...	36,76,830	9,95,467	46,72,297	36,98,124	9,96,892	46,95,016
Do 1250 to 1254...	36,36,967	9,56,917	45,93,884	36,29,160	9,56,788	45,85,948
Do..... 1255 to 1259...	40,00,160	8,99,375	48,99,535	40,04,472	8,98,822	49,03,294
Do..... 1260 to 1262...	38,80,086	9,81,600	48,61,686	38,70,210	9,78,009	48,48,219

3. The Board now proceed to the next branch of the subject, and observe, that Colonel Cotton has estimated the effects of improvement in works of irrigation, bridges, and roads in Tanjore in 2 forms. The first embraces the whole period that the District has been under British

rule, and the second the period since the construction of the Coleroon Annicuts in 1856. It is the latter of these periods that comes most directly under the Board's consideration, and they doubt whether they are required to report how far the general expenditure on Public Works during a period of 50 years has affected the revenue, a point which cannot be clearly ascertained, and must rest much on individual opinion; but as some observations are doubtlessly expected from them regarding Colonel Cotton's statements of the amount expended on Public Works, and the extent to which the revenues have increased, they beg to submit the following remarks.

4. In pages 19 and 62 of his book, Colonel Cotton observes, that an annual expenditure of Rupees 40,000, on works of irrigation and communication steadily pursued for 50 years, and amounting on the whole to 20 lacs (£ 2,00,000), has increased the public revenue to a similar extent, or £ 20 lacs per annum, an assertion which is contradicted by Mr. Smollett. (Pamphlet, page 3 et. seq.) Colonel Cotton appears in this passage to omit expenditure on repairs, and allude to new works alone, for at page 13 of his book, he speaks of the annual Maramut expenditure as Rupees 80,000, which would raise the total outlay for the period under discussion from 20 to 40 lacs, while in his report on the irrigation of the Rajahmundry District he mentions 32 lacs as having been expended on irrigation alone in Tanjore during the first 40 years of our rule; but the total expenditure of Government amounts to the larger sum of 52 lacs (see Appendix B), of which 43 lacs were expended on works of irrigation and 9 lacs on works of communication, and as far, therefore, as the increase in Tanjore Revenues is to be ascribed to Public Works, the Board consider that it must be attributed to an expenditure of 52, and not of 20 lacs.

5. Colonel Cotton's statement of the Tanjore Revenues having increased 20 lacs, or from 30 to 50 lacs per annum, requires also some modification. It may be assumed that Colonel Cotton in speaking of this supposed increase alluded not only to the land Revenue, but also to what are termed the extra sources of Revenue; such as Salt, Sea and Frontier Customs, Stamps, Abkarry, Moturpah, &c. The actual Collections under all heads in every year from Fusly 1210* the first of our administration to Fusly 1262 are therefore exhibited in Appendix A, and the examination of them calls for the following observations. Omitting Fusly 1210, when the land Revenue was improperly increased one-fifth by the Collector raising the Government share of the produce, an error which was corrected in the subsequent Fusly, the Revenue Collectors of the first 5 years of our rule were as follows:—

Dated 12th August 1844,
see quotation from it in 1st
Report of the Public Works
Commissioners, Page 255.

* The Fusly or Revenue
year commences in July Fus-
ly 1210, commenced in July
A. D 1800, and ended in
July 1801.

Fusly.	Land Revenue.	Extra Sources.	Total.
	Rs.	Rs.	Rs.
1211	31,27,714	1,54,755	32,82,469
1212	26,63,257	1,14,045	27,77,302
1213	23,58,761	1,04,268	24,63,029
1214	33,31,028	1,83,540	35,14,568
1215	31,00,301	2,65,148	33,65,449
Average....	29,16,212	1,64,351	30,80,563

The average total Revenue of this period may therefore be assumed at 31 lacs, and if the average of the last five years of Colonel Cotton's series is examined, it will be found to be rather above 48 lacs.

Fusly.	Land Revenue.	Extra Sources.	Total.
	Rs.	Rs.	Rs.
1257	39,11,819	9,12,594	48,24,413
1258	37,55,985	8,74,285	46,30,270
1259	38,64,907	9,31,366	47,96,273
1260	39,03,575	9,91,567	48,95,142
1261	39,07,644	10,11,859	49,19,503
Average...	38,68,786	9,44,334	48,13,120

The increase may therefore be taken at $17\frac{1}{4}$ lacs, of which $9\frac{1}{2}$ lacs occurred in the land, and $7\frac{3}{4}$ lacs in the Extra Sources of Revenue. There are only 3 years when the Revenues have exceeded 50 lacs, one before and two after the construction of the Coleroon Annicuts, *viz.*

	Fusly. Land Revenue.	Extra Sources.	Total.
	Rs.	Rs.	Rs.
1234	49,63,433	9,19,716	58,83,149
1255	42,44,277	8,57,037	51,01,314
1256	42,23,812	9,21,593	51,45,405

6. But although a comparison of the first and last quinquennial periods of Colonel Cotton's series gives an increase of $17\frac{1}{4}$ lacs, this by no means implies, nor do the Board suppose that Colonel Cotton intended to imply, that there has been an average increase to that extent per annum throughout the whole period. The fact simply presents a contrast between the extreme periods of a series of years when the Revenues happened to be at their lowest and highest points, and the Board would submit that the correct mode of putting the case would be to state that the Revenue has risen from 31 to 48 lacs (and not 30 to 50) in the course of 50 years. A comparison of the Revenue of the first quinquennial period (31 lacs) with the average of the next 48 years, or from

Fusly 1216 to 1262 inclusive, shews an annual average increase* of $12\frac{1}{2}$ lacs, of which as nearly as possible half occurred in the land and half

* See Appendix A.
in the Extra Sources of Revenue.

7. After thus ascertaining that in the course of 50 years, the Revenue has risen from 31 to 48 lacs, the question arises how far the increase of 17 lacs is due to the expenditure which has been made upon Public Works. As this is a point upon which it is evident that accurate data cannot be obtained, and respecting which individual opinions may be expected to vary, the Board will not attempt to define with precision what part of the increase is due to Maramut expenditure, and what portion is to be ascribed to a better revenue administration and other causes. They feel, however, called upon to offer some general remarks on the subject, and to state that a consideration of the question leads them to concur with Mr. Smollett, that the greater portion of the increase cannot be ascribed to the outlay which has been made upon Public Works.

8. It is first to be observed that $7\frac{3}{4}$ lacs of the increase have occurred in the extra Revenues, and are clearly due in the main part to our mode of administration, under which new branches of taxation have been opened, such as the Salt Monopoly in 1805, and the stamps and Abkarry in 1808, while the Sea Customs and other branches of Revenue were placed on an enlarged and better defined footing. In support of this view the average collections under the above specified branches of Revenue at the commencement of our rule and during the last quinquennial period in the Collector's statement are here given.

Average Collections.		
	Five years $\frac{1210}{1800}$ to $\frac{1214}{1804}$	Five years $\frac{1255}{1843}$ to $\frac{1259}{1847}$
	Rupees.	Rupees.
Salt,.....	4,622	4,81,298
Sea Customs,	29,262	1,91,873
Abkarry,.....	13,994	92,100
Stamps,.....	"	40,453
	47,878	8,05,724
Increase in last period, ..		7,57,846

Note. The Exports by Sea from Rajahmundry have increased six-fold since the Godavery works. See Captain Ruddle's Report, dated 24th April 1855, No. 1303. Para 242—Department Public Works.

Of this increase of Revenue the portion which could most confidently be attributed to Maramut expenditure would be that in the Sea Customs, if the additional receipts had arisen from enlarged exports of produce; but on scrutinizing the accounts at the earliest period for which

	Exports.	Imports.
Average Collections of Fuslies 1235 to 1239.	87,039	43,735.
Do. of 1260 to 1262,.....	49,283	1,48,668.
Increase in latter period,	12,244	1,04,933.

they can be obtained, and comparing them with the present, it is found that $\frac{9}{10}$ of the increase is in the imports, and even as far as increased imports are a sign of enlarged

wealth, this improvement of condition cannot be assigned to Tanjore alone, as articles required for the consumption of the adjacent inland Districts are landed at its ports. The Board will not pursue this subject further, since under any circum-

Note.—Trichinopoly, Salem, and Coimbatore.

stances, it would apparently be impossible to define how far additional irrigation works and improved roads have affected these sources of Re-

venue, and the enquiry is complicated by the fiscal changes which have occurred, such as alterations in the prices of Salt and in the Stamp Duties, and the abolition of the Land Customs in 1844, accompanied by an increase in the rates of the Sea Custom's duties and in the Monopoly price of Salt. It seems sufficient for the Board to repeat their opinion that the increased receipts derived from the Extra Sources of Revenue are mainly ascribable to the opening of new heads of taxation, such as the Salt and Stampst, &c., the remodelment of other branches, and to observe that this view is supported by the result of our administration in other Districts, where these Revenues have also increased, although no large expenditure has been made on roads and irrigation improvements.

9. The increase of $9\frac{1}{2}$ lacs which has taken place in the land Revenue is next to be considered, and when we look back to the Revenue administration of Tanjore during the first quinquennial period, with which the comparison is made, it seems reasonable to conclude that the increase is owing in a considerable degree, (not entirely, for since 1836 the Anicuts have produced a direct effect which will be noticed hereafter,) to a more efficient and better organized system of management. Late years present a far different example of administration and security to the people than do those of 1801, 1805. The Board would not wish to reflect on the character of Mr. Harris, who subsequently obtained such a high degree of confidence, but it is true that the Records of the Board shew that his management was worse than defective, and such as must have very greatly effected the just rights of Government. It may be sufficient to quote from a Minute of Lord W. Bentinck, dated September 21st 1840, when, in consequence of the Report of a special Committee he removed Mr. Harris from his situation as Collector of Tanjore. "The principal fact which we have now under our consideration, is the existence of a general combination between the Circar servants and the Landholders, to defraud the Revenue. It appears that the conspiracy has not been confined to a remote part of the Province, or to a few individuals, but has extended to every part, and has involved every person, that it has been in

* 10,85,000 Rupees,

"full effect during the last two years and a half, that 3,10,000 Pagodas* is the amount of frauds upon the Revenue, and of exaction upon

Note.—In the first 36 years, or up to the construction of the Culeroon Annicuts, the expenditure amounted to 30 lacs, and the Annual Revenue rose 15 lacs, while in the next 17 years, the outlay has been 20 lacs and the Annual Revenue has risen 24 lacs, only, though the Annual expenditure was considerably larger,

especially when it is to be observed from the statement of Maramut expenditure given in Appendix B, that the Revenues do not shew the greatest increase when the largest outlay was made. Although, therefore, the Board would be most unwilling to dispute that the expenditure on Public Works in this province has had a beneficial effect on the land and Extra Sources of Revenue, and are, on the contrary, satisfied that it has been profitable both to the Government and the Province, they cannot concur in the very high influence on the Government Revenues which has been attributed to it by Colonel Cotton,

10. It has been explained in para. 5, why, in examining this part of the question, it appeared just to Colonel Cotton to leave Fusly 1210 out of the comparison, on account of the height to which the mistaken zeal of the Collector raised the land Revenue by an improper exercise of authority. It remains to add, that in a similar spirit of fairness Fusly 1263 has not been included in these proceedings. Fusly 1262 was itself an unfavorable year in Tanjore on account of the damages

* Government remitted Rupees 2,64,613.

done by a hurricane; but although the remissions which were necessary* on this account reduced the collections, the produce was not otherwise below the average, and this year has been included in the accounts. Fusly 1263, which followed it, was however a season of almost unparalleled drought, and

of so disastrous and exceptional a character, that allegations might have been made against the justness of the results arrived at if this season had been brought into the accounts by the Board, especially as the closing year of the period under review.

11. The Board now proceed to the subject of the Coleroon Annicuts, which has been more especially referred for their consideration, and as detailed descriptions of these works are already before Government in various reports, and are also to be found in the printed professional papers of the corps of Engineers, and in the first report of the Madras Public Works Commissioners, it is sufficient to make a brief allusion to the purposes for which they were constructed.

The irrigation of Tanjore depends almost exclusively on the Cauvery river which divides into two branches a few miles to the west of Trichinopoly, one of which retains the same name, while the other is called the Coleroon. For many years the bed of the Cauvery was found to be silting up, while that of the Coleroon was deepening, so that most of the water which was required for the irrigation of Tanjore escaped uselessly to the sea by the latter river. Much expense was annually incurred in clearing the sand out of the Cauvery bed to remedy this evil, but this and other expedients produced only a temporary improvement, and at last a proposal made by Captain A. Cotton to throw an Annicut across the head of the Coleroon was adopted. But as this measure was likely to diminish the irrigation supplied from the Coleroon to the Manargoody and Chellumbrum Talooks of South Arcot, a second Annicut was at the same time thrown across the Coleroon just below the head of the Vadavaur, through which an increased supply of water is now poured into the Veeranum tank, while two new and important channels have been excavated, the South Rajah Voikal for the benefit of the Sheally Talook of Tanjore on the south side of the river, and the North Rajah Voikal for improving the general irrigation of Manargoody and Chellumbrum. These large masonry weirs were constructed in 1836, and are called respectively the upper and lower Coleroon Annicuts. The first came into operation in Fusly 1246 (1836) all the channels of the latter were not ready to supply irrigation till the following year 1247 (1837).

12. The Board propose to consider the questions connected with the Annicuts in the following order.

1st. Have these works increased the public revenue 10 lacs per annum, raising it from 42 to 52 lacs, according to the assertion which is made by Colonel Cotton at page 208 of his book, and which forms one of the points on which he is contradicted by Mr. Smollett.

2nd. What is the actual addition which the Annicuts can be shown to have made to the Land Revenue?

3rd. What has been the cost of these works and the net profit derived from them? After considering these points the Board will conclude with offering a few remarks on the general subject.

13. It is here proper to allude to the question "which is to be considered the first year in which the effect of the upper or principal Annicut was felt in Tanjore?" A discussion formerly took place on this point, and it was eventually ordered by the Board that Fusly 1246 should be considered the first Annicut year, a decision which seems correct, as the Principal Collector had observed* when reporting on that season. "But for the effects of the upper Coleroon Annicut in throwing an unusual quantity of water into the Cauvery the failure of crops must have been immense." As the river freshes were so scanty in that year as to diminish the land under cultivation, the question is of some importance, since the great test for ascertaining the efficiency of the Annicuts is to compare *the extent of wet cultivation* before and after they were built, and it is consequently unfavorable to the upper Annicut, that a year in which the river supply was so deficient should have followed its construction. The Board observed, that Mr. Smollett in his pamphlet includes Fusly 1246 in the series of years *before* the Annicut, but that Gentleman founds all his arguments on the amount of the Land Revenue settlement or demand, and in a revenue point of view Fusly 1246 was not an unfavorable year, since under the Oolungoo system which will be hereafter alluded to, and which is explained in Appendix C, the high price of grain added more in that year to the revenue demand than was lost by a falling off in the extent of land under cultivation.

14. The Board now proceed to the consideration of the first of the three questions connected with the Annicuts,—Colonel Cotton's estimate of their having added annually 10 lacs, or £1,00,000 sterling to the Government revenues. It is presumed that Colonel Cotton alluded to the general revenues, and not to the land revenue only, but even regarding the subject in this

*Principal Collector Mr. Kinnerally, to Board, 27th October 1839, p. 2.

extended view, the Board cannot find that any such annual increase as 10 lacs has followed the construction of the Coleroon Weirs. The revenues of Tanjore both before and after the construction of these Annicuts can be referred to in Appendix A, and the Board propose to elucidate the point under discussion by contrasting the two periods of ten years which immediately preceded and followed the construction of the upper Annicut. They are not aware that any just exception can be taken to this comparison, as the first period includes some unfavorable seasons, and the time when the failing state of the Cauvery irrigation attracted most notice.

	Land Revenue.	Extra Sources.	Total.
Average Collections of 10 years before Annicut, 1236 to 1245 inclusive.....	3,438,144	958,630	4,396,774
Average Collections of 10 years after Annicut, 1246 to 1255 inclusive.....	3,745,241	961,439	4,706,680
Increase in latter period.....	307,097	2,809	309,906

Adding to the increase thus shewn Rupees 90,000 on account of the improvement made to the revenue of the 2 Southen Talooks of South Arcot by the lower Annicut, the total annual increase in the latter period is found to fall somewhat short of 4 lacs, and even therefore if all this additional revenue is admitted to be due to the Annicuts, the Board would feel that Mr. Smollett had not impugned Colonel Cotton's assertion of an annual addition of 10 lacs without good grounds.

15. The second question then comes under consideration, what is the actual addition which the Annicuts can be proved to have made to the Land Revenue? and the Board propose to ascertain this point by examining the extent of wet land under cultivation before and after their construction and the revenue derived from it. Easy, however, as this course might be expected to prove, *considerable difficulty* is experienced in ascertaining the exact addition which the Coleroon Annicuts have made to the revenues of the state, in consequence of the various modes of assessment which prevail in Tanjore, inclusive of grain and village rents, and the manner in which the revenue payable to

Government by the land-holders under the Oolungoo* system is affected by the price of grain. This latter circumstance leads to the anomaly that a decrease of revenue accompanies occasionally an increase of cultivation or the converse, and it was with reference to this difficulty that Government recorded the following observations. "The price which the produce may realise cannot fairly enter into a comparison of the effects of the Annicuts. Prices in Tanjore depend upon external circumstances and the results of the season in other Districts, and the only fair test of the effects of the Annicuts is the extent to which they ensure and control the irrigation of the country."

16. The effect which the Annicuts have had in "ensuring the irrigation of the country" is to be regarded in two points of view; 1st, the increased extent to which cultivation has been carried on in the river irrigated lands; 2ndly, the additional productive power conferred on these lands as shewn in the produce returns, the diminished amount of remission granted for failure of crops, and the additional money value which land has acquired. As the immediate point under enquiry is *the actual increase of revenue which Government has gained by the Annicuts*, the first of these two heads will now be considered, such additional Revenue as appears to have arisen from the conversion of dry land into wet, and the extended cultivation of a second rice crop being at the same time adverted to.

17. Since the construction of the upper Annicut its effect on the land Revenue of Tanjore has been specially noticed, by order of the Board, in the annual Jummabundy reports, and has formed the subject of continual scrutiny and comment. Although, therefore, fluctuations of price have affected the annual settlements and the precise additions made to the Revenue by dry land being converted into wet, or single crop into double crop land cannot be ascertained in consequence of many villages being rented out, materials exist for shewing with confidence the additional amount of Revenue which is ascribable to the Annicuts. For this purpose it is proposed in the first instance to ascertain the total area of the land under river irrigation, and to compare the portion of it which has been cultivated previously to and after the construction of the Annicuts. The assessment actually levied on the additional area under cultivation will be then shewn as well

as the Revenue which would have been collected upon it, if the price of grain had not fluctuated, but remained at the standard rate.

18. The river irrigated area of Tanjore comprises 97,006 valies, and on comparing the portion cultivated before and after the Annicuts, the following result is obtained.

	Average Cultivation.	Standard Beriz.	Settlement Beriz at Current price.	Revenue actually realized, deducting subsequent remissions.
Before annicut, from Fusly } 1240 to 1245 both inclusive. }	Valies. 83,581	Rupees. 28,67,437	28,31,404	28,06,554
After annicut, from Fusly 1246 } to 1262 inclusive..... }	90,277	30,83,466	30,11,448	29,84,506
Increase..	6,696	2,16,029	1,80,008	1,77,952

Appendix E contains details of this comparison, with explanation why the accounts have been made to commence with Fusly 1240, and it will be observed that the cultivation of the river lands has increased by 6,696 valies, or 8 per cent. since the construction of the Annicuts, and that the annual addition thus caused by them to the land Revenue of the province consists of Rupees 1,77,952.

19. Enquiry has been made whether any sum is to be added to the above increase on account of the effects of the Annicuts in converting dry land into wet, or enabling a second rice crop to be raised on single crop land. Information on this point was specially called for by the Board in 1838 with respect to the upper or most important Annicut, but the Principal Collector observed in reply, that the chief object of the Annicut was to restore the deteriorated irrigation of the province, and that its beneficial results were then visible only in the more extensive and successful cultivation of the wet (Nunjah)

Principal Collector to Board, 11th August 1838.

lands. On scrutinizing the Jummahbundy accounts of the following years, the same result appears,

Nota.—The largest increase on account of dry land converted into wet is in the Jummahbundy accounts of 1262, and consists only of Rupees 1,189. The largest increase on account of increased 2nd crop cultivation is in 1257, and deducting the decrease under the same head, is limited to Rupees 3,469.

and the increase of Revenue from wet cultivation on dry land and the extension of a second crop is so insignificant, that it is proposed to omit these items altogether in considering the effects of the upper Annicut. To account for this result it may be observed, that the land in the Tanjore Delta has been always rated as Nunjah, that from the absence of tanks and reservoirs for storing up water, second crop cultivation has been always limited, and that from the nature of the Revenue system in the Oolungoo and rented villages, additions on account of 2nd crop cultivation, or the conversion of dry land into wet, are mixed up with the general increase of the Revenue.

20. According, therefore, to the comparison given in para. 11, the Board are of opinion that the actual increase of Revenue directly ascribable to the two Annicuts in Tanjore amounts to the annual sum of Rupees 1,77,952, and they consider that this is no imaginary or hypothetical gain to Government, but one that is clearly established by the annual accounts of the lands under cultivation for which Assessment was paid, and by the amount of the collections received into the Public Treasury. The Total annual increase of land Revenue ascribable to the two Annicuts is therefore as follows:—

	Rupees.
Increase caused by the Upper and Lower Annicuts in Tanjore...	1,77,952
Do. by the Lower Annicut in South Arcot.....	90,000
	<hr/>
Total increase.....	2,67,952

* Upper Annicut in Tanjore..	1,73,575
South Rajah Voikal in do. ..	18,511
Lower Annicut in South Arcot..	1,01,640
	<hr/>
Total Annual increase....	2,88,727

This result corresponds closely with those * entered in the printed list of special Works of Irrigation prepared by the Board of Revenue, Department Public works,

under date 14th May 1852, and in the Report* of the Public Works Commissioners written in the same year. It also confirms generally the anticipations which were expressed when the construction of the Annicuts was under consideration. The calculations then made were as follows.

* See Para 273 and Appendix B.

Upper Annicut.....	1,38,861
South Rajah Voical in Tanjore...	13,511
	<u>1,15,061</u>
	<u>2,67,452</u>

It also confirms generally the anticipations which were expressed when the construction of the Annicuts was under consideration. The calculations then made were as follows.

UPPER ANICUT.

Rupees.

Report of Captain A. Cotton, to Inspector General, 15th July 1834. Do of Mr Kindersley, Pricipal Collector of Tanjore, to do. 6th August 1834. Do. of Mr. Denb, Principal Collector of South Arcot, to do. 12th December 1834.	Expected immediate increase in Tanjore from the regular and secure cultivation of the lands dependent on the Cauvery river, exclusive of further after additions.	} 1,00,000	
	LOWER ANICUT.		
	Expected increase, chiefly in South Arcot, from waste land being cultivated and dry land converted into wet.		} 1,30,000
	<u>2,30,000</u>		

Having thus shewn that an actual and *bond fide* increase of Revenue to the amount of Rupees 2,67,952 per annum is directly ascribable to the two Annicuts, some brief observations will be made hereafter on the general advantages they have conferred on Tanjore by securing the land Revenue, increasing the value of land, and adding to the general prosperity of the province.

21. The Board now approach the third branch of the subject, the cost of the two Coleroon Annicuts, and the net amount of Revenue which they have yielded to the state. The sums expended on these Works, and the per centage which the net profit yielded by them bears to the original outlay, underwent careful scrutiny by the Department of Public Works, and the Mahramut Commissioners, and the result* at which they arrived after examining the bills and Revenue statements was as follows:—

	Amount of first expenditure.	Net Annual profit.	Per centage of profit on outlay.
	Rs.		
Upper Annicut.....	83,401	1,20,702	144
Lower Annicut in South Arcot..	74,234	98,786	133
Lower Annicut in Tanjore.....	60,752	8,788	14
	<u>2,18,389</u>	<u>2,28,276</u>	<u>104</u>

First obtaining the original cost of the Annicuts and their dependent Works from the sanctioned bills, the additional Revenue derived from them was next ascertained, and the net profit was fixed by deducting the outlay incurred in repairs, making at the same time an allowance for the expenditure saved to Government by their construction. Previously to the Upper Annicut being built, the defective state of the Cauvery irrigation led to large sums being expended on its improvement, while its defences* and those of the Coleroon required constant care. Part of this outlay is no longer necessary, and it is manifestly just to contrast the former and the present cost of keeping up the river irrigation, and to charge against the Annicuts the difference only, or the additional annual expense which has devolved upon the state in maintaining them, and their subsidiary works, in effective order. The subject has again undergone scrutiny and consideration, and the only change which appears necessary to be made in the former calculation is a reduction of the net profit yielded by the Lower Annicut in South Arcot from Rupees 98,726 to 90,000, an increase of Revenue amounting to Rupees 10,000 which arose from the resumption of some cavil fees having been inadvertently included in the Annicut gain, while some additional Revenue in a few rented Villages which was due to the Annicut had been omitted;

* See printed list of special works, dated 14th May 1852. First Report of Public Work Commissioners, para. 273.

* The river embankments in Tanjore exceed 2,000 miles in length.

an explanatory Memorandum drawn out on this part of the subject in the Board's Office, Department Public Works, forms Appendix D to these proceedings.

22. But the Board have thought it advisable to make a new calculation of the profits of the Annicuts, commencing with Fusly 1240, A. D. 1830-31, and carrying it on to Fusly 1263, or 3 years later than the period taken for comparison in the Board's printed Memorandum. This course gives the result of the Annicuts to the present time, and as the Revenue accounts entered in the printed Memorandum commence with Fusly 1240, when the river irrigated lands are first distinguished in the Tanjore accounts from the remaining Nunjah, it appears proper that the account of expenditure should commence from the same period. The printed Memorandum takes the outlay on the river irrigation from Fusly 1236, or for 10 years before the Annicuts, and it will be found that the result of that course is less favorable to the Annicuts than the present one.

23. The expenditure under the head of "repairs" on the irrigation of the lands affected by the two Annicuts during the 6 years which preceded their construction, is as follows:—

	Upper Annicut.	Lower Annicut.
	Rs.	Rs.
1831.....	1,14,419.....	2,695
1832.....	1,12,134.....	20,769
1833.....	1,12,126.....	23,820
1834.....	1,20,698.....	13,402
1835.....	68,793.....	18,514
1836.....	79,719.....	17,065
Average....	<u>1,01,327</u>	<u>16,044</u>

The expenditure on repairs in the subsequent years has been as follows:—

	Upper Annicut.	Lower Annicut.
	Rs.	Rs.
1837.....	92,906.....	8,096
1838.....	1,06,446.....	7,603
1839.....	1,15,882.....	16,810
1840.....	88,632.....	26,589
1841.....	87,811.....	53,371
1842.....	1,04,446.....	14,555
1843.....	1,01,069.....	8,446
1844.....	1,05,582.....	13,795
1845.....	1,40,958.....	10,293
1846.....	95,309.....	11,923
1847.....	70,103.....	9,131
1848.....	95,710.....	23,567
1849.....	65,317.....	21,532
1850.....	1,42,298.....	24,658
1851.....	1,44,974.....	23,494
1852.....	1,64,275.....	32,674
1853.....	1,17,552.....	26,633
Average...	<u>1,08,192</u>	<u>19,598</u>
Deduct average of previous years.....	<u>1,01,327</u>	<u>16,044</u>
Difference.....	<u>6,865</u>	<u>3,554</u>

The whole account then stands thus.

TANJORE.		Rupees.
Annual gross increase since the Annicut.....		1,77,952
Deduct difference in cost of repairs.....		6,865
		<u>1,71,087</u>

SOUTH ARCOT.

Annual gross increase since the Annicut.....	90,000	
Deduct difference in cost of repairs.....	3,554	
		86,446
Total net profit per Annum.....		2,57,533

The original cost of these Works was as follows.

Upper Annicut.....	83,401
Lower Annicut	99,420
South Rajah Voikal.....	11,044
North Rajah Voikal.....	23,524
Total.....	2,17,389

So that for an outlay of Rupees 2,17,389, the Government have received a clear gain of Rupees 41,20,528 in 16 years, or a profit of 118 per cent. per annum.

24. Having thus considered the 3 separate heads of the subject, the Board will offer a few general observations. They have been unable to concur with Colonel Cotton that the Maharamut expenditure made in Tanjore during a period of 50 years has increased the public revenues 20 lacs per annum, or that the Coleroon Anicuts have brought an additional annual Revenue of 10 lacs since their construction in 1836. But they are nevertheless of opinion that the sums expended by Government in improving the irrigation and communications of the Province have returned into the Public Treasury with profit both to Government and the people, though the precise extent of the general gain cannot be fixed, while the Coleroon Anicuts are shown to have yielded a return of not less than 118 per cent. on the money expended in their construction. But this result of the Annicuts, great and gratifying as it is, does not comprize all the truth. Losses of Revenue have been prevented, besides an actual addition being made to the resources of Government, and the people have benefitted by the increased productiveness and value of their lands. The advantages which have thus arisen from the Upper Annicut demand in particular some notice.

25. The principal purpose of this work was less to create new revenue than to restore a deteriorated irrigation, and its value to Government is often greatest when the Revenue returns shew a decline of revenue arising from adversities of season which the Annicut is unable wholly to overcome. A cursory inspection of the annual revenue statements may therefore cause the ad-

Letter to Revenue Board
11th August, 1836, para. 12.

vantages of the Annicut to be undervalued, but it has been fully appreciated by the Officers in charge of the Province. Thus the Principal Collector, Mr. Kindersley, when alluding to the disastrous year 1246, observes:—"Without the Annicut the failure of the crops must have been incalculably greater than it was. Indeed from the very nature of the work its operation is much more advantageous in a bad than in a good year, and I have not the slightest doubt, that the saving it effected in

* In 1847 the cultivation of the river lands exceeded the average by 3,111 values of which the standard beriz was Rupees 1,06,730.

Fusly 1246, when it gave a full river but for 68 days, were much greater than the profit derived from it in 1247,* when the river was full for 122 days, Mr. Kindersley's successor, Sir H. Montgomery, gave similar testimony that the greatest benefit which Government derived from the Annicut was in mitigating the effects of disastrous years, though then no increase was apparent in the gross amount of the Land Revenue, (letter to Board, 11th December 1840, para. 5).

26. In Tanjore the cultivation of the rice lands commences in July and August with the aid of the irrigation furnished by the Cauvery, which flows from the western coast and is filled by the South West Monsoon, but there are no tanks or reservoirs to store up water in, and the crops have to depend for coming to maturity on the local rains of the North East Monsoon in October, November, and December. The Annicut cannot, therefore, prevent the crops withering when the latter Monsoon fails, nor can it furnish irrigation to Tanjore when the Cauvery (speaking here of the river before the Coleroon separates from it) has not its usual supply. But the Annicut has furnished such valuable aid by enabling cultivation to be commenced early in the season, and by furnishing irrigation during low freshes in the river, when formerly great distress was felt, that the

* The loss on account of drought in its settlement is Rupees 4,78,637.

remissions granted for withered crops have much decreased. Omitting 1246 as an exceptional year,* unprecedented in its unfavorableness from the scantiness both of the river freshes and the North East Monsoon, the remissions granted for withered rice crops are as follows:—

	Total Remissions.	Average per Annum.
In the 6 years before Annicut, 1240 to 1245.	8,43,706	1,40,617
In 6 years after Annicut, 1247 to 1252.	3,69,302	61,550

27. Another test of the benefit conferred by the upper Annicut, to which allusion will be made, is the value of Nunjah land at different periods. In a letter addressed to the Board on 29th January 1853, the Collector, Mr. Bishop, observes :—"Vast Improvements have been made in the irrigation and drainage of the wet lands during many years, and although the ryots will not allow that much increase in the quantity of produce has attended these improvements, there can be no reasonable doubt of the fact." The statement prepared by Mr. Forbes supports this fact by showing, that according to sale deeds which passed through the Collector's Office, the average price of Nunjah land per valy was Rupees 82 immediately before the construction of the Annicuts, and that it has risen to 95-107-135 and 174 in the subsequent quinquennial periods. The numerous sales and mortgages which occurred in the 3 years 1250, 1251, and 1252, (amounting to 13,831 valies, mortgaged or sold for Rupees 2,766,197) attracted attention in the review of the settlement for 1253, and led to a consideration whether any decrease in price or produce had affected the welfare of the Meerassidars, but as the sales were most frequent in Oolungoo villages, where the assessment falls with the price of grain, and the value of land was found to have risen in the 20 years between 1233 and 1254, from Rupees 98 to 166 in the field assessed villages, and from Rupees 73 to 161 in the Oolungoo villages, the Board argued that land was evidently in increased request, and that these sales could not have arisen from land having been forced into the market by the

* The census returns gives the following

A. D.	Result	Population.
1813	8,58,468
1850	16,76,088

And though the early account does not appear full and correct, there is no doubt that the population has greatly increased.

distress of its proprietors. An increasing* population, a Government which encourages and protects industry, and a regular Revenue administration must have had some influence upon the value of land, but the Board attributed the rise in its price principally to the improved irrigation conferred by the upper Annicut, and Government expressed its concurrence in this view. The advantages conferred on Tanjore by this work received the following emphatic testimony from the Principal Collector, Mr. Kindersley, shortly after its construction, and subsequent experience appears to the Board to confirm its justice. "I cannot conclude without observing, that whilst doubt appears to be entertained of the advantages of the Annicut elsewhere, there is not an individual in the province who does not consider it the greatest blessing that has ever been conferred upon it, and I have not the smallest doubt, that the name of its projector will in Tanjore survive those of all Europeans who have ever been connected with it."

Provincial Collector to Board 11th August 1838.

28. While, therefore, the benefits of this work appear so great, a question arises how its usefulness could be undervalued by Mr. Smollett, at page 9, and in other parts of his pamphlet to which Government have directed the Board's attention, but the solution of this point is not difficult. Mr. Smollett's figures are found on examination to be correct, but they show merely the total land Revenue demand without any details as to the extent of Nunjah cultivation, and the manner in which the price of grain has affected the Revenue under the Oolungoo System, as explained in Appendix C. The years also which he selected in the first edition of his pamphlet to illustrate the result of the Annicuts were open to objection, as not giving a fair comparison. Thus, at page 6, he details the 23 years shown in the margin,* of which 11 are before the Annicut and 12 after. But the former series begins with 2 years when the ordinary land Revenue was increased to the extent of no less than Rupees 7,15,614 in 1823, and Rupees 13,69,390 in 1824, by the accidental and temporary circumstance of prices being unprecedentedly high. After which the three following years, when the Revenue declined, were not given, though the omission has been supplied by Mr. Smollett in a second edition. The land Revenue of these years stands as follows.

Rupees.
1823—42,77,000
1824—50,81,000
1828—37,11,000
1829—33,62,000
1830—34,18,000
1831—35,17,000
1832—37,96,000
1833—39,21,000
1834—36,40,000
1835—34,67,000
1836—36,77,000
1837—37,05,000
1838—38,00,000
1839—38,18,000
1840—36,30,000
1841—34,00,000
1842—36,28,000
1843—37,79,000
1844—38,30,000
1845—42,50,000
1846—42,20,000
1847—39,16,000
1848—37,64,000

	Rupees
1825	35,59,253
1826	30,06,241
1827	28,09,316

29. Mr. Smollett afterwards selects groups of years for two comparisons, but on both occasions the effect of price on the annual settlements is unnoticed. The first of these comparisons contrasts 11 years before the Annicut (1823 to 1836 inclusive) with the 12 following years, but in the first period the accident of price brought a net addition to the standard or ordinary Revenue of Rupees 13,63,668, while in the latter there was a net decrease of Rupees 96,591 from the same cause, thus giving an accidental advantage of 1¼ lac per annum to the first period. So with the next comparison of the 5 years immediately before and after the Annicut, in the one case there was an addition of Rupees 5,56,766 from the state of prices, and in the other a decrease of Rupees 3,73,240, thus putting the Annicuts under a disadvantage of Rupees 9,30,006, or nearly 2 lacs per annum in the comparison by this cause. In illustration of this subject the following details are given of the Nunjah cultivation during this period, and they will be found to confirm what has been already written of the improvement which is visible in its extent since the construction of the Annicuts.

TOTAL NUNJAH CULTIVATION IN TANJORE.

Years.	Valies.	Standard Beriz.	Actual Beriz as influenced by price.	Gain by price.	Loss by price.
..... 1832	92,038	29,89,687	31,20,057	1,30,370	.....
.... 1833	90,078	29,70,636	32,39,164	2,68,538	.....
..... 1834	92,937	29,47,627	29,62,464	14,835	.....
..... 1835	92,212	27,99,459	27,90,836	„	8563
..... 1836	88,068	28,39,774	29,91,360	1,51,586	.....
	4,55,333	145,47,183	151,03,941	5,65,329	.....
				8,563	
Average.....	91,066	29,09,436	30,20,788	5,56,766	
..... 1837	94,103	30,08,390	30,12,320	3,930	.....
..... 1838	94,345	30,65,448	31,05,019	39,571	.....
..... 1839	95,783	30,89,910	31,13,620	23,710	.....
..... 1840	86,712	30,55,180	29,30,837	.....	1,24,343
..... 1841	98,571	30,26,697	27,10,589	.....	3,16,108
	4,79,514	152,45,625	148,72,385	67,211	4,40,451
					67,211
Average.....	95,903	30,49,125	29,74,477		3,73,240

30. Although, therefore, Mr. Smollett has successfully shewn that Colonel Cottón has over estimated the profits of the general Maramut expenditure in Tanjore, as well as of the Coleroon Annicuts, there is nothing in his pamphlet to disprove the facts that the land revenue in Tanjore has shown considerable improvement under our rule, though subject to fluctuations from the effects of price on its peculiar system of taxation, and that the operation of the Coleroon Annicuts has given to Government an actual increase of revenue, amounting to rupees 1,77,952 per annum, exclusive of the gain in South Arcot through an extended Nunjah cultivation, besides making the irrigation of the province more secure, and thus adding to the value of its lands. If there had been no variation in the rates of assessment from the effects of price under the Oolungoo System,

Before Annicut.

*Average from 1235 to 1239 33,79,036
Do. 1240 to 1244 35,79,356

After Annicut.	
1246	35,26,118 an unusually bad season.
1247	37,01,229
1248	37,63,795
1249	37,94,545
1250	37,56,178
1251	37,21,334
1252	37,57,122
1253	37,78,872
1254	38,17,777
1255	39,45,991
1256	39,85,388
1257	39,20,973
1258	39,17,035
1259	39,55,874
1260	39,62,483
1261	39,53,137
1262	39,89,819

the land Revenue of Tanjore, according to the cultivation returns, would have shown the result entered in the margin,* and it thus appears how the doubts which have arisen regarding the benefit of the Annicuts and the general expenditure on irrigation improvements are mainly attributable to this cause. To illustrate the extensive fluctuations of Revenue which occur under the Oolongoo System, the result of the 2 following years is contrasted.

	Total Land Cultivated, values.	Beriz.
1234	1,10,799	50,76,783
1237	1,15,366	28,09,313

Thus, in the latter year, the revenue fell off 22 lacs, although cultivation had increased 4 per cent. This enormous difference was chiefly owing to fluctuations of price, which from a scarcity elsewhere, rose so high in 1234, as to add Rupees 13,62,390 to the standard Beriz, while lowness of price in 1237 caused a decline of Rupees 4,30,582 below the standard.

31. In the instructions of Government dated 7th December last, which referred to the Godavery and Kistnah as well as the Coleroon Annicuts, the Board were directed to communicate their views to Mr. Smollett "for any further observations he may have to offer" before submitting them to Government. But as the Board's investigation has been since limited to the Coleroon Annicuts, and their report has been called for at their "earliest possible convenience," they have doubted whether Government would now desire that delay should occur by sending the papers in the first instance to that Gentleman, especially since in the case of the Coleroon Annicuts, the question is limited to the effect which those works have actually had on the Public Revenue. The point at issue is this one fact to be determined by the cultivation and Revenue accounts of the Province and its Treasury receipts, while with respect to the Kistnah and Godavery Annicuts, there are other unsettled points to investigate on which differences of opinion may prevail such as the amount of the additional assessment which might suitably be placed on the lands newly brought under irrigation, the total irrigable area, the future additional Revenue which may be expected, and the amount which would have been hitherto realised if a charge had been made for the water already supplied. The Board have therefore deemed it proper to send these Proceedings direct to Government, returning with them the Tanjore statements which accompanied Extract from Minutes of Consultation, dated 7th December last.

(A true Extract.)

B. CUNLIFFE,
Secretary.

To
T. PYCROFT, Esq.,
Chief Secretary to Government.

APPENDIX A.

Abstract Statement of the Land and Extra Revenues of Tanjore, from 1800 to 1852.

A. D.	Fusly.	Land Revenue.	Extra Sources.	Total.	Remarks.
1800	1210	Rs. 44,07,434	Rs. 2,58,630	Rs. 46,66,064	In 1200 the land revenue was increased one-fifth by an extra portion of the gross produce being taken.
1	11	31,27,714	1,54,755	32,82,469	
2	12	26,63,257	1,14,045	27,77,302	
3	13	23,58,761	1,04,268	24,63,029	
4	14	33,31,028	1,83,540	35,14,568	
Average...		31,77,639	1,63,047	33,40,686	
1805	1215	31,00,301	2,65,148	33,65,449	In 1215 the Salt Monopoly was introduced. See Regulation I of 1805.
6	16	28,17,137	1,58,966	29,76,103	
7	17	35,55,624	2,14,333	37,69,957	
8	18	35,95,146	3,77,511	39,72,657	
9	19	33,18,364	5,12,709	38,31,073	
Average...		32,77,314	3,05,733	35,83,047	The Abkarry and Stamp Revenues were formally established by Regulations I and IV of 1808.
1810	1220	30,30,622	5,56,807	35,87,429	The Land Customs were modelled by Regulation I of 1812.
11	21	30,33,940	5,08,075	35,42,015	
12	22	32,74,271	5,41,729	38,16,000	
13	23	34,76,320	6,26,130	41,02,450	
14	24	34,22,813	6,52,580	40,75,393	
Average...		32,47,593	5,77,064	38,24,657	
1815	1225	32,89,967	6,61,966	39,51,933	
16	26	33,30,403	6,54,664	39,85,067	
17	27	32,56,039	6,48,434	39,04,473	
18	28	30,97,520	7,01,053	37,98,573	
19	29	31,01,711	7,47,405	38,49,116	
Average...		32,15,128	6,82,704	38,97,832	
1820	1230	31,66,357	9,09,765	40,76,122	The Oolungoo system was introduced into villages by the Principal Collector Mr. Cotton.
21	31	30,64,839	8,64,925	39,29,764	
22	32	32,90,481	8,33,466	41,23,947	
23	33	43,08,707	8,92,004	52,00,711	
24	34	49,63,433	9,19,716	58,83,149	
Average...		37,58,763	8,83,975	46,42,738	
1825	1235	35,89,050	8,92,235	44,81,285	
26	36	30,04,393	8,80,258	38,84,651	
27	37	28,07,213	9,13,900	37,21,113	
28	38	36,88,330	10,73,467	47,61,797	
29	39	33,21,668	10,56,903	43,78,571	
Average...		32,76,131	9,63,353	42,39,484	
1830	1240	33,87,506	9,51,752	43,39,258	
31	41	34,92,161	9,18,986	44,11,147	
32	42	37,77,089	8,92,969	46,70,058	
33	43	38,86,967	9,55,141	48,42,108	
34	44	36,27,011	9,66,212	45,93,223	
Average...		36,34,147	9,37,012	45,74,159	

APPENDIX A.—(Continued).

A. D.	Fusly.	Land Revenue.	Extra Sources.	Total.	Remarks.
		Rs.	Rs.	Rs.	
1835	1245	34,42,207	10,01,325	44,43,532	
36	46	36,60,566	9,67,101	46,27,667	
37	47	36,89,861	9,62,084	46,51,945	
38	48	37,88,509	10,22,368	48,10,877	
39	49	38,03,006	10,24,456	48,27,462	
	Average...	36,76,830	9,95,467	46,72,297	
1840	1250	36,15,551	10,05,551	46,21,102	
41	51	33,88,374	10,05,066	43,93,440	
42	52	36,09,393	10,00,209	46,09,602	
43	53	37,58,942	9,31,704	46,90,646	
44	54	38,12,575	8,42,055	46,54,630	The Land Customs were abolished by Act VI of 1844, the Sea Custom duties and Monopoly price of Salt being at the same time enhanced.
	Average...	36,36,967	9,56,917	45,93,884	
1845	1255	42,44,277	8,57,037	51,01,314	
46	56	42,23,812	9,21,593	51,45,405	
47	57	39,11,819	9,12,594	48,24,413	
48	58	37,55,985	8,74,285	46,30,270	
49	59	38,64,907	9,31,366	47,96,273	
	Average..	40,00,160	8,99,375	48,99,530	
1850	1260	39,03,575	9,91,567	48,95,142	
51	61	39,07,644	10,11,359	49,19,503	
52	62	38,29,039	9,41,375	47,70,414	The Land Revenue of Fusly 1262 was increased Rupees 1,79,394 by some Brahmin and Pagoda Mauniems being included in it.
	Average.	38,80,086	9,81,600	48,61,686	
	Average of 48 years or Fusly 1215 to 1262... .	35,46,988	8,11,516	43,58,504	

B. CUNLIFFE,

Secretary.

REVENUE BOARD OFFICE, }
Fort Saint George, }
21st May 1855. }

APPENDIX B.

Statement of Maramut Expenditure in Tanjore.

Years.	Expenditure on Irrigation works.	Expenditure on Roads and Bridges.	Total Government expenditure.	Remarks.
1800	"	"	"	The expenditure from 1800 to 1829, has been taken from the Collector's Statement, and its details will be found in Enclosure 1 in 1 of 4670 of 1854, received from Government. As the expenditure is not shewn under distinct heads before 1815, it is assumed that $\frac{2}{3}$ of it was on irrigation and $\frac{1}{3}$ on other works.
1801	"	"	1,68,177	
1802	"	"	1,29,547	
1803	"	"	1,09,858	
1804	"	"	86,643	
1805	"	"	1,09,856	
1806	"	"	1,17,956	
1807	"	"	75,195	
1808	10,36,113	3,45,370	38,376	
1809	"	"	32,335	
1810	"	"	88,402	
1811	"	"	55,257	
1812	"	"	90,013	
1813	"	"	1,02,510	
1814	"	"	74,000	
1815	"	"	1,03,358	
1816	77,161	30,587	1,07,748	
1817	45,539	15,941	61,480	
1818	77,674	16,234	93,908	
1819	1,30,896	24,963	1,55,859	
1820	50,809	10,351	61,160	
1821	52,512	10,511	63,023	
1822	54,206	8,772	62,978	
1823	66,376	4,925	71,301	
1824	57,903	3,155	61,058	
1825	59,196	4,908	64,104	
1826	32,983	17,751	50,734	
1827	25,268	7,526	32,794	
1828	23,636	3,586	32,222	
1829	32,880	4,247	37,127	
1830	97,725	9,775	1,07,500	The expenditure since 1830 has been taken from the Bills sanctioned in the office of the Board of Revenue, Department of Public works.
1831	1,14,419	9,554	1,23,973	
1832	1,12,134	1,202	1,13,336	
1833	1,12,196	7,893	1,20,089	
1834	1,20,698	342	1,21,040	
1835	68,793	3,761	72,554	
1836	1,63,120	4,136	1,67,256	
1837	92,906	22,267	1,15,173	
1838	1,06,446	11,331	1,17,777	
1839	1,15,883	26,937	1,42,820	
1840	88,632	1,010	89,642	
1841	87,811	2,236	90,047	
1842	1,04,446	8,196	1,12,642	
1843	1,01,070	2,090	1,03,160	
1844	1,05,582	3,094	1,08,676	
1845	1,40,958	9,926	1,50,884	
1846	95,309	14,094	1,09,403	
1847	70,103	13,617	83,720	
1848	95,710	18,185	1,13,895	
1849	65,317	12,280	77,597	
1850	94,546	3,518	98,064	
1851	1,25,826	13,434	1,39,260	
1852	1,97,726	6,711	2,04,437	
	43,05,508	7,14,416	50,19,924	
Surplus Pagoda Funds, add expenditure from between 1830 & 1852.	"	2,00,665	"	
Grand Total.	43,05,508	9,15,081	52,20,589	

REVENUE BOARD OFFICE, FORT ST. GEORGE, }
21st May 1855.

B. CUNLIFFE, Secretary.

APPENDIX C.

1. The manner in which the Land Revenue in Tanjore fluctuates with the price of grain is alluded to in the 1st Report of the Public Works Commissioners, para. 254, and it seems proper here to give a brief explanation of the Oolungoo System.

2. In the villages settled on this principle a standard was fixed in Fusly 1232, by ascertaining the extent of Nunjah land cultivated, and its gross produce during a series of years. The Government portion of this produce (Maidwarum) was converted into money at an ascertained average price, and the amount divided by the number of Valies taken, as the standard cultivation of the village formed the rate of assessment per Valy.

3. Thus (to suppose an imaginary instance) the standard cultivation of a village is 10 Valies, and the standard produce 1,500 cullums. Deducting 176 for the fees of the village Officers and other items (Sotruntrums), the remaining produce, 1,324 cullums, is divided between the land holders and the Government. The share of the latter, 662 cullums, at the local standard price which was fixed on the average of several preceding years, becomes rupees 317-3-4, and thus divided by ten, the number of Valies forming the standard cultivation of the village, gives Rupees 31-11-6* per Valy, which is accordingly the village rate of assessment; and the land holders are answerable for this amount of revenue in ordinary years, paying extra for any land which is cultivated in excess of the standard. But to secure the land holders from loss, two rules were established. 1st, If the price of grain falls below the standard, more than 5 per cent. remission is made for all such excess, while if price rises, the ryot is allowed the benefit as far as 10 per cent. after which a proportionate increase is made to the assessment; 2nd, If the produce falls off to the extent of 30 per cent. and upwards either from a limited cultivation or indifferent crops, the Ryots can demand that they be reaped and sold by Government, and the proceeds be divided, instead of the ordinary assessment being levied.

4. The total number of Ain or Government villages in Tanjore is 4,854, of which 2,847 are under Oolungoo settlement.

5. As Tanjore, from its advantages of irrigation, is a granary of supply when scarcity prevails elsewhere, great fluctuations of price have occurred in it, and their effect on its land revenue is enormous as shown in the following instance.

Fusly.	Wet Cultivation.	Valies.	Dry Do.	Total Cultivation.	Bariz Rupees.
1234	81,845	28,954	1,10,799	50,76,783	
1237	85,631	29,705	1,15,366	28,09,316	

6. Thus although in the latter years there was an increase of 4 per cent. in the cultivation, the Government revenue fell off to the extent of Rupees 22,67,467 or 44 per cent. The portion of the above great difference which is attributable to charges of price in the Oolungoo villages, is as follows :—

Gain to Government by price in Fusly 1234	13,69,390
Loss to do. by do. in Fusly 1237	4,30,582
	<u>17,99,972</u>

According to the state of prices in these two years, the standard assessment of Rupees 31-11-6 per Valy in the village alluded to in this draft, would have risen to Rupees 54-0-10 in Fusly 1234, and sunk to Rupees 25-13-2 in Fusly 1237.

B. CUNLIFFE,
Secretary.

REVENUE BOARD OFFICE,
FORT ST. GEORGE,
21st May 1855.

APPENDIX D.

MEMORANDUM on the Returns from the Upper and Lower Coleroon Annicuts.

1. When the Public Works Commission was sitting, the Collectors forwarded to that body complete returns of the results of the special works of irrigation; and from these, together with

See Despatch, dated 28th June 1854, para. 88. Copy of which was forwarded to Board of Revenue Department Public Works, with Extract from Minutes Consultation, dated 10th October 1854.

other authentic documents already in the office of the Board of Revenue Department of Public Works, the printed Statement, dated 14th May 1852, was compiled. As it is an extract from this statement that has drawn forth the doubts of the Court of Directors touching the reality of the alleged profits from the Upper Annicut, it is necessary now to justify the document.

2. The Collector of Tanjore, in answer to a request from the Board for his opinion upon the Statement, informs them that he has nothing to add to the reports of Mr. Bishop.

3. The Collector of South Arcot has sent in a fresh Statement, and in his letter forwarding it, he observes, that the original cost of the Lower Annicut appears to be erroneously entered in the printed Statement at Rupees 74,234, as it really cost Rupees 2,46,549. This sum, however, is the expenditure from 1836 to 1852 on "the Lower Annicut and its dependencies," while the amount entered in the printed Statement is the moiety of the "original" cost of the Annicut added to the full cost of the works in immediate dependence upon it in the South Arcot District; the other moiety, with its dependent works being charged to Tanjore under the head of South Rajah Voykal. The Collector's Statement consequently does not shew any error in the printed documents; but allowance it appears must be made for a sum of Rupees 10,000 annually from Fusly 1252 (1842-3) to 1262 (1852-3) incorrectly entered in the former returns from the Collectorate as profit from the Annicut, or to Fusly 1260 (1850-1) which is the last included in the printed Statement.

4. The following extract from the printed Statement explains the principle upon which the returns are calculated.

"The results of the Annicut are thus ascertained.

"The prime cost is first entered in column 3.

"The average annual expenditure for the whole of the irrigation works in the District, (exclusive of those under the Lower Annicut and inclusive of repairs rendered necessary by the Annicut in Trichinopoly) for the period *after*, and the same for ten years *before* the construction of the Annicut being then ascertained, and the latter average being deducted from the former, the difference is multiplied by the number of years composing the period in question, that is, by 15 (from 1836 to 1850), and the product deducted from the aggregate increase of Revenue during the same period; the remainder being the net profit, which is again divided by 15, and the quotient is the average annual profit on the prime cost.

"This is the only practicable way of shewing the true value of the Annicut; since, were the different improvements subsequent to that work considered as so many separate bases of calculation, the only effect would be extreme complication without any more satisfactory result. By the method actually followed, the entire expenditure is brought to account, but all as subsidiary (which it really was) to the Upper Annicut.

The results in this case are shewn at a less amount than the fair reality, owing to the comparison of expenditure having included ten years before the construction of the Annicut. But as the average Revenue in column 5 is reckoned from Fusly 1240 (1830-1), the first in which thenunjah cultivation and revenue under the *rivers* are separately shewn, it would have been more proper, strictly speaking, to reckon the average expenditure before the construction of the Annicut from that, and not, as it has been, from an earlier year; since the calculation of the revenue, had it been practicable, from the same earlier year would have altered the average in column 5. Had this course been followed, the gain from the Annicut would, as above said, have appeared much greater; for the expenditure from 1240 (1830-1), to 1245 (1835-6), averaged Rupees 1,04,166 instead of 77,717, the average from 1236 (1826-7), to 1245 (1835-6) actually taken; the former average being in fact greater than that of the whole outlay for repairs and new works, (including great improvements to the Annicut, the Cauvery Dam, the Coiladdy Calingulah, the Cauvery and Vennar Dam (in part,) and other considerable improvements, but excluding the Lower Annicut repairs charged under Nos. 18 and 23), subsequent to the construction of the Annicut which was 95,876.

"If, therefore, the six years average from 1240 (1830-1) to 1245 (1835-6), were taken as the basis, the difference between it and the average since the construction of the Annicut, that is, $1,04,166 - 95,876 = 8,290$ which $\times 15 = 1,24,350$, should be added to the increase of revenue in column 10, and the total gain would then be 22,07,260, which, divided by 15, would give the

annual gain at 1,47,151 or 176 $\frac{1}{2}$ per cent. on the prime cost. If it were *not* added, the average annual gain would be 1,38,861 or 166 $\frac{1}{2}$ per cent. on the prime cost.

"It is indeed a memorable truth, that the condition of things before the Annicut required a greater annual expenditure in imperfect and mostly temporary expedients to preserve the cultivation and revenue, than what has since been incurred to bring under cultivation an additional area of 61,262 acres, (exclusive of the increase under the South Rajah Voykal), besides greatly increasing the productiveness of the old lands.

"The whole of the Tanjore expenditure and revenue under the rivers is entered in Nos. 22 and 23, except a moiety of the repairs of the Lower Annicut entered in No. 18."

5. The accompanying Appendix further shews the particulars of the entries, and is explained as follows:—

TANJORE.

Upper Annicut.

6. Item No. 1, Rupees 77,351 is the average outlay for Irrigation Works in Tanjore for ten years before the construction of the Annicuts.

No. 2, Rupees 1,248, is the proportion of this expenditure belonging to the lands under the Lower Annicut, which is separately treated of, and it is therefore deducted from No. 1, and the remainder is No. 3, Rupees 76,103.

7. No. 4, Rupees 1,614 is composed of the average expenditure for the same period in the Trichinopoly District, (*in which the Annicut is situated*), on the river banks in the vicinity of the Annicut, which exercises a material influence on such expenditure. Added to the foregoing remainder, this item makes No. 5, Rupees 77,717.

8. Nos. 6 and 10, Rupees 1,04,328 and 1,04,166 shew the same particulars for the *six last years only* of the ten years period, are entered as explained in the Extract, to correspond with the Revenue returns which are given for six years, and not for ten years.

9. The same particulars are then given in items Nos. 11 and 15, Rupees 99,595 and 99,578 for the period of fifteen years after the construction of the Annicut.

10. No. 5 being then deducted from No. 15, the remainder Rupees 21,861, No. 16, shews the average annual excess of expenditure during the fifteen over the ten years period, and this item multiplied by 15, gives the whole excess for the fifteen years, namely, Rupees 3,27,915, No. 17. From this amount the expenditure under the Lower Annicut which was included in the Bills, namely, Rupees 55,534, No. 18, is deducted, and the remainder, No. 19, namely, Rupees 2,72,381, appears in column 12 of the printed Statement.

11. The next four items, Rupees 1,04,166 at 124,350 shew a similar comparison of the *six* with the fifteen years period, and in this it appears that the average for the second is less than for the first period, and consequently that there has been a reduction of expenditure since the construction of the Annicut. These items are not however tabulated in the Printed Statement.

Lower Annicut, or in Printed Statement, South Rajah Voykal.

12. The entry in column 3 of the Printed Statement is the moiety of the original cost of the Lower Annicut proper, added to that of the dependent works on the right bank or Tanjore side.

Moiety of Annicut,	49,710
Other Works,	11,044
	<hr/>
Entry in Statement,	<u>60,754</u>

13. The items that follow in the appendix to this Memo. are sufficiently explained by the foregoing remarks; but it should be added that the amount Rupees 3,722 appears to be an error for Rupees 3,702 and that the result should consequently be Rupees 66,044, instead of 66,124; but this is not of the least importance to the general result.

SOUTH ARCOT.

Lower Annicut.

14. The bill for the Lower Annicut, sluices, Lock, and North Rajah Voykal amounts to Rupees 1,29,046, or deducting the Rajah Voykal and another trifling work, to Rupees, 107,910. Deducting from this amount again items belonging to the sluices and Lock, the remainder is

Rupees 99,487. The moiety of this sum is 49,744, but the amount entered is Rupees 49,710 through some error, which for want of access to all the papers cannot now be explained, and is of not the least consequence to the result. To this the cost of the North Rajah Voykal and of the sluices but not of the Lock, which has nothing to do with the irrigation, is added, and the total Rupees 74,234 appears in column 3 of the printed Statement.

15. The entries under this head in the appendix are similar (*mutatis mutandis*) to those in Tanjore, and the last item, Rupees 39,972 appears in column 12 of the printed Statement.

It only remains to deduct from the aggregate Revenue of the 14 years in column 8, namely, Rupees 14,22,971, Rupees 90,000 for the amount incorrectly credited as increase of Revenue from Fusly 1252 (1842-3), to 1260 (1850-1).

16. This will reduce the amount in column 13 to 12,92,999, the average annual increase in column 15 to 92,357, and the annual per centage in column 17 to 124½.

17. The large per centages realized upon the capital invested in the Coleroon Annicuts appear to have excited surprise; but they are in fact by no means extraordinary in connection with the circumstances of the Cauvery Delta at the time of the construction of these works. It must not be forgotten, that the Delta had been for an unknown period of time the field of a most extensive system of irrigation, rendering it by far the richest territory, area for area in South India. But its prosperity was placed in jeopardy by the difficulty of utilizing the entire supply of water brought down by the River; and that difficulty was simply, effectually, and at trifling cost removed by the Annicuts. The source of all the wealth of the Delta is the River; the Annicuts are only conditions essential to the transmission of the water to the lands; and as other conditions not less essential and of far greater magnitude were in active operation before the Annicuts, it must never be supposed, that where such conditions are wanting, works similar to the Annicuts, would produce anything approaching to similar results for a length of time. In the Godavery Delta, for example, besides the Annicuts, the entire system of irrigation had to be created; and the profits on the capital expenditure will necessarily be at first diminished in proportion to the extent of the subsidiary works required for their realization. But these profits will evidently by degrees far surpass in actual amount those realized in Tanjore, on account of the far greater field for improvement afforded by the Godavery Delta.

18. It should be added that the falling off of the Tanjore Revenue for three years of fifteen years period, was owing to the low price of grain, which largely affects the Revenue in that District. The increase in produce, the true criterion of the works of irrigation, was steady throughout the period.

MADRAS, }
30th April 1855. }

(Signed) J. H. BELL,

Secretary Board of Revenue D.P.W.

APPENDIX.

TANJORE.

Upper Annicut.

Average expenditure ordinary, occasional and emergent upon the Tanjore Irrigation			
Works, from 1826 to 1835, 10 years...	...	No. 1	77,351
Deduct average for the lands under the Lower Annicut...	...	No. 2	1,248
		No. 3	76,103
Add average expenditure in Trichinopoly, for the Cauvery and Coleroon,			
Banks between the site of the Upper Annicut and Trichinopoly.....		No. 4	1,614
		No. 5	77,717
Average expenditure as above from 1830 to 1835, that is, for the same			
period as that from which the average Revenue, is derived, 6 years...		No. 6	1,04,328
Deduct average under Lower Annicut as before.....		No. 7	1,248

	No. 8	1,03,080
Add average for the same period in Trichinopoly... ..	No. 9	<u>1,086</u>
	No. 10	1,04,166
Average expenditure as above, from 1836 to 1850, 15 years ..	No. 11	99,595
Deduct average for the same period under Lower Annicut	No. 12	<u>3,722</u>
	No. 13	95,873
Add average for the same period in Trichinopoly... ..	No. 14	<u>3,705</u>
	No. 15	99,578
Deduct former average of ten years.....	No. 5	<u>77,717</u>
	No. 16	21,861
	No. of years.	<u>15</u>
	No. 17	3,27,915
Deduct repair of Lower Annicut.....	No. 18	<u>55,534</u>
Expenditure of the 15 years.....	No. 19	<u>2,72,381</u>
Average for the six years period as above... ..		1,04,166
Deduct average for the fifteen years period as above. .	99,578	
Deduct average of expenditure on Lower Annicut $5\frac{553}{15}$ 3,702		<u>95,876</u>
		<u>8,290</u>
		<u>15</u>
Reduction of expenditure for the 15 years... ..		<u>1,24,350</u>

Lower Annicut..

Average annual expenditure before the construction of the Annicut on the works now under its influence... ..		1,248
Do. do. since the construction of the Annicut		<u>3,722</u>
		2,474
	No. of years.	<u>14</u>
		34,636
Add moiety of repairs and improvements to Annicut... ..		<u>31,488</u>
		<u>66,124</u>

SOUTH ARCOT.

Lower Annicut.

Average annual expenditure before the construction of the Annicut, on the works of irrigation now under its influence ..		17,150
Do. do. of the 14 years since the construction of the Annicut.		<u>17,756</u>
		606
	No. of years.	<u>14</u>
		8,884
Add moiety of cost of repairs and improvements to Annicut.....		<u>31,488</u>
Cost of repair for 14 years... ..		<u>39,972</u>

STATEMENT of Tanjore irrigation expenditure from the year 1826 to 1850 inclusive, from the Bills in this Office.

Years.	Amount including Ordinary, occasional and Emergent, &c.			10 Years Average.	6 Years Average.	15 Years Average.	
1826.....	37,637	12	10	77,351	1,04,328		
1827.....	29,364	4	9				
1828.....	37,251	9	11				
1829.....	43,291	4	0				
1830.....	97,724	15	10				
1831.....	1,14,419	6	6				
1832.....	1,12,133	14	0				
1833.....	1,12,196	3	0				
1834.....	1,20,697	15	4				
1835.....	68,793	4	0				
1836.....	79,719	2	0				Not including cost of Annicut.
1837.....	92,905	12	0				
1838.....	1,06,445	12	4				
1839.....	1,15,882	7	6				
1840.....	88,632	6	0				
1841.....	87,810	12	8				
1842.....	4,04,445	12	9				
1843.....	1,01,069	13	11				
1844.....	1,05,582	1	0				
1845.....	1,40,958	8	2				
1846.....	95,308	14	6				
1847.....	70,103	4	8				
1848.....	95,709	9	0				
1849.....	65,316	11	10				
1850.....	1,44,053	0	0	99,595			

STATEMENT of Irrigation Expenditure in Talooks of Munnargoody and Chellumbrum in South Arcot, from 1826 to 1850.

Years.	Expenditure.			11 Years Average.	14 Years Average.
1826.....	20,836	7	0	17,150	
1827.....	53,342	7	0		
1828.....	9,933	2	0		
1829.....	5,397	14			
1830.....	2,874	14	4		
1831.....	2,694	14	7		
1832.....	20,768	15	10		
1833.....	23,819	12	0		
1834.....	13,402	2	0		
1835.....	18,514	1	6		
1836.....	17,065	14	9		
1837.....	8,096	15	7		
1838.....	7,603	4	6		
1839.....	16,810	7	10		
1840.....	26,588	8	5		
1841.....	53,371	5	6		
1842.....	14,555	3	9		
1843.....	8,445	13	6		
1844.....	13,795	7	8		
1845.....	10,293	4	3		
1846.....	11,923	5	4		
1847.....	9,131	7	9		
1848.....	23,566	13	8		
1849.....	21,532	3	10		
1850.....	22,874	4	11	17,756	

(Signed) J. H. BELL,
Secy. Board of Revenue D. P. W.

FROM ARTHUR HALL, Esq.,

Collector of South Arcot,

TO CAPTAIN J. H. BELL,

*Secy. to the Board of Revenue, Dept. of Public Works, Fort St. George. **

SIR,

With reference to Extract from the Proceedings of the Board of Revenue Department of Public Works, dated 4th December 1854, relative to the effects of the Coleroon Annicuts upon the Revenues of Tanjore and South Arcot, I do myself the honor to submit a Statement showing what may, I think, be fairly considered as the result of constructing the Lower one of the two, as far as the increase of Revenue derived from it in this District, is concerned.

2. It appears to me that the original cost of this Annicut and its dependencies is erroneously entered in the Statement referred to by the Board as 74,234. It really cost 2,46,549 according to the Bills submitted and passed at different times.

3. Ten-thousand Rupees should also have been deducted from the sum specified as the increase of Revenue after Fusly 1252, in the Statement which was forwarded from this Office to the Public Works Commissioners, as this amount of increase arose from another cause than the effect of the Annicut. It proceeded from the resumption by Government of certain Cavilgar Enams, which had been deducted from the Beriz of the land irrigated by the Annicut, and which had never up to Fusly 1252 been brought into our accounts.

4. The Board will thus observe, that after deducting the cost of the repairs, the net gain accruing from the construction of this Annicut from 1836 to 1852 (inclusive), has been 13,74,051 Rupees, being an average annual profit of Rupees 85,878, or a per centage of $34\frac{1}{8}$ on the original outlay, viewing the building itself as the capital.

5. In my opinion the foregoing is the increase of Revenue which may be fairly attributed to the effects of the Lower Annicut in this District, and I do not consider that any other causes have contributed to make it.

I have, &c.,

(Signed) A. HALL,

Collector.

SOUTH ARCOT, COLLECTOR'S CIRCUIT }
CUTCHERRY, OOLUNDOORPETT, }
6th February 1855. }

Statement shewing the profit which has resulted in the District of South Arcot from the Lower Coleroon Annicut, for 16 years subsequent to its construction as compared with the same period previous to its being built

No.	Name of the Work.	Original Cost of the Lower Annicut and its dependencies.		Gross cultivation and Revenue from the land for 16 years previous to its construction.			Gross cultivation and Revenue for 16 years subsequent to its construction.			Gross increase of cultivation and Revenue from the Annicut.		Gross amount of repairs to the Annicut and its dependencies	Net increase of Revenue, deducting cost of repairs.	Average annual Net increase of Revenue	Per centage profit on the original outlay.	Remarks.
				Fusly.	Extent.	Revenue.	Fusly.	Extent.	Revenue	Extent.	Revenue.					
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	
		A.D.	Rs.	Fusly.	Cawny.	Rs.		Cawny.	Rs.	Cawny.						
		1836	1,29,050													
		1837	7,248	1231	13,416	1,31,963	1247	22,798	2,30,319							
		1838	2,449	1232	18,498	1,80,093	1248	24,662	2,52,975							
		1839	13,564	1233	13,651	1,38,016	1249	25,299	2,66,333							
		1840	10,770	1234	15,849	1,57,418	1250	24,518	2,58,631							
		1841	47,566	1235	17,053	1,70,083	1251	18,862	2,02,815							
			81,597	"	78,467	7,77,573	"	1,16,139	12,11,073	37,672	4,33,500	26,727	4,06,773	81,354	38½	
1	Lower Annicut and dependent Works.	1842	7,279	1236	16,391	1,60,714	1252	14,989	1,61,587							
		1843	843	1237	12,597	1,18,763	1253	17,434	1,91,428							
		1844	5,193	1238	11,911	1,09,332	1254	18,944	2,11,959							
		1845	"	1239	14,203	1,19,366	1255	20,585	2,35,290							
		1846	8,661	1240	9,739	87,404	1256	25,452	2,93,758							
			16,976	"	64,841	5,95,579	"	97,404	10,94,022	32,563	4,98,443	34,006	4,64,437	92,887	40½	
		1847	2,855	1241	7,708	63,021	1257	24,327	2,83,195							
		1848	3,785	1242	11,231	99,570	1258	18,850	2,15,642							
		1849	1,848	1243	12,931	1,19,055	1259	15,719	1,73,488							
		1850	4,775	1244	18,466	1,78,277	1260	22,604	2,52,632							
		1851	2,494	1245	19,397	1,88,766	1261	23,044	2,65,652							
		1852	3,169	1246	19,338	1,91,059	1262	21,475	2,44,593							
			18,926	"	89,071	8,39,748	"	1,26,019	14,35,202	36,948	5,95,454	92,613	5,02,841	83,806	34	
	Grand Total....		2,46,549	"	2,32,379	22,12,900	"	3,39,562	37,40,297	1,07,183	15,27,397	1,53,346	13,74,051	85,878	34½	
	Average of 16 years...				14,523 or acre } 19,204 }	1,38,306		21,222 or acre } 28,062 }	2,33,768	* 6,699 or acre } 8,858 }	95,462	9,584	+ 85,878	"	34½	

(Signed) A. HALL, Collector of South Arcot.

(A True Copy)

(Signed) B. CUNLIFFE, Secretary.

APPENDIX E.

Statement of Annicut Lands in Tanjore.

* A Valey is equal to 5 Cawlies or 6-6 acres.

Total extent Cultivated and (waste) of Nunjah land under river Irrigation.	Beriz.	Average rate per Valey.		
		Rs.	A.	P.
Valies* 97,076.	Rupees 34,70,473.	35	11	11

Statement of Cultivation.						
	Fusly.	Cultivation.	Standard Beriz.	Settlement Beriz on actual produce and price.	Actual Collections deducting subsequent remissions.	Remarks.
Before Annicut.	1240	Valies. 82,023	28,13,987	26,31,427	26,00,507	The remissions here deducted rather exceed the truth being for the entire District and not for the Annicut lands only. As the details for the Annicut lands could not be ascertained, and the difference would not be great, the entire remissions were deducted in order that no profit might be claimed for the Annicut which was open to any question.
	1241	82,318	28,24,106	27,32,126	27,06,677	
	1242	84,508	28,99,240	29,98,184	29,78,890	
	1243	82,548	28,31,997	31,17,291	30,82,652	
	1244	85,407	29,30,082	28,40,589	28,27,133	
	1245	84,682	29,05,210	26,69,023	26,43,464	
Average.		83,581	28,67,437	28,31,440	28,06,554	
After Annicut.	1246	80,537	27,63,006	28,69,487	28,52,363	
	1247	86,692	29,74,167	28,75,844	28,60,546	
	1248	87,183	29,91,012	29,91,744	29,76,887	
	1249	88,253	30,27,721	29,91,747	29,76,498	
	1250	88,471	30,35,200	27,98,976	27,82,692	
	1251	89,810	30,81,138	25,73,458	25,56,606	
	1252	89,562	30,72,630	27,99,411	27,80,672	
	1253	89,304	30,50,290	29,41,484	29,20,659	
	1254	90,130	30,77,564	30,24,200	30,06,156	
	1255	91,205	31,17,120	34,08,706	33,99,457	
	1256	92,241	31,51,087	33,75,657	33,71,764	
	1257	91,761	31,17,484	30,67,893	30,63,673	
	1258	92,760	31,18,089	29,17,144	29,11,249	
1259	93,571	31,44,352	30,34,287	30,28,741		
1260	93,799	31,50,811	30,81,039	30,69,706		
1261	93,871	31,49,046	30,70,388	30,70,388		
1262	95,570	33,98,210	33,73,148	31,08,535		
Average		90,277	30,83,466	30,11,448	29,84,506	
Increase.		6,696	-2,16,029	1,80,008	1,77,952	

Note. The preceding comparison commences with Fusly 1240 as being the earliest year for which returns of the Nunjah lands can be obtained, divided into classes according to their descriptions of irrigation. On referring to the total Nunjah cultivation, exhibited in the detailed statement of the Tanjore Revenues furnished by Mr. Forbes, it will be observed that the lands dependent on the Annicut constitute about $\frac{2}{10}$ th of the total Nunjah cultivation, and that if returns of the river-irrigated portion could have been obtained for a period anterior to 1240, the comparison would have been still more favorable to the Annicut, as the general Nunjah cultivation in the 6 years immediately preceding the construction of the Annicut which are taken for the comparison was unusually large. In proof of this point the following abstract is annexed.

Statement of the total Nunjah cultivation including lands under river-irrigation, and those which are not.

		Valies.
Quinquennial average from	1800 to 1804.....	73,093.
Do.	1215 to 1219.....	80,860.
"	1220 to 1224.....	82,390.
"	1224 to 1229.....	81,371.
"	1230 to 1234.....	80,995.
"	1235 to 1239.....	85,854.
"	1240 to 1244.....	90,891.

The following short table shows the cultivation of the Nunjah land for 12 years, commencing with Fusly 1240.

	Fusly.	Total Nunjah Cultivation.	River-Irrigated Portion.
Before Annicut. }	1240	89,554	82,023
	1241	89,848	82,318
	1242	92,038	84,508
	1243	90,078	82,548
	1244	92,937	85,407
After Annicut. }	1245	92,212	84,682
	1247	94,103	86,692
	1248	94,345	87,183
	1249	95,783	88,253
	1250	95,712	88,471
	1251	98,571	89,810
	1252	97,968	89,562

It will be observed that the lands irrigated by the river consist of 97,096 Valies, and that, since the construction of the Annicut, cultivation has progressively increased from 84,682 to 95,570 Valies. The portion now waste is within 1 per cent, and it is evident that even with the greatest care accidental circumstances must always affect cultivation to some degree in so large an irrigated area. The river embankments in the Delta of Tanjore, exceed 2,000 miles in length, and the tunnels and other masonry works are proportionally numerous.

B. CUNLIFFE,

Secretary.

REVENUE BOARD OFFICE, }
FORT ST. GEORGE, }
21st May 1855. }

STATEMENT OF CULTIVATION AND REVENUE FROM ALL SOURCES IN THE DISTRICT OF TANJORE FROM FUSLY 1210 TO 1262 WITH THE ANNUAL EXPENDITURE ON IRRIGATION AND COMMUNICATION.

Table with columns: A. D., Fusly, Extent, Gross produce, Nunjah Land (Gungoo rented villages, Net Beriz), Poonjah Bagayet and Topc., Total Tariff, Shroetien and money, Cowl Shortturnm., Total Land demand, Amount omitted, Deduct of Karical, &c., of which (Amount Collected, Do. Remitted, Balance to be Collected, Out of the amount entered in Col. 22, collected by public sale of lands).

STATEMENT OF CULTIVATION AND REVENUE, &c. (Continued.)

Table with columns: A. D., Fusly., Sayer., Salt., Sea Custom. (Export, Import, Total), Abkarry., Farms., House rent., Loom tax., Stamps., Total., Total Collection Land and Extra sources, Average price of wet land per Valay, Loss in consequence of drought., Particulars of Maramut (Expended on Irrigation works, Expended on Roads and Bridges, Total of Columns 2 and 3, Total of Columns 4 and 5, Total, Navigation works, Total.). Rows include years 1800-1852 and various Fusly. numbers, with names like Mr. C. Harris, Mr. J. Wallace, Mr. J. Keppburn, Mr. John Cotton, Mr. A. D. Campbell, Mr. N. Kindersley, Sir H. C. Montgomery, Et., and Mr. J. F. Bishop.

REMARKS explanatory of a Statement of the Revenues of Tanore as collected from all sources,
from Fusly 1210 to Fusly 1262.

General.

As the figures in this statement differ in some respects from those entered in former accounts, it is necessary to explain the difference.

In the accounts formerly prepared, the Revenues of the Province were converted from Pagodas to Rupees, by calculating that there were twenty-four fanams in a Pagoda, and twenty-two and a half fanams in three and a half Rupees the value of a Pagoda having fallen from the former to the latter in Fusly 1217. In the present accounts no notice has been taken of fanams, and Pagodas have been converted into Rupees, at three and a half of the latter to one of the former, whereas by the calculation before made, the Pagoda was made to represent three Rupees eleven annas, eight and three-quarter pice. A change in the value of the Pagoda, was thus, in the former accounts, made to represent a difference in the state of the Province.

Cavil fees, which were to be collected from Fusly 1223, were not included in the Jumma-bundy of that year, but brought forward as a balance, in the demand and collection of Fusly 1224. In the present accounts they are included in the Revenues of Fusly 1223, which was not the case in the accounts formerly sent.

In Fusly 1233, the Principal Collector applied for leave to remit ten per cent. of the land Revenue and prepared his accounts accordingly, but the request was not acceded to by the Board of Revenue; the amount, formerly entered as a balance in the accounts of Fusly 1234, is now included in the Revenues of Fusly 1223.

The figures in the Column of Extra Revenue will be found to differ from former accounts, in consequence of the erroneous calculation of the value of a Pagoda, referred to above.

Column-war.

Column 2—The increase in the extent of land in Fusly 1256, arose from the incorporation of the Tranquebar territory with the rest of the District.

Column 3—There are no accounts on record to shew the gross produce of the Province, from Fusly 1210 to Fusly 1215.

Columns 4, 5, 6, 8 —These columns refer to the Woloongoo rent, which was introduced only in Fusly 1232.

Column 9—The current prices of grain from Fusly 1210 to 1231 have been entered according to old accounts; from Fusly 1232 to 1254, the prices in the Amaunie villages have been entered, and as their number has been much reduced since that date, for subsequent years, the gross produce of the Woloongoo rented villages has been divided by their beriz, without deducting the 10 per cent. in high, or adding the 5 per cent. in low priced years, and the result entered as the current selling rates.

Column 10—There is no account to shew the extent of land under Amaunie in Fusly 1214-1215, and 1216.

Column 16—Cavil fees were not collected up to Fusly 1224, from that time to Fusly 1261 they are entered, and for Fusly 1262, they have been by order of the Board of Revenue incorporated with the Ayen Revenue.

Column 21—In order that a just comparison might be made between one period and another, the following deductions have been made from the accounts of those years to which they properly belong.

1st—The beriz of certain villages attached to the Poodocottah state which are entered in the District accounts for Fusly 1210-1211, and 1212.

2nd—The beriz of some villages made over to the Muktumba Poorum Chuttrum in Fusly 1235, has been deducted from previous years.

3rd—The beriz of the Karrical state has been deducted from account up to 1225.

4th—The beriz of some villages has been deducted up to Fusly 1226, when they were exchanged with the Rajah for some Salt pans belonging to His Highness.

5th—The beriz of the Tranquebar territory has been deducted from the accounts of Fusly 1211, but is added for Fusly 1256, when it was permanently annexed; its amount is about 20,000 Rupees.

Columns 23—24—The statement of collection and remissions is up to April Fusly 1263.

Column 26—The annual amount for which land has been sold for arrears of Revenue could be ascertained only after much delay, a general statement has therefore been given.

Column 27—The sayer duties were abolished in Fusly 1253, from that time to the date of the incorporation of Tranquebar, the frontier duties between that state, and Karrical, and the Tanjore Province, have been entered and subsequent to the annexation, the frontier duties for Karrical only.

Column 28—Salt was sold at 80 Rupees the garce, from Fusly 1215 to 1219, at 105 Rupees from Fusly 1220, to Fusly 1229, at 70 Rupees, from Fusly 1230 to Fusly 1238, at 105 Rupees, from Fusly 1239 to 1253, and at 120 Rupees subsequently.

Column 34—No house tax was collected up to Fusly 1222, the tax was included, in the Cavil fees from Fusly 1223 to Fusly 1242, and since has been included in Moturpha.

Column 36—The stamp Revenue is entered from the year of its first collection.

Column 39—The sale value of land has been entered for such years, as accounts were forthcoming for, the values are taken from the deeds of agreement filed by the seller and purchaser, when application is made for a new registry of the meerass.

Fusly War.

Fusly 1210—The Province came under the British Government in Fusly 1210, and for that year, the whole District being under Amaunie, the produce of the wet lands was divided in the proportion of 40 to the meerassdars and 60 to the Circar, in subsequent years the division of the produce, varied from 50, to 57 per cent. to the Circar, according to the means of irrigation afforded to the land, until Fusly 1233, when on the introduction of the Woloongoo rent by Mr. Cotton, the produce of all irrigated lands was equally divided between the meerassdar and the Circar. The extraordinarily high beriz of Fusly 1210 is thus accounted for, and no fair comparison can be made between it, and the beriz of subsequent years, unless one-fifth be first deducted from the former, on account of the twenty per cent. extra warum, its accounts include, indeed, as the accounts of all years up to Fusly 1233, include a warum of more than 50 per cent. for many villages, comparisons can hardly be accurately made with any year prior to that Fusly.

Fuslies 1214, 1215, 1216.—The whole of the villages were given on one year's rent in Fuslies 1214, 1215, and 1216.

Fuslies 1217 to 1219—In Fusly 1217, the villages were all rented for three years.

Fuslies 1220 to 1224—From Fusly 1220 to Fusly 1224 inclusive, a five years rent of the villages was given, a deduction of ten per cent. from the previous years' beriz being made in some villages.

Fusly 1230—The villages were given on rent for this year; deductions from the beriz of the previous year varying from two to ten per cent. being allowed.

Fusly 1231—One year's rent the standard grain amount was fixed on all villages prior to the introduction of the Woloongoo settlement.

Fusly 1232—The Woloongoo beriz was fixed, and the Meerasswarum in all Neerarumbum villages settled at 50 per cent. of the gross produce.

Fusly 1233—Very high prices prevailed, but produce being exceedingly scanty, large remissions were granted.

Fusly 1234—Another year of high prices.

Fuslies 1235 to 1239—A five years' rent was given in Fusly 1235, 10 per cent. being deducted from those villages, which did not receive the deduction in Fusly 1220.

Fuslies 1235, 1236—Two years of low prices.

Fusly 1237—Another year of low price. produce was also scanty, in consequence of a violent storm which occurred in April of Fusly 1236, the land in Tanjore never produces freely unless thoroughly baked, and cracked in the land wind season.

Fusly 1238—A rise in price caused an increase of Revenue in the Woloongoo rented villages. The field assessment was commenced this year; and addition was made to the beriz of some villages in consequence of extra cultivation having been discovered in the survey, and of an increased assessment having been placed on some lands.

Fushies 1239, 1240, 1241—The field assèssment was continued, heavy losses sustained by the meerasdars and the Government in consequence of drought.

Fushies 1242, 1243, 1244—A rise in price increased the collections in the Woloongoo rented villages.

Fusly 1245—Large remissions were given in consequence of losses by drought.

Fusly 1246—Although prices were high this year, remissions were required on account of losses by drought.

Fusly 1246—The Annicut was built.

Fusly 1247—A year of comparatively low prices. The effect of the Annicut was felt in an increase of cultivation.

Fushies 1248-1249—Further increase of cultivation in consequence of the construction of the Annicut.

Fusly 1250—The decrease in the revenue this year arose from a fall in price; cultivation was extensive, and produce good.

Fusly 1251—In consequence of very low prices, the Collector suspended the collection of the June kist, until the following year.

Fusly 1252—Prices higher than in last year, but still below the standard.

Fushies 1253-1254—The Province suffered from drought.

Fusly 1255—Prices rose. In this year Tranquebar was annexed.

Fusly 1256—A year of high prices.

Fushies 1257-1258-1259—Three years of low prices.

Fusly 1262—Pagoda and Bramin maniemis, and Nat and village curnum Revenues, were included in the dyen account under orders from the Board of Revenue, and added Rupees 1,79,394 to the jumma.

Do. Remissions to the extent of 5-10 and 15 per cent. were allowed according to circumstances, in consequence of heavy losses sustained in a severe hurricane which visited the Province in the month of March.

Maramut.

In Fusly 1240, a sluice in the grand Annicut was constructed at a cost of Rupees 17,151.

In Fusly 1241, the twenty vent sluice in the Cauvery bank was built, at a cost of Rupees 20,546.

In Fusly 1242 was constructed a dam across the Paumanyaur, costing Rupees 13,342.

In Fusly 1243 the six vent sluice at Peromal covil, costing Rupees 12,055, was constructed and a road from Combaconum to Odiarpollyum made, with a bridge across the Cauvery, at an expence of Rupees 14,129.

In Fusly 1244, was built the 20 vent sluice near the head of Seringham at a cost of Rupees 17,002 the 3 hundred yard Calingulas at a cost of Rupees 5,087, the head sluice between the Cauvery and Vennaur, costing Rupees 6,631, and a dam across the Vettaur, and 2 Rajah Voikals, costing Rupees 14,086.

In Fusly 1246, the upper Annicut cost, Rupees 83,401.

In Fusly 1247, the repairs of the Annicut cost Rupees 23,718, and the excavation of the South Rajah Voikal to the lower Annicut, Rupees 10,777.

In Fusly 1249, the bridge and Calingulah at Coilady, cost Rupees 11,682, and rough stone work at the Annicut, Rupees 14,770.

In Fusly 1251, some bridges cost Rupees 23,243.

In Fusly 1253, the prolongation of the dam at the upper Annicut, cost Rupees 18,735.

In Fusly 1255, the dam across the Cauvery at the head of Seringham, cost Rupees 54,584.

In Fusly 1258, four bridges cost Rupees 16,393.

In Fusly 1259, seven bridges cost Rupees 43,170.

In Fusly 1260, two bridges cost Rupees 20,835.

In Fusly 1261, was built the Cauvery and Vennaur regulating dam at a cost of Rupees 49,049, and also seven bridges at a cost of Rupees 30,122.

In Fusly 1262, four bridges cost Rupees 6,405.

(Signed) H. FORBES,

Collector.

5th September 1854.

STATEMENT showing the Beriz of Nunjah lands irrigated from the supply of the Annicut from Fusly 1240 to 1262.

	Extent.			Beriz.			Average.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Standard.	97,282	0	0	34,50,844	0	0	35	8	11

Items.	Fuslies.	Nunjah land cultivated.	Standard Beriz.	Actual Beriz.	Average.		
					Extent	Standard.	Actual.
					Valies.	Rupees.	Rupees.
Before the construction of the Annicut.	From Fusly 1240 to 1245.	1240	82,023	28,13,987	26,31,426		
		1241	82,318	28,24,106	27,32,126		
		1242	84,508	28,99,240	29,98,184		
		1243	82,548	28,31,997	31,17,291		
		1244	85,407	29,30,082	28,40,589		
		1245	84,682	29,05,210	26,69,023		
		6	5,01,486	1,72,04,622	1,69,88,640	83,581	28,67,437	28,31,440
After the construction of the Annicut.	From Fusly 1246 to 1262.	1246	80,537	27,63,006	28,69,487		
		1247	86,692	29,74,167	28,75,844		
		1248	87,183	29,91,012	29,91,744		
		1249	88,253	30,27,721	29,91,747		
		1250	88,471	30,35,200	27,98,976		
		1251	89,810	30,81,138	25,73,458		
		1252	89,562	30,72,630	27,99,411		
		1253	89,304	30,50,290	29,41,484		
		1254	90,130	30,77,564	30,24,200		
		1255	91,205	31,17,120	34,08,706		
		1256	92,241	31,51,087	33,75,657		
		1257	91,761	31,17,488	30,67,893		
		1258	92,760	31,18,089	29,17,144		
		1259	93,571	31,44,352	30,34,287		
		1260	93,799	31,50,811	30,81,039		
1261	93,871	31,49,046	30,70,388				
1262	95,570	33,98,210	33,73,148				
17	15,34,720	5,24,18,927	5,11,94,613	90,277	30,83,466	30,11,448	
After the construction of the Annicut.	From Fusly 1247 to 1262.	1247	86,692	29,74,167	28,75,844		
		1248	87,183	29,91,012	29,91,744		
		1249	88,253	30,27,721	29,91,747		
		1250	88,471	30,35,200	27,98,976		
		1251	89,810	30,81,138	25,73,458		
		1252	89,562	30,72,630	27,99,411		
		1253	89,304	30,50,290	29,41,484		
		1254	90,130	30,77,564	30,24,200		
		1255	91,205	31,17,120	34,08,706		
		1256	92,241	31,51,087	33,75,657		
		1257	91,761	31,17,488	30,67,893		
1258	92,760	31,18,089	29,17,144				
1259	93,571	31,44,352	30,34,287				
1260	93,799	31,50,811	30,81,039				
1261	93,871	31,49,046	30,70,388				
1262	95,570	33,98,210	33,73,148				
16	14,54,183	4,96,55,921	4,83,25,126	90,886	31,03,495	30,20,320	

Particulars of the increase in the average of subsequent years above that of 6 years previous to the construction of the Annicut.

	Increase.			Per centage.		
	Extent.	Standard Beriz.	Actual Beriz.	Extent.	Standard Beriz.	Actual Beriz.
	Valies.	Rs.	Rs.	Valies.	Rs.	Rs.
Average Beriz of 17 years, from Fusly 1246 to 1262,.....	6,696	2,16,029	1,80,008	8 $\frac{1}{4}$	7 $\frac{1}{4}$	6 $\frac{1}{4}$
Do. Do. of 16 years, from Fusly 1247 to 1262,.....	7,305	2,36,058	1,88,880	8 $\frac{1}{2}$	8 $\frac{1}{4}$	6 $\frac{1}{4}$
Beriz of Fusly 1262,.....	11,989	5,30,773	5,41,708	14 $\frac{1}{2}$	18 $\frac{1}{4}$	19 $\frac{1}{2}$

TANJORE, }
11th July 1853. }

E. E.

(Signed) H. FORBES.

Fushes.	Years.	Land Revenue under River Irrigation.			Total Land Revenue.	Total for Ayen including cavil, &c.,
		Nunjah.		Total Revenue.		
		Extent.	Gross Produce.			
		Vaily. <i>a</i>	Cullum. <i>b</i>		Rs.	
1211	1801	...	...	...	31,30,000	33,94,242
1212	1802	...	...	...	26,60,000	29,22,383
1213	1803	...	...	...	23,60,000	26,85,633
1214	1804	...	...	...	23,30,000	35,49,632
1215	1805	...	...	...	31,00,000	33,03,429
1216	1806	...	...	...	28,20,000	30,04,784
1217	1807	...	...	...	35,60,000	35,58,200
1218	1808	...	...	...	36,00,000	36,02,561
1219	1809	...	...	...	33,20,000	35,55,450
1220	1810	...	...	...	30,30,000	30,74,755
1221	1811	...	...	...	30,30,000	30,89,411
1222	1812	...	...	...	32,70,000	33,64,778
1223	1813	...	...	...	34,70,000	33,90,926
1224	1814	...	...	...	34,30,000	34,66,172
1225	1815	...	...	...	32,90,000	33,01,366
1226	1816	...	...	...	33,30,000	...
1227	1817	...	...	...	32,60,000	...
1228	1818	...	...	...	31,00,000	...
1229	1819	...	...	...	31,00,000	...
1230	1820	...	...	...	31,70,000	...
1231	1821	...	...	...	30,60,000	...
1232	1822	75,000	1,17,68,000	26,28,000	32,90,000	...
1233	1823	76,000	1,20,68,000	36,89,000	d43,10,000	...
1234	1824	76,000	1,23,02,000	42,72,000	d49,60,000	...
1235	1825	78,000	1,23,00,000	28,81,000	35,60,000	...
1236	1826	79,000	1,28,12,000	23,25,000	30,10,000	...
1237	1827	78,000	1,21,41,000	21,17,000	28,00,000	...
1238	1828	79,000	1,15,75,000	29,38,000	26,90,000	...
1239	1829	82,000	1,20,16,000	26,57,000	33,20,000	...
1240	1830	82,000	1,21,31,000	26,31,000	33,70,000	...
1241	1831	83,000	1,28,17,000	27,71,000	34,90,000	...
1242	1832	85,000	1,27,81,000	30,27,000	37,70,000	...
1243	1833	83,000	1,22,12,000	31,17,000	38,80,000	...
1244	1834	86,000	1,29,03,000	28,53,000	35,30,000	...
1245	1835	84,000	1,23,50,000	26,68,000	34,68,000	...
1246	1836	84,000	c1,15,91,000	29,40,000	36,78,000	...
1247	1837	86,000	1,37,61,000	28,84,000	37,05,000	...
1248	1838	87,000	1,33,65,000	29,92,000	38,03,000	...
1249	1839	88,000	1,35,29,000	29,93,000	38,12,000	...
1250	1840	89,000	1,36,73,000	28,00,000	36,32,000	...
1251	1841	90,000	1,38,32,000	25,74,000	34,05,000	...
1252	1842	89,000	1,37,37,000	27,99,000	36,28,000	...
1253	1843	89,000	1,35,08,000	29,42,000	37,80,000	...
1254	1844	90,000	1,38,04,000	30,24,000	38,31,000	...
1255	1845	91,000	1,39,56,000	34,09,000	42,54,000	...
1256	1846	...	...	...	42,28,000	...
1257	1847	...	...	...	39,16,000	...
1258	1848	...	...	...	37,64,000	...
1259	1849	...	...	...	..	...
1260	1850	...	...	...	...	...
1261	1851	...	...	...	...	...
1262	1852	...	...	...	...	...
1263	1853	...	...	...	...	...
1264	1854	...	...	...	..	...

Fuslies.	Years.	Balance at the end of each Fusly of the Land Revenue.	Remission granted in each Fusly on ac- count of loss.
		Rs.	Rs.
1211	1801	17,28,000	.....
1212	1802	14,99,000	.....
1213	1803	13,01,000	.....
1214	1804	33,000	.....
1215	1805	18,000	.....
1216	1806	99,000	.....
1217	1807	98,000	.....
1218	1808	4,10,000	.....
1219	1809	7,28,000	2,17,000
1220	1810	1,03,000	33,000
1221	1811	2,57,000	47,000
1222	1812	2,54,000	43,000
1223	1813	3,21,000	12,000
1224	1814	2,07,000	.....
1225	1815	2,42,000	.....
1226	1816	3,03,000	30,000
1227	1817	2,10,000	36,000
1228	1818	3,92,000	1,86,000
1229	1819	5,24,000	2,48,000
1230	1820	2,66,000	.....
1231	1821	1,13,000	.....
1232	1822	60,000	7,000
1233	1823	4,54,000	1,28,000
1234	1824	1,83,000	1,05,000
1235	1825	60,000	53,000
1236	1826	1,12,000	16,000
1237	1827	4,24,000	55,000
1238	1828	5,47,000	86,000
1239	1829	4,29,000	1,57,000
1240	1830	3,09,000	1,47,000
1241	1831	3,51,000	92,000
1242	1832	1,47,000	79,000
1243	1833	1,89,000	92,000
1244	1834	1,12,000	91,000
1245	1835	1,24,000	1,77,000
1246	1836	1,42,000	4,60,000
1247	1837	77,000	55,000
1248	1838	37,000	56,000
1249	1839	33,000	54,000
1250	1840	36,000	68,000
1251	1841	33,000	44,000
1252	1842	1,32,000	92,000
1253	1843	1,52,000	1,12,000
1254	1844	66,000	91,000
1255	1845	36,000	59,000
1256	1846	20,000	.....
1257	1847	.....	.....
1258	1848	.....	.....
1259	1849	.....	.....
1260	1850	.....	.....
1261	1851	.....	.....
1262	1852	.....	.....
1263	1853	.....	.....
1264	1854	.....	.....

Sayer Collection or Transit of Custom Duties.	Abkary Collection or Excise.	Stamp.	Sundry small farms, &c.	House Tax.	Loom Tax.	Total of Extra Sources.	Total of Extra Sources No. 18.	Years.	Fuslies.
				Total.	Total.				
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
86,000	12,000		20,000		7,000	1,50,000	2,05,603	1801	1211
47,000	11,000	...	14,000	...	7,000	1,10,000	1,25,659	1802	1212
37,000	12,000	...	10,000	...	6,000	1,00,000	1,11,692	1803	1213
1,69,000	23,000	...	6,000	...	6,000	1,80,000	1,72,811	1804	1214
1,27,000	21,000	...	5,000	...	6,000	1,70,000	3,29,938	1805	1215
9,000	24,000	...	10,000	...	7,000	1,60,000	1,70,428	1806	1216
4,000	25,000	...	8,000	...	7,000	2,10,000	1,37,407	1807	1217
1,16,000	30,000	...	22,000	...	7,000	3,80,000	2,95,965	1808	1218
1,76,000	33,000	37,000	15,000	...	7,000	5,10,000	3,97,851	1809	1219
1,85,000	30,000	30,000	16,000	...	8,000	5,60,000	4,33,009	1810	1220
1,71,000	33,000	24,000	16,000	...	8,000	5,10,000	4,00,391	1811	1221
1,92,000	31,000	26,000	11,000	...	10,000	5,40,000	4,20,151	1812	1222
2,14,000	29,000	33,000	13,000	...	9,000	6,30,000	...	1813	1223
2,23,000	29,000	47,000	12,000	...	9,000	6,50,000	...	1814	1224
2,29,000	29,000	48,000	15,000	...	9,000	6,60,000	...	1815	1225
2,35,000	31,000	43,000	16,000	...	9,000	6,50,000	...	1816	1226
2,40,000	33,000	39,000	16,000	...	10,000	6,50,000	...	1817	1227
2,63,000	34,000	40,000	19,000	...	10,000	7,00,000	...	1818	1228
2,82,000	36,000	43,000	18,000	...	10,000	7,50,000	...	1819	1229
3,14,000	41,000	49,000	19,000	...	11,000	9,10,000	...	1820	1230
3,53,000	42,000	54,000	17,000	...	11,000	8,60,000	...	1821	1231
3,58,000	46,000	56,000	21,000	...	11,000	8,30,000	...	1822	1232
3,89,000	45,000	59,000	13,000	...	11,000	8,90,000	...	1823	1233
4,04,000	46,000	67,000	19,000	...	11,000	9,20,000	...	1824	1234
3,01,000	43,000	53,000	19,000	...	10,000	8,90,000	...	1825	1235
3,86,000	42,000	46,000	16,000	...	11,000	8,80,000	...	1826	1236
4,10,000	46,000	47,000	20,000	...	16,000	8,10,000	...	1827	1237
4,32,000	52,000	46,000	21,000	...	17,000	10,70,000	...	1828	1238
4,14,000	55,000	38,000	22,000	...	16,000	10,40,000	...	1829	1239
3,49,000	50,000	43,000	22,000	...	16,000	9,50,000	...	1830	1240
3,17,000	49,000	50,000	23,000	...	16,000	9,20,000	...	1831	1241
3,07,000	52,000	42,000	22,000	...	16,000	8,93,000	...	1832	1242
3,19,000	55,000	44,000	23,000	18,000	16,000	6,50,000	...	1833	1243
3,19,000	64,000	47,000	23,000	20,000	15,000	9,68,000	...	1834	1244
3,43,000	63,000	47,000	23,000	20,000	16,000	9,84,000	...	1835	1245
3,48,000	60,000	45,000	23,000	21,000	16,000	9,70,000	...	1836	1246
2,88,000	60,000	50,000	24,000	21,000	17,000	9,62,000	...	1837	1247
3,19,000	58,000	58,000	25,000	21,000	18,000	10,22,000	...	1838	1248
3,16,000	59,000	58,000	26,000	21,000	18,000	10,24,000	...	1839	1249
3,23,000	66,000	56,000	26,000	21,000	19,000	10,06,000	...	1840	1250
3,28,000	67,000	52,000	26,000	22,000	19,000	10,05,000	...	1841	1251
3,17,000	66,000	54,000	27,000	22,000	19,000	10,00,000	...	1842	1252
3,20,000	72,000	45,000	26,000	22,000	18,000	9,32,000	...	1843	1253
32,000	75,000	37,000	25,000	22,000	18,000	8,42,000	...	1844	1254
28,000	78,000	26,000	26,000	23,000	19,000	8,58,000	...	1845	1255
...	...	...	...	...	...	...	...	1846	1256
...	...	...	...	...	...	...	...	1847	1257
...	...	...	...	...	...	...	...	1848	1258
...	...	...	...	...	...	...	...	1849	1259
...	...	...	...	...	...	...	...	1850	1260
...	...	...	...	...	...	...	...	1851	1261
...	...	...	...	...	...	...	...	1852	1262
...	...	...	...	...	...	...	...	1853	1263
...	...	...	...	...	...	...	...	1854	1264

MARAMUT CHARGES.				Years.	Fuslies.	Maramut Expenditure taken from Appendix S. First Report of P. W. C.	Taken from Appendix V. First Report of P. W. C.
Total.	Average of each 5 years.	Charges incurred in the Repair and construction of Roads, Bridges and Ghauts.	Irrigation Expenditure.				
Rs.	Rs.						
1,68,000	1,21,000	..	..	1801	1211		
1,29,000		..	..	1802	1212		
1,09,000		..	..	1803	1213		
93,000		..	..	1804	1214		
1,08,000		..	..	1805	1215		
1,17,000	58,000	..	..	1806	1216		
75,000		..	..	1807	1217		
38,000		..	..	1808	1218		
32,000		..	..	1809	1219		
88,000		..	..	1810	1220		
55,000	83,000	..	..	1811	1221		
90,000		..	..	1812	1222		
1,02,000		..	..	1813	1223		
74,000		..	..	1814	1224		
94,000		..	..	1815	1225		
77,000	76,000	..	..	1816	1226		
46,000		..	..	1817	1227		
77,000		..	..	1818	1228		
1,30,000		..	..	1819	1229		
51,000		..	..	1820	1230		
52,000	58,000	..	..	1821	1231	52,512	
54,000		..	..	1822	1232	54,206	
66,000		..	..	1823	1233	66,376	
58,000		..	..	1824	1234	57,903	
60,000		..	..	1825	1235	59,196	
33,000	40,000	17,752	..	1826	1236	32,983	
25,000		7,527	..	1827	1237	25,268	
28,000		3,675	..	1828	1238	28,637	
33,000		4,381	..	1829	1239	32,881	
83,000		9,775	..	1830	1240	81,982	
1,00,000	1,15,000	9,559	..	1831	1241	98,640	
1,05,000		1,202	..	1832	1242	1,04,497	
1,00,000		7,893	1,12,196	1833	1243	98,279	
1,14,000		342	1,20,698	1834	1244	1,13,736	
59,000		3,761	68,793	1835	1245	59,063	
1,54,000	1,17,000	4,136	1,63,120	1836	1246	1,49,992	
1,47,000		22,267	92,906	1837	1247	85,620	
1,06,000		11,331	1,06,446	1838	1248	88,617	
93,000		26,937	1,15,862	1839	1249	91,703	
86,000		1,010	89,632	1840	1250	78,096	
1,09,000	1,11,000	2,236	87,811	1841	1251	81,239	
1,13,000		8,196	1,04,446	1842	1252	97,100	
94,000		2,090	1,01,070	1843	1253	93,657	
1,00,000		3,094	1,05,582	1844	1254	97,868	
1,39,000		1,432	1,40,959	1845	1255	1,34,723	
		13,543	95,309	1846	1256	93,305	
		8,549	70,143	1847	1257	63,655	
		18,185	95,710	1848	1258	91,458	
		12,280	65,317	1849	1259	62,027	
		500	94,546	1850	1260	1,00,198	
			1,25,826	1851	1261		
			1,97,726	1852	1262		
				1853	1263		
				1854	1264		

Fuslies.	Years.	Gross Produce.				Exportation by Sea.		
		Of each year.	Average of each 5 years.	Increase of average of each 5 years over preceding.	Fluctuation in each period of 5 years.	Population.	Grain.	Amount.
		Cullums.	Cullums.	Cullums.	Cullums.	No.	Garce.	Rs.
1211	1801	1,09,00,000				...	...	...
1212	1802	62,00,000			47 Lacs	...	...	...
1213	1803	74,00,000	89,00,000	...	or	...	...	...
1214	1804	97,00,000			43 per cent.	...	...	...
1215	1805	1,08,00,000				...	...	...
1216	1806	83,08,000				...	...	...
1217	1807	1,07,00,000			26 Lacs	...	...	...
1218	1808	1,09,00,000	1,00,00,000	11,00,000	or	...	...	...
1219	1809	1,08,00,000			22 per cent.	...	...	...
1220	1810	98,00,000				...	...	...
1221	1811	98,00,000				...	...	...
1222	1812	1,11,00,000			16 Lacs	...	...	...
1223	1813	1,14,00,000	1,10,00,000	10,00,000	or	...	...	...
1224	1814	1,16,00,000			13 per cent.	...	...	...
1225	1815	1,10,00,000				...	...	...
1226	1816	1,05,00,000				...	...	...
1227	1817	1,10,00,000			8 Lacs	...	...	...
1228	1818	1,09,00,000	1,09,00,000	...	or	...	19,56,000	14,54,000
1229	1819	1,11,00,000			7 per cent.	...	17,67,000	12,99,000
1230	1820	1,13,00,000				...	17,17,000	11,73,000
1231	1821	1,06,00,000				...	20,88,000	11,64,000
1232	1822	1,17,68,000			17 Lacs	...	16,00,000	9,70,000
1233	1823	1,20,68,000	1,17,00,000	8,00,000	or	...	23,01,000	13,08,000
1234	1824	1,23,02,000			14 per cent.	...	16,14,000	9,18,000
1235	1825	1,23,00,000				...	19,96,000	10,48,000
1236	1826	1,28,12,000				...	24,91,000	14,07,000
1237	1827	1,21,41,000			12½ Lacs	...	13,78,000	7,63,000
1238	1828	1,15,75,000	1,21,00,000	4,00,000	or	...	11,00,000	6,17,000
1239	1829	1,20,16,000			10 per cent.	11,29,000	16,87,000	9,83,000
1240	1830	1,21,31,000				...	19,16,000	11,49,000
1241	1831	1,28,17,000				...	22,34,000	13,12,000
1242	1832	1,27,81,000			7 Lacs	...	33,54,000	20,17,000
1243	1833	1,22,12,000	1,26,00,000	5,00,000	or	...	24,04,000	14,86,000
1244	1834	1,29,03,000			5½ per cent.	...	17,74,000	10,55,000
1245	1835	1,23,50,000				...	18,61,000	11,23,000
1246	1836	1,15,91,000				...	12,43,000	7,37,000
1247	1837	1,37,61,000			22 Lacs	...	17,07,000	10,22,000
1248	1838	1,33,65,000	1,32,00,000	6,00,000	or	...	25,24,000	16,60,000
1249	1839	1,35,29,000			16½ per cent.	11,66,000	25,08,000	15,15,000
1250	1840	1,36,73,000				...	27,37,000	14,71,000
1251	1841	1,38,32,000				...	28,55,000	17,04,000
1252	1842	1,37,37,000			4½ Lacs	...	32,26,000	19,26,000
1253	1843	1,35,08,000	1,37,00,000	5,00,000	or	...	27,11,000	16,11,000
1254	1844	1,38,04,000	...	...	3½ per cent.	...	34,74,000	18,24,000
1255	1845	1,39,56,000	...	...	...	...	36,94,000	26,27,000
1256	1846	...	...	...	...	...	...	...
1257	1847	...	...	...	...	...	...	...
1258	1848	...	...	...	...	...	...	...
1259	1849	...	...	...	...	...	...	...
1260	1850	...	...	...	...	...	...	...
1261	1851	...	...	...	...	...	...	...
1262	1852	...	...	...	...	...	...	...
1263	1853	...	...	...	...	...	...	...
1264	1854	...	...	...	...	...	...	...

Fuslies.	Years.	Total of land Revenue and Extra Sources.	Revenue.	
			Average total Collection of each 5 years.	Increase of average of each 5 years over preceding.
		Rs.	Rs.	Rs.
1211	1801	33,40,000		
1212	1802	28,60,000		
1213	1803	26,20,000		
1214	1804	35,10,000		
1215	1805	33,70,000	31,40,000	...
1216	1806	29,80,000		
1217	1807	37,70,000		
1218	1808	39,80,000		
1219	1809	40,60,000		
1220	1810	36,70,000	37,00,000	5,60,000
1221	1811	36,00,000		
1222	1812	39,10,000		
1223	1813	42,00,000		
1224	1814	41,20,000		
1225	1815	39,60,000	39,50,000	2,50,000
1226	1816	40,40,000		
1227	1817	39,60,000		
1228	1818	40,00,000		
1229	1819	41,10,000		
1230	1820	40,80,000	40,40,000	90,000
1231	1821	39,30,000		
1232	1822	41,30,000		
1233	1823	253,40,000		
1234	1824	260,00,000	f	
1235	1825	44,50,000	47,70,000	7,30,000
1236	1826	33,90,000		
1237	1827	37,30,000		
1238	1828	47,90,000		
1239	1829	44,20,000		
1240	1830	43,70,000	42,40,000	...
1241	1831	44,40,000		
1242	1832	46,90,000		
1243	1833	48,77,000		
1244	1834	46,07,000		
1245	1835	44,69,000	46,10,000	3,70,000
1246	1836	46,47,000		
1247	1837	46,67,000		
1248	1838	48,26,000		
1249	1839	48,43,000		
1250	1840	46,38,000	47,20,000	1,10,000
1251	1841	44,10,000		
1252	1842	46,28,000		
1253	1843	47,11,000		
1254	1844	46,73,000	g	
1255	1845	51,11,000	47,80,000	60,000
1256	1846	51,50,000	...	...
1257	1847	...	...	...
1258	1848	...	...	...
1259	1849	...	...	...
1260	1850	...	...	...
1261	1851	...	...	...
1262	1852	...	...	...
1263	1853	...	...	...
1264	1854	...	...	...

REVENUE DEPARTMENT.

No. 84.

FROM J. GOLDINGHAM, Esq.,

Commissioner Northern Circars.

TO J. D. BOURDILLON, Esq.,

Secretary to Government, Fort Saint George.

SIR,

Para. 1. I have the honor to acknowledge the receipt of Extract Minutes of Consultation dated 26th April 1855, together with the documents mentioned in the margin, calling for information connected with the Godavery Annicut. It is the wish of Government that the effects of this great work should be accurately ascertained. Both present and prospective benefits are to be stated, and information is required as to the practicability of substituting one uniform rate per acre or other extent as the charge for water, for a tax calculated on the crop, ordered to be introduced only as a temporary expedient till the assessment generally can be remodelled.

From Rajahmundry 29th July 1854. 1 Enclosure.
From Do. 23rd September 14 Enclosures.
Memo. from Mr. Stokes with 1 accompaniment on Guntoor and the Kistnah Annicut. Herewith returned.

2. Among the documents received from Government mentioned in the margin of the preceding para. is a paper shewing the Revenue, past and present, of the Guntoor District, and the bearing of the Kistna Annicut on its prosperity, and it is the desire of Government that similar information may be obtained from Masulipatam from the Collector of that District.

3. Before noticing actual results in illustration of the question, a few preliminary remarks will not be out of place. The works under discussion are the Godavery and Kistna Annicuts. Rajahmundry is affected by the Godavery Annicut alone, Guntoor by the Kistna work, and Masulipatam by both. In Masulipatam the Revenue maintained by irrigation is considerable, but in the other two Districts, the bulk of the Government assessment is derived from unirrigated lands. The irrigation of the watered portion in all three Districts is defective and uncertain. Inundations from the overflowing of the Godavery and Kistna occasionally occur, chiefly in Rajahmundry and Guntoor, rendering large remissions of Revenue necessary, and causing serious injury to the country in the destruction of produce and agricultural stock, as well as general loss, replaced only after a lapse of years. With a rich soil, a comparatively better supply of water and more certain harvests, Rajahmundry is in much better circumstances than either Guntoor or Masulipatam. It contains about a million inhabitants, the population of each of the other two Districts being little more than half that number. It has also more large towns, but this prosperity is comparative only, and falls short of what may be looked for, when an assessment on sound principles, a matured state of the Annicut irrigation and extension of water carriage, with improved communications generally shall combine, under the Divine Blessing, to develop its resources.

4. The District viewed in comparison with Tanjore drew forth the following remark from the Madras Public Works Commissioners, "while Tanjore under the beneficial effects of the lately constructed Annicuts was paying with ease a Revenue of 45 lacs, and annually increasing in wealth. Rajahmundry of similar extent, with a far more fertile soil and inferior in no one natural advantage, was paying with extreme difficulty a Revenue of 19 lacs, and its people were in the lowest state of poverty." Mismanagement under the Zemindars, a severe famine followed by disease, occurring when the Ryots were impoverished from exactions under Zemindary rule, and an inefficient state of the irrigation, had operated in reducing the Revenue in Guntoor and Masulipatam. In both these Districts a revival has taken place, remarkably so in Guntoor, though the Revenue is still much below its normal amount.

5. No. 1 of the Appendix will be found to give fuller information regarding the population of these three Districts with a classification of the villages in two of them *viz.*, Rajahmundry and Masulipatam, with reference to the number of inhabitants they contain.

6. The extent of unoccupied cultivable land is less in Rajahmundry than in Masulipatam and Guntoor, but a fair comparison cannot be instituted from the annual accounts, because when Joint Rents prevail, the Village area for the most part is included in the lease, while in the Ryotwar District of Guntoor, it is only land actually occupied and paid for that is entered in the settlement. Still it is apparent that of the three Districts, Rajahmundry is the most highly cultivated. According to the settlement account of Fusly 1263 A. D. 1853-4, the following is the extent of the cultivable area which is unoccupied.

	Unoccupied.	Centage.	
		Ac.	C.
Rajahmundry,.....	53,407	7	20
Masulipatam,.....	2,04,876	27	20
Guntoor,.....	5,27,957	48	0

7. Portions of the above land in Masulipatam and Guntoor may be brought under wet cultivation with the waters of the two Rivers, but that in Rajahmundry, 4,700 acres excepted, is not within range of the new Works. The lands of the Rajahmundry Delta Talooks, though fully occupied, with the above exception, are not fully cultivated.

Delta Talooks.	Acres.
Land occupied,	2,75,000
of which not cultivated but paid for....	50,000

8. The large extent of unoccupied land in Masulipatam and Guntoor is an indication of impoverishment. Latterly some lands have been relinquished in the last mentioned District, partly owing to heavy losses occasioned by the inundations of the Kistna, and partly in consequence of burdensome rates of assessment on the best soils in certain Talooks. This question is under consideration and it is hoped that the necessary relief will be soon given where land is found to be waste in consequence of excessive assessment.

9. It has been observed in a former para, that the Revenue from wet lands in Masulipatam was considerable, but that the bulk of the Revenue in the other two Districts, was drawn from lands not irrigated. Keeping Revenue in view, the proportion of irrigated to unirrigated in Rajahmundry is 35 per cent., in Masulipatam 49 per cent. and in Guntoor it is only 16 per cent. The first effect of the works under construction will be to render the greater portion of this Revenue permanent, by making the irrigation certain, an important result under any circumstance, but particularly so in a District like Masulipatam where 49 per cent. of the Land Revenue is drawn from irrigated lands. All further direct increase will depend on the extension of products, requiring irrigation over the unirrigated area.

Percentage of irrigated land.	Land Assessment.
Rajahmundry	31 35
Masulipatam	22 49
Guntoor	5 16

10. In Rajahmundry, where the irrigation is more advanced than in the other two Districts, the Assessment of the irrigated lands is, as stated above, 35 per cent of the entire Revenue from the land. Of this, 15 per cent. which has hitherto had an imperfect and uncertain supply of water, has already come under the certain provision afforded by the Godavery Annicut, and of the remainder, about 10 per cent. is being brought gradually under the same influence. Ten per cent. or Rupees 1,35,000 is dependant on sources unconnected with the Annicut.

Unirrigated.....	Per acre.
Irrigated.....	Rs. 3 1
Annicut.....	" 3 11
Tanks.....	" 3 9
Channels.....	" 4 0
Wells.....	" 6 15
Falling rains.....	" 2 15

11. The Assessment in Rajahmundry, as shewn in the accounts under the present system of Joint Rents, presents the anomaly of a want of distinction between unirrigated and irrigated. The rates for both kinds are nearly the same, while the proportion generally borne by the latter to the former in other Districts is as 2 to 1.

12. It is further to be observed, that the unirrigated rates in this District are higher than those in Masulipatam and Guntoor. In accounting for this some thing must be set down for inaccuracies in the area as recorded in the Village accounts, and to the fact that more than one-fourth of the lands in Rajahmundry, from fineness of quality, bears a second crop. But making due allowance on these accounts, it is supposed that the rates of assessment of unirrigated lands in Rajahmundry is disproportionately high. In a revision of the assess-

Rajahmundry	Per acre.
Masulipatam.....	Rs. 3 1
Guntoor.....	" 1 0
	" 1 11

ment some adjustment will be made on account of the second dry crop, as is done in other Districts where it is not included in the assessment, and then a greater approximation of rates in the three Districts will follow.

See Statement No. 8 in the Appendix.

13. It must not be overlooked that while the land Assessment in Rajahmundry is higher than in the other two Districts, the market prices of produce are lower there.

14. It is important to bear these facts in view, because while on the one hand, an improved irrigation will lead to an augmentation of the Revenue. Such increase cannot be calculated implicitly on the basis of the present Demand, as this, apart from the consideration of the effect likely to be produced by increased supplies of grain being brought into the market, must undergo great modification and some diminution when the Assessment is remodelled.

15. Appendix No. 2 elucidates in a tabular form what has been stated above in regard to the proportion of irrigated and unirrigated lands in occupation and the ratios of assessment. The particulars apply to Fusly 1263 (1853-54.) It is not to be supposed that the whole of the unirrigated extent is actually under the Plough; a portion is always retained for pasture and some lands were left uncultivated in consequence of the poverty of the holders.

16. The following table exhibits for lands not irrigated the proportions according to which the different grains are grown. The extent of land of this description which is not cultivated is added :

	Rajahmundry.	Masulipatum.	Guntoor.
	Acres.	Acres.	Acres.
Coarse paddy	1,63,954	37,457	71,457
Cholum.	24,000	80,000	97,486
Sundry grain.....	30,552	80,629	3,67,620
	2,18,508	1,98,086	5,34,563
Land not cultivated.	86,083	2,10,081	1,26,681
Total of land not irrigated in occupation.....	3,04,591	4,08,167	6,63,244

17. The result of an improved irrigation will be the gradual substitution of fine descriptions of paddy for the coarse kind.

18. One important effect of a large outlay on Public Works in a District is an increased Demand, which is thereby created for its products; a stimulus is thus given to cultivation, and the Ryot pays his rent more easily. Such outlays of money bear directly on the general prosperity. This has been extensively felt in Rajahmundry in connection with the outlay on account of the Annicut. The direct profit to Government from this expenditure will consist in the stability given to a fluctuating Revenue, in the saving of remissions of assessment for losses in consequence of inundation and in the water tax to be imposed when water is required for improving an imperfect irrigation or when dry lands are brought under the irrigated class.

Actual results.

19. With these preliminary remarks, it is proper to proceed to a consideration of results, past and present, and the expectations held out for the future. The comparison will be instituted for the three Districts, because as an increase is observable in all, it is important to distinguish the agencies that have been in operation. In Rajahmundry alone, as before observed, have the improvements in the irrigation been in any material degree advanced.

20. The highest Land Revenue collection in Rajahmundry, for upwards of 40 years before the construction of the Godavery Works, may be stated in round numbers at Rupees 19,00,000. It was generally much below that amount and four times only above it, and then in an immaterial degree. In the interval between 1832-33 and 1843-44, the Revenue declined considerably; subsequently it revived, went on speedily improving from 1847-48 to 1853-54, and at present amounts to about Rupees 20,20,000, being an increase of Rupees 1,30,000 above the normal standard, supposing the latter to be represented by Rupees 19,00,000.

Fusly	Rupees
1257	18,73,449
1847-53	18,28,903
1258	18,91,254
1259	19,72,681
1260	20,25,310
1261	20,22,465
1262	20,18,610
1263	
1853-54	

Note. Five previous years are taken for convenience - the average of 7 years or Rupees 18,19,088 would include years of great depression.

	Rupees.
Average of 5 years from Fusly 1252 to Fusly 1256	16,72,695
of 7 do. from Fusly 1257 to Fusly 1263	19,61,825
increase of the latter period	2,89,130

21. It seems, however, proper to glance at the actual Collections of 5 years before the outlay for the Annicut with those for the seven years subsequently. Taking then the average Revenue for both periods, it is seen that the latter exceeds the former by Rupees 2,89,130, which multiplied by 7 for the seven years, gives an aggregate increase of Rupees 20,23,910 for this period.

	Rs.
Average of 5 years	3,35,196
Do of 7 Do.	3,68,811
	43,615
years. $\frac{7}{3,05,305}$	

22. Instituting a similar comparison for the Revenue from Extra sources, an increase of Rupees 3,05,305 is obtained for the seven years under notice, which added to Rupees 20,23,910 the increase from the Land, gives a total increase of Rupees 23,29,215. Appendix No. 3 will illustrate these results more in detail.

23. The whole of this great increase is not to be ascribed to the operations of the Annicut and the outlay connected with it, for on reference to Appendix No. 3 mentioned in the preceding para. it will be seen that following the same mode of calculation as above; there is an increase for the seven years in both Masulipatam and Guntoor, amounting respectively to Rupees 2,46,365 and Rupees 27,22,325. The increase in Masulipatam is composed of an increase under Land, and a decrease under Extra sources of Revenue, and in Guntoor the increase is swelled in consequence of large sales of Salt; taking Land Revenue only, the gain to Government for the seven years in question will stand thus:

	Rs.
Rajahmundry,	20,23,910
Masulipatam,	6,03,484
Guntoor,	19,79,817

24. The increase in Rajahmundry and Guntoor is ascribable primarily to special enquiries instituted in those Districts under the orders of Government and to the reforms which followed. In Guntoor, where there has been no outlay on account of Public Works till lately, the money gain to Government is almost equal to that obtained in Rajahmundry; but this very favorable financial result is to be traced to previous deficiencies of revenue, which would be replaced on a better system of management being introduced, aided by the successful administration of a Collector of great revenue experience, whose first object, on the Zemindaries falling in and thus coming fully under his control, was to obtain correct

In Rajahmundry, by Sir H. C. Montgomery in 1843-44
In Guntoor, by Mr Walter Elhot in 1845.

Note. I state this from personal observation and a conviction that the same results would not have followed a system of village Rents.

Average of 10 years from Fusly 1232 to Fusly 1241, the last mentioned Fusly being very unfavorable. 1,416,463

1261	13,90,050
1262	13,80,913
1263	13,55,821

*This has been noticed by Government in reviewing the settlement of Fusly 1262.

Extracts Minutes Consultation 4th November 1854, Para 28.

Do. do. do. to Government reporting on the settlement of Fusly 1263, 5th May 1855, Para. 35.

field Registers, shewing the extent and assessment of each field, or parcel of land. On these his settlements with the Ryots were based, each Ryot being at liberty to occupy or relinquish land as he pleased. To this system, viz. a defined rent on each field and freedom of action in a depressed state of the District, the consequence of Zemindary misrule and famine, and where a long continued waste of the resources had to be repaired, is to be attributed the marked progress above indicated, but the improvement though great has not brought up the revenue to its normal standard, and in some localities, as already stated, considerable depression is still apparent. In Rajahmundry alone has the ordinary standard of the Land Revenue been exceeded, although in some parts of the District, the revenue is still below the assets computed at the Permanent settlement. The fact that the normal Revenue has been surpassed in Rajahmundry alone is *prima facie* indicative of the existence of a new class of agencies bearing directly on the capabilities of the District.

25. Appendix A of the General Report for Fusly 1263 (1853-54), was intended to exhibit the effects of the new works on the Revenue and the general resources of the country. It has been drawn up with care and may be referred to in the present place as containing the information called for by Government. It was there shewn that of the three main channels, viz. the Toolia Bhaga, the Ryaly and the Vizaiswaram or Weyoor, the first had been more or less available for irrigation since Fusly 1257 (1847-48), that the two latter had not materially contributed to the Revenue up to Fusly

To Government 5th May 1855.

1262 (1852-53), that to inspire confidence in the works, it had been determined that the water cess should not be imposed till the benefit of the irrigation had been enjoyed for two successive seasons, that one-half only of the water rate was to be imposed in the third year and the full amount in the fourth, that this indulgence would necessarily put off the returns to Government, and that the assessment under the present system of settlement could be fixed on approximate data only. Two Statements were appended, one shewing the Revenue of villages under the Toolia Bhaga, and the other the profits derived by Government from the new works. Copies of these Statements form Nos. 4 and 5 of the appendix to this letter.

26. No. 4 exhibits the average for 5 years before the commencement of the Annicut, and that for Fuslies 1262 (1852-53), and 1263 (1853-54), with the number of villages enjoying the benefits of the irrigation and the period when water was first received in the several villages respectively. The following facts are established by this Statement.

i. In 45 Government villages irrigated during periods ranging from 1 to 6 years, there was an increase of Rupees 52,099, or 62 per cent. in the Revenue of Fusly 1263 (1853-54), compared with the average of five years before the commencement of the work.

ii. In 23 villages which have had the water for 5 years, the increase on the same comparison is Rupees 35,077, or about 90 per cent.

iii. The ratio of increase in 97 Government villages of the same Talooks, not brought under irrigation, is 37 per cent.

iv. In 25 villages of the Zemindary of Pittapore under the Collector's management, similar results are observable, *viz.* an increase of 38 per cent. on the whole 25 villages, and of 87 per cent. where the irrigation has been in operation 6 years.

v. The advantages are in proportion to the period the water has been used, and in 5 villages of the Biccavole Talook, the particulars of which are given in the Statement, the present Revenue is twice and three times the former amount.

27. In both the irrigated and unirrigated villages the Revenue has gradually increased, the result of Fusly 1263 (1853-54), being higher than that of Fusly 1262 (1852-53). The unirrigated villages are benefited by the outlay and demand for their products. In both descriptions of villages, the Government demand is regulated, in the absence of field Registers, by an addition to the former year's settlement on a general consideration of their increased resources, which is afterwards apportioned by the Ryots among themselves.

28. It must be borne in mind that till Fusly 1263 (1853-54) the irrigation was confined to the Toolia Bhaga, and that returns of Revenue have been delayed in consequence of the channels not having been proceeded with simultaneously with the Annicut as originally projected. Two years may be said to have been lost by this deviation from Colonel Cotton's intention.

29. The other Statement or No. 5 of the appendix exhibits the profits to Government, in respect of the land assessment of the area actually watered. The 45 irrigated villages under the Toolia Bhaga are therein arranged with reference to the period when the irrigation first commenced in them, and the Revenue for each year of the 6 years, ending with Fusly 1263 (1853-54), is shewn in comparison with the previous 5 years average. The result in these Villages for the 6 years is an increase of Rupees 2,52,021, of which allowing Rupees 65,820 to have proceeded from other causes not connected with the Annicut, Rupees 1,86,201 it is supposed may be safely taken as direct gain from the Works. To this is to be added, Rupees 1,30,038 being an estimate of the Revenue which accrued to Government in Fusly 1263 (1852-54) in other localities, as shewn in the Statement; making a total profit at the period mentioned of Rupees 3,16,239. The permanent addition at this moderate computation to the annual Land Revenue of the District was thus Rupees 40,789 in one tract only, *viz.* 45 villages of the Biccavole Talook, a fair proportion of the further sum of Rupees 1,30,038 being added to this, it will be found that the annual Land Revenue has been augmented by a sum probably exceeding Rupees, 1,30,000, the increase indicated in para. 20 above.

30. Besides the effects on the Land Revenue the impulse given to trade and general consumption by greater facilities of transit and circulation of large sums in the District, combined with other causes, such as the establishment of a large Sugar Factory near Rajahmundry, the

Average Annual increase.	
Spirits,	Rs. 30,309
Home consumption of Salt,	40,327
Motaria,	11,449
Sea Customs, though greatly reduced by the operation of Act VI of 1854. }	25,811
	<u>1,07,756</u>
	8
	8,62,018
Deduct ½.....	2,86,347
	<u>5,75,701</u>

demand for oil seeds in the European market, has* brought additional returns to Government under the other sources of Revenue. The value of Exports has risen from about Rupees 3,50,000 in 1841-42 to upwards of Rupees 16,00,000 in 1852-53, and that of imports of other goods besides grain, from Rupees 60,000 to nearly Rupees 2,00,000. Comparing the average of 5 years before the Annicut with that of 8 years subsequently, there is an average annual increase of Rupees 1,07,756, or a total increase since the Annicut of Rupees 8,62,048. It would be difficult to state with nicety what portion of this increase belongs to the Annicut outlay, but deducting one third as proceeding from other causes, there is a receipt of Rupees 5,75,701 as probably attributable to that influence.

31. The profits then to Government at the close of Fusly 1263 (1853-54) from the expenditure for the Godavery Annicut and its subsidiary works may be thus stated:

	Co.'s. Rs.
The increased collections from lands under the Toolia Bhaga from 1257 to 1263 Fusly are taken at	1,86,201
Those in 1263 Fusly in other localities.....	1,30,038
	<u>3,16,239</u>
Of the increase in the revenue from extra sources described above ⅓ may be put down to the Annicut.....	5,75,701
Total.....	<u>8,91,940</u>

This gives 9 lacs for the actual receipts. But to this may fairly be added the increased Receipts of the Pittapoor Zemindar noticed above, viz.

From 1257 to 1263 Fusly.....	29,627
In Fusly 1263.....	10,000
	<u>39,627</u>

Amount which might have been realized from Enam lands under the Toolia Bhaga.

From 1257 to 1263 Fusly.....	38,534
Do. do. for such lands watered in 1263 Fusly.....	5,000
	<u>43,534</u>

Grand Total..... 9,75,101

32. There has been thus a direct receipt of Rupees 9,75,101 since the commencement of the works against an expenditure of Rupees 20,37,917 on that account with a permanent addition to the annual Revenue from the land at the close of the period reviewed of a sum not less than Rupees 1,30,000.

33. Satisfactory as these results will doubtless appear, other advantages both to Government and to the people have been reaped, which enhance many fold the value of this important work. The season of Fusly 1263 (1853-54) was one of severe drought. By extraordinary exertions the Civil Engineer succeeded in conveying water from the 3 main lines of irrigation to the wet cultivation, and over the greater part of the dry lands in time to save the produce when it was on the point of perishing. Early in December 1853, the late Commissioner visited the District, and from enquiries carefully made, it appeared that a revenue of Rupees 6,59,856 was saved from imminent peril by the exertions mentioned, and that the value of the produce preserved to the country exceeded Rupees 40,00,000. But for this opportune supply of water about Rupees 2,00,000 of the assessment must have been given up by Government as remissions, and the loss of stock and capital would have been great. As it was, the revenue was punctually discharged, the Ryots enjoyed enormous profits in consequence of the enhanced prices of grain, food was augmented and the calamities of famine were averted.

34. One important benefit remains to be noticed, viz. the effect produced on the agricultural

* Note. Without the head of water at the Annicut, this could not have been done.

Note. Whatever may be thought of this valuation the argument, viz. that a vast quantity of produce was saved to the country is not affected.

laborers. A new demand for their labour has been created, they are no longer dependent on their masters for a scanty provision of grain with a cloth given annually, but seek employment for themselves and earn from 2 to 3 Rupees a month.

35. It will be asked perhaps, whether the present revenue will bear a comparison with the assets of the District on which the permanent settlement was based. The figures in the margin shew that the revenue at the present time is Rupees 1,94,708 above the Peshcush, or demand of Government on the Zemindaries, but 2,33,530 below the assets on which that demand was framed. The Government are doubtless entitled to have the sum last mentioned

made up to them irrespective of any extraordinary outlay of Public money, the prices of grain and other circumstances being the same as when the assets were taken, but this is not the real question at issue at present, and it will be time enough to institute a comparison when the District shall have recovered more completely from the state of depression observable before the Annicut project was put forward. As regards the Annicut and its subsidiary works, there seems abundant grounds for the conclusion, after making due allowance for the progress to be expected under ordinary circumstances, that they have been followed by a large increase to the standard revenue of the District, which, but for their influence would not have taken place, together with other results of vast importance as set forth in the foregoing paras. Viewed with all those effects, apart from the question of navigation, it will be readily admitted that, not only have more than equivalent results been obtained for the outlay incurred, but that a foundation has been laid for benefits surpassing largely what the works have yet yielded. Considered in its navigation aspect, as realizing all the advantages of improved communications, the conclusion as to a full equivalent for the expenditure will probably be found equally true.

36. Mr. Taylor the Sub-Collector in charge of Rajahmundry addressed the Board of Revenue under date 23rd September 1854, on the effects of the Godavery works, and it is the desire of Government that Mr. Taylor's Reports, one on the Collector's Division, and the other on that immediately under his own management, submitted on that occasion, should be carefully tested. These papers discuss at some length the benefits which the Government and the country have derived from the works in question.

The conclusions are drawn from a comparison of the Revenue during 6 years commencing with Fusly 1257 (1847-48), the first year of Annicut expenditure with the six previous years, the last year of this series or Fusly 1256 (1846-47), entering more immediately into the comparison, and it is assumed that the whole increase of Land Revenue during the second series of six years amounting to Rupees 8,51,048 is to be ascribed to the Annicut, and the expenditure connected with it.

37. Mr. Taylor's inferences are fallacious, inasmuch as the first series of six years, represents a period of extraordinary declension. The figures in the margin shew the state of the Revenue at that time. In Fusly 1253 the Special Commissioner commenced his enquiries, and after that date a revival of the Revenue is apparent. Adverting then to the low state into which the Revenue had fallen during that period, to its subsequent improvement before the Annicut expenditure commenced, and to the

fact that it had not attained its normal state in Fusly ¹²⁵⁶ 1846-47, the last year of the first series, the inference that the entire increase during the second series is solely ascribable to such expenditure is not sustainable. Some allowance should have been made to the reforms and administrative energy which followed the institution of the Commission, which, though aided by the Annicut after Fusly ¹²⁵⁶ 1846-47, cannot be supposed to have suddenly yielded their influence on the restorative power of that work coming into operation,

Assets as per accounts of sub-divisions	Rs. 24,79,829
Deduct do. of estates in the possession of Zemindars	7,27,160
Assets of lands at present belonging to Government	17,53,669
Peshcush of the above	13,24,431
The sist (Atkoobady) of Fusly 1263 exclusive of Rupees 19,610, the sist of Jaghires not included in the permanent assets and reverted subsequently	15,19,139
Decrease of Fusly 1263 below the assets	2,33,530
Increase of do. above the Peshcush	1,94,708

Normal Revenue	1,900,000.
Fusly 1251	1,534,286
" 1252	1,515,551
" 1253	1,554,385
" 1254	1,731,534
" 1255	1,749,519
" 1256	1,812,409

	Rupees.
Increase in the Collector's Division only	
Increase from 1257 to 1259	
Fusly being profit by general expenditure	194,503
" from embankments and drainage	301,026
" from supply of water....	57,265
	553,096
Deduct decrease.....	110,071
Remaining..	443,625

38. Following up the view that the whole increase is to be credited to the Annicut, an attempt is made, in para. 19 of the Report on the Collector's Division, to distribute it under specific heads as shewn in the margin, but in the absence of data for thus distinguishing the effects of the expenditure, the apportionment cannot be received as real; even following the course of expenditure for the different improvements as is carefully done in para. 16 of the Report on the Sub-Division, little approach is made towards the acquisition of information sufficient for exhibiting results in a classified form.

39. The remarks in the foregoing paras. apply equally to the few villages exhibited in para. 17 of the Report on the Sub-Division, though the great advantages derived from embankments and the presence of water at critical periods are fully apparent in the several instances noticed. In para. 24 of the same Report, Mr. Taylor admits that the classification of effects is arbitrary.

40. Mr. Taylor, however, shews in both papers that he is quite aware of the benefits derived from a better system of management, and of the difficulties presented in any attempt to state with nicety the actual effects of the Annicut outlay, but he thinks that the highest administrative intelligence might have been at fault, had it not been for the powerful aid afforded by that expenditure, and he justly observes, that the collections have been greatly assisted by it.

41. As a proof that other causes of increase have been in operation during the last five years, it is only necessary to compare the results in the upper portions of the District with those obtained in the Delta Talooks. The comparison is as follows:

		Collections of Fusly 1256.	Total increase or decrease of 6 years from Fusly 1257 to 1262.	Centages.
		Rs.	Rs.	Rs.
Under the Collector	{ Delta Talooks.	86,317	+395,067	67,38
	{ Other "	197,757	+178,827	90,42
Under the Sub-Collector....	{ Delta "	413,291	+200,309	48,46
	{ Other "	34,865	- 25,346	72

The result so far as regards the Collector's Division is thus very largely in favor of those parts of the District beyond the influence of the Annicut, and is ascribed by Mr. Taylor among other causes to the better opportunity enjoyed by some villages for the development of their resources, in consequence of their having reverted to Government from Zemindary control. Mr. Taylor adds, that it is also "mainly and justly due to improved management and better protection to life and property" aided by public and private outlay of money, the latter having reference to the expenditure by the owners of the Sugar Factory near Rajahmundry, with "a succession of propitious seasons and exposed to no calamitous visitations impossible to control or to the miseries of drought and famine." The Talook of Rajahmundry in the Collector's Division is in some degree an exception. This is a dry grain Talook without irrigation, and therefore more susceptible of vicissitudes of season.

42. The upper lands of the Sub-Division consists of one Talook only, viz., Taudemulla. Its deterioration, as above represented, is owing to fluctuations of season and a long prevalence of the sharing system of settlement.

43. In the Delta Talooks the beneficial influence of the Annicut has indeed been extensively felt, but it is hardly proper to attribute to this cause alone the improvement that has taken place, opposed as it is by the large increase in the upper Talooks, and the decided testimony borne to better management. The blessing of this work to the country has been fully shewn in former paras. and it is not in any way to its disparagement, that a share of the general improvement should be ascribed to causes ordinarily in operation, such as a vigilant administration and good seasons. The Annicut, moreover, has never been put forth, as solely influential in the Jummabundy Reports received from the District.

44. The average collections for the 6 Talooks beyond the Annicut for each of the two series of six years, should be Rupees 181,318, and Rupees 227,561 respectively, and not Rupees 183,098, and Rupees 235,000 as stated in para. 43 of the Report on the Collector's Talooks.

45. Interesting returns shewing the relative value of a pooty of dry and wet cultivation on irrigated land for the first five years of the land being so occupied, and of a pooty of dry cultivation on unirrigated land, and the same converted into wet, are given in paras. 33 to 35 of the Report on the Division of the Sub-Collector. The profit to the Ryot after

Note. These calculations are made for a rich soil and favorable seasons. On its conversion into wet the produce is greater in the first statement than in the second, owing, probably to the former including a second crop.

deducting expenses, not including the assessment of Government for that period from irrigated dry cultivation is Rupees 564-8-0, and that from wet after a similar deduction is Rupees 592-8-0, during the first two years of the conversion in both cases the Ryot loses, and the difference after that period in favor of wet cultivation is inconsiderable in the case of irrigated dry land, but great in that of unirrigated dry land converted into wet. The loss

for the first two years and the knowledge that an additional impost will be imposed on the land being converted from dry into wet have retarded the progress of wet cultivation. "Both in Mogultoor and Tanookoo,"

Mr. Taylor observes, "the Ryots have been satisfied with using the water, to ensure good returns of their usual crops, rather than attempt the culture of rice, or other more valuable products," notwithstanding these impediments hitherto to a full and profitable use of the water. Mr. Taylor shews, that there is a growing desire to obtain it "every village" he says "desires to own a water-course," and diverting to those villages, which are impoverished in consequence of neglect or exposure to inundations, he observes, "Pam'happy to say, that the inhabitants of these villages are no longer desponding, they have not been unmoved spectators of what has been doing around them, and they look forward with hope to a share of those benefits which others have already shared." This appreciation by the ryots of the advantages of the Godavery works was confirmed by my own personal observation while on circuit.

46. The peculiar character of the assessment generally, the fact that the dry assessment is in many cases higher than the wet, and the desire that has sprung up generally to obtain Annicut water, shew the importance of an early adjustment of the demand of Government on some fixed principle.

47. Statements Nos. 9 and 10 of the Appendix have been prepared from statement Z, which accompanied Mr. Taylor's Reports under consideration, and convey the information intended by Mr. Taylor in a more simple form.

48. Important testimony is borne in these paras. to the great value of the new channels as lines of communication. The carriage of goods, where the channels can be used, has been greatly facilitated and the cost

of transport has been reduced nearly 3rds. On the completion of the channels it is expected that the transit charges will not be 1/3th of their former amount. It is owing to the facility thus created, that the price of 1,000 Bamboos at Wondy has fallen from 25 to 15 Rupees. The Ryots also can obtain a fair market for the products they have raised, whereas when transport was difficult, they were obliged to put up with what the Soucars on the spot would give them.

49. The tabular view of the former and present charges for the transport of goods, in para. 46 of Mr. Taylor's Report on the Sub-Division, has been transcribed and will be found in No. 11 of the Appendix.

50. From whatever quarter viewed, whether as a work of irrigation in the benefits enjoyed from the presence of water, in increased production and saving of produce from destruction or for purposes of Navigation as furnishing lines of communication for trade and general intercourse, the Annicut is now indispensably necessary to the country, and the attention is forcibly drawn to the importance of its completion at an early period, and to its maintenance at all times in a state of thorough efficiency.

51. The Government wish to be furnished with an estimate of the probable extent of land on which the water cess will be imposed, and the amount to be anticipated on the completion of the works. In framing such an Estimate, it is necessary to bear in mind, that the Annicut water will not flow to the entire area, entered as irrigable without auxiliary appliances as Pacotahs for raising it, and that a considerable portion of the land bears a high assessment, either as usual Wet land or as Dry. There are no data for fixing

with any degree of nicety, the extent of land for the irrigation of which it will be necessary to raise the water by the ordinary means in use above the level secured by the Annicut, but it is supposed to be considerable. Taking this circumstance into consideration with the fact, that the present standard of assessment is on the whole high, it would hardly be safe to assume a higher rate than Rupee $1\frac{1}{2}$ per acre, as the probable increase to Government from the land on the irrigation being perfected.

52. It must also be remembered that there is scarcely any land in the Delta which never before paid any thing. The Delta has been for the most part occupied, though its Revenue has fluctuated from uncertainties of season. One main object of the Annicut is to remove the effects of this uncertainty.

53. An increase of Rupee $1\frac{1}{2}$ per acre in return for the great additional value imparted to land by a well organized system of irrigation, is certainly very little, but, however inapplicable so low a rate would be under ordinary circumstances, a higher standard cannot be safely taken in the existing state of things in the Delta.

54. As, however, any estimate of ultimate financial effect must be at present in a great degree conjectural, it seems better to wait till further experience shall furnish data, on which reliance can be placed before any attempt is made to estimate, with an approach to nicety, future probable returns.

55. An addition of Rupees $1\frac{1}{2}$ per acre, though small compared with the estimate when the project was first entertained, represents only a portion of the entire increase of income to be expected. The whole benefit to Government will embrace, besides direct augmented returns, the increase under other sources of Revenue, the natural consequence of a high degree of general prosperity, the stability afforded to a fluctuating Revenue, the saving of remissions for losses, and the prevention of that great deterioration of Capital and stock on occasions of inundation and drought. The vast and incalculable benefits to the people at large in an ample supply of food and sundry products must also be considered among the advantages to be derived, a large instalment of which they have had the good fortune to enjoy during the drought of Fusly $\frac{1263}{1853-54}$.

56. The total expenditure up to November 1854, was stated in Appendix A, of the General Report for Fusly $\frac{1263}{1853-54}$ to be 20 lacs of Rupees. For the increased income already derived together with the almost immeasurable advantages enumerated in the foregoing para, it will be admitted that the outlay for the completion of this great work may be safely allowed to rise considerably above the expenditure already incurred.

57. The yearly outlay and cost of establishments have been computed at Rupees 1,70,000 which with Rupees 1,20,000 being interest at 5 per cent. on a Capital invested of 24 lacs, gives a total of Rupees 2,90,000 or a sum less than 4 annas per acre as the yearly cost of conveying water to the land. Adverting to the magnitude of the subsidiary Channels, which can only be appreciated by being seen, to the double function they will be required to perform viz., irrigation and navigation, and to the imperative necessity of improving them and maintaining them at all times in a state of complete efficiency for those purposes, for the Annicut is now indispensably necessary to the country, it seems that 3 lacs of Rupees is the lowest sum that can be put down as the annual charge for repairs and cost of establishments, not including interest.

58. It was expected on the occasion of the former estimate, that 100,000 acres of land would be laid down with sugar cane. It seems improbable that such a result can be speedily realized. At present, the extent occupied with this product in the Rajahmundry Delta is only 3,048 acres, and as the large sugar factory near Rajahmundry, consumes largely palmyra jaggery, there is little prospect of an immediate extension of cane cultivation in any material degree. It seems however not improbable from what I learn that, on the land assessment being finally fixed, when all uncertainty as to its amount will be removed and free scope given to the occupation of land, the cultivation of this product will be more generally followed, and that cane jaggery will be substituted at the sugar works for that obtained from the palmyra. At present, palmyra jaggery is sold at a rate 25 per cent. below cane jaggery, but this disparity of rate will cease on the backwardness to grow cane which is now manifest being overcome.

59. The great results obtained in the Wobndy Talook and under the Samulcottah Channel must not be viewed as furnishing a standard of increase for the Delta generally. The Revenue of the former was greatly depressed below its normal condition in consequence of the neglected state of the irrigation

Note. The Anicut has since come into operation with increased benefits, by enabling the Ryots to commence cultivation earlier, thereby obtaining richer crops and to secure a more extended cultivation. The irrigation in its ordinary state, could not insure this timely and certain supply of water. The Anicut was necessary for this end.

For the 8 Delta Talooks the Sub-Collector's entries of waste are as follows.

	Pooties.
Fallow.....	5,163 ³ / ₄
Immemorial waste.....	224
	<u>5,387</u>
	8
	<u>Acres 27,006</u>

Mr. Taylor's Report on the Sub-Division above noticed para. 30.

and the losses entailed by the sharing system of settlement. The increase was the natural consequence of an irrigation put in order and of an improved system of management. It was effected without the Anicut. The increase in the case of the Samulcottah Channel is owing to there having been much land under it out of cultivation, which on the resuscitation of the irrigation, was taken up. Both are striking instances of the value of Marasut outlay, applied for the restoration of Revenue but their circumstances differ from those of the Delta generally. Viewed broadly the Delta may be said to be nearly occupied having an assessment which approaches a maximum standard, the main function of the Anicut in this case will be to give permanence to a fluctuating Revenue, and the effect will not be so striking as in the other cases cited. Lastly, in estimating future prospects, the probable effects of increased production on the prices of grain must not be lost sight of. The value of money may also change. But these contingencies will be more properly noticed when an adjustment of the assessment comes under consideration.

Question regarding the additional tax for water.

60. I proceed to submit the information called for in respect of the water rate. It is enquired whether a fixed rate per acre or other extent for each of the kinds of crop or an uniform rate per acre, a difference being made between those kinds of crop which require full irrigation, and those which consume a much smaller quantity of water, cannot be adopted for the arrangement submitted by the late Commissioner, which received the sanction of Government on the 5th January 1855.

Proportion of the produce to be left to the Ryots 3/4 on land producing dry crops 1/2 on do. do paddy, 3/4 on garden produce, 3/4 on sugar cane.

The proposal of the late Commissioner varied with the crop raised, the tax being supposed to be equivalent to a certain proportion of the profits to the Ryot from such crop. It was not intended that the additional tax thus fixed should be imposed on the land so occupied and from the demand of Government on it. This could not be done under joint rents, as it was the collective rent only, which the Government Officers had the power to increase its apportionment being left to the Ryots themselves. The Ryots were informed by proclamation that two years exemption from Extra cess would be allowed from the time of the water being first brought to each particular village, that in the third year a fair amount would be fixed as the water rate, a moiety of which would be demanded in that year, and the full amount in the 4th and that the apportionment would be left to themselves, the servants of Government interfering only on complaints of unequal distribution, and the exercise of undue influence by the Head men or Pettanadars of the Village. The Ryots were further informed that the sum thus fixed at the early part of the season would not be augmented during that year.

61. It was a part of the instructions to Collectors that the actual produce of the different soils in each Village should be examined by the Government officers, to serve as a guide for fixing the charge for water, but it was ascertained during my late circuit, that these orders had been only partially attended to, and that considerable difficulty was felt in carrying them out. In a letter on

From Collector, 14th June 1855 with copy of a letter from the Sub Collector dated 17th May 1855.

the subject just received from the Collector of Rajahmundry, which will be submitted to Government hereafter, together with my Report on the practicability of immediately fixing a definite assessment on each field, the following passage occurs. "The crop on fields irrigated last season may have this year been raised without the use of the water. Land on which a second crop was raised by help of the water last year, may this year have been cultivated with but one. The 1st crop again may have been brought to maturity without using the water which may have been taken for the second crop only. In a great part of the Ramachendrapoor Talook in particular, a Paddy crop was this year brought to maturity on a large extent of land from the ordinary monsoon rains, these lands have subsequently been irrigated by the Anicut water and a fine crop of gingely oil seed raised. There are many other points which if is not necessary to detail. I allude to those I have enumerated with the view of shewing that it is useless even if the estimates and accounts of actual yield were worthy of a greater degree of trust than I fear they are in general entitled to, to attempt to apportion with any great nicety the additional tax to be imposed with reference to the different crops raised and the extent of land which may happen to be irrigated

in the present season. All that we can do and all that under the system of Revenue administration which now obtains in this District, seems to be necessary is to fix a fair sum after a careful consideration of the general results, and of all the circumstances affecting the profits of the Ryots."

62. Referring to the principle according to which the water cess was to be imposed, viz., that of limiting the tax to a certain proportion of the estimated profits on each description of crop, Mr. Taylor, the Sub-Collector observes, "It was simply a test by which to determine whether the assessment already levied was sufficiently high, or whether additions could fairly be made to the demand. The great object was to ascertain what the land actually yielded when supplied with Annicut water, and if it were found that the amount of gross produce and the generally improved circumstances of a Village justified the levy of Teerwa Jasty, to assess it accordingly that is to make an addition to the collective of joint rent of the Villages, the distribution of which should be left to the Ryots themselves."

63. The water tax being thus determined on general data, and its amount discretionary and blended with the assessment of the village cannot be represented at a given sum. In 5 villages only of the Woondy Talook it is separately distinguished, though not formed on any definite principle. The following Statement shows the amount in the 5 Villages in question with the assessment of these and other Villages in the Talook, and what the assessment ought to be if reliance could be placed on the examination of produce instituted for the occasion.

ITEMS.	Land.	Demand for Fusly 1264.	Demand on the Govt. share of the Estimated produce.	Difference between Cols. 3 and 4.	Teerwa Jasty additional cess for water.	
		Rs.	Rs.	Rs.	Rs.	
Of the 5 Villages assessed with Teerwa Jasty	Wet...	299	8,264	11,621	+3,357	0
	Dry...	20	297	109	-188	0
	Total...	319	8,561	11,730	+3,169	1,036
Of the 82 Villages not assessed with Teerwa Jasty	Wet...	2,910	78,236	96,389	+18,153	0
	Dry....	1,100	28,700	16,468	-12,232	0
	Total...	4,010	1,06,936	1,12,857	+5,921	0
		4,329	1,15,497	1,24,587	+9,090	1,036

Particulars.		
For Fusly 1264	275	0 0
" 1265	700	8 0
" 1266	60	8 0
Total.....	1036	0 0

64. The irrigated products may be viewed under two classes, viz., such as require a large quantity of water to bring them to maturity, and those for which a moderate supply will suffice. The former includes paddy, sugar cane, and cocconut plantations; the latter, turmeric, onions, and all ordinary garden produce. The quantity of water necessary to bring these products to maturity varies with the class to which they belong as above defined, all in the same class requiring about the same quantity of water. To tax a given extent then, with reference to the product under this view is the same thing as taxing it with reference to the quantity of water used. If this principle of assessment is to be observed, the Collector must ascertain yearly the extent of land irrigated and with what crops, and then apply the higher or lower rate as the case may be. Under the joint renting system data will thus be furnished for adding to the collective demand on the Village which has to be broken up and distributed de novo, but the sum to be paid by the occupant for

the water taken by him will differ from the amount which appears in the Collector's calculations.

65. The true mode of taxing irrigated land is that which has the sanction of immemorial usage, *viz.*, to fix the assessment on a joint consideration of the quality of the land and of the quality of the irrigation. Two scales of rates for the different soils of a District would thus be fixed, one for lands enjoying a full and certain supply of water, the other for lands, the irrigation of which is imperfect. This rule applies equally to tanks and river channels. If this principle of taxation were strictly attended to, some descriptions of what are generally known as dry products, as well as all garden produce might be raised with profit. The remark applies particularly to Indigo which would be grown under sources of imperfect supply, if the assessment were not a bar. The system too often adopted is, to tax all irrigated land with the paddy assessment, without reference to the quality of the irrigation. The supply of water may be either partial or deficient to such an extent as not to admit of paddy being sown that year. In the former case, a proportionate remission is given; in the latter, the assessment is not charged at all, and the land may remain 3 and 4 years together unproductive. With a tax fixed with reference to the quality of the irrigation, both the Government and the holders of land would be gainers, as a return may be looked for, with confidence every year.

66. The principle of a collective demand is, however, an obstacle to the introduction of rates of assessment founded on a combined consideration of both land and irrigation.

67. The irregular character of the assessment as at present found, will be apparent on consulting Statement No. 6 of the Appendix, Columns 17, 22, 27, 37, 42, 47, elucidate this point, although cultivated with the same description of crops the assessment in some instances is upwards of 100 per cent. below what it is in others. This great irregularity is more fully exhibited in Statement No. 7 which shews the wet lands of Balabhadrapuram, formerly watered by Tanks but now under the Annicut, arranged by fields under their respective classes and the assessment on each field according to the village apportionment. It will be seen that no, two fields of the same class bear the same rate, and that the rates of the same class differ very widely from each other. In breaking up the collective demand, considerations besides the class to which the land belongs, regulate the sum to be paid by each Ryot.

68. The difficulties above noticed are increased by the rates borne by unirrigated land being equal, in the present condition of the assessment, to those of irrigated land. The addition of a specific sum to the former, as the water cess is impracticable, till the rates of both descriptions of land are reduced to their just proportions. The following table exhibits the average rates of assessment as borne in the present accounts for the different Delta Talooks.

TALOOKS.	DRY.			WET.			GARDEN.		
	Land.	Sist.	Average.	Land.	Sist.	Average.	Land.	Sist.	Average.
1	2	3	4	5	6	7	8	9	10
	Acres.	Rs.	R. A. P.	Acres.	Rs.	R. A. P.	Acres.	Rs.	R. A. P.
1 Rauley,	11,904	50,544	4 3 11	184	868	4 11 6	241	695	2 14 2
2 Cota Ramchendrapuram,	22,256	1,03,584	4 10 6	1,584	6,126	3 13 10	27	333	12 2 0
3 Tanookoo,	32,960	1,37,678	4 2 10	1,760	8,595	4 14 2	63	333	5 4 4
4 Nagarum,	13,360	55,525	4 2 6	5,632	24,833	4 6 6	507	3,251	6 6 7
5 Mogultoor,	25,160	96,200	3 13 2	7,792	23,312	2 14 10	842	6,323	7 8 3
6 Amlapoor,	14,768	55,387	3 12 0	15,534	56,422	3 9 11	418	1,567	3 11 10
7 Bickavole,	8,336	25,820	3 1 7	19,336	78,812	4 1 3	0	0	0 0 0
8 Woody,	10,696	33,424	3 2 0	21,424	75,387	3 11 4	12	1 1/2	0 2 0
Villages of Cocanada and Pettapoor Divisions,	856	1,969	2 4 10	1,200	4,307	3 9 5	22	117	5 6 0
9 Capaveram,	34,424	88,212	2 9 0	9,120	42,575	4 9 8	0	0	0 0 0
Total...	174,720	6,48,343	3 11 5	83,616	3,21,237	3 13 6	2,132	12,620	5 14 9

69. The difficulty of securing the rights of Government under the joint renting system was fully felt by the late Commissioner, but adverting to the discouragement experienced by the ryots from the uncertainty of the present demand which was fixed on general considerations of what the village was capable of paying under its altered circumstances, and not on any definite principle intelligible to them, it was thought necessary, that some mode of regulating the demand of Government should be introduced, which would remove all doubt from the minds of the people. Hence the orders for adopting as a temporary expedient, a water cess on the crop in the manner stated.

70. The observations contained in the foregoing paras. will shew, that under existing circumstances there would be great difficulty in introducing a water cess on the principle of a fixed rate per acre or other extent for each description of crop, or for the quantity of water required for the same. The principle of assessment which the late Commissioner ordered to be adopted as a temporary expedient seems to present equal difficulties. The labor entailed by both plans cannot lead to definite results. The only plan, bearing in view the desirableness of non-interference

Note. The Pootty is the land measure of the district. It varies in different parts, but on an average 8 acres is estimated as its equivalent. The contents of an acre are fully made known and being uniform every where, the village and Talook establishments are forced under suitable check to be tolerably accurate in entering the areas of fields.

on the part of the Government Officials, short of an adjustment on sound principles is to avail ourselves of the experience gained in the villages under the Toolia Bhaga such as it is, and to fix one uniform rate per acre for all descriptions of land in the villages to be assessed. The assessment of lands under the Toolia Bhaga has been gradually raised at the discretion of the Collector during the last 5 or 6 years, and it is supposed to be equal now, to one half of the gross produce or perhaps above it. As the irrigation of these villages has been brought to a high degree of perfection, and as all the lands under its influence participate alike in its benefits, the average rate for acre for all the lands in a given number of villages may be taken to represent for the most part a fair average rate for all other villages under similar circumstances. Thus the number of acres of land in a village fully irrigated multiplied by this average rate, will give the collective amount to be settled as the demand of the year, its apportionment being left to the Ryots as at present.

71. To illustrate this principle, the average rates in 8 principal villages under the Toolia Bhaga are shewn in the following table:—

Villages.	Average of assessment for Fusly 1263.			
	Per Pootty.		Per Acre.	
	Rs.	A.	Rs.	A.
1 Padabramadavum,	34	5	4	4
2 Bickavole,	49	11	6	3
3 Maidapaud,	49	12	6	3
4 Vetlapollem,	43	0	5	5
5 Balabhadrapuram,	35	6	4	7
6 Anapurroo,	64	12	8	1
7 Davarapody,	65	10	8	3
8 Kasaveram,	42	10	5	5
Total...	45	6	5	10

The average for the whole is Rupees 45-6 per Pootty, but it will be sufficient perhaps to assume Rupees 40 per Pootty as a fair standard rate which corresponds with enquiries instituted by the late Commissioner last year in regard to the produce of land. The investigation in question seemed to shew that a Pootty of dry land would produce about 6 Pootties of grain, and if irrigated* double that quantity.

Following this view the calculation would be as follows:—

Produce of a Pootty of irrigated land.....	12 Pootties,
Value at 10 Rupees per Pootty.....	120 Rupees,
Ryot's share of the above @ $\frac{2}{3}$ rds.....	80 "
Do. of Government @ $\frac{1}{3}$ rd.....	40 "
Average per acre assuming 8 acres to a Pootty.....	5 "

72. Applying the foregoing *standard* rate to the land irrigated in Fusly $\frac{1263}{1853-54}$ and comparing the result with the actual settlement of that year, it will be seen that the latter falls

short of what would have been the demand according to the *standard* rate by about 25 per cent. Thus:—

	<i>Acres.</i>	
5820 Pootties cultivated or.....	46,560	
Demand at Rupees 5 per acre.....		Rs. 232,800
Actual demand of Fusly 1263.....		,, 186,151
Difference to be added.....		,, 46,649
Centage.....		.25
The above difference would be distributed in the several irrigated Talooks as follows.		
To be added.		
		<i>Rs.</i>
Bickavole.....		9,129
Amlapoor.....		1,401
Cota Rama Chendrapurm.....		1,574
Mogultoor.....		6,409
Tanookoo.....		92
Woody.....		31,693
		<hr/> 50,298
To be reduced.		
Caupaveram.....		3,098
Nagarum.....		540
Rally.....		11
		<hr/> 3,649
		<hr/> 46,649

73. The bulk of the addition appertains to the Woody Tolook where the assessment is light, but the additional demand being heavy could only be imposed gradually.

74. The average rate of 5 Rupees per acre would probably be a sufficient approximation to a fair demand for the present in many cases, but looking at the rates of the eight villages respectively mentioned in para. 54 above, it will perhaps be found necessary to impose a higher or a lower rate in some villages according to circumstances. These would be exceptional cases, and must be left to the discretion of the Collector.

75. Extending the principle of a fixed *standard* rate to the Zemindary and Enam lands, the following results are obtained.

	<i>Pootties.</i>	<i>Acres.</i>
Zemindary lands.....	1,177	or 9,420
Enam do.....	1,774	,, 14,192
	<hr/> 2,951	<hr/> ,, 23,612
		<hr/> <i>Rupees.</i>
Assessment of the above land at Rupees 5 per acre.....		118,060
Deduct usual do. (estimated) at Rs. 30 per Pootty or Rs. 3-12 per acre.....		88,545
Remaining.....		<hr/> 29,515
Of which $\frac{1}{3}$ rd to be given up to the Zemindars and Enamdars as } proposed by the late Commissioner.....		9,838
Remaining $\frac{2}{3}$ ds to Government.....		<hr/> 19,677

Supposing this principle to have been followed in Fusly $\frac{1263}{1853-54}$, Government would have received about Rupees 66,000 as the charge for water, *vis.*

For Government lands.....	<i>Rupees.</i>
,, Zemindary and Enam do.....	46,649
	<hr/> 19,677
	<hr/> 66,326

76. The foregoing adjustment of the rights of Government, could only be adopted as an expedient for the time. The true mode of regulating the rights of all parties is to place the assessment at once on right principles. This was my object in the communications noted in the margin, and the subject is again under consideration pursuant to the orders of Government dated 1st June last. The postponement of this measure is inexpedient, as it will increase the difficulties of adjustment and keep the

To Government 21st December 1854.
4th January 1855.

authorities in ignorance as to the real bearing of the new works on the occupation and cultivation of the lands under their influence.

77. The Collector of Masulipatam has been required agreeably to the orders of Government to draw up a paper similar to that prepared by Mr. Stokes for Guntoor, to shew the past and present condition of that District, and the benefits anticipated from the new works.

78. A brief remark on Mr. Stokes' paper will not be out of place. Mr. Stokes reviews in detail the Revenue History of Guntoor including the Palnaud, from the first period of the British connection with the country, and looking to the Revenue system which has been pursued and he adopts the important conclusion that the introduction of sound principle detachment, for to settlement for ordinary practical purposes are not necessarily dependent on a scientific Survey. Both Guntoor proper, and the Palnaud are illustrations of the truth of this remark. The former was settled by Mr. Stokes, the latter by Mr. Oakes upwards of 30 years ago. In both, inaccuracies of area were corrected by the means at hand, and there was no postponement of the benefits of sound Revenue arrangements for an indefinite period, under an impression, that a professional survey was the only remedy for proved evils of system. Valuable as a professional survey may be, in ordinary circumstances the principle may be pushed too far. Good field Registers are indeed essential, and the first duty of a Collector is to revise the Registers of land where he finds them untrustworthy. This was performed with a large measure of success in the Palnaud and in Guntoor with only ordinary means. The diffusion of a knowledge of surveying in Rajahmundry with the aid of a small grant sanctioned by Government for the purpose has increased the facilities of measurement in that District, and there seems no reason why the area of each village, including field maps, should not now be accurately laid down at a small additional charge to Government.

79. Mr. Stokes also draws the conclusion that Guntoor is lightly assessed, and he shews the average rate per acre for all the lands of the District to be only Rupees 1-11. This rate is *prima facie* moderate, but being the average of the entire cultivable area, it does not follow that the rich soils may not be too highly assessed. But this subject will be discussed separately in conformity with the call of Government in Extract Minutes of Consultation, dated 2nd June 1855.

I have, &c.,

J. GOLDINGHAM,

Commissioner.

To

J. D. BOURDILLON, Esq.,

Secretary to Government, Fort St. George,

COMMISSIONER'S OFFICE,
VIZAGAPATAM, 9th July 1855. }

No. 1.

STATEMENT of the Population in the Districts of Rajahmundry, Masulipatam, and Guntoor.

Classes.	Rajahmundry.			Masulipatam.			Guntoor.		
	No. of Villages.	Population.	Average per Village.	No. of Villages.	Population.	Average per Village.	No. of Villages.	Population.	Average per Village.
1	2	3	4	5	6	7	8	9	10
Above.....10,000	1	14,721	14,721	2	58,424	29,212	...	...	...
From 5,000 to 10,000	13	84,283	6,483	1	6,170	6,170	...	...	...
„ 2,000 to 5,000	74	204,466	2,764	14	39,471	2,819	...	...	...
„ 1,000 to 2,000	232	324,734	1,400	63	88,019	1,334	...	...	...
„ 5,000 to 1,000	320	232,405	726	186	128,518	691	...	...	...
Below 500.....	587	138,974	237	1,042	200,264	192	...	...	...
Total..	1,227	999,583	823	1,311	520,866	397	1,028	570,083	555
Mistake in the account of Fusly 1263.....		12,453							
		10,12,036							

COMMISSIONER'S OFFICE,
Vizagapatam, 9th July 1855. }

J. GOLDINGHAM,

Commissioner.

No. 2.
STATEMENT of Land in occupation and the Assessment thereon.

ITEMS.	Rajahmundry.						Masulipatam.						Guntoor.						
	Land in occupation.					Per centage.	Land in occupation.					Per centage.	Land in occupation.					Per centage.	
	Land.	Assessment.	Average.		Land.		Assessment.	Land.	Assessment.	Average.			Land.	Assessment.	Land.	Assessment.	Average.		Land.	Assessment.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
	Acres.	Rs.	Rs.	As.	Ac.	Rs.	Acres.	Rs.	Rs.	As.	A.	C.	Rs.	Acres.	Rs.	Rs.	As.	Ac.	Rs.
Dry.....	304,591	929,222	3	1	69	65	408,167	408,914	1	0	78	0	51	663,244	10,99,781	1	11	95	84
Annicut Channel of Godavery.	57,073	210,291	3	11	13	15	29,013	89,364	3	1	5	20	11	..	..	0	0	0	0
Tanks.....	37,435	133,594	3	9	9	10	78,523	277,203	3	8	15	0	35	19,238	123,128	6	6	3	9
Channels.....	26,083	104,087	4	0	6	7	2,602	6,031	2	5	0	20	1	5,441	34,346	6	5	1	3
Wells.....	2,706	18,742	6	15	1	1	2,308	11,562	5	0	0	20	2	8,411	56,905	6	12	1	4
Rains.....	10,650	31,477	2	15	2	2	288	1,111	3	14	0	20	$\frac{1}{2}$	..	..	0	0	0	0
Total.....	133,947	498,191	3	12	31	35	112,734	385,271	3	7	22	0	49	33,090	214,379	6	8	5	16
Grand Total...	438,538	1,427,413	3	4	100	100	520,901	794,185	1	8	100	0	100	696,334	1,314,160	1	14	100	100

COMMISSIONER'S OFFICE,
Vizagapatam, 9th July 1855.

J. GOLDINGHAM,
Commissioner.

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Collections of Land Revenue and other sources in each year from 1212 to 1263 Fusly.

Fuslies.	RAJAHMUNDY.					MASULIPATAM.					GUNTOOR.				
	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Motturpha and stamps.	Total Collections.	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Motturpha and stamps.	Total Collections.	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Motturpha and stamps.	Total Collections.
	Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collection.			Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collection.			Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collection.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1 1212—1802-03						947,217	25,575	921,642			1,159,812		1,159,812		
2 1213... ..	1,805,623	2,334	1,803,289			858,014	"	858,014			1,224,825	"	1,224,825		
3 1214... ..	1,797,023	2,267	1,754,756			871,283	"	871,283			1,277,839	"	1,277,839		
4 1215... ..	1,801,350	"	1,801,350			925,619	"	925,619			1,300,304	"	1,300,304		
5 1216... ..	1,846,104	"	1,846,104			926,822	"	926,822			1,344,389	"	1,344,389		
6 1217... ..	1,854,854	"	1,854,854			925,998	"	925,998			1,342,429	"	1,342,429		
7 1218... ..	1,860,104	"	1,860,104			926,996	"	926,996			1,341,517	"	1,341,517		
8 1219... ..	1,892,111	3,639	188,472			927,422	"	927,422			1,353,526	"	1,353,526	252,063	1,605,589
9 1220... ..	1,901,562	45,875	1,855,687			928,046	"	928,046			1,359,793	"	1,359,793	337,456	1,697,249
10 1221... ..	1,904,449	16,702	1,887,747			944,168	"	944,168			1,374,952	"	1,374,952	395,295	1,770,247
Average...	1,851,464	7,869	1,843,595			918,158	2,575	915,601			1,307,938	"	1,307,938		
11 1222... 1812-13	1,921,952	15,902	1,906,050			942,117	"	942,117			1,380,653	"	1,380,653	396,714	1,777,367
12 1223... ..	1,921,907	12,219	1,909,688			959,735	"	959,735			1,388,213	131	1,388,082	306,364	1,694,446
13 1224... ..	190,696	31,206	1,878,490			960,510	"	960,510			1,385,313	"	1,385,313	303,221	1,688,534
14 1225... ..	1,912,613	27,260	1,885,353			955,791	"	955,791			1,383,424	125	1,383,299	264,863	1,648,162
15 1226... ..	1,900,155	27,997	1,872,158			955,806	"	955,806			1,384,416	284	1,384,132	280,985	1,665,117
16 1227... ..	1,899,879	2,176	1,897,703			955,585	"	955,585			1,406,863	128	1,406,735	452,293	1,859,028
17 1228... ..	1,813,457	6,792	1,806,665			955,478	"	955,478			1,410,576	3,537	1,407,039	452,574	1,859,613
18 1229... ..	1,883,234	11,563	1,871,671			955,768	"	955,768			1,405,141	3,463	1,401,678	448,219	1,849,897
19 1230... ..	1,867,837	20,038	1,847,799			955,486	15,155	940,331			1,395,049	168	1,394,881	333,650	1,728,531
20 1231... ..	1,887,742	14,307	1,873,435			955,651	30,414	925,237			1,436,859	530	1,436,329	365,786	1,802,115
Average...	1,891,847	16,946	1,874,901			955,193	4,557	950,636			1,397,651	837	1,369,814	360,467	1,757,281

No. 3. (Continued.)
Collections of Land Revenue and other Sources in each year from 1212 to 1263 Fusly.

Fuslies.	RAJAHMUNDRY.					MASULIPATAM.					GUNTOOR.				
	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Mourturpha and stamps.	Total Collections.	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Mourturpha and stamps.	Total Collections.	Land Revenue.			Revenue from the Extra sources of salt, Abkarry, sundry small farms, Mourturpha and stamps.	Total Collections.
	Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collections.			Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collections.			Demand on the Government lands and Zemindary, &c. Estates.	Arrears.	Collections.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
21 1232-1822-23	1,832,542	27,777	1,804,765			955,519	28,143	927,376			1,451,952	137	1,451,815	308,977	1,760,792
22 1233	1,862,586	38,792	1,823,794			955,457	"	955,457	234,644	1,190,101	1,436,898	2,515	1,434,383	294,510	1,728,893
23 1234	1,908,953	6,905	1,902,048			955,808	8,936	946,872	284,514	1,231,386	1,442,623	5,409	1,437,214	286,585	1,723,799
24 1235	1,868,258	15,284	1,852,974			956,078	14,237	941,841	266,753	1,208,594	1,452,591	5,624	1,446,967	346,647	1,793,614
25 1236	1,917,415	8,085	1,909,330			955,983	679	955,304	259,473	1,214,777	1,454,799	5,996	1,448,805	351,764	1,800,567
26 1237	1,854,842	1,891	1,852,951			955,980	50,674	905,306	262,666	1,167,972	1,445,466	5,183	1,440,283	343,207	1,783,490
27 1238	1,895,209	2,630	1,892,579			955,989	12,621	943,368	295,529	1,238,897	1,450,239	8,035	1,442,204	366,648	1,808,852
28 1239	1,851,682	34,129	1,817,553			955,988	53,989	901,999	204,863	1,106,862	1,429,130	3,651	1,425,479	532,591	1,958,070
29 1240	1,879,826	12,572	1,867,254	433,342	2,300,596	956,003	1,446	954,557	294,615	1,249,172	1,428,839	5,674	1,423,165	417,684	1,840,849
30 1241	1,822,757	25,176	1,797,581	425,206	2,222,787	944,216	39,607	904,609	296,306	1,200,915	1,416,631	202,313	1,214,318	485,340	1,699,658
Average	1,869,407	17,324	1,852,083			954,702	21,033	933,669			1,440,917	24,454	1,416,463	373,395	1,789,858
31 1242-1832-33	1,717,017	138,790	1,578,227	360,918	1,939,145	943,897	130,830	813,067	220,815	1,033,882	1,415,909	511,745	904,164	237,930	1,142,094
32 1243	1,805,173	44,800	1,760,373	465,598	2,225,971	944,094	83,019	861,075	272,598	1,133,673	1,375,713	547,287	828,426	347,158	1,175,584
33 1244	1,854,636	67,426	1,787,210	527,164	2,314,374	943,997	109,183	834,814	333,982	1,168,796	1,380,661	844,065	536,590	279,967	816,563
33 1245	1,769,137	34,853	1,734,284	230,228	1,964,512	944,101	177,862	766,239	280,574	1,046,823	1,378,057	612,799	765,258	305,830	1,071,088
54 1246	1,766,524	31,897	1,734,627	389,716	2,124,343	943,564	198,543	745,021	325,027	1,070,048	1,380,568	601,793	788,775	302,529	1,091,304
36 1247	1,785,084	86,861	1,698,223	274,099	1,972,322	941,681	146,347	795,334	310,359	1,105,693	1,402,530	622,124	780,406	364,184	1,144,590
37 1248	1,738,582	455,839	1,282,743	252,750	1,535,493	937,529	181,740	755,789	313,060	1,068,849	1,401,162	539,681	871,481	415,048	1,286,529
38 1249	1,775,371	316,188	1,459,183	236,303	1,695,486	944,667	113,254	831,413	346,278	1,177,691	1,411,361	457,182	934,179	428,904	1,363,083
39 1250	1,741,289	305,432	1,435,857	234,997	1,670,854	937,895	150,396	787,499	321,877	1,109,376	1,395,063	458,492	936,571	366,114	1,302,685
40 1251	1,763,865	229,579	1,534,286	371,328	1,905,614	912,409	152,202	790,207	337,068	1,127,275	1,391,590	462,810	928,780	371,123	1,299,903

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No. 3. (Continued.)

	Average .	1,771,668	171,167	1,600,501	334,310	1,934,811	942,383	144,337	798,046	306,164	1,104,210	1,393,261	565,798	827,463	341,879	1,169,342
41	1252—1842-43	1,753,802	238,252	1,515,550	343,445	1,858,995	1,012,655	219,615	793,040	402,618	1,195,658	1,135,240	115,459	1,019,781	340,864	1,360,645
42	1253.	1,707,954	153,569	1,554,385	397,983	1,952,368	979,463	228,951	750,512	339,452	1,089,964	1,075,011	192,585	882,426	410,142	1,292,568
43	1254.	1,769,984	38,450	1,731,534	270,503	2,002,037	928,258	151,812	776,446	397,096	1,173,542	1,082,252	82,200	1,000,052	421,833	1,421,885
44	1255.	1,768,138	18,624	1,749,514	275,149	2,024,663	951,702	62,652	889,050	468,663	1,357,713	1,290,048	43,859	1,246,189	418,090	1,664,279
45	1256.	1,825,827	13,338	1,812,489	338,904	2,151,393	1,014,923	62,739	952,184	347,536	1,299,720	1,434,775	36,409	1,398,366	384,664	1,783,030
	Average of 5 yrs.	1,765,141	92,446	1,672,695	325,196	1,997,891	977,400	145,154	832,246	391,073	1,223,319	1,203,465	94,102	1,109,363	395,118	1,504,481
46	1257—1847-48	1,875,525	2,076	1,873,449	347,416	2,220,865	961,515	87,684	873,831	355,944	1,229,775	1,455,945	37,774	1,418,171	466,429	1,884,600
47	1258.	1,931,299	2,396	1,928,903	351,293	2,280,196	1,061,694	239,510	822,184	384,275	1,206,459	1,518,463	52,409	1,466,054	496,924	1,962,978
48	1259.	1,944,807	53,553	1,891,254	360,453	2,251,707	931,833	112,043	819,790	348,910	1,168,700	1,513,396	113,356	1,400,040	474,417	1,874,457
49	1260.	1,991,485	18,604	1,972,881	336,895	2,309,776	949,304	115,895	833,409	371,327	1,204,736	1,403,059	68,159	1,334,900	502,721	1,837,621
50	1261.	2,045,537	20,227	2,025,310	388,290	2,413,600	1,021,561	26,284	995,277	324,083	1,319,360	1,457,969	67,913	1,390,056	421,304	1,811,360
51	1262.	2,067,116	44,651	2,022,465	408,671	2,431,136	1,069,831	26,366	1,043,465	228,359	1,271,824	1,434,585	54,272	1,380,313	678,496	2,058,809
52	1263—1853-54	2,055,261	36,751	2,018,510	388,660	2,407,170	1,053,660	12,414	1,041,246	367,495	1,408,741	1,406,943	51,122	1,355,821	468,052	1,823,873
	Average of 7 yrs.	1,987,290	25,465	1,961,825	368,811	2,330,636	1,007,057	88,599	918,458	340,056	1,258,514	1,455,766	63,572	1,392,194	501,192	1,893,386
	The average of 7 years being in excess of that of 5 yrs. }	222,149		289,130	43,615	332,745	29,657		86,212	51,017*	35,195	252,301		282,831	106,074	388,905
	If multiplied on 7 years }	1,555,043		2,023,910	305,305	2,329,215	207,599		603,484	357,119	246,365	1,766,107		1,979,817	742,518	2,722,335

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1. * The Land Revenue demand in Rajahmundry and Masulipatam includes the demand on the Government Lands as well as the Zemindary Estates for each Fusly, while that of Guntoor includes the Beriz of Paulnad and the Peishcush on the Guntoor Circar, from 1212 to 1251 Fusly, and the Beriz of both from 1252 Fusly.
2. In the Extra Sources, the Sayer and Sea Custom are included.
3. A considerable portion of the arrears shewn in this Statement, was authorized to be written off.

COMMISSIONER'S OFFICE, }
Vizagapatam, 9th July 1855. }

J. GOLDINGHAM,
Commissioner.

Revenue of Villages Irrigated by the Toolia Bhagha Channel from the Godavery Anicut.

ITEMS.	TALOOKS.	Fusly in which irrigation commenced.	No. of Villages newly irrigated each year.	Average collections of 5 years before the irrigation commenced.	Average after irrigation.		Demand of Fusly 1263.	Comparison of columns 4 & 5.		Comparison of columns 4 & 6.	
					No. of years.	Average collections upto 1262 Fusly.		Increase.	Centage.	Increase.	Centage.
	1	2	3	4	5		6	7	8	9	10
Irrigated.	Caupaweram	1257	8	24,477	6	33,843	37,498	9,366	38.26	13,021	53.19
		1258	23	39,343	5	67,244	74,420	27,901	70.91	35,077	89.25
		1259	1	1,491	4	1,924	2,040	433	29.4	549	36.82
	*Bickavola	1260	2	771	3	1,061	1,108	290	37.61	337	43.71
		1261	2	1,952	2	2,119	2,160	167	8.55	208	10.66
		1262	2	8,532	1	9,829	10,628	1,297	15.20	2,096	24.57
		1263	7	7,376	"	8,187	8,187	811	11.	811	11.
				45	83,942	"	124,207	136,041	40,265	47.97	52,099	62.7
Not irrigated.	Caupaweram	For Villages not irrigated the average collections from 1253 to 1.57 Fusly are given in col. 4 and that of 5 years from 1258 to 1262 Fusly in column 6.	85	98,852	"	125,264	134,351	26,412	26.72	35,499	35.21
	Bickavola.....		12	17,300	"	22,252	24,719	4,952	23.62	7,419	42.89
		TOTAL	97	116,152	"	147,516	159,070	31,364	27.	42,918	36.95
Irrigated.	Pittapore... }	1257	4	4,806	6	7,719	9,005	2,913	60.61	4,199	87.38
	Zemindary. }	1260	12	11,292	3	13,069	15,053	1,777	15.74	3,761	33.31
		1261	4	3,787	2	4,785	5,055	998	26.86	1,268	33.49
		1263	5	8,581	"	10,325	10,325	1,744	20.32	1,744	20.32
		TOTAL.....	25	28,466	"	35,898	39,438	7,432	26.11	10,972	38.54

* Annual collections of 5 irrigated Villages included above under the Bickavola Talook.

FUSLIES.	Balabadrapuram irrigated from Fusly 1258.	Bickavola irrigated from Fusly 1258.	Madapad irrigated from Fusly 1258.	Vetlapollem irrigated from Fusly 1258.	Padabramadunum irrigated from Fusly 1258.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
1253	3,138	3,622	2,373	3,504	3,680
1254	4,165	3,897	2,281	3,536	2,708
1255	1,516	2,922	1,462	1,218	2,563
1256	3,600	4,248	2,605	3,777	3,923
1257	4,000	5,824	3,087	4,363	4,820
TOTAL	16,419	20,513	11,808	16,398	17,694
Average.....	3,284	4,102	2,362	3,279	3,539
1258	5,250	7,367	4,543	5,261	6,218
1259	6,000	8,504	5,660	6,387	6,831
1260	6,721	9,148	6,644	7,676	7,384
1261	6,928	9,248	7,961	7,918	8,292
1262	7,087	9,657	6,856	6,283	7,152
TOTAL.....	31,986	43,924	31,604	33,525	35,877
Average.....	6,397	8,785	6,333	6,705	7,175
1263.....	7,050	9,700	7,005	7,650	7,500

COMMISSIONER'S OFFICE,
Vizagapatam, 9th July 1855.

J. GOLDINGHAM,
Commissioner.

STATEMENT shewing the Profits derived from the Godavery Anicut to Government.

Items.	Fuslies in which the water was given.	Villages.	Average Collections of 5 years.	Collections in respective Fuslies.	Increase to Columns 3 and 4.			Centage.		
					From the Godavery water.	From other Causes.	Total.	From the Godavery water.	From other Causes.	Total.
	1	2	3	4	5	6	7	8	9	10
Usual Cultivation under the Toolya Bhaga Channel.	In 1257.....	8	24,477	29,743	2,540	2,726	5,266	10.37	11.14	21.51
	up to 1258....	31	63,820	90,601	16,900	9,881	26,781	26.48	15.48	41.96
	Do... 1259...	32	65,311	98,075	22,415	10,319	32,764	34.37	15.10	50.17
	Do... 1260...	34	66,082	1,06,748	30,269	10,397	40,666	45.81	15.73	61.54
	Do... 1261...	36	68,034	1,15,449	36,847	10,568	47,415	54.16	15.53	69.69
	Do... 1262...	38	76,566	1,23,596	36,411	10,619	47,030	47.56	13.86	61.42
	Do... 1263 ..	45	83,942	1,36,041	40,789	11,310	52,099	48.59	13.47	62.6
Total....	..	4,48,232	7,00,253	1,86,201	65,820	2,52,021	41.54	14.69	56.23	
Add Estimated profit to Government in the Talooks which are irrigated only in 1263 Fusly.					13,038	...	1,30,038			
					3,16,239	65,820	3,82,059			

Note. The figures in 5 and 6 Columns have been inserted on a consideration of each separate village. Most of the 45 villages have tanks, and possessed wet cultivation before the Anicut was built. The allowance made in each case at the discretion of the framer of the estimate.

ESTIMATE of the loss prevented by the timely distribution of the Godavery water in Fusly 1263.					
Names of Talooks.	Demand of Fusly 1263.	Estimate of the Average sist of 5 years from 1253 to 1257 Fusly, that might have been collected in Fusly 1263.	Amount to be considered as saved to Government from the Godavery water being made available.	Of which probable amount of Remission given.	Net Revenue saved.
1	2	3	4	5	6
Cota Ramchundrapuram	1,33,168	1,05,132	28,036	3,000	25,036
Nagarum	1,07,578	81,704	25,874	10,000	15,874
Woondy	1,43,995	1,09,867	34,128	...	84,128
Total.	3,84,741	2,96,703	88,038	13,000	75,038
Pentapaud					5,000
Kykaloor including Colair Lake }					50,000
Total....					55,000
Grand Total.....					1,30,038

COMMISSIONER'S OFFICE,
Vizagapatam, 9th July 1855. }

J. GOLDINGHAM,
Commissioner.

STATEMENT shewing the former Collections and present Assessment of the Villages cultivated with water from the Annicut and the descriptions of land cultivated in Fusly 1263 in the District of Rajahmundry.

No.	TALOOKS.	No. of Villages.	THE WHOLE VILLAGE.									
			Average Collections before the construction of Annicut.	Beriz of Fusly 1262.	Beriz of Fusly 1263.	Beriz of Fusly 1264.	Comparison between the Beriz of Fusly 1262 and that of Fusly 1263.		Comparison between the Beriz of Fuslies 1263 and 1264.		Comparison between Collections of 5 years before the construction of Annicut and Beriz of Fusly 1264.	
							Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.
1	2	3	4	5	6	7	8	9	10	11	12	
		Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.	Co.'s Rs.
1	Bickavole.....	40	51,730	1,01,191	1,04,181	1,06,271	2,990	...	2,090	...	54,541	...
2	Caupaveram.....	7	16,767	27,408	27,408	27,408	...	...	...	...	10,641	...
	Total.....	47	68,497	1,28,599	1,31,589	1,33,679	2,990	...	2,090	...	65,182	...
3	Amlapuram.....	8	12,945	18,533	18,707	18,725	174	...	18	...	5,780	...
4	Nagaram.....	18	44,265	47,889	48,109	48,108	220	...	1	...	3,843	...
5	Cota Ramachendrapuram.....	14	21,025	23,175	23,409	23,581	234	...	172	...	2,556	...
6	Rauley.....	2	3,468	4,605	4,614	4,619	9	...	5	...	1,151	...
7	Mogulloor.....	29	83,843	90,920	90,888	91,021	...	32	133	...	7,178	...
8	Tanookoo.....	26	53,010	66,936	68,070	68,063	1,134	...	...	7	15,053	...
9	Woody.....	81	90,251	1,30,466	1,30,941	1,30,805	475	...	...	136	40,554	...
	Total.....	225	3,77,304	5,11,123	5,16,327	5,18,601	5,236	32	2,418	144	1,41,297	...

Land at Acres 8 per Pooty.

Net

5,204

2,274

STATEMENT showing the former Collections and present Assessment of the Villages cultivated with water from the Annicut, and the descriptions of land cultivated in Fusly 1263, in the District of Rajahmundry.

No.	Irrigated by the Annicut for Fusly 1263.																			
	Usual Wet.					Dry Converted into Wet.					Dry Converted into Garden.					Sugar Cane Gardens.				
	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between the two.	Average of Assessment per Pootty for Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average Assessment per Pootty for Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty for Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	Pootties	Rs.	Rs.	Rs.	R.A.P.	Pootties	Rs.	Rs.	Rs.	R.A.P.	Pootties	Rs.	Rs.	Rs.	R.A.P.	Pootties	Rs.	Rs.	Rs.	R.A.P.
1 Bickavole.....	1,302	40,115	46,873	6,758	36 0 0	503	11,115	16,198	5,083	32 3 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0
2 Caupaveram...	258	7,364	13,723	6,359	53 3 0	52	1,506	1,775	269	34 2 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0
Total...	1,560	47,479	60,596	13,117	38 14 0	555	12,621	17,973	5,352	32 6 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0
3 Amlapuram....	117	3,200	3,289	89	28 2 0	1	29	130	101	30 0 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0
4 Nagaram.....	109	4,614	4,614	...	42 6 0	...	...	...	...	9 0 0	3	87	87	...	29 0 0	9	679	679	...	75 8 0
5 Cota Ramachendrapuram.	168	5,116	5,120	4	30 8 0	19	705	705	...	37 2 0	9	161	161	...	80 8 0	...	...	...	...	0 0 0
6 Rauley.....	...	...	...	...	0 0 0	1	38	38	...	38 0 0	...	13	13	...	26 0 0	...	...	...	...	0 0 0
7 Mogultoor....	476	11,553	11,553	...	24 4 0	10	416	416	...	41 9 0	67	3,643	3,643	...	54 6 0	3	219	219	...	73 0 0
8 Tanookoo....	22	899	899	...	40 14 0	15	1,477	1,477	...	31 14 0	6	248	248	...	41 5 0	T 2	4	4	...	40 0 0
9 Woondy.....	2,677	79,730	75,387	4,343	28 2 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0	...	...	...	...	0 0 0
Total...	5,129	152,591	161,458	8,867	31 8 0	601	14,286	19,639	5,353	32 11 0	78	4,152	4,152	...	53 4 0	12	902	902	...	75 3 0
Land at 8 acres per Pootty.....	41,032	161,458	...	3 15 0	4,808	19,639	...	4 1 0	624	4,152	6 10 0	96	902	9 6 0

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STATEMENT shewing the former Collections and present Assessment of the Villages cultivated with water from the Annicut, and the descriptions of land cultivated in Fusly 1263, in the District of Rajahmundry.

No.	TALOOKS.	DESCRIPTION OF CROPS.																			
		Total.					1st Crop Fine Paddy, and 2nd Crop Course Paddy					1st Crop Fine Paddy, 2nd Crop Gingily Oil Seeds, &c.					A Single Crop of Sugar Cane or Fine Paddy.				
		Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty of Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty for Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty for Fusly 1263.	Land.	Assessment before the irrigation of the Annicut.	Assessment of Fusly 1263.	Difference between these two.	Average of Assessment per Pootty for Fusly 1263.
33	34	35	36	37	38	39	40.	41	42	43	44	45	46	47	48	49	50	51	52		
1	Bickavole.	1,805	51,230	63,071	11,841	34 15 0	351	10,695	15,841	5,146	45 2 0	63	3,701	4,428	727	70 6 0	1,391	36,834	42,802	5,968	30 12 0
2	Caupaveram ...	310	8,870	15,498	6,628	50 0 0	93	3,371	6,450	3,079	69 6 0	25	741	1,596	855	63 14 0	192	4,758	7,452	2,694	38 13 0
	Total...	2,115	60,100	78,569	18,469	37 2 0	444	14,066	22,291	8,225	50 3 0	88	4,442	6,024	1,582	68 8 0	1,583	41,592	50,254	8,662	31 12 0
3	Amlapuram...	118	3,229	3,319	90	28 2 0	118	3,229	3,319	90	28 2 0	...	...	...	0 0 0	...	...	...	...	0 0 0
4	Nagaram.....	121	5,380	5,380	...	44 7 0	0 0 0	...	21	1,913	1,913	...	91 1 0	100	3,467	3,467	...	34 11 0
5	Cota Ramachendrapuram	189	5,982	5,986	4	31 11 0	1	62	62	...	62 0 0	188	5,920	5,924	4	31 8 0	...	...	...	0 0 0
6	Rauley.....	1 1/2	51	51	...	34 0 0	...	...	...	0 0 0	...	...	...	...	0 0 0	1 1/2	51	51	...	34 0 0
7	Mogultoor....	556	15,831	15,831	...	28 8 0	...	...	...	0 0 0	...	...	...	...	0 0 0	556	15,831	15,831	...	28 8 0
8	Tanookop.....	43	1,628	1,628	...	37 15 0	31	1,147	1,147	...	37 0 0	12	477	477	...	39 12 0	2	4	4	...	40 0 0
9	Woody.....	2,677	79,730	17,387	4,343	28 2 0	...	...	...	0 0 0	...	...	...	...	0 0 0	2,677	79,730	75,387	4,343	28 2 0
	Total...	5,820	171,931	186,151	14,220	32 0 0	594	18,504	26,819	8,315	45 3 0	309	12,752	14,338	1,586	46 6 0	4,917	140,675	144,994	4,319	29 8 0
	Land at 8 acres per Pootty.	46,560	186,151	4 0 0	4,752	26,819	5 10 0	2,472	14,338	5 13 0	39,336	144,994	3 11 0								

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COMMISSIONER'S OFFICE, }
Vizagapatam, 9th July 1855. }

(Signed) J. GOLDINGHAM,
Commissioner.

STATEMENT showing the Wet lands of Balabadrapuram depending on the Annicut irrigation.

Items.	Description of Crops. Classes.	Names of Pumpoos.	Lands.	Assessment before the irrigation.	Average per Pootty.						Average per Acce.								
					Rents for Fusly 1264.			Assessment before the irrigation.			Rent for Fusly 1264.			Assessment before the irrigation.			Rent for Fusly 1264.		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	
			P. T. M.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.					
		Eata Chanoo,.....	0 6 4	11 8 0	14 0 0	0 36 12 8	45 10 0	0 4 9 7	5 11 3										
		Vunkala Chanoo, ..	0 6 4	15 0 0	20 6 0	0 48 0 0	65 3 4	6 0 0	8 2 5										
		Bheemoodi Chanoo,...	1 0 0	26 7 0	73 10 0	0 26 7 0	73 10 0	3 4 10	9 3 3										
		Sary Pumpoo, ..	0 15 0	28 0 0	74 6 0	0 37 5 4	99 12 6	4 10 8	12 7 7										
		Nadi Mulloo, &c., ..	0 12 8	25 8 0	56 0 0	0 40 12 8	89 9 7	5 1 7	11 3 2										
		Banka Mulloo, ...	0 2 0	2 3 0	4 0 0	0 21 14 0	40 0 0	2 11 9	5 0 0										
		Pauti Dumpa, ...	0 4 2	6 5 0	9 0 0	0 30 9 8	43 10 2	3 13 2	5 7 3										
		Canracollā Chanoo,	0 17 8	26 0 0	61 10 0	0 29 11 5	70 6 10	3 11 5	8 12 10										
		Chucta Venkiah Chanoo, ..	0 5 0	6 0 0	22 4 0	0 24 0 0	89 0 0	3 0 0	11 2 0										
		Venkatramoodi Chanoo, ..	0 7 8	8 0 0	37 2 0	0 21 5 4	99 0 0	2 10 8	12 6 0										
		Jummi Chanoo, ..	0 10 0	22 0 0	50 0 0	0 44 0 0	100 0 0	5 8 0	12 8 0										
		Doodakoolavani Mulloo, ..	0 4 8	8 0 0	20 7 0	0 35 2 0	90 12 2	4 6 3	11 5 6										
		Banuda Pogoo, ..	0 2 8	6 0 0	12 0 0	0 48 0 0	96 0 0	6 0 0	12 0 0										
		Beeti Pumpoo, ..	1 0 0	47 0 0	95 5 0	0 47 0 0	95 5 0	5 14 0	11 14 8										
		Taudi Pumpoo, ..	0 15 0	30 0 0	70 0 0	0 40 0 0	93 5 4	5 0 0	11 10 8										
		Chinna Tummoya Chanoo, ..	0 5 0	14 0 0	32 0 0	0 56 0 0	128 0 0	7 0 0	16 0 0										
		Addalavani Chanoo, &c., ..	0 15 0	26 10 0	60 0 0	0 35 8 0	80 0 0	4 7 0	10 0 0										
		Choudoo Chinta Bundaloo, ..	1 0 0	4 0 0	24 0 0	0 4 0 0	24 0 0	0 8 0	3 0 0										
		Duyyala Murri Gurvoo, ..	1 0 0	27 0 0	87 2 0	0 27 0 0	87 2 0	3 6 0	10 14 3										
		Ravi Chalka Gurvoo, ..	0 5 0	12 0 0	17 0 0	0 48 0 0	68 0 0	6 0 0	8 8 0										
		Loni Beedoo, ..	1 0 0	32 0 0	73 15 0	0 32 0 0	73 15 0	4 0 0	9 3 10										
		Mulindi Veerappa Chanoo, ..	0 15 0	34 0 0	62 8 0	0 45 5 4	83 5 4	5 10 8	10 6 8										
		Surreddy Tota Gurvoo, ..	0 12 8	27 3 0	52 8 0	0 43 8 0	84 0 0	5 7 0	10 8 0										
		Auvala Gurvoo, ..	0 7 8	3 12 0	15 0 0	0 10 0 0	40 0 0	1 4 0	5 0 0										
		Total ..	13 8 2	448 8 0	1,044 3 0	34 6 0	80 4 0	4 4 9	10 0 6										
		Eata Chanoo,.....	0 18 12	20 12 0	33 6 0	0 22 1 1	35 9 7	2 12 2	4 7 2										
		Moogoogala Beedoo, ..	2 10 0	93 15 6	107 7 0	0 38 6 2	42 15 7	4 12 9	5 5 11										
		Vankala Chanoo, ..	0 5 0	5 0 0	35 3 0	0 20 0 0	140 12 0	2 8 0	17 9 6										
		Venkala Chanoo, ..	0 12 8	20 0 0	65 2 0	0 32 0 0	104 3 2	4 0 0	13 0 5										
		Poontanoob Chanoo, ..	1 5 0	34 0 0	83 15 0	0 27 3 3	67 2 5	3 6 5	8 6 4										
		Samunti Narramma Chanoo, ..	1 0 0	33 0 0	56 14 0	0 33 0 0	56 14 0	4 2 0	7 1 9										
		Poli Maira Chanoo, ..	0 5 0	5 0 0	20 0 0	0 20 0 0	80 0 0	2 8 0	10 0 0										
		Gooravoya Chanoo, ..	0 12 8	28 8 0	33 2 0	0 45 9 7	53 0 0	5 11 2	6 10 0										
		Garike Chilka, ..	0 15 0	25 14 0	70 10 0	0 34 8 0	94 2 8	4 5 0	11 12 4										
		Garike Chilka, ..	0 10 0	16 8 0	56 0 0	0 33 0 0	112 0 0	4 2 0	14 0 0										
		Taudibunda, ..	0 7 8	8 0 0	20 0 0	0 21 5 4	53 5 4	2 10 8	6 10 8										
		Maudigavani Chilka kindā, ..	0 12 8	6 0 0	28 0 0	0 9 9 7	44 13 0	1 3 2	5 9 8										
		Devoodoo Enam or Enam of the Idol...	0 17 8	5 11 4	21 3 0	6 8 5	24 3 5	0 13 1	3 0 5										
		Total ..	10 11 4	302 4 10	630 14 0	27 8 0	57 2 8	3 7 0	7 2 4										

Items.	Description of Crops. Classes.	Names of Pumpoos.	Lands.			Assessment before the irrigation.			Rents for Fusly 1264.			Average per Pooty.			Average per Acre.											
			1			2			3			4			5			6			7			8		
			P.	T.	M.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.
	4th Class.	Vankala Chanoo,....	1	10	0	28	0	0	75	3	0	18	10	8	50	2	0	2	5	4	6	4	3			
		Poonta Nooti Chanoo Daree,	0	10	0	3	6	0	8	0	0	6	12	0	16	0	0	0	13	6	2	0	0			
		Vankala Chanoo,...	0	5	0	8	0	0	9	14	0	32	0	0	39	8	0	4	0	0	4	15	0			
		Vankala Chanoo,...	0	5	0	2	0	0	8	0	0	8	0	0	32	0	0	1	0	0	4	0	0			
		Vankala Chanoo,...	0	12	8	5	10	0	15	12	0	9	0	0	25	3	4	1	2	0	3	2	5			
		Padmaraj Churvoolo Mooragoda,...	0	7	8	7	7	0	27	15	0	19	13	4	74	8	0	2	7	8	9	5	0			
		Poojari Enam kind Choudoo,.....	1	0	0	17	0	0	24	4	0	17	0	0	24	4	0	2	2	0	3	0	6			
		Pudmaraj Churvoolo koommo,.....	1	6	8	20	0	0	48	2	0	15	1	6	36	5	2	1	14	2	4	8	8			
		Laloy Chirvoolo Choudoo,.....	4	0	0	4	0	0	26	4	0	1	0	0	6	9	0	0	2	0	0	13	1			
		Eachurvo Venaka, Choudoo,.....	1	10	0	10	0	0	16	5	0	6	10	8	10	14	0	0	13	4	1	5	9			
		Choudoo,.....	5	0	0	22	0	0	38	7	0	4	6	5	7	11	0	0	8	10	0	15	4			
		Choudoo,.....	1	0	0	6	0	0	13	12	0	6	0	0	13	12	0	0	12	0	1	11	6			
		Choudoo,.....	7	15	0	53	4	0	74	1	0	6	13	11	9	9	2	0	13	9	1	3	2			
		Choudoo,.....	5	0	0	28	9	0	35	2	0	5	11	5	7	0	5	0	11	5	0	14	1			
		Choudoo,.....	4	10	0	33	0	0	48	9	0	7	5	4	10	12	8	0	14	8	1	5	7			
		Choudoo Seetana Churvoolopola Valapala,.....	2	14	2	56	2	0	218	0	0	2	9	4	10	0	9	0	5	2	1	4	1			
		Choudoo,.....	6	0	0	24	0	0	53	5	0	4	0	0	8	14	2	0	8	0	1	1	9			
		Choudoo,.....	2	0	0	12	0	0	28	13	0	6	0	0	14	6	6	0	12	0	1	12	10			
		Choudoo,.....	8	5	0	50	0	0	84	0	0	6	1	0	10	2	11	0	12	1	1	4	4			
		Choudoo,.....	2	0	0	7	0	0	32	9	0	3	8	0	16	4	6	0	7	0	2	0	7			
		Choudoo,.....	3	15	0	25	0	0	28	4	0	6	10	8	7	8	6	0	13	4	0	15	1			
		Choudoo,.....	4	10	0	33	12	0	52	6	0	7	8	0	11	10	2	0	15	0	1	7	3			
		Choudoo,.....	2	0	0	5	0	0	23	1	0	2	8	0	11	8	6	0	5	0	1	7	1			
		Pootti Chulka,.....	0	5	0	2	0	0	10	0	0	8	0	0	40	0	0	1	0	0	5	0	0			
		Chiti Venkatrajchervoo Vanaka,.....	0	10	0	10	0	0	21	9	0	20	0	0	43	2	0	2	8	0	5	6	3			
	Vooppara Mulloo,...	0	6	4	6	0	0	10	0	0	19	3	4	32	0	0	2	6	5	4	0	0				
		Total...	85	16	14	479	2	0	1,031	9	0	5	9	4	12	0	0	0	11	2	1	8	0			
		Total of single Crop.	109	16	4	1,229	14	10	2,706	10	0	11	2	8	24	10	0	1	6	4	3	1	3			
		Grand Total.....	135	3	4	2,196	8	10	4,894	0	0	16	4	0	36	4	0	2	0	6	4	8	6			

COMMISSIONER'S OFFICE,
VIZAGAPATAM,
9th July 1855.

(Signed) J. GOLDINGHAM,
- Commissioner.

Prices of Grain per Madras Garce.

Fuslies.	RAJAHMUNDRY.			MASULIPATAM.			GUNTOOR.			
	White paddy.	Black paddy.	Jonnaloo.	White paddy.	Black paddy.	Jonnaloo.	White paddy.	Black paddy.	Jonnaloo.	Varagaloo.
	2	3	4	5	6	7	8	9	10	11
1	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1223	146	137	173	146	134	173	172	146	181	129
1224	117	109	137	120	107	169	132	126	166	125
1225	101	89	122	106	86	145	121	106	150	108
1226	90	87	108	125	103	149	137	118	141	105
1227	91	82	113	148	111	175	149	123	193	130
1228	105	95	120	148	121	220	164	147	239	176
1229	94	84	127	114	93	163	120	124	154	134
1230	85	75	132	120	94	182	139	114	192	124
1231	98	89	118	134	108	177	131	122	150	125
Average	103	94	128	129	106	172	141	125	174	128
1232	101	91	124	121	110	159	154	118	199	133
1233	165	158	200	148	134	190	165	141	187	144
1234	171	150	190	178	143	216	178	169	182	158
1235	137	122	143	150	117	178	175	137	151	138
1236	86	76	96	107	88	117	103	97	112	107
1237	77	71	75	92	72	96	92	70	97	75
1238	72	62	76	95	73	102	101	82	124	97
1239	84	76	92	94	82	94	122	94	129	110
1240	78	69	88	98	81	120	111	86	122	90
1241	64	58	78	71	66	104	89	81	111	86
Average	104	93	116	115	96	138	129	107	141	114
1242	111	103	163	143	113	235	192	154	192	190
1243	168	158	209	178	137	246	242	200	195	223
1244	95	87	115	119	97	173	123	127	151	143
1245	63	57	71	77	64	119	97	87	97	90
1246	81	74	90	86	74	105	115	102	100	81
1247	90	79	84	95	75	107	109	101	98	74
1248	139	125	164	140	122	157	167	129	167	167
1249	110	91	119	94	78	102	126	100	119	82
1250	103	91	127	96	86	108	104	85	101	72
1251	63	55	64	76	60	83	90	72	77	53
Average	102	92	121	110	91	143	136	116	130	111
1252	58	50	54	66	54	67	79	65	59	42
1253	54	46	46	64	49	54	81	65	46	34
1254	58	52	59	68	50	64	87	67	69	45
1255	85	74	92	97	85	130	115	103	135	98
1256	86	78	82	101	88	116	116	103	125	95
Average	68	60	66	79	65	86	96	81	87	63
1257	79	70	81	89	71	114	104	90	123	88
1258	71	65	69	81	64	105	99	83	104	75
1259	67	62	64	90	72	106	92	81	97	67
1260	63	58	76	94	76	130	101	95	125	85
1261	59	52	69	81	66	117	92	86	123	89
1262	57	52	68	67	55	101	80	61	109	74
1263	92	88	121	105	92	135	120	101	153	112
Average	70	64	78	87	71	115	98	85	119	84

COMMISSION'S OFFICE,
 Vizagapatam, 9th July 1855. }

(Signed) J. GOLDINGHAM,
 Commissioner.

Statement shewing the extent and Assessment of the Land Irrigated by the Annicut and the Increase of Revenue therefrom in the District of Rajahmundry.

FUSLIES.	DRY CONVERTED INTO WET.					USUAL WET.					TOTAL.										
	Land.	Assessment of Fusly 1256.	Assessment of each Fusly subsequent to the irrigation.	Increase.	Centage.	Land.	Assessment of Fusly 1256.	Assessment of each Fusly subsequent to the irrigation.	Increase.	Centage.	Land.	Assessment of Fusly 1256.	Assessment of each Fusly subsequent to the irrigation.	Increase.	Centage.						
1	2	3	4	5	6			7	8	9	10	11			12	13	14	15	16		
	Pootties.	Rs.	Rs.	Rs.	Rs.	A.	P.	Pootties.	Rs.	Rs.	Rs.	Rs.	A.	P.	Pootties.	Rs.	Rs.	Rs.	Rs.	A.	P.
1257... ..	...	...	...	...	...	...	...	43	1,862	2,662	800	42	14	6	43	1,862	2,662	800	42	14	6
1258	20	588	907	319	52	9	7	321	9,747	11,830	2,083	21	5	6	341	10,335	12,737	2,402	23	3	9
1259... ..	180	3,166	5,128	1,962	61	15	6	526	19,047	25,563	6,516	34	3	6	706	22,213	30,691	8,478	33	10	6
1260	67	983	2,097	1,114	113	4	6	756	24,818	35,678	11,860	43	12	7	823	25,801	37,775	11,974	46	6	8
1261... ..	115	1,931	3,344	1,413	83	8	6	930	29,603	44,369	14,766	49	14	2	1,045	31,534	47,713	16,179	50	5	11
1262	431	8,882	13,984	5,102	57	7	4	1,501	45,928	58,258	12,330	26	3	2	1,932	54,810	72,243	17,433	31	9	2
TOTAL.....				9,910	63	11	9				47,355	36	2	5				57,265	39	1	3

Teerwa Jasty on Enams..... 1,431

TOTAL..... 58,696

Deduct loss from lands taken up by the Channels..... 16,073

Remaining..... 42,623

COMMISSIONR'S OFFICE, }
Vizagapatam, 9th July 1855. }

(Signed) J. GOLDINGHAM,
Commissioner.

Statement Shewing the particulars of Lands irrigated and unirrigated up to the Fusly 1262 in the District of Rajahmundry.

Items.	FUSLIES.	IRRIGATED.				UNIRRIGATED.				TOTAL.						
		Assessment of Fusly 1256 previous to the construction of the Annicut.	Assessment of each Fusly subsequently.	Increase.	Centage.	Assessment of Fusly 1256 previous to the construction of the Annicut.	Assessment of each subsequent Fusly.	Increase.	Centage.	Assessment of Fusly 1256 previous to the construction of the Annicut.	Assessment of each subsequent Fusly.	Increase.	Centage.			
	1	2	3	4	5		6	7	8	9		10	11	12	13	
		Rs.	Rs.	Rs.	Rs.	A. P.	Rs.	Rs.	Rs.	Rs.	A. P.	Rs.	Rs.	Rs.	Rs.	A. P.
Old Estates.	1257... ..	1,862	2,662	800	42	15 1	1,201,192	1,252,472	51,280	4	4 4	1,203,054	1,255,134	52,080	4	5 3
	1258... ..	10,335	12,737	2,402	23	3 10	1,201,193	1,298,171	96,978	8	1 2	1,211,528	1,310,908	99,380	8	3 4
	1259... ..	22,213	30,691	2,478	38	2 8	1,201,192	1,295,115	93,923	7	13 1	1,223,405	1,325,806	102,401	8	5 11
	1260... ..	25,801	37,775	11,974	46	6 6	1,201,193	1,333,584	132,391	11	,, 4	1,226,994	1,371,359	144,365	11	12 3
	1261... ..	30,394	47,512	16,578	53	9 5	1,201,192	1,370,514	169,322	14	1 6	1,232,126	1,418,026	185,900	15	1 5
	1262... ..	54,212	72,210	17,998	33	3 2	1,201,192	1,365,580	164,388	13	10 11	1,255,404	1,437,790	183,386	14	8 5
	TOTAL.....	...	...	58,230	40	0 11	..	..	708,282	9	13 3	...	...	766,512	16	6 9
New Estates.	1259... ..	...	...	...	..	..	...	...	3,491	...	..	...	3,491	3,491	...	...
	1260... ..	...	...	...	..	..	...	...	7,426	...	..	...	7,426	7,426	...	...
	1261... ..	600	841	241	40	4 2	...	...	36,438	...	..	600	37,279	36,679	...	...
	1262... ..	599	824	225	37	9 4	...	...	37,315	...	..	599	38,139	37,540	...	...
	TOTAL.....	466	38	13 8	84,670	85,136
	GRAND TOTAL.....	58,696	40	1 0	792,952	11	0 0	851,648	11	9 4

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COMMISSIONER'S OFFICE, }
 Vizagapatam, 9th July 1855. }

(Signed) J. GOLDINGHAM,
 Commissioner.

Comparative Statement of the expence of land and water carriage for short and long distances in the Sub-Division of Rajahmundry.

TO AND FROM WHAT PLACE.										REMARKS.													
Villages.	Distance in Miles.	Articles.	Land water.			Rate per mile water																	
			Hire paid for bullocks, &c., per Pootty.	Hire for Dhonies at present.	Probable price when channels are full.	Land.	Cost at present.		Probable cost in future.														
							Rs.	A.			P.	Rs.	A.	P.	Rs.	A.	P.						
1	2	3	4	5	6	7	8	9	10														
1 From Woody to Cocanada on Gosta Nuddy.	70	Paddy.	8	0	0	3	0	0	0	1	10	0	0	8	0	0	2	2	5	<p>The price of 1,000 Bamboos at Polaveram is 6 Rupees, the former selling price at Woody was 25 Rupees, and is now 15 Rupees. The difference between the cost and selling price is put down as the hire for carriage.</p> <p>The great market for this article is Vijeswaram, where the price fluctuates from 40 to 50 Rupees the candy. None but the richest ryots can afford the land carriage from Rajahmundry. Local purchases are made from the poor class at from 15 to 20 Rupees, the candy and the profit to the Sowcar is at least 50 per cent.</p> <p>Note. Mr. Taylor has not mentioned the article.</p>			
2 From Woody to Ellore on Colair.....	40	Do.	4	0	0	1	0	0	0	1	5	0	0	4	0	0	1	1	2				
3 From Polaveram to Woody on Gosta Nuddy.....	60	1,000 bamboos including the water carriage on the Godavery.....	19	0	0	9	0	0	2	0	0	0	5	1	0	2	5	0	0		6	1	2
4 From Samulcottah to Rajahmundry.....	55	Per candy of 20 Maunds.....	2	0	0	1	0	0	0	8	0	0	0	7	0	0	3	1	0		0	1	3	4

No. 11—(Continued.)

5	From Tanookoo to Narsapoor on Palcole Channel.....	25	Bengal and Horse gram Oil Seeds, &c.....	2	8	0	0	0	0	0	8	0	0	1	7	0	0	0	0	0	4	Too high.
6	From Woondy to Narsapoor.....	20	Paddy.	2	0	0	0	0	0	0	4	0	0	1	7	0	0	0	0	0	2½	
7	From Palcole to Narsapoor.....	6	Bengal and Horse Gram Oil Seeds, &c.....	0	12	0	0	4	0	0	2	0	0	0	8	0	0	0	0	0	4	This Estimate is probably too high.
8	From Narsapoor to Rajahundry.....	45	Bearers for 2 Native Palunkeens Canady Men 2...	12	0	0	3	0	0	0	0	0	0	4	3	0	1	1	0	0	0	Small dingies capable of holding 6 or 8 persons have been hired at this rate to Conney Court suitors, traders and their attendants from Narsapoor to Rajahundry on the Palcole Channel.
9	From Narsapoor to Chettypett.....	36	Jaggery.	0	12	0	0	3	0	0	3	0	0	0	4	0	0	0	0	0	1	This communication being now closed, the Unkkala is used instead. The comparison includes two Palankeens only for the heads of two families and the expense by water is one-fourth. Large quantities of Jaggery are sent to the Rajahundry Sugar Works and the demand for this article will probably increase very considerably. The Superintendent of Messrs. Arbuthnot & Co's Factory is so sensible of the value of water carriage, that he has already constructed a number of boats for the conveyance of the supply of this article to Rajahundry and of Sugar, &c. to the Coast.

COMMISSIONER'S OFFICE,
VIZAGAPATAM, 9th July 1855.

(Signed) J. GOLDINGHAM,
Commissioner.

Return from Dry and Wet Crops grown on a Pootty of irrigated fallow land of the 1st class.

Years.	Crop.	DRY LAND.	Expense.		Return.		Profit.			
		Nature of Cultivation.								
			R.	A. P.	R.	A. P.	R.	A. P.	R.	A. P.
1st.	Poonasa Black Paddy, Red Gram, &c.	Turning with Crowbar & Ploughing.	32	0 0	80	0 0				
	Pyra Cholum, Lamp Oil Seeds, Bengal & Horse Gram, Cotton, &c.	Laborer's hire for sowing, cutting, weeding, &c.	23	8 0	60	0 0				
			55	8 0	140	0 0	84	8 0		
2nd.	do.	do.	20	0 0	140	0 0	120	0 0		
3rd and 4th and 5th Years	at the same rate as the 2nd.		60	0 0	420	0 0	360	0 0		
							Total....	564	8	0
		WET LAND.								
1st.	White Paddy.	Ploughing seeds, laborer's hire for planting, watering, cutting, &c.	25	0 0	90	0 0	65	0 0		
2nd.	Do. small Crop of Gingily Oil seeds.	do.	25	0 0	120	8 0	95	8 0		
3rd.	do.	do.	25	0 0	169	0 0	144	0 0		
4th and 5th Years	at the same rate as 3rd.		50	0 0	338	0 0	288	0 0		
							Total...	592	8	0

COMMISSIONER'S OFFICE,
VIZAGAPATAM,
9th July 1855.

(Signed) J. GOLDINGHAM,

Commissioner.

No. 13.

Comparative Statement of Expenses and Returns from a Pootty of vrrigated and unirrigated land of the 1st sort.

YEARS.	UNIRRIGATED LAND.				THE SAME LAND WHEN IRRIGATED.				COMPARISON OF Co- LUMNS 4 & 8.																					
	Pootties of grain on a Pootty of land.		Value.		Deduct costs of pro- duction.		Remain or profit.		Produce of white Paddy per Pootty.		Value at 9 Rupees.		Deduct cost of pro- duction.		Remainder or profit.		Increase.		Decrease.											
	1		2		3		4		5		6		7		8		9		10											
	C.R.	A.	P.	C.R.	A.	P.	C.R.	A.	P.	C.R.	A.	P.	C.R.	A.	P.	C.R.	A.	P.	C.R.	A.	P.									
9	10	0	0	80	0	0	44	0	0	36	0	0	8	0	0	72	0	0	44	0	0	28	0	0	0	0	0	8	0	0
2	12	0	0	110	0	0	7	0	0	103	0	0	10	0	0	90	0	0	30	0	0	60	0	0	0	0	0	47	0	0
3	12	0	0	110	0	0	7	0	0	103	0	0	16	0	0	144	0	0	30	0	0	114	0	0	11	0	0	0	0	0
4	10	0	0	90	0	0	10	0	0	80	0	0	20	0	0	180	0	0	30	0	0	150	0	0	70	0	0	0	0	0
5	8	0	0	72	0	0	10	0	0	62	0	0	20	0	0	180	0	0	30	0	0	150	0	0	88	0	0	0	0	0
																									169	0	0	55	0	0

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COMMISSIONER'S OFFICE, }
VIZAGAPATAM, 9th July 1855. }

(Signed) J. GOLDINGHAM,
Commissioner.

FROM COLONEL A. COTTON,

Commandant of Engineers.

TO H. FORBES, Esq.,

Secretary to Government.

SIR,

Having been so much concerned in the Godavery Delta Works, I trust I shall be held excused in offering to Government a paper of remarks on the Report of J. Goldingham, Esq., on their effects, dated 9th July 1855.

In these remarks I have thought it right to give my opinion distinctly. If it should be thought that they might have been written in less decided terms without compromising truth, I must apologize by saying that I consider the question of the results of this great experiment, of such paramount importance that it was absolutely necessary that I should put in as clear a light as I could, what I feel fully assured are the fallacies of the paper I have examined.

I must also beg to notice that the style of the Report is that of papers generally, belonging to an old and deeply rooted system, so destructive, according to my views, that till it is fully exposed and rooted out, India cannot flourish.

Till Reports are based upon *bonâ fide* returns, and till they contain *bonâ fide European* conclusions drawn from such real returns, I am persuaded that India must continue to be the impoverished and degraded country it is, and our power as baseless as late events have shown it.

I must also beg to plead that after what we have seen now, at least, no public servant would be at all excusable who did not speak most distinctly on what he considered destructive fallacies in a question, about which he had greater means of forming a judgment than any other person so far as actual experience can go.

My position is this, that this is not a minor nor even a secondary question, this question whether water, water for irrigation, and water for navigation is or is not the grand means for the material improvement of India, and whether Railways or any other means are superior or comparable to it; but that it is really a vital and fundamental question in the future management of the country.

In my comparison of land and water carriage, I have omitted to mention that the results of the Bombay Railway are the same as those of Madras, that is, that it has not produced any good effect upon the traffic of the country. Captain Rivers, the Consulting Engineer states, according to the Newspapers, "as the results of the year's experience, that the Railway only conveys an insignificant portion of the" (old) "traffic that goes on between the stations of Wasind, Campoolie and Bombay; that the Railway is an expensive machine both in cost and keeping, doing no work while there is plenty for it to do," just as on the Madras line. It seems from the Bombay Chief Engineer's address at the Bombay Mechanics Institution to convey about 35,000 tons a year on an average of its whole length, a quantity as Captain Rivers says quite insignificant, and *that* at a price only just low enough to keep it on the Railway, so that there is no benefit at all to the Public worth mentioning even on the trifle that is carried, whereas had the water communication been completed from Bombay to Campoolie at the foot of the ghauts, by a steam boat canal of 24 miles, at a cost of about 5 lacs, instead of 60 or 70 lacs the cost of the Railway, the distance would have been 44 miles instead of 70, the time for 1st class passengers 3 hours instead of 4, the cost of carriage both of goods and passengers about $\frac{1}{10}$ th of what it is by the rail; instead of only a small portion of the old traffic being carried along it, a new and enormous traffic would have been created, probably at least 10 lacs a year would have been saved in interest, and cost of transit to the community of Bombay, and a powerful stimulus given to the interior of the country; whereas now, as in Madras, this line is probably sealed up for ever from all the benefits of cheap transit. No manage-

ment of the Railway can make any material difference, the evil is radical, the bare cost of carriage over 70 miles of Railway, must be 10 times that over 4½ miles of water, and the extra capital of about 60 lacs is sunk and can never be recovered. These actual effects of land carriage in two different localities compared with water carriage are of the utmost importance. Think of the number of 1st class passengers, the only kind of traffic for which all this enormous expence has been incurred, being from 1½ to 2 per train, from 3 to 4 per day on both these Railways, and *that* not the average of the whole intended line but only on that part of it immediately adjoining the city, which is in all respects the capital of the Presidency.

I cannot transmit this paper on the Godavery Delta Works, without expressing my exceeding satisfaction at the vigour and thorough efficiency with which the Works have been carried on during the last 3 years. Had the Government allowed 3 lacs a year for this undertaking, I should have been highly pleased, but 6 or 7 lacs a year has been allowed, and according to my opinion, expended in so thoroughly satisfactory a manner, that there is now a completeness and efficiency in the Works far beyond what I had contemplated.

Thus we have this great satisfaction that the foundation is sound, and the evil which exists can be remedied, that is the non-collection of the water tax. A very moderate tax on all the lands watered and otherwise improved, will make the increase of Revenue 30 lacs or 150 per cent. upon the old Revenue and 100 per cent. upon the outlay, instead of as at present 40 per cent. and 25 per cent. respectively, and this increase of Revenue would have spoken intelligibly to those who have not time or capacity to look more closely into the matter. Such a palpable proof of the effects of such a system of Works is probably necessary to ensure their extension to all the other Districts of India.

I have &c.,
A. COTTON, COLONEL,
Commandant of Engineers.

MADRAS, }
19th September 1857. }

MEMORANDUM ON MR. GOLDINGHAM'S REPORT ON RAJAHMUNDRY.

9th July 1855.

1. Among various papers connected with this subject, I select this one not only as being the one of highest authority, but, also, as it seems to me to offer the best ground for giving my opinion on the leading points in this question.

2. I must premise that I look upon this as nothing less than the great question whether an extensive system of irrigation and navigation is really calculated to produce the results which their advocates have expected from them, and, therefore, whether it is expedient to extend them throughout India. That great efforts should be made to get rid of the results they may have produced, is of course to be expected, for all who have held adverse opinions, or who have been opposed to anything that has the nature of an innovation, must be under a strong bias to underrate results, which seem to show they were mistaken, and even many who have not opposed may be led to take a false view either from the influence of others, or from other causes. And it is a fact, and one indeed which need not surprise us, that almost every individual of the Native Revenue servants, whether of this District or others, have been throughout entirely opposed to those works, and hence every opinion and every return offered by them, required careful examination. In this way, however, the grand point is gained of earnest discussion being brought to bear upon the subject, and thus the truth is put in a strong light, for nobody is fully satisfied of anything, or ought to be, till he has heard what an opponent has to say.

3. The Commissioner wrote this report under instructions "to ascertain accurately what the effects of this great work are." In para. 6 and 7 is given the extent of land occupied and unoccupied in the Rajahmundry Delta, the former 2,75,000 acres, the latter 53,000. This at once brings us to one of the great points of this paper. Are the returns contained in it correct in the main, or not? I am not now speaking of their precise accuracy, but of their correctness. That is, the question should be answered, Are the statements which have been furnished to the Commissioner, such that they are in the strict sense of the word true, or such as are false returns? Is their incorrectness so entirely wide of the truth as to falsify entirely all the deductions drawn from them? It will be seen as we proceed, that not only this, but almost all the other main statements referred to in the report, are, without using any improperly strong language, false statements, that is, that they are so far from the truth as entirely to falsify all conclusions drawn from them. To call them therefore by any other term than false, would of course convey a false impression.

It must not be imagined that I intend in the least to imply that the Commissioner intended to send up returns which were false. No doubt he received them as true, and according to that unhappy custom which has been adopted to such a ruinous extent in the public business of India, accepted them without the least investigation or even a moments consideration; taking it for granted that because the return was put before him in the proper form and by the proper authority, that therefore its correctness was unquestionable, and there was no possibility of its having been prepared either by those who were incapable of doing it properly, or too careless to ascertain its correctness, or under a strong bias to falsify it. In the case of this first return of 325,000 acres of cultivable area in the Godavery Delta and Rajahmundry District, it is contradicted by a mere reference to the Map. The portion of the Delta within the Rajahmundry District is not less than 2,000 square miles, which, allowing 500 acres per square mile, that is deducting about $\frac{1}{4}$ for rivers, roads, &c., gives 1,000,000 acres for the arable area. There can be no room for mistake as to this calculation being in the main correct. What the above area of 3,25,000 acres or 650 square miles is, I really have no idea. It would make out that the arable portion of the Delta is not much more than $\frac{1}{4}$ th of the whole, which any person knows is out of the question.

4. Again, in para. 15, he refers to Appendix 2, for a statement of land and Revenue. In Rajahmundry, the former is stated to be 57,000 acres under the Annicut Irrigation. This, again, has nothing whatever to do with the fact.

5. The precise quantity that received water from the Annicut in 1854-5, I have no means of ascertaining, but it could not have been less than 2 or 300,000 acres. The District Engineer has abundant means of knowing what area the water reaches, within limits sufficient for our present purpose. This, therefore, also is a false return, it is not an approximation to the fact. Mr. Commissioner could have taken no measures to ascertain the real state of the case, but must have taken any statements put before him. I feel sure that he could not have tested a single Talook or village, and it is certain he did not even call upon the Engineer for the statements of the land watered. Everybody knows, what sort of returns the people who are to be assessed will make of their own lands. But nobody but those who are thoroughly acquainted with these matters could believe the impudence with which such false returns are sent in, where the people hope that there will be no real enquiry. I was told by the Collector of one village, every acre of which was ascertained by the Engineers to be irrigated, which had been returned as totally unaffected by the Annicut; and of others that had four times the extent of irrigation that was stated in the returns, and it is certain that hundreds of villages that were irrigated, were returned as receiving no water. One day I met a Revenue Officer at his tents just as he had finished his Jummabundy, and he told me that there was no land whatever under summer crop in that Talook, I was not 3 miles from his tents when I passed through a large extent, perhaps 2 or 300 acres, at that moment under crop, belonging to that Talook.

6. If it were only on this one point, I am sure the report is worthless, for it gives a completely false view of the case. Had the Engineer been called upon to send in a Map shewing the lands that the Annicut water had reached, and to test a few of the Villages for comparison with these returns, and had the Commissioner or his Assistant gone with the Engineer, and the Talook and Village authorities, to see for himself the state of the case, he would have easily found out that these returns were totally false. To illustrate this point, I append two letters between the Commissioner and the District Engineer, written about a year after this report was made. In consequence of the Government forwarding to the Commissioner Extracts from the Engineer's reports which gave very different areas from some that the Commissioner's report contained, the latter called for the Engineer's authority for his returns. It will be seen that the Engineer there gives the example of 2 Villages which he examined and found entirely watered, while the returns gave only about $\frac{1}{2}$ of the area as watered, and as the Pooty, which is commonly called 8 acres, really contains about 10, the actual number of acres watered was fully 5 times that entered in the returns.

7. In para. 20, the expression "Normal standard" is used, and the Revenue of land in the highest known year is taken for it. There is no such a thing as a Normal standard in the District. When the District was in confusion there was one state of things, when it had peace and was a manufacturing District there was another, when it lost its manufactures there was another, after 1840, when the irrigation first began to be attended to there was another, and now there is another. A Normal state of Revenue is an imagination.

8. In the 21st para. the Revenue after the *Annicut*, is compared with the average of 5 years before it. There are 3 fallacies in this comparison.

1st. The improvements did not commence with the *Annicut*. The clearing of channels, the embanking of the rivers, &c., were carried on in 1845-46 and 47. Thus the improvement on the Revenue which was the effect of the works is brought to tell against them. But more than this, the Revenue of one Talook, Oondee, had been greatly affected by attention to irrigation commencing in 1840.*

2nd. The average increase from the time the works are commenced shows nothing. The question is what the last year's Revenue is, or the average of the last two years, because part of the outlay had not taken place in the first years that are brought into the average.

3rd. This return is totally fallacious, because on $\frac{9}{10}$ of the lands no Revenue had been levied for the Annicut water.

9. In the paras. that follow the effects of the new works are stated, in which he comes to the conclusion, that the annual increase of Revenue is 1,30,000 rupees. Para 29.

10. In the first place, who could imagine that there was one fact in this case not in the remotest way alluded to, which is no less than this, that the Revenue authorities had not levied

* This was not the effect of these particular works, but it was an effect of improved irrigation.

the tax for the water on the lands irrigated, except for an insignificant extent. It will be observed, that the Commissioner no where in this report states, that water tax had been levied on all the lands which had received water. Thus in his statement No. 2, he gives the average collections on his area of 57,000 acres irrigated from the Annicut, at $3\frac{3}{4}$ rupees per acre. The least consideration of this fact would have convinced him that no water tax, or something merely nominal, had been levied on that nominal area. He gives in the same statement, No. 2, the average collections on unirrigated land $3\frac{1}{4}$ rupees per acre, leaving a difference of only $\frac{1}{2}$ rupee per acre, for all the benefit of Irrigation, Navigation, River embankments, and Drainage, being an increase of $\frac{1}{2}$ upon the dry Revenue.

Had he compared this with the progress of the village of Bickavole, as given in another para. in this report, (the average Revenue of ten years preceding the outlay of the Samalcottah Channel was 2,900 Rupees, that of the last year the Commissioner gives was 9,657, or much more than 3 fold) he would have seen at once that the water tax had not been levied, on almost the whole of the lands he states to be watered.

11. At first a few villages were made to pay additional assessment, but as soon as it was found that these were adduced as proofs of the good effects of the Works, the levying of the water rates, except what was merely nominal, and that only on a very small portion of the lands, was stopped, and it is only now under the positive orders of Government, that a water rate is being levied, and still only on the nominal extent of land, that has had water three years. Taking the actual quantity of land watered, at only 250,000 acres at that time, the Revenue at the present very low water rate of Rupees 2 per acre would have been 5 lacs, for only one crop, besides new cultivation.

12. The positive neglect of the Revenue authorities to levy the additional tax is the most important fact in the whole case, as respects the Revenue; and these returns are so given as to lead any one to suppose that the land had been taxed as fast as it was benefited.

13. But it was not only the land that was watered, that was benefitted. All the low lands of the Delta had been also improved. The evil they suffered under was excess of water, and the river embankments which were begun in 1845, besides other works, had almost put an end to destructive floods. Nothing had been levied from such lands. Again, a very large proportion of the Delta had some benefit from the water carriage, whether the lands were watered or not; and all had the benefit of the expenditure.

14. The work cannot produce Revenue if the Revenue authorities will not collect it. Some of the lands now in the 11th year of irrigation, are paying this year the 1st water-tax.

15. In fact, the state of things here throws a light upon the strange anomaly in the north-west of a body of Engineers being employed to collect the Revenue on the lands that they had themselves irrigated. From what has taken place here, I have no doubt that this arose from their finding that the Revenue Officers would not do it, and the Engineers, consequently, as the only alternative, urged the Government to let them collect it themselves.

16. Of other mistakes, fallacies, &c., in these paras., I must notice the following:—

17. In para. 25, it is stated, that the Toolea Bagah had been more or less available for irrigation since 1847-48; the fact being that there had always been irrigation under it, that it was in a most neglected state, that its improvement was commenced in 1846, and materially affected the cultivation that year.

18. In para. 26, reference is made to an appendix supposed to show the increase under the Toolea Bagah (I suppose including the branch called the Samulcottah channel), from the time when water was first received. This return also is totally false. The average of 5 years is given as before the irrigation commenced, and this ends with 1847-48, whereas the irrigation commenced in 1846-47, and thus two years which had the water from the new Samulcottah channel, and the improvement of the Toolea Bagah main channel, are given as years before the works, and thus made to tell against them. The fallacy consists, as before, in the use of the word *Annicut*, whereas these channels were cut and improved two years before the Annicut was begun. Thus, in another statement, No. 4, the Revenue of the village of Bickavole is given as 5,829 Rupees in fusly 1857, and this is made part of the average before the works. The actual average of Bickavole for 10 years before the works was 2,900, and in 1847-8 nearly 3,000

rupees had been added, in consequence of the supply of water from the Godavery which it had never had before.

19. By the return given the results in Bickavole were as follows:

Collections in 1253-1843-4	3,622
5	3,897
6	2,922
7	4,248
8	5,824
<hr/>	
Average before the works	4,102
1848-9	7,367
50	8,504
51	9,148
52	9,248
53	9,657
<hr/>	
Average since the works	8,785
<hr/>	
Difference	4,683
<hr/>	

The true statement would be		
1843-4.....	3,622	
5.....	3,897	
6.....	2,922	
3.....	10,451	
<hr/>		
Average before the works,...	3,487	
1846-7.....	4,248	761
7-8.....	5,824	2,337
8-9.....	7,367	3,880
9-50.....	8,504	5,017
50-1.....	9,148	5,661
2.....	9,248	5,761
3.....	9,657	6,170
4.....	9,693	6,206
5.....	9,819	6,322
6.....	10,803	6,596
7.....	10,900	7,423

Increase of each year above former average.

20. Thus the actual increase in 1853 was 6,170, on 3,437, or 170 per cent; not 4,683 upon 4,102, or 112 per cent; and it is, now that the water rate has been laid upon the Enam lands, 7,423 Rupees, so that the village pays three times the average of the *three* years preceding the works. It is quite fallacious to give the *average*, since the works began, because in the first year the whole expenditure had not been made. As this fallacy is not confined to the report under consideration, and it is a very important one, I give here the calculated results of a work by the two modes of shewing them. Let us suppose 10,000 Rupees laid out every year, and that the Revenue improves in consequence at the rate of 5,000 Rupees a year, the calculation from the average would be as follows:

	Expenditure.	Increase.
1st year,.....	10,000	5,000
2nd „	10,000	10,000
3rd „	10,000	15,000
4th „	10,000	20,000
5th „	10,000	25,000
<hr/>		
Total Expenditure, 50,000	.....	575,000
<hr/>		
Average.....		15,000.
<hr/>		

21. The average revenue would then be stated at 15,000 Rupees per annum, on an expenditure of 50,000 Rupees, or 33 per cent. whereas it is evident that the increase on 50,000 has been 25,000, or 50 per cent. The fallacy consists in taking into the average, years that occurred before a great part of the expenditure was made. Even the 50 per cent. return is of course much under the mark, because no expenditure produces its full results under several years.

22. Under para. 26, he goes on to show the increase in 45 villages, that had the water from 1 to 6 years. The increase of Revenue in 1263, was 62 per cent. above the average of 5 years before the works. How remarkable it is that he should not have observed the enormous discrepancy between the increase in Bickavole and in these villages, and have ascertained what the cause of it was.

23. The cause was what I have stated, *viz.*, that in most of those villages the additional Revenue had not been levied, either nothing at all had been taken, or a merely nominal sum.

24. Bickavole was before the best watered village in these Talooks, the only one that had two large tanks, and the increase which it has borne very well shews what might have been obtained. I don't mean to say that I think so heavy an additional assessment ought to have been levied, but it shows indisputably what the improved irrigation will bear in increased Revenue, and it shows what enormous sums have been lost to Government by the neglect of the Revenue Authorities to impose some additional payment as soon as ever the water reached the upper lands, and as soon as the flooding of the lower lands was diminished.

25. In para. 28, it is stated that the Irrigation was confined to the Toolea Bagah till 1853-4. This also is not the fact. The annicut was carried across the river in 1850, and that year water was thrown into the Weyairoo in the Western Delta. The delay of realization of Revenue was not caused by want of water, but because the rights of Government were neglected.

26. In para. 31, he gives a statement of the total returns from the Annicut works. It will be seen from my previous paras., that I consider this return of no value whatever, independent of the essential fact, that the additional Revenue had not been levied excepting on a very small portion of the lands. To give this statement as a correct return of results, without hinting at this astonishing fact, must totally falsify the whole case.

27. The real extent of land watered, having been at least $2\frac{1}{2}$ lacs of acres, even if the the low rate of 2 Rupees for one crop which is now being levied from some of the lands, had been taken, the direct increase from old lands would have been 5 lacs a year, besides extended cultivation, extra Revenue, &c.

28. In the 34th para. the improvement of the condition of the people is spoken of as "an important benefit."

29. I must beg to call this the grand object of the works. Of course the finances must be looked to, and it must be ascertained that works will pay in Revenue the interest of their cost, but the benefit of the mass of the population is the real object. And on this point, nothing can be more satisfactory than the results of all the enquiries that I have made. The receipts of the labouring classes are about 50 per cent. higher than they were, and there is employment for all, and the land owners are undoubtedly completely relieved from the wretched state of poverty and debt they were in. 9

30. In paras. 36 and 37, Mr. Commissioner endeavours to shew that Mr. Taylor's information as to increase of Revenue is fallacious.

First, he compares the Revenue of the previous years, with a certain sum which he is pleased to call the *normal* standard, and which he himself elsewhere states to be the highest known. First, there is no such a thing as a normal state of things, as I have before stated, and in the next place, that the Revenue and the District were in such a miserable state for a series as here given of 6 years, was one great reason why the works were required and undertaken, but certainly nothing could be more fair, than to compare the Revenue since with the Revenue *immediately* before. The question is not between the Revenue now collected, and that collected many years ago, when the District was enriched by a large export of manufactured goods, but between the present Revenue and that of a series of years immediately preceding the new works. In para. 41, is a statement, which if it proves any thing, proves that Irrigation, Drainage, &c., are a positive injury to a District. It represents that the increase of Revenue in the upper Talooks of the Collector's charge have yielded an increase of Revenue of 90 per cent. while the

lands under the new works have only yielded an increase of 67 per cent. The Commissioner does not himself attempt to give any explanation of this, but he states that the Revenue in the dry Talooks, quoting Mr. Taylor, is owing to—1st, a change from Zemindary to Government management; 2nd, to protection of life and property; 3rd, to the expenditure of the sugar manufactory; 4th, to a succession of propitious seasons. But then, he adds, that there is a falling off of 72 per cent. in the Sub-Collector's dry Talooks, owing to the vicissitudes of seasons. This leaves us no other conclusion than that there were propitious seasons on one side of the river, and bad ones on the other. The fact is that this absurd return shows nothing. It is a comparison of one year which in dry Talooks might have been of course either half or double the average, with the average of the 5 following years. Such a return is altogether fallacious, and no wonder that it flatly contradicts itself, the *increase* in the one tract being 90 per cent. and the *falling off* in the other similar tract 72. But the return in another point of view is highly important, as showing in a strong light what the objects were of those who prepared these returns. All such returns as seem to prove too much of course confute themselves, because every body knows that when a return seems to show that a District had better not be watered, it contains a fallacy. And, lastly, it would be useless to compare the increase of the upper Talooks with that of the Delta, for the reason already assigned, *viz.*, that the water tax had not been collected in the latter. The fact is that in a very short time, and in spite of the way in which the claims of Government were trifled with, in letting most of the lands have all the benefits of the works without paying any thing, the Revenue of the District has been brought up to much above what it was 20 or 30 years before, when the District was comparatively wealthy in consequence of its great manufactures and consequent foreign trade.

31. In para. 44, he states that the average of the collections in the upper Talooks, for two series of 6 years, is 1,81,000 and 2,27,000, shewing an increase of 46,000 Rupees, or 26 per cent., whereas, we find in the village of Bickavole the increase had been 200 per cent., and something like this ought to have been the case with all the villages to which the water was conveyed.

32. In para. 45, the estimated returns from a *pooty* of irrigated land, compared with those from land in the former state, are adverted to. A single estimate of this sort, prepared by interested persons, is of course not to be relied on. And the most casual inspection of the estimates shows that they are simply ridiculous. The first two statements make out that the produce of irrigated land is little more than that of dry land, the latter being 140 Rupees, and the former 169 Rupees. What can be the use of putting forth statements of this sort, that everybody knows to be altogether contrary to fact. The second statement makes out that there is in the first two years an actual loss on the irrigated land compared with the unirrigated.

33. I cannot here help remarking on the extraordinary circumstance, that there is nothing in this report that implies that any attempt was made to *ascertain* this essential point. Surely when "the wish of the Government was that the effects of this great work should be *accurately* ascertained", the most important enquiry of all was, "what is the value of produce of the Irrigated lands, compared with what it was before? How could any conclusions, worth any thing, be arrived at, unless this fundamental point was actually *ascertained*. All that is said on this point is, that an estimate given by Mr. Taylor is referred to.

34. It appears that not the slightest enquiry was made on this head, much less was any personal examination made, to assure the Commissioner that he was proceeding on correct information. This seems to me an extraordinary circumstance. Afterwards, in para. 51, the rate of $1\frac{1}{4}$ rupees per acre is proposed as the highest which it would be safe to impose for the new works, but not one word is said as to the grounds on which this is fixed upon. If there were any grounds for it, surely they ought to have been stated, especially *when no body ever heard of such a rate in any other district*.

35. But let us compare this estimate with fact. In the estimate the value of produce in the first year is given at 72 Rupees a *pooty*, or $7\frac{1}{4}$ Rupees an acre; the actual value of produce of one crop on two pieces of land cultivated by a gentleman for trial were respectively 14 Rupees and $30\frac{1}{2}$ Rupees in the first year. The produce of another piece of land by another person was 29 Rupees, in the 2nd or 3rd year. In the Estimate 18 Rupees is given as the highest produce on 1st class land after 3 years of cultivation for Paddy.

Again, Mr. Newill took the produce by actual measurement of many fields in the Kistnah Delta, and found it, on an average, where there was good irrigation, $1\frac{1}{2}$ Guntoor Pooties of

1,920 lbs., which, at the average price of the last 5 years, 28 Rupees, give 42 Rupees, besides straw, for which add $\frac{1}{2}$, making 47 Rupees an acre, for a single crop. Again, if the value of the produce of an acre of irrigated land of the 1st class is 18 Rupees, how is the land tax of 12 and even 20 Rupees paid in some Districts. I have a statement of the produce, &c., of an acre of land in Bellary for instance just received, on which the tax is 18 Rupees an acre. But every body knows these things, and that a statement which shows that an acre of 1st class Delta land under the most perfect irrigation with rich river water yields 18 Rupees a year in gross produce, is on the very face of it false.

36. In the Estimate it is then made out, that there is a profit the first year on the irrigated land of the 1st class of $2\frac{1}{2}$ Rupees per acre, but on the two pieces of cultivation first mentioned here, the actual profit was 6 Rupees an acre on the poorest land, and $18\frac{1}{2}$ Rupees on the best piece on a single crop, *in the first year*. Another farm of which I got the particulars yielded 32 Rupees per acre.

37. These are all actual ascertained returns, and if Mr. Commissioner had himself seen some grain cut and weighed, he would have ascertained at once the value of this estimate.

38. The fact is that the utmost care should have been taken to ascertain the real state of this case, for no conclusions of any kind worth anything could be reached without it. The second statement No. 13 gives the value of produce on unirrigated land at about 9 Rupees an acre, and I believe this is not far wrong. If we take the value under irrigation at only 25, the difference, 16 Rupees, on $2\frac{1}{2}$ lacs of acres, the lowest area watered at that time, the increase of produce will be 40 lacs, out of which the additional Revenue collected was, *according to this report*, 1,30,000 Rupees, and this does not allow for new cultivation, for the reduction of floods, and for the water carriage.

39. In para. 48, it is stated that the cost of transit has been diminished $\frac{2}{3}$. This also conveys a very incorrect view of the effect of water carriage.

1st. For a part of the year and over much of the Delta, things could not be carried at all, except at a ruinous price, so that rice might be in great demand at Cocanada, and a man could not sell what he had from the impossibility of conveying it;

2nd. The actual reduction is not $\frac{2}{3}$, but $\frac{9}{10}$ or $\frac{9}{10}$. The usual price paid for stone is pie 3 a ton a mile, about $\frac{1}{10}$ of the former price;

3rd. This is the *charge*, but it is a charge that allows an enormous profit to the boat owner, because the supply of boats does not equal the demand, and in judging of the results of the works our question is, what is the total saving in carriage, whatever proportion of it goes to the employer, and what to the boat owner? The actual saving I believe is at least $\frac{1}{2}\frac{2}{3}$.

40. In the 51st para. he states, that the Delta land will not all be watered from the channels, but that the water must be raised by Piccottahs. He says "there are no data for ascertaining the extent of such land, *but it is supposed to be considerable.*"

41. This is an extraordinary passage. Might we not ask, *who* it was that supposed this to be considerable? Truly we do not want anonymous suppositions on important points in this investigation. I need hardly say that all this is pure imagination. There is no such land in the Delta. But what can be the meaning of giving suppositions when the Engineer could have furnished him with real information on the point. Every acre of the Delta, with the exception of an insignificant strip near the annicut, will be watered direct from the channels. How strange it seems that an Officer inquiring on the spot should offer to Government such a supposition as this, when the fact could have been ascertained without the least trouble.

42. In paras. 51, 52, 53, 54, he proposes a rate of $1\frac{1}{2}$ Rupee for the water, but throughout the whole of them not a word is said as to the grounds on which he fixes this rate. He says, for instance, a "higher standard cannot be safely taken in the existing state of things in the Delta," and so on, but nothing tangible is said about it, and the Government is left to guess at the grounds on which this sum is fixed. I have abundance of data to prove, that the increase of produce on one crop land is from 20 to 30 Rupees, and 2 crops 35 or more; that the carriage of the produce of an acre or a ton of paddy to the port, suppose 40 miles, is 4 Rupees less than it would be by land; and that besides this there is the advantage of being able to send the produce to market at any moment.

43. Considering these things, and the rates on irrigated lands in all other Districts, I can find no ground whatever for this water rate of $1\frac{1}{2}$ Rupee for land placed under circumstances incomparably more advantageous than that of any other District at present. It is quite certain that it could pay a higher rent than any other land in this Presidency.

To put this proposed water rate of $1\frac{1}{2}$ Rs. in a clear light, I give here the actual assessment on irrigated land in various Districts. 2 crop land under the Darojee Tank in Bellary without water carriage, and 300 miles from a Port..... Rs. 18

Trichinopoly Channels from the upper Colleroon Annicut, as given in the Public Work's Report, without water carriage, and 100 miles from a Port, no summer water, ... 8

Under the Calingaroyen Channel in Coimbatore, 2 crops, without carriage, and 200 miles from a Port,..... $11\frac{1}{2}$

Under the lower Annicut in South Arcot, with partial water carriage, and 30 miles from a minor Port,..... $7\frac{1}{2}$

Average of Tanjore, chiefly 1 crop land, no summer water, the water supply always imperfect, no water carriage, 10 to 60 miles from a Port, almost half the land of exceedingly poor quality,..... 5

The Commissioner's proposed rate for the Rajahmundry Delta, with scarcely any poor land in it, with water carriage to every village, with a far more perfect system of River irrigation and drainage than any other District, with water throughout the year, and with the only safe Port in the Presidency

Average tax on unirrigated land as given in Statement No. 2..... Rs. $3\frac{1}{2}$

Add water rate,..... „ $1\frac{1}{2}$

$4\frac{1}{2}$

Rent volunteered and paid for ordinary land in Nunggarum Talook of Rajahmundry to a European renter, without any Government and permanent title, for one crop,..... $11\frac{1}{2}$

It is well known that the Assessment in Tanjore is so low that the land is saleable at 50 or 60 Rupees per acre on an average. Thus the rate proposed for a Delta composed of the richest land, with advantages much beyond that of any other tract of land in the Presidency, is below that of the lowest assessed land in any other District, and less than half the rate at which natives have come forward, and asked to sub-rent land in this very Delta of ordinary quality, and without any particular advantages whatever, for one crop only, and without any right in the land, whereas it is capable of paying a higher assessment than any other land in the Presidency. The rent now paid by the sub-renters alluded to in Nunggarum for 1 crop is 8 Rupees above the old rate of $3\frac{1}{2}$ Rupees, or more than 6 times the water tax that the Commissioner proposes.

44. In para. 58 he adverts to the failure of the expectation respecting the sugar culture. There has been no important extension yet, and from my enquiries, the reason is plain enough, viz., that it was more profitable to employ the same amount of labour in cultivating rice. There are, however, now indications of an extension. One European gentleman has planted this year 80 acres, and he is planting 2 or 300 acres more this year, purposing to extend it to 600, and another gentleman is planting 20 or 30 acres, and the results of a few acres planted by the latter last year were abundantly profitable. Nothing can be finer than the canes planted this year by Europeans, and the statements they give me of the cost and return obtained and expected, are extraordinarily encouraging. There is thus every reason to believe, that the attention of European Capitalists will be drawn to the District for this cultivation.

45. It must, however, be observed, that the present population is not equal to the full cultivation of the Delta, even for paddy.

46. In para. 59 it is stated, that in the Woondy Talook and under the Samulcottah Channel, the great results must not be viewed as furnishing a standard for the Delta generally. This is quite true, for Woondy had already extensive irrigation, and was far better watered than any other part of the Delta, and one of the villages under the Samulcottah Channel was better supplied with water than almost any one in the Delta. The effect of the irrigation in the Rallee Talook, for instance, which had not one acre watered before, must render it capable of bearing a far greater increase of Revenue than Woondy, and so also, though in a less degree, with all the other Talooks. I must further notice the extraordinary remarks in the latter part of this 59th para. The Com-

Commissioner says, "viewed broadly the Delta may be said to be nearly fully occupied, having an assessment which approaches a maximum standard, the main functions of the Annicut in this case will be to give permanency to a fluctuating Revenue, and the effect will not be so striking as in the other cases cited," (the cases of the Woondy Talook and the Samalcottah Channel lands.) My exception to this is, that it is a statement diametrically opposed to the true state of the case. In the first place, the Godavery Delta is so far from being fully occupied, that it contains only about $\frac{2}{3}$ millions of people, while that of the Cauvery, of the same extent, but of much inferior land contains nearly or quite 2 millions. With its very superior advantages both in land and water, the Godavery Delta will hold 3 millions or 4 times its present population. Again, what can be meant by saying, that an average tax of $3\frac{1}{4}$ per acre for irrigated land of the highest order, one half or $\frac{1}{2}$ th of that in other Districts, *approaches a maximum standard*. The revenue of the Delta of the Cauvery, with its very light assessment, is much more than 60 lacs; that of the Godavery is under 30, with its vast superiority, both natural and artificial.— Thus the "main function" of the annicut is to give permanence to an assessment of $3\frac{1}{4}$ Rupees this per acre, *on the land previously in cultivation*, watered throughout the year, secured from river floods, and those of the local rains, pervaded constantly by a system of water carriage, this Delta is only to pay just what it did before; the "main function of the Annicut is to give permanence to a fluctuating Revenue." I only ask, is this a true representation of the case or is it not?— What a remarkable comment upon this extraordinary statement, the present statistical Return of the District affords. We there find that in spite of the ridiculously low rate of water-tax that has been levied, in spite of $\frac{2}{3}$ ths of the land not having yet paid a Rupee, the actual land Revenue is no less than 40 per cent. above that of the former average, and *that* paid with such ease that while the former outstanding balances used to be $2\frac{1}{2}$ lacs, they are now 30,000. I must beg that this statement of the Commissioner may be thoroughly considered. *It affords a clue to the whole report*. What must have been the strength of that bias, which could have induced an old experienced Revenue Officer to commit himself to an opinion, that the utmost that could be done to improve Delta lands, in the way of Irrigation, navigation, and drainage, could only enable the lands to pay $3\frac{1}{2}$ rupees an acre, and that only on a part of them, a large portion being left as not worth cultivation; this in face of facts, of which no man in Madras was more conversant than the Commissioner himself. We cannot possibly be misled in arguing thus, if the Delta of the Cauvery, with its inferior land, its extraordinary light assessment, its imperfect supply of water even in the Monsoon, its total want of summer water, its land carriage at $2\frac{1}{2}$ as : ($3\frac{3}{4}$ d) a ton a mile, and without a safe Port, can pay much more than 60 lacs a year, and yet sell its lands at 50 or 60 rupees an acre, the Delta of the Godavery of the same extent, with its very superior land, its full supply of water for 8 months, a large supply for the remaining four, its water carriage at 1 to 2 p. ($\frac{1}{8}$ to $\frac{1}{4}$ penny) per ton throughout the year, its safe harbour, and its complete drainage, could when filled up in population pay 100 lacs, or about 5 times what it has paid without artificial advantages.

At this present moment about 700,000 acres are watered, and the other 500,000 have the benefit of the drainage and water carriage. A water rate of 5 Rupees, making the assessment $8\frac{1}{4}$ Rupees, which certainly would not be 25 per cent upon the produce, would make an addition of 35 lacs on the lands before cultivated alone, without allowing for new cultivation, for the land not yet watered, though benefitted in other respects, and for increase of extra Revenue.

The Commissioner gives in this para. from Mr. Taylor a return of waste land of 27,000 acres in the Sub-Collectorate. What this means I dont know, but it certainly bears no proportion to the extent of land that does not pay Revenue.

47. With respect to the future price of grain it must be remembered, that the moment cheap access is given to a Port, the price except in scarcities does not depend upon the extent of the crop, but on the state of the market of the world. While rice is at a certain price in London, it cannot possibly fall below a corresponding price in Rajahmundry. In seasons of scarcity in the neighbouring Districts, it may rise extraordinary high but it cannot possibly fall excessively low.

48. On the 60th and following paras. about the modes of assessing the land, I have of course nothing to say, except that I do hope there will be no more guessing, and that nothing will be done, upon such returns and statements as this report contains, but that the actual extent of land and actual produce will be really ascertained and the water taxed upon real

grounds. And especially that the tax in other Districts may be considered. It is *unjust* to make the cultivators of one District pay a rate very much higher than those of another. It must be remembered that a greatly lower assessment cannot be levied on the 2 Millions acres of the Godavery and Kistnah Deltas, without injuriously affecting the cultivators of other districts already much more highly assessed. And further, I must beg to offer my opinion, that a very low assessment is decidedly objectionable on general principles. Such intolerable in justice and mischief has been done by an excessively high assessment in particular tracts in times past, that we are now in danger of thinking we cannot have too low a tax. But even in England it's found that too low rents inevitably lead to idleness and slovenliness in the Tenants, and in this country I am sure there is a very wholesome stimulus in a moderate assessment; and that there is real danger of the people sinking down into the state of the Pacific Islanders, and losing all activity and industry. I must also insist upon this as an important point, in which the welfare of all India is essentially concerned, *viz.*, that the real power of Irrigation and internal Navigation, if shown in the most palpable manner, that is by a large increase of Revenue, is a thing which will strike those who are too slow or indifferent to be aroused by any less obvious fact. I must also state that I entirely agree with the Civil Engineer of the Kistnah Division and with the late Collector of Nellore, that a water-rate should be levied from the very first. I consider this of the greatest importance. Its well known that with the great mass of men the shortest way of convincing them of the value of a thing is to make them pay for it. So stupid are the people generally in those Districts, that in consequence of the Government or rather the Collectors letting them have the water for nothing, they actually think they are doing the Government a favour to use it, whereas if they were assured that they should not have a drop till they paid for it, they would at once feel that it was of value. Further the Collector of Rajahmundry told me that his great difficulty in levying the insignificant water tax taken this year, arose from the fact that they had been allowed to use the water for years (some of them for ten years) for nothing. On all accounts therefore, as a matter of great importance to the finances, of great importance to the people of those Districts, of great importance to the neighbouring Districts, and of the greatest importance to the people of all India, I would earnestly urge that every acre watered should be made to pay from the very first, and that the tax should not be excessively low.

49. In the 70th he speaks of the Pooty as averaging 8 acres. This is a mistake, by some surveys made by the Engineers the actual area of the Pooty is on an average about 10 acres. How extraordinary it seems that in all those points, Mr. Commissioner should have neglected to seek information from the Department which alone could supply him with it correctly. In the same para. he says of the present tax in the villages, under the Toolea Bagah, "it is supposed that it is equal to one half of the gross produce or perhaps above it." I must beg earnestly to press upon the notice of the Government again this extraordinary passage. He says again, "it is supposed." Now I cannot but ask, are we to proceed upon suppositions and those, such that its not considered right to make any individual responsible for them. Who could suppose such a thing? The thing is so notoriously contrary to fact that I cannot myself think who it was who supposed it. We have two proofs that Mr. Commissioner himself did not suppose it; first, because he does not say he supposes it; and 2ndly, because he in this report gives Mr. Taylor's estimate of produce without making any objection to it. In that estimate the produce of 1st class land is given at 180 Rupees a Pooty, and in the statement, the actual assessment paid on these Toolea Bagah villages, is given at $45\frac{1}{2}$ Rupees, or about $\frac{1}{4}$ of his estimated produce on 1st class land. We must make some allowance for average land, but if we allow the average produce to be 150 Rupees, the proportion of tax would be less than $\frac{1}{3}$ rd instead of $\frac{1}{2}$ or more, even calculating from the estimate which Mr. Commissioner himself adopts.

50. But I have before shown by stating actual results, that this estimate of produce is all nonsense.

51. The fact is this; almost the whole of this Toolea Bagah land is now regularly cultivated for two crops, and the actual value of produce must be by the various trials that have been made, at least 40 Rupees per acre, not less, making the assessment of $45\frac{1}{2}$ Rupees a Pooty or $4\frac{1}{2}$ Rupees an acre, $\frac{1}{3}$ th of the produce, and this I feel assured is about the real state of the case, at least the proportion is not greater than this. I have before stated that Mr. Newill's average of many actual trials in Guntoor, was $2\frac{2}{3}$ Pooties of grain which at 16 Rupees, gives 42 rupees and adding $\frac{1}{3}$ th for

value of straw for one crop.....	Rs. 47 per acre.
By an experimental piece of ground, cultivated by a gentleman, the first year one crop.....	„ 14
By another piece do. do.	„ 30½
By another in the 2nd and 3rd year.....	„ 28 *
Average of T. Bagah lands according to Mr. Commissioner's Statement, somebody supposes, double the Assessment of 45 Rupees a Pooty, or 4½ per acre.....	„ 9

(Almost the whole of this land bearing at present 2 crops.)

52. This anonymous supposition, is thus shewn to be baseless even by the Commissioner's own paper, and it in reality is only about one-fourth of the true proportion of produce.

53. But in the following page he supposes again, that the produce may be 120 Rupees a Pooty, which differs from the estimate of Mr. Taylor, (which in another place he adopts), by ¼rd, or 60 Rupees a Pooty. He then applies this to the area of land which he states to have been irrigated, *viz.*, 46,500 acres, and shews that the actual collections were 25 per cent. or 47,000 Rupees under what they should have been. Now when we compare the result arrived at by this accumulation of false returns and suppositions with the realities of the case, we find that the amount of 47,000 Rupees is about the sixteenth part of what ought to have been added to the Revenue.

54. The actual extent of land watered was certainly not less than 250,000 acres, and the Assessment at 6 Rupees an acre, would have been 15 lacs. The present average assessment on this extent of land, at the rate Mr. Commissioner has given, 30 Rupees a Pooty, or 3 Rupees per acre (really), would be 7½ lacs, showing a difference of 7½ lacs.

55. I suppose 6 Rupees on these Grounds. The present average Assessment is given at 30 Rupees per Pooty (3¼ Rupees per acre calling the Pooty 8 acres), or 3 Rupees the real acre. The water tax now being levied is 2 Rupees for one crop land and 4 for 2; I therefore add an average of 3 for water rate, which supposes only half the lands to be double cropped. At this rate the Assessment would be about ¼th of the gross produce. And it allows nothing for land cultivated with sugar, chillies, &c.

56. Surely it would have been but what was incumbent upon an officer of Government, to have ascertained by actual measurement both of produce and land what the Assessment ought to be, before laying the matter before Government.

57. As the Commissioner in one part of this report refers to the increase of Revenue in Guntoor before the works were begun there, as a proof that the increase of Revenue in Rajahmundry would have been great without the works, I must just remark, first, that the increase of Revenue in one District, which was not improved by Public Works, does not prove that the increase in another was not caused by its Public Works. The increase in Guntoor was clearly caused by two things, one was, it was gradually recovering from a dreadful state of depopulation, and there was nothing to prevent its rising to the state it was in before its loss of population, the other is that it is, I believe, now allowed by all who have had to do with the District, that Mr. Stoke's Revenue was really more than the District could bear. It is never sufficient merely to look at the collections of a District at the time. If an increase is supported by an increase of exports of Revenue from extra sources, of internal traffic, &c. we may know that it is a sound increase, but if not, we may be sure that it is only the fruit of more severe exaction, and will probably be followed within a few years by a falling off.

58. I must again refer to the immense importance of this subject, and it must be my apology if this paper seems to be severe upon the report under consideration. In proportion to the authority of the paper, due to the experience and thoroughly approved uprightness of the writer, is the necessity of proving the essential fallacies it contains, and the total falsehood of the conclusions.

59. I think there could not be a better opportunity than this paper offers, respectfully to request the attention of Government to this very important point, *viz.*, the nature of the statistical

* Since this was written an Appendix to the Commissioner's report marked A, which I had not seen before, has been put into my hands. On this I will remark more fully at the end of my present paper, but in it he gives his predecessor, (Mr Commissioner Elliott's) estimate of the average of Irrigated and garden land, (the garden land an insignificant proportion), at 30 Rupees per acre for grain, and 1½ for straw, total 31½ Rupees per acre, or 3½ times what the supposition gives as the average of the T. Bagah lands. Which did the Commissioner think was the right estimate, 9 Rupees or 31½ Rupees? both are given in this same report, at least one in the report and one in the Appendix A; they could not both be right, while the Commissioner gives them as if he agreed with both.

returns and the remarks made upon them, which in past times have been so commonly laid before Government. I look upon this paper as a lively specimen of the style of paper, which has caused such incalculable mischief. A statement is called for, it is prepared by a native subordinate in some office, perhaps a man quite incompetent, perhaps personally interested in the case. The return is put into the hands of a subordinate European officer who signs it of course, his superior does the same, it passes on through various offices, and perhaps no individual has tried it by any test whatever before it reaches Government. I state a fact when I say that this is frequently the case. I don't know how often it has occurred to me that one minutes' examination of such a document regularly furnished to me from the proper office has shewn that it was either false or simply nonsense, proving that nobody who had signed or countersigned or forwarded it had even looked at it. Such are the returns in this paper; one gives the area of the Rajahmundry Delta 3,25,000 acres; another makes the produce of irrigated land $\frac{1}{2}$ th more than that of dry land; another makes out that the area of irrigated land was about $\frac{1}{3}$ th of what it actually was, another makes out that the increase of Revenue in the dry Talooks of Rajahmundry was much greater than in those in the Delta, conveying the impression that the Irrigation had been actually injurious. In these cases it was not necessary to make investigation into the matter, but every person who had anything to do with these statements had materials in his own head to enable him to know that they were false. When to such returns taken for granted in spite of the reader's own knowledge to the contrary, are added mere suppositions, and those so strange that no name is attached to them, we have a complete specimen of a document of the past times. I do trust that this style of paper will now entirely disappear from the Records of Government. The times of make-believes and anonymous suppositions have lasted long enough. Let us now deal with realities. What possible use there can be in taking a return which we have abundance of means of knowing to be totally false, and dealing with it gravely as if we know it to be true, I cannot imagine, and I am equally at a loss to know what can be the use of supposing or allowing somebody without a name to suppose to us, when we can walk out of our tents a few hundred yards and see the case with our own eyes, or when we can send to a gentleman a few miles off, who has actually ascertained the state of the case. Why should not every officer who signs, or forwards a return be required to add something of this sort, I "declare that I have examined this return, and I feel confident that it is substantially correct." Or on the other hand, "I declare that I have examined this return, and I have no reason to suppose it to be substantially false, but I have not sufficient means of satisfying myself about it." Or "I forward this return as it comes to me in the regular course, but I cannot, for such and such reasons, think it is substantially a true return."

60. I cannot say less than that the whole of this paper is based upon returns so false, that they represent from $\frac{1}{3}$ rd to $\frac{1}{10}$ th of the truth, and upon suppositions that are totally unfounded. And as to the effects of the works upon the Revenue, that no less a mistake is made than the not mentioning the *fundamental* fact, *viz.*, that *the extra Revenue due to the water had not been collected*, excepting on an insignificant proportion of the lands. Even in the village of Biccavole, one of the few villages upon which at first a real increase of tax was laid, it is only this year (the eleventh in which it has had the water,) that 1,000 Rupees has been levied on the Enam lands for the first time. *So that on the Enam lands alone in a single village 10,000 Rupees has been lost to Government.* Taking the present area watered at 6 lacs of acres, (and allowing nothing for the relief of flooded lands, nor for the water transit of which all the remaining lands have the benefit,) and allowing a water rate of 3 Rupees per acre, the increased Revenue ought to be 18 lacs, (independent of extension of cultivation), and the actual increase has been about $6\frac{1}{2}$ lacs, comparing the present year (22 lacs,) with the average of 10 years before the works, $15\frac{3}{4}$ lacs. The difference is nearly 12 lacs, and if we take the average from the first at about $\frac{1}{3}$ rd of this, or 4 lacs a year, it will give, for the 11 years, 44 lacs as the sum that has been lost to Government through the neglect of the Revenue Officers, and even if we suppose that the people were allowed two years use of the water free, (which I consider to be quite a mistake) there would still remain 27 lacs.

61. I consider the remedy applied to this evil in the North West, of employing a band of Engineers to collect the Revenue from their own Works, worse than the disease, for to employ men in the comparatively simple work of collecting Revenue, who are capable of planning and executing the works which will produce it, is surely a great waste of power. But I cannot say less than this, that I think this case unmistakeably calls for some most decided measures to make

the Revenue Officers understand, that the rights of Government are not to be thus trifled with, with impunity, and I am convinced that the greatest obstacle to the real and effective improvement of the country committed to our care generally, will not be removed, till a Revenue Officer is made clearly to understand that if he will not do his duty, another will be found who can and will do it. The public removal of an officer from a District, who had proved himself incapable or unwilling to enforce the just claims of Government in this way, would do more to forward the improvement of India, than a hundred reports.

62. I really must beg to be allowed to speak plainly on this point, for the welfare of India hangs upon it. Here is a thorough experiment as to what can be done on a large scale by irrigation and navigation, and if after the Engineers have by God's blessing carried out the works effectively, the Revenue Officers are permitted first to neglect their duty to collect the new Revenue, and then to adduce the comparatively small increase of Revenue as a proof how moderate the effect of the works has been, the result must be a totally false view of the value of such works, and a consequent backwardness to extend them throughout India. I feel quite sure that if a year before the Commissioner wrote his Report, a letter had been sent to the Collector, assuring him that if something approaching to a fair water rate were not levied on every acre watered, and the *Engineer's certificate* forwarded declaring that he was satisfied that all the lands improved, without any material exception, were included in the area assessed, both the Collector and his Sheristadar would be removed from their offices within 6 months, many lacs would have been added to the Revenue without any serious burthen to the people, by the time the Commissioner arrived. I have felt much inclined at times to urge upon the Government that the plan adopted in the North West should be so far followed in Rajahmundry, as that an Engineer should have been placed in charge of one Talook, with Collectorial and Magisterial powers, to show what ought to be done; but great, and indeed incalculable as the evil is of not shewing by this palpable proof of collections, what the benefit of such works is, that of introducing such a system, as the taking off a large portion of the Engineers to do such work as collecting, would be still greater; at least it seems to me difficult to choose between the two.

But in reality I consider there is no necessity for resorting to such a ruinous measure, for if the proper Revenue Officers and their Sheristadars were convinced that their appointments depended upon their enforcing the plain rights of Government, the water-tax would be as regularly levied, as the duties are performed in the Public Works Department.

63. The results of the works have indeed, even in Revenue, been abundant as it is, but they certainly ought to have been at least 3 times as great. The village of Biccavole, which is a safe example, because it was before one of the best watered villages in the District, has increased from 2,900 Rupees, the average of *ten* years before the works, to 10,900 or nearly four-fold, and this agrees well with the capability of the irrigated land to pay Revenue. The old Revenue was 3 Rupees per acre, and four times this, or 12 Rupees, would be at a moderate computation 33 per cent. on the gross produce. It is quite certain that this would be a very light assessment compared with watered lands in other Districts, when it is considered that transit at 3 pice or 4 pice a ton a mile is provided almost to every man's door. The Engineer reckons that at a low calculation, (and I am sure it is so) the amount of water traffic is now 12 million tons carried one mile per annum, upon which the total saving would be, at 2 annas a ton, 15 lacs; this alone being $\frac{2}{3}$ of what I have above supposed ought to have been added to the Revenue, and more than double the actual increase.

64. If it should be a question how it has happened that Biccavole and a few other villages were made to pay so heavily from the first for the water, while by far the greater part of the lands have paid nothing, I answer, the reason is plain enough to any person acquainted with the real state of things in the Districts. When the real increase of capability of these villages to pay Revenue was perceived it was at first fully acted upon; I think, indeed, that the increase of tax was rather severely enforced; but as soon as it was found that the Engineers adduced this as a proof of the effects of the *Works*, a change of proceeding on the part of the Native Revenue authorities was of course adopted. The Native Cutcherry being all either land owners, or connected with land owners, their bias is of course against the interests of the Government, but this is counterbalanced by their wish to approve themselves as able managers of the Revenue affairs of the District, and the credit arising from an increase of Revenue is earnestly desired as a proof of their capacity and faithfulness, but when the counteracting influence is withdrawn, and the credit of the increase is found to go to another Department, and one, too, against which the Native Revenue Department have a very strong feeling as rivals and innovators, there is nothing to prevent their acting

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under their natural bias, and the consequence is that every effort is made *against* an increase of Revenue. This seems the only possible way of accounting for the monstrous returns both of area and produce with which the Commissioner was furnished. Every Revenue authority in the villages and in the Talook knew, that the returns for the villages of Razole and Soanpillay mentioned in Captain Rundall's letters, were quite false. They knew well enough that the whole of the village lands were watered, but they knew also that the European authorities would accept anything they chose to put before them, and would neither see for themselves, nor call upon the Civil Engineer to ascertain for them the actual state of the case.

65. After all this trifling with the claims of Government, the following statement will shew the progress of the District now in respect of Revenue under the new state of things.

IX.
STATEMENT OF LAND REVENUE, &c., IN RAJAHMUNDRY.

Years.	Total Collection of Land Revenue.		Average of After Collection.	Total Collection of Land Revenue.	Average Col-lection before the Works.	Averages of col-lections since the Works.	Increase since the Works.	Public Works including Re-pairs.	Exports and Imports.	T. Bagah Traf-Boats.	Population of Delta Talooks of Rajahmun-dry.	Vigeswaran Channel Traf-Boats.
	Within the Fusly.	After-wards.										
1836-7	14,69,000	2,66,000		17,35,000								
8	14,79,000	2,19,000		16,99,000								
9	9,49,000	3,34,000		12,83,000								
1840	11,68,000	2,92,000		14,59,000								
1	11,63,000	2,68,000		14,36,000								
2	13,54,000	1,80,000	2,47,000	15,36,000	15,69,000							
3	13,99,000	1,17,000		15,05,000								
4	11,55,000	4,00,000		15,54,000								
5	15,74,000	1,58,000		17,31,000								
6	15,09,000	2,40,000		17,49,000								
7	17,81,000	32,000		18,12,000								
8	18,41,000	32,000		18,73,000								
9	18,69,000	59,000		19,29,000								
1850	17,62,000	1,29,000		18,91,000		18,95,000	3,26,000					
1	19,06,000	67,000		19,73,000								
2	19,69,000	56,000		20,25,000								
3	19,75,000	90,000		20,65,000								
4	19,72,000	48,000		20,20,000								
5	20,00,000	45,000		20,45,000								
6	20,10,000	26,000		20,86,000								
1856-7	21,78,000	32,000	29,000	22,10,000		22,10,000	6,41,000					
								Total...	*34,84,000	24,81,000	20,86,000	20,86,000
										9,340	7,51,400	5,218
										8,96,000	7,11,400	11,788
										Average.		4,262
												5,911
												13,460†
												||6,134

* It must be observed that this is the whole expenditure on the Delta, but the returns of Revenue are only for that part of it in Rajahmundry. There is some increase in the Masulipatam part of the Delta which should be added, but I have no distinct statement of it; it is considerable, but nothing to what ought to have been collected.

† The traffic has increased much more than the number of Boats, as the average tonnage of each Boat has probably more than doubled.

‡ 9 Months.

§ 7 Months.

66. It will be seen from this, that while the land Revenue has increased nearly $6\frac{1}{2}$ lacs, the arrears of collections at the end of the Fusly, have diminished from an average of $2\frac{1}{2}$ lacs, to 30,000. We have thus positive proof that the District is now paying without the least difficulty a land revenue higher by nearly $6\frac{1}{2}$ lacs, or 40 per cent, than it paid with great difficulty before.

* Deducting 5 lacs for repairs and 5 for the share of Masulipatam in the Works

67. Taking the total expenditure in the Rajahmundry part of the Delta at 25 lacs,* we have a return of 25 per cent. at present in Revenue, notwithstanding the neglect of the Revenue authorities. Were the whole of the watered lands assessed the increase in old lands alone would be 18 lacs, at a very low assessment or 72 per cent. upon the outlay.

68. Even as matters are, whether we look at the increase of Revenue, the proofs of the ease with which it is paid, the astonishing increase of internal traffic, or the increase of exports and imports, its impossible that we can be mistaken in concluding that the District has undergone a change such as no other District in India has undergone, excepting Tanjore from the same causes, and there the change was very slow compared with this. And what reason can be imagined why the state of every District in India should not be thus radically changed, if the same means were applied.

69. There is one special remark which the above statistical statement seems to call for. It throws a great light on the subject of internal traffic. On the Toolea Bagah the average per month the first year, 1851, was 88 small boats; the average for 56-7 was 1,120, or an increase of 13-fold in number, but as the average size of the boats was greatly increased, the increase of traffic was probably not less than 30-fold in 5 years. On the Vigeswarum channel the average monthly number was 200 in 1853, and 876 in the first 7 months of 1857, or more than a four-fold increase of number of boats in $3\frac{1}{2}$ years, the increase of goods was probably six-fold. In last month, July 1857, 1,200 boats passed through, and this not one of the busy months of the year. But what I wish particularly to bring to notice is the proof that this gives of the enormous amount of traffic that there would be in the country if water transit were general. In the case of this Vigeswarum channel, this traffic is carried on in spite of the following circumstances;

1st. The channels are not completed to any one of the three neighbouring great towns, Narsapoor, Masulipatam, and Ellore, so that the traffic is only with a portion of the Delta villages;

2nd. The supply of boats cannot keep pace with the demand, so that a monopoly price is charged for freight, 4 or 5 pice (or $\frac{1}{8}$ d.) a ton a mile, while the expense of working the boats is from 1 to 2 pie for short trips;

3rd. The towns with which communication is open from this channel are only Rajahmundry, Coringa, Cocanada, and Samulcottah, towns of 15 or 20,000 inhabitants each;

4th. There is no distant traffic connected with this line either to the interior or along the coasts. On long trips the traffic would certainly be carried on at 1 pie ($\frac{1}{8}$ d.) a ton a mile;

5th. This tract is as yet by no means in a wealthy state;

6th. The people cannot get at once fully into the way of using the water for traffic. It of course takes some time for the people to discover all the ways in which they may take advantage of carriage at 4 or 5 pice a mile, when they have been accustomed to pay $2\frac{1}{2}$ annas, and that only available at times.

70. Now if we consider that under these circumstances, here is a traffic sprung up of about 1,50,000 tons a year, (12,000 boats averaging 10 tons of load besides rafts), it is really impossible to estimate what the traffic will be, when--

1st. These channels, besides being opened to all the adjoining towns, and instead of connecting a small patch of country of 1,000 square miles with them, form part of an immense system of internal communication, connecting many millions of people and 150,000 square miles of country in the North and West, with as many millions and as great an extent to the South and South West, including vast cities containing hundreds of thousands of inhabitants;

2nd. When the freight is reduced to 1 or 2 pie a ton;

3rd. When the country is greatly increased in wealth, as it is rapidly becoming where, as in these Districts, cheap transit and irrigation are provided; and

4th. When the people begin to perceive more fully the extent of the opportunities which such cheap transit affords.

71. We may be certain that in such circumstances it would soon be ten times what it is now, or $1\frac{1}{2}$ million of tons per annum; and this is besides a proportionate passenger traffic.

72. But what a palpable fact is thus brought before us, as to the question of water or land-carriage. The Madras Railway traffic during the last quarter of last year was 60 tons a day per train, or 120 tons a day in all, equivalent to 37,000 tons a year, (See para. 109 of Colonel Pears, Consulting Engineer to Government, 2nd July 1857). In a note to para. 107 of the same letter he states that the quantity passing one point was only 55 tons a day in April, but the above 120 tons appear to be the average. On further examination it appears that the 120 tons, includes the Railway material. In the same note Colonel Pears states the average daily numbers of tons carried by the common road in April at 800 tons. But on referring to the return to which he alludes I am sorry to say that I am afraid it must be classed with the sort of returns of which I have spoken in this paper; at least on examining it, there are so many *apparent* contradictions in it that I can make nothing of it. If Colonel Pears is correct in the conclusion he draws from it that the road traffic was 800 tons a day, while the Railway traffic was only 55 at the same point, the Railway only carried $\frac{1}{16}$ th of the whole. The return is to me so unsatisfactory that I cannot feel assured that this is the real proportion, but there can be no doubt from all that Colonel Pears writes in his papers, that the Railway does really carry only a small proportion of the total goods traffic.

This 37,000 tons is the traffic on a work which has cost I believe 60 or 70,000 Rupees a mile, connecting the whole of the South West, the West, and the North West of the Presidency, with a city of 700,000 Inhabitants, the seat of Government, and the principal seat of trade. This monstrous work thus carries one-fourth part of the goods traffic that exists on a canal that cost a few hundred Rupees a mile, and which connects a little patch of country of about 1,000 square miles with a port and town of 17,000 inhabitants.

73. Is it possible that anything could put in a more striking light the total unfitness of such a Railway for this country. Let us again compare the saving to the country by the one traffic and the other. The rates on the Railway are such intentionally as shall be only a hair's breadth below the price paid on the common road with which it competes. See para. 122, of the same letter. Colonel Pears says, "*Mr. Fletcher's fundamental principle seems to be to regulate his rates by those existing on the roads, to make them only so far below them as may be necessary to monopolize the existing traffic.*" Thus the sole object in view is to carry the goods at the highest possible rate, so that the saving to the merchant is a mere nothing, while on the canal there is a substantial saving of at least 2 annas a ton a mile, or nearly 20,000 Rupees a year per mile on the *present traffic*, twenty times the cost of the canal, allowing a portion of its cost to be charged to irrigation. The gross receipts of the Railway are at present about 100 Rupees a week, or 5,200 Rupees a year, taking half of which for profit, gives 2,600 Rupees a year on an expenditure of, I believe, about 70,000 Rupees, or $3\frac{1}{2}$ per cent. (*without any allowance for depreciation or repairs, every thing being at present new*) leaving a dead loss to the country of $1\frac{1}{2}$ per cent. or about 70,000 Rupees a year on the 80 miles now open, and this is by way of *relieving* the country. Thus, too, is the first 80 miles out of Madras; the receipts at 200 miles from Madras will be a mere fraction of what they are near the city. Had a canal been cut on the same line at $\frac{1}{4}$ the cost of the Railway, I have no doubt there would have been a traffic of 500,000 tons, much more likely a million, and *that* carried at a tenth of the charge on the Railway; so that at a saving of 1 anna a ton a mile there would really have been a relief to the country by the $\frac{1}{2}$ million only, of 10,000 Rupees a mile, or 8 lacs a year, by an outlay of 15 lacs, instead of a loss of 70,000 Rupees, by an outlay of I believe 60 lacs. What is here said about goods, is equally applicable to passengers; the number of passengers would probably be increased tenfold at least, if carried at $\frac{1}{4}$ or $\frac{1}{10}$ the Railway rates, for by canal they could certainly be carried at $\frac{1}{2}$ pie or $\frac{1}{16}$ d. per head per mile. By Colonel Pears returns it appears that the average number of passengers for the three months was 300 a day, or 93,000 a year, which certainly cannot be $\frac{1}{10}$ th of the *present* travellers, and probably not $\frac{1}{30}$ th of what there would be were the charge $\frac{1}{2}$ pie per head per mile on a canal, instead of 4 pice, as on the Railway, for the lowest class of passengers. The transit boat, on the Cōcanada canal, carry at present on an average 80 passengers a day to and from a town of 17,000 inhabitants, or 1 a day for each 210 inhabitants; the Madras Railway carries 300 to and from a town of 700,000 inhabitants, or 1 to 2,300, less than $\frac{1}{10}$ th of the proportion in the canal. The canal transit is at 1 pie a head, with a rate of 3 miles an hour, the Railway charge is 4 pice a head and the speed 20 miles an hour. The profit on the canal transit is about 24 per cent. on the Railway $3\frac{1}{2}$. On the

canal, indeed, there is nothing charged for the use of the Work, but this does not effect the question materially, because the cost of making the canal navigable is so small, perhaps 2,000 Rupees a mile, and the traffic already so great, that the charge to meet an interest of 10 per cent., would not exceed $\frac{1}{8}$ th pie a head per mile. We have thus the most palpable proof of which the country requires even for its passenger's traffic, low speed and low prices, or high speed and high prices, whether we judge by the number of travellers or the rate of profit. If the canal were worked with steam, the charge might be reduced $\frac{1}{2}$, and the speed increased to 8 miles. Colonel Pears says, (para. 20), "The actual results are notorious. None, as a rule, but the wealthiest classes have travelled by this Rail. On all occasions of feasts at Trivellore, which lies close to the Rail, a common and very inferior road, running nearly parallel to the rail, has presented to the Railway Officials the unsatisfactory spectacle of thousands of people, some in bullock carriages, some on foot, passing to and fro between that Town and Madras." How terrible it is to see such unaccountable mistakes made in planning works for the improvement of India. The only thing that is thus gained by the Railways is to show in the strongest possible light the importance of water carriage, and the enormous advantage that a District like Rajahmundry, provided with it, must have over one still paralyzed by land carriage.

74. The Railway instead of creating traffic, carries only a small portion of the old traffic, while in the Vigeswarum Channel the traffic has increased about six-fold in $3\frac{1}{2}$ years, and therefore we may conclude that at least $\frac{1}{6}$ of this has been created by the water carriage. The increase in the last year has been at the rate of 5000 boats, or 50,000 tons for the year; the increase in a single year among this insignificant population being much more than the whole traffic on a Railway entering the Capital of the Presidency. We thus see, as I wrote some years ago, that the effect of one of these great Railways is to seal up its line of country from cheap transit for ever, for I suppose it will now be impossible ever to cut a canal on that line, and because 60 lacs have been wasted on the Railway, the country must continue to waste 10 or 20 lacs a year in the cost of traffic, and thus instead of the Railway attracting or creating traffic, it will assuredly be the means of destroying it on that line, and driving it off to those parts which have water carriage. The question of the effect of the Public Works in Rajahmundry cannot possibly be rightly understood without this discussion of the comparison of land and water carriage, as now illustrated by the actual operation of the two kinds of works. The results on the Northern canal from Madras correspond with this. Leading, as it does at present, to nothing, without even a common road to connect the end of it with the great northern road, the traffic last year was 120,000 tons, 3 times that of the Railway. Were it connected with the Kistnah and Godavery Channels it would soon be increased 20-fold.

75. The Consulting Engineer urges the reduction of the charges on the Railway, and no doubt he is right in supposing that it would be politic to do it, but the country would gain hardly anything if the whole 300,000 tons were transferred to the Railway, because the charge would still be only the least possible below that of the common roads. The defect is in the apparatus, which cannot carry cheaply.

76. Just as I had concluded this paper, the Appendix A of the Commissioner's Report, which I have alluded to as a paper I had not seen, was shewn to me. This paper greatly increases my astonishment at the Report. It seems to me such an extraordinary refutation of the Report itself that I think it necessary to make considerable extracts from it. It begins as follows, "In proceeding to notice here more particularly the several results of the Godavery irrigation as it has affected the Government Revenue or the resources of the country, it is to be premised that in order to afford encouragement to the general introduction of the more laborious and expensive system of wet cultivation and to inspire confidence in the advantages to be derived from these works, it has been determined that no additional tax should be imposed upon any of the Government lands until they may have enjoyed the benefit of irrigation from the Godavery Channels for two successive seasons. After that period the Teerva Jasty, or extra assessment, is to be levied upon the following principle. The ryot to take the undermentioned proportions of the gross produce as his share, viz.,

On dry lands.....	$\frac{2}{3}$ ths
" Wet.....	$\frac{1}{2}$
" Garden.....	$\frac{2}{3}$ rds
" Sugar cultivation.....	$\frac{2}{3}$ ths

and the remainder to be considered as the due of Government. Now $\frac{1}{2}$ of the gross produce of the irrigated land, would, according to the estimate given in this same Appendix, as "the results of numerous enquiries and many careful experiments made on the spot by the late Commissioner (the Honorable Mr. Elliott)," with the view of obtaining the average produce of the land, *taking the most moderate of the data thus called*, is that the out-turns of the whole irrigated area calculated, and turned into money at the average market prices of the season, is $31\frac{1}{2}$ Rupees per acre including straw. It must be allowed that this is at a high price, 20 Rupees a candy, and the average may perhaps be taken at 14 Rupees, which would make $22\frac{1}{2}$ as the produce, but against this must be set; 1st, that there was hardly any rain that year, so that the produce was low; 2nd, most of the land was in its 1st or 2nd year of cultivation for rice; 3rd, there was hardly any second crop, if any at all. Allowing for those things we may certainly reckon that this estimate would be under the mark for the value of produce in average years. Hence we conclude that the Government rent to be half of this would be about 16 Rupees an acre; the rate the Commissioner in this Report proposes is $1\frac{1}{2}$ Rupees in addition to the former average Revenue of $3\frac{1}{2}$, or $4\frac{1}{2}$ Rupees per acre, not $\frac{1}{3}$ rd of what he thus lays down as sanctioned in "the liberal regulations which received the sanction of Government on the 5th January 1855." He goes on to say, "the additional demand thus made after the free enjoyment of the water for two seasons to be imposed, one-half in the first year and the full amount in the second. Under joint rents this water cess can be imposed only on approximate data, greater precision not being attainable till the Assessment of the land shall be finally fixed. The additional cess is to be made on the same principles on the permanently assessed lands and Enams, and in each case $\frac{2}{3}$ ds of the demand thus calculated to be fixed as a water tax. These liberal regulations, which obtained the sanction of Government on the 5th January 1855, necessarily defer the period of the direct returns of Revenue to the Public Treasury."

77. In para. 2, he proceeds to say, "the collections in some villages of the Capaveram and Biccavole Talooks, under the T. Bagah Channel are described in statement 31, &c. * * * * In the 23 villages which have had the advantage of water for 5 years, the increase is about 90 per cent. The ratio of increase of the remaining villages of the same Talook not brought under irrigation have been 27 per cent. or 37 per cent. if Fusly 1263 is compared with the former average." Now here he shows that the Revenue in the irrigated villages had nearly doubled, so that the same increase throughout the Delta would add about $3\frac{1}{2}$ Rupees per acre, nearly 3 times the $1\frac{1}{2}$ Rupee proposed by the Commissioner, and making, on 12 lacs of acres, 42 lacs of Rupees per annum for the increase on the whole Delta when fully irrigated. In para. 6, he says "as the irrigation commenced with the exception noticed from Fusly 1262, and it was not till the following year that it became general, the period of immunity from additional tax will not expire for some time to come, and a considerable period must elapse before the land tax can be brought to a fair standard, *any attempt, therefore, at the present time to ascertain the direct returns derivable from the expenditure incurred in the irrigation works is altogether premature.*" Compare this extract with the 21st and following paras. of the Report, where after showing that there was an increase of Revenue of 2,89,000, but that much of this was owing to other causes beside the water, not one word is said about this statement being in fact no measurement at all of the effects of the annicut, *because the water tax had not been levied.*

78. In the 11th para. he goes on to quote as follows from an Official Memo. of the preceding Commissioner dated 11th July 1854. "The indirect benefits conferred on the country by the greater facilities for transit, the increased demand for labour and the circulation of the large sums expended on the works, cannot be expressed by figures. But not the least remarkable proof of the operations of these influences is found in the spirit of independence which it has called forth among the agricultural labourers, who were previously little better than agrestial slaves. Their sole remuneration consisted in the grain allotted to them at the threshing floor, the value of which at 8 Rupees the Pootty did not exceed 12 Rupees a year, together with the annual gift* of a cloth worth a Rupee more. These men can now earn from 2 to 3 Rupees a month, and what is better, they are no longer afraid to leave their masters, but boldly sally forth to seek their own fortunes." "The increase in the Trade of the Province must likewise be ascribed in a great degree to the improvement of inland navigation, and the large expenditure on the Public Works has also had its effect." "These, combined with other causes, such as the establishment of Sugar Factories, the demand of Oil seeds in the European market which has sprung up in the last few years, have raised the value of Exports, from about $3\frac{1}{2}$ lacs of Rupees

in 1841-42, to upwards of 16 lacs in 1852-53, while the Imports of other goods, besides grain, have in the same period risen from somewhat above $\frac{1}{2}$ lac to 2 lacs of Rupees."

79. In para. 12, he says " Further indirect advantages may also be traced in the increased prosperity of the extra sources of Revenue since the Annicut operations were begun. In the following comparison the inland transit duties abolished in 1844 have been omitted. The Sea Customs, which shew an increase, although considerably reduced under Act 6 of 1844 have been retained, and the Salt transactions are confined to such as relate to the consumption in the District. The average receipts have thus risen from Rupees 2,47,848 to 3,55,604 Rupees, giving an average annual increase of Rupees 1,07,756."

80. In para. 14, he says again, " in viewing these results it must be borne in mind, as above stated, that no general measures have yet been carried out for the increase of the Revenue, and that only a trifling addition to the land rent has as yet been imposed on one small portion of the area irrigable under the works."

81. Had these paras. been put into the body of the report, and a simple tabular statement such as I have given, shewing the actual progress of the District, commencing exactly with the expenditure on Public Works been given, no sensible person would have been misled by the report itself; as it is, the only effect it would produce is to give a totally false view of the whole matter, and thus deprive all India, for an indefinite time, of the incalculable benefits which water for irrigation and water for navigation, and it alone can give to it.

82. If (para. 29 end) "the annual Land Revenue has been augmented by a sum probably exceeding 130,000 Rupees, (and if this were the result of a fair water tax levied on all the lands then watered, 1855); if (para. 51 end) it would be hardly safe to fix a higher rate than $1\frac{1}{2}$ Rupees per acre the probable increase to Government from the land, on the irrigation being perfected; (making a total of $4\frac{1}{2}$ Rupees per acre for Delta land of the richest quality irrigated with River water;) (if para. 51) "it will be necessary to raise the water by the ordinary means in use above the level afforded by the Annicut" and the extent of such land is supposed to be considerable; if (para. 59) "viewed broadly the Delta may be said to be nearly fully occupied, having an assessment" ($3\frac{1}{4}$ Rupees per acre), which approaches to a *maximum standard*, *the main function of the Annicut will be to give permanence to a fluctuating Revenue*, "then most assuredly, if the Works cannot be pronounced an utter failure, at least all the great things that were said of them in anticipation, and all that have been said about them as conclusions from the actual results are mere imaginations and delusions, and the utmost that can be recommended is, that now that they have been executed they may as well be kept in repair, but that to set about spending $\frac{1}{2}$ a million sterling in another District would, after such a result, be a dreadful mistake. But if, on the other hand (Appendix A, para. 1,) "the wet land will bear an assessment of $\frac{1}{2}$ the gross produce ($3\frac{1}{2}$ Rupees as estimated in para. 10) or 16 Rupees an acre, 12 Rupees per acre above the former assessment, or 144 lacs on the whole area; if (para. 3) on "23 villages first watered, the increase of Revenue is 90 per cent," (though nothing approaching to a fair water tax had been generally levied even in those villages), if (para 11) "a spirit of independence has been called forth among the agricultural labourers, who were before little better than agricultural slaves;" their former remuneration being 12 Rupees of grain and a cloth worth 1 Rupee, and they can now earn from 2 to 3 Rupees a month, and what is better, are no longer afraid to leave their masters, but boldly sally forth to seek their own fortunes; "and the value of Exports have increased from $3\frac{1}{2}$ lacs in 1841-2, to 16 lacs in 1852-3, while the Imports of other things besides grain, have increased from $\frac{1}{2}$ lac to 2 lacs," if (para. 12) "the Extra Revenue had increased 40 per cent, 1,07,000 Rupees," if (by the statistical statement given in this Memo.) the real increase of land Revenue alone is $6\frac{1}{2}$ lacs, 35 per cent. upon the previous average; if, by the same statement the outstanding balances on the last day of the Fusly have fallen from $2\frac{1}{2}$ lacs, or 16 per cent. of the Revenue, to 30,000 Rupees, or $1\frac{1}{2}$ per cent; if the increase of traffic on the main canal has been about 30-fold in 5 years; if the increase of Revenue of $6\frac{1}{2}$ lacs is in spite of the astonishing neglect of the Revenue Officers, who have levied a little more than nominal water-tax on not $\frac{2}{3}$ th of the lands irrigated; if the saving on the present water traffic, as compared with land carriage, is on a low estimate 15 lacs of Rupees a year; if there will soon be completed at least 1,000 miles of water communication under the annicut at 1 pie per ton per mile, or $\frac{1}{30}$ of the land rate, and if all this is effected at an outlay to the present time of about 30 lacs, then I think we may, without the smallest possible room for doubt, conclude that nothing comparable

to this has yet been accomplished by any means proposed for the material improvement of India, that there is not the smallest hope of anything more effective being devised, and that consequently we have now sure and certain ground for extending these blessings to every other District in India *at once*, as the only, and with the continuance of the blessing of God which has attended us hitherto, the sure remedy both for the poverty and consequent ignorance of the people and for the financial difficulties of the Government. Such an increase as has been already actually realized in this one District, though certainly not $\frac{1}{10}$ th of the full Revenue benefits have yet been received, *viz.*, 40 per cent. in all the Districts *would add 12 millions a year to the India Treasury*, and this increase has been accompanied with everything that can possibly indicate complete present relief to the people and a future full of hope.

83. Lastly, if 70,000 Rupees a mile spent on a Railway leaves the principal part of the traffic on the common road, and carries the remaining 37,000 tons at the least possible charge under the common road rates, thus affording only a nominal saving to the public, while a new road, without charges for repairs or depreciations on the 80 miles leading from the capital of the Presidency does not pay its interest, but leaves a dead burthen upon the poor natives, shutting up also for ever the line it occupies from cheap transit, and all its following advantages; and if at the same time a few hundred Rupees a mile spent on making an irrigation canal navigable, creates in a few years a trade of 150,000 tons a year in an out-of-the-way part of the country, hundreds of miles from any great city, (a traffic 4 times that of the Railway entering the capital), and that in spite of a demand so far exceeding the supply of boats as to keep the charge for freight to 3 or 4 times what it need be, the actual cost of carriage being about $\frac{1}{10}$ th of what a Railway can profitably carry at; then we may as safely conclude, that the whole Railway system is only an obstruction to India in its present state, and that water, and water only for transit can possibly meet the wants of the country.

84. What is said about goods is equally applicable to passengers, as I have shewn above.

85. How can I help, upon this review, once more pointing out the grievous mistake that has been hitherto made, in giving so much attention to the expenditure and so little to the income of the country. Commission after commission has been appointed to investigate what saving can be made in the *expenditure*, and under the pressure of a balance against the country, the recommendations of economists have unhappily been so far attended to that the country has been denuded of the troops necessary for its defence, with the present awful results; and after all, the utmost that can be obtained by such reduction of *expenditure* is comparatively trifling, whereas there seems, as it were, no limit to the augmentation that might be made to the *income*, by such means as have been tried in Rajahmundry. The increase there of 40 per cent. upon the Revenue, is but a small portion of what the District even already can pay, not only without oppressing the people, but with the greatest relief to them at the same time, and if during the last 20 years such works had been carried on in every District, the consequences would have been that there would have been more than ample funds for every purpose, the country would not have been denuded of European troops, and humanly speaking, all the late terrible events would have been prevented.

86. The whole question of these works lies in a nut-shell.

1st. Such works can be executed at a charge of at most 6 annas per acre per annum in interest and management;

2nd. The increased value of produce on lands so irrigated is, on the most moderate calculation, 20 Rupees an acre, (*viz.*, 10 Rupees as dry land and 30 as wet);

3rd. Therefore, if only 20 per cent. of the increase is taken as tax, the finances will be relieved to the extent of 4 Rupees per acre per annum, and the people will gain 16 Rupees;

4th. Besides this the people will have the whole benefit of the water carriage, which alone would probably be fully equal to the whole water tax that they would have to pay.

87. As it will be allowed by all that this is a great national question, I think I may, without presumption, earnestly request that what is thus said upon it on both sides may be printed, that all who are interested in it may have an opportunity of forming their own judgments upon it.

A. COTTON,

Colonel of Engineers.

MADRAS, 12th September 1857.

P.S.—As a further proof of the groundless nature of the proposed rate of $1\frac{1}{2}$ Rupee per acre, for water and water carriage, &c., I may refer to Captain Taylor's Pamphlet, giving the ac-

tual cost of watering land by wells throughout the territory of Bombay and Berar. He there shows that the average cost per acre per annum to the land owners is 27 Rupees. If numbers of individuals over a great extent of country find it worth their while at this cost merely to raise water for their land, (and they would not do it if there was not a considerable profit on it,) we may judge what sort of a charge $1\frac{1}{2}$ Rupee is for water, water carriage, &c., we see it is $\frac{1}{12}$ nd part of what land owners willingly pay for water alone without cheap transit, &c.

Correspondence referred to in Para. 6 of the above Memo.

No. 477.

FROM J. GOLDINGHAM, Esq.,

Commissioner, Northern Circars.

TO CAPTAIN RUNDALL,

Civil Engineer, Godavery Division.

SIR,

Government having forwarded to me Extracts paras. 15, 16, and 17 of your Report on the Nuggarum aqueduct, in connection with the imposition of an additional cess for the water received, I have the honor to request that you will be good enough to furnish me with information on the following points.

From what accounts the area, viz., 60,000 acres, the whole of which you observe may be irrigated, has been taken. The entire Gudicuttoo or cultivable area, according to the village accounts, is 26,533 acres of land liable to full assessment, and 18,529 acres enam, total 45,162.

For what portion of the 60,000 acres has water been supplied by the Irrigation Executive Department? According to the Revenue accounts received from the Collector, the land irrigated in Fusly 1264 is 2,607 acres Government lands, and 2,389 acres Enam, total 4,996 acres.

Within what period, water sufficient for the full extent of 60,000 acres will be furnished?

2. I shall also be obliged for information in regard to the value of property saved in 1853 in the Nuggarum Talook, its amount, and how calculated.

3. As you are in possession of the necessary data for furnishing the above information, I shall be glad to receive it at your earliest convenience.

I have, &c.,

(Signed) J. GOLDINGHAM,

Commissioner.

TO CAPTAIN RUNDALL,

Civil Engineer, Godavery Division.

A. COTTON, COLONEL,

Commandant of Engineers.

No. 404,

FROM CAPTAIN F. H. RUNDALL,

District Engineer, Godavery Division.

TO THE COMMISSIONER OF THE NORTHERN CIRCARS.

SIR,

I have the honor to acknowledge the receipt of your letter of the 26th Ultimo, and to express my regret at having allowed it to remain so long unanswered. There were, however, certain returns, which, not having at hand, I wished first to obtain, that I might bring them to your notice.

First, as respects the area of land in the Talook. The grounds on which I stated this to be 60,000 acres are measurement of the Trigonometrical Survey, and a comparison of it with the village returns. The former makes the Nuggarum Talook contain 120 square miles, which if we calculate at 500 instead of 640 acres to the square mile, will give 60,000 acres, leaving, 16,800 acres occupied by sites of villages, sandy tracts near the sea, &c. The village returns give 7,086 Pooties nearly, from which 1,110 Pooties are deducted for village sites, Poontahs, &c., leaving 5,975 $\frac{1}{2}$ Pooties as cultivable land. At 8 acres to the Pooty, the whole will amount

to 47,800 acres, but in all the villages which have hitherto been surveyed and measured in detail by the Sub-Collector, the actual quantity of land has been found to vary from $\frac{1}{3}$ rd to $\frac{1}{4}$ th more than that entered in the accounts. So that the Pooty, through professedly only 8, in reality contains 10 acres, and thus the area of the cultivable land in the Talook will be found to amount to nearly 60,000 acres.

Secondly, as respects the amount of land actually watered. This I do not pretend to give with exactness, but can certainly give a *near approximation*, arrived at by 2 methods. One by the quantity of water actually consumed in the Talook, as measured by the depth flowing daily over the aqueduct, every drop of which is carefully treasured and prevented from running to waste. The other method is by computing the area commanded by each channel. Not only are the lands under the newly excavated irrigating channels supplied, but immediately the rains have ceased the old *drainages* are bunded across, and filled, and so supply water to a large extent of land. Moreover, the salt swamps hitherto left waste have been flooded with fresh water, and are now cultivated like the rest of the land. There were never less than 20,000 cubic yards an hour going over the aqueduct, and generally more. The area of land supplied by the channels and drains is near 30,000 acres, so that when I stated 20,000 acres as the quantity irrigated, I know I was well within the mark.

The return made by the native Revenue authorities naturally falls a long way below this, amounting only to $650\frac{1}{2}$ Pooties or 6,553 acres. This is not to be wondered at, but the decree of reliance to be placed on the return, may be judged from those of the 2 villages of Razole and Somepilly. In the former, out of $89\frac{1}{2}$ Pooties, $6\frac{1}{2}$ zeroyetty and $15\frac{1}{2}$ Mauneyem, or a total of 22 Pooties only were returned, leaving 67 Pooties as unwatered. While in Somepilly, out of $25\frac{1}{2}$, $2\frac{1}{2}$ of zeroyetty and $2\frac{1}{2}$ Mauneyem were watered and $20\frac{1}{2}$ unwatered. As these 2 villages lie right under the main channel, and I had myself seen almost every acre of them under water, I had them measured; when the *whole* was found to have been irrigated. The villagers, seeing that the matter was thus thoroughly investigated, no longer pretended concealment, but acknowledged the fact. In both these cases you will perceive the return is just $\frac{1}{4}$ th of the truth. If therefore the whole return is multiplied by 4, it will be found to coincide with my statement, and be near the truth.

As regards the value of property saved during the year 1853. The Tahsildar estimates the value of the produce raised in the village of Somepilly on the land irrigated by the Annicut water at 1,746 Rupees, for 10 Pooties of zeroyetty land, thus giving 174 Rupees per pooty. On 2 parcels of land in the same village measured by my own orders, one, a 3rd rate crop, yielded at the rate of 12 Pooties of grain to the Pooty of land. The other, a 2nd class crop, on 2nd class land yielded at the rate of 15 Pooties, which with grain at the price of 14 Rupees, made the value in the one case Rupees 168, in the other Rupees 210 per Pooty. We may safely then take the Tahsildar's Estimate, and if in 1853 we allow for an average over the whole Talook, that property to only one half that amount was saved, we should have for its value of 5,500 Pooties the sum of Rupees 4,73,500. This is reckoning that the whole crop consisted of grain, but in the Nuggarum Talook the more valuable products of sugar-cane, chillies, and other garden stuffs are raised, which would add at least another lac to the above amount; and lastly, the most important item of farming, the "live stock," must not be forgotten, for without the timely supply of water brought by the aqueduct, it is impossible to say how many of those poor creatures might have perished in such a year of drought.

In the above calculations no estimate is made for the value of the *Dakwa* crop, but perhaps it would be premature to reckon upon this, as it is yet but a novelty. I must however in conclusion beg leave to point out that all the return as yet levied has been the small sum of Rupees 5,000 this year from the zeroyetty lands. Another Fusly has passed, and the Enamdars are still left untaxed.

I have, &c.,

F. H. RUNDALL, CAPTAIN,
District Engineer, Godavery Division.

DISTRICT ENGINEER'S OFFICE, GODA-
VERY DIVISION, CAMP AT DOWLAIWAREM, }
25th July 1856.

No. 79.

FROM COLONEL A. COTTON,
Commandant of Engineers.

TO H. FORBES, Esq.,
Secretary to Government.

SIR,

I have the honor respectfully to return my thanks for the papers which have been sent to me by the Board of Revenue, on the subject of the results of the works in Tanjore and Rajahmundry, and to forward my remarks upon them.

I need hardly repeat how essential it appears to me, that both sides of this question should be printed, and that every one concerned, should thus have some means of forming his own judgment, on the subject of a question of such vital importance, as that of the Irrigation of India.

I have, &c.,

A. COTTON, COLONEL,
Commandant of Engineers

Madras, 4th March 1858.

Memorandum on the Papers of the Board of Revenue, dated 21st May 1855, on the statements made in Colonel A. Cotton's book on Public Works in India, respecting the effects of Hydraulic and other works in Tanjore.

1. In the 4th para. the Board say "Colonel Cotton appears to omit expenditure on repairs." In the passage which they are alluding to, it is expressly said, "besides current expenses for the repair of existing works."

2. In the same para. the Board state that the actual sum expended was 43 lacs, on irrigation works, but by their own statement this was in 52 years,—not 50 years, the period I mention. It was under 40 lacs in the 50 years. They then state that besides this, there was 9 lacs including 2 lacs of surplus Pagoda funds on other works, which would make 49 lacs in all. There is no doubt, that the sums expended on roads and bridges, ought to be considered. The reason why they were not, doubtless was, that they were not entered in the statements that I received. The Board then go on to state that the sum expended was really 52 lacs, instead of 20.

3. It is very necessary to call particular attention to this at starting, because it shows unmistakably the bias under which the paper is written. Nothing but a violent bias could induce gentlemen to offer it as their opinion, that, in calculating the results of works, all the cost of repairs for 50 years should be added to the first cost and the total reckoned as the capital employed. I need not use arguments against so palpable a mistake. Of course, I could not say positively what portion of the expenditure was properly capital, and what was for repairs, but when I allowed one half for each, it was certainly quite sufficiently near to be substantially a true representation of the case, while to charge the repairs as capital, was palpably a false view of the matter. Reckoning the total capital at 20 lacs, and the mean during the whole period, consequently, at 10 lacs, 20 lacs for expenses in 50 years,—40,000 Rupees a year would be 4 per cent per annum, supposing that the whole of this money was spent on works executed for this capital, but, this sum in repairs includes the cost of repairs of all the former works also, and cannot therefore, be much out of the way.

4. To the 20 lacs however, might certainly be added half of the 9 lacs expended on roads and bridges, so that the real capital was 24½ lacs for the 50 years, instead of 20, as I have given it.

5. In the 5th para. the Board again say, "*it may be assumed* that Colonel Cotton alluded not only to the land Revenue, &c." What can be the use of these insinuations. I expressly say the *Revenue of Tanjore* not the land Revenue, and the sums I mention are the whole Revenue. And certainly it would be giving a false view of the case not to give the whole Revenue, the power of the people to pay taxes, and the amount of exports are of course very dependent upon the wealth of the people, and whether their produce exceeds their consumption, &c.

6. They then proceed to shew that the average collections of the first five years was 30,00,000. The only difference between this and my amount, arose from my taking the average

of the first four years, instead of five, as the Board have done ; which gives just 30 lacs as the Board have. I omitted the first years of the first series of five in the returns, because it was evidently so extraordinary a year, as to vitiate the average, if taken into it.

7. The Board then proceed to shew, that the average of the last five years, was 48 lacs not 50, as I have stated. In the first place I beg to observe, it was quite unworthy of the Board to argue the matter in this way, because I was evidently speaking in round numbers, and the getting rid of one lac at the beginning, and 2 lacs at the end, did not affect the substantial truth of what I was exactly right. First, the Board give the average, not of the last five years of the series of 50 years of which I spoke, but of the 52 years of which they had given the expenditure.

8. The Revenue of the five years I spoke of, were,

1846.....	51
1847.....	51½
1848.....	43½
1849.....	46½
1850.....	48

• 5)245½

49

9. The *average* would thus be 49 lacs, but this average was undoubtedly below the real average Revenue of the District at the time, on account of the very low prices of the last 3 years. The average was at least 50 lacs. The Revenue of the following years has been

1851.....	49 lacs.
1852	49½
1853.....	51
1854.....	52½
1855.....	54½
1856.....	58
1857.....	56

10. Thus it will be seen that the five years from which the Board compute their average of 48 lacs, have years of 51 and 51½ lacs immediately preceding them, and 51 and 52½ lacs immediately following them.

11. The increase of Revenue is therefore, perfectly correctly stated at 20 lacs in the 50 years, though certainly the expenditure should have been stated at about 24½ lacs, instead of 20. The difference being owing to the omission of the sums expended on roads and bridges, from statements I had received.

12. I shall not attempt to answer the Board's arguments "that the greater part of the increase cannot be ascribed to the outlay on Public Works."

13. Nobody knows better than the Members of the Board, the effect of Irrigation on the produce of the soil, that it is increased threefold, and consequently that increase of 20 lacs on 30 in a District well watered, represents a very small part of the increased wealth of the people ; nobody knows better than they do, that the saleable value of lands in Tanjore, is ten times that of the adjoining unimproved Districts, and that while its Revenue has increased so greatly, there has been no increase at all in the others.

14. I subjoin a statement of the Revenue of the two improved Districts of Tanjore and Rajahmundry with the two adjoining ones. It will be seen there, that, while Vizagapatam had fallen off ½ lac and Masulipatam had remained stationary, Rajahmundry had increased 5½ according to this statement ; and that, while the unimproved part of South Arcot has fallen off 1 lac and Madura has increased only 1½ lacs, the Delta of the Cauvery (Tanjore) with the two improved Talooks of South Arcot, has increased 10½ lacs. All the laboured arguments in the world cannot get rid of the conclusions that these plain statements will convey to any unbiassed person, neither will any arguments convince others or at least bring them to acknowledge that they are convinced, that works which make the lands produce three times as much as before, will have more effect upon the Revenue as well as upon the wealth of the people, than the wisdom of all the Sheristadars in the Presidency, can possibly have in arranging the details of the mode of collecting that Revenue.

15. It must not be forgotten also, that this increase of Revenue of 20 lacs, is notwithstanding a *net* reduction of the extra taxation of $1\frac{1}{2}$ lacs, by the abolition of the land transit duties.

16. In a note to para. 9 the Board state, that, the increase of Revenue in 30 years before the annicuts, was 15 lacs, and the expenditure on Public Works in that time, was 30 lacs, while in the 17 following years, the expenditure was 20 lacs, and the increase only $2\frac{1}{2}$.

17. On this I beg to remark; 1st.—That the increase not being proportioned to the expenditure proves nothing, unless the Board had shown *that additional taxes had been levied* or proportioned to the increase of produce, and diminution of the cost of transit. Every body knows, this has not been the case in Tanjore; by far the greater part of the lands that have been so benefited by the annicuts, *pay no* additional tax whatever, while on the other hand, $1\frac{1}{2}$ lacs of extra taxes have been taken off. But the benefits of the latter expenditure appears plain enough, in the enormous increase of the saleable value of land of late years. This is the same refuge that has been occupied in the discussion about the results of the works in Rajahmundry. The Revenue Officers determinately refuse to levy the water rate, and then *concealing this fact*, argue that the result of the works are not so great as was expected. But, 2nd.—To state that the increase of Revenue has only been $2\frac{1}{2}$ lacs.

18. I have shewn above, how false the average of the later years given by the Board, is, *vis.* 48 lacs.

The true average before the annicuts, is,

1832.....	44	lacs.
1833.....	46 $\frac{1}{2}$	
1834.....	48 $\frac{1}{2}$	
1835.....	46	
1836.....	44 $\frac{1}{2}$	

5)229 $\frac{1}{2}$

* 46 lacs.

19. And that of the later period, at least 50 lacs, making a difference of 4 lacs, while the average of the last five years to the present time, is,

1853.....	51	lacs.
1854.....	52 $\frac{1}{2}$	
1855.....	54 $\frac{1}{2}$	
1856.....	58	
1857.....	56	

5)271 $\frac{1}{2}$

* 54 $\frac{1}{2}$

But this increase, is, as I have stated, (besides $1\frac{1}{2}$ lacs *net* taxation) abolished. 3rd.—The Board further state, that, in their last year 1852-3, a hurricane desolated the District on account of which $2\frac{1}{2}$ lacs of Revenue were remitted, but so great was the destruction of property (at least 20 lacs, as I was informed,) that the Revenue of the following years, must have been materially affected by it

20. Thus it's evident that this note will not have the least examination.

21. In the 14th para. the Board again say, "It is *presumed* that Colonel Cotton alludes to the general Revenues"—I can only repeat, that there is not the least room for the Board's "presumption", when I explicitly say the *Revenue*, and not the *Land Revenue*.

22. I must acknowledge that I have made a mistake, in what I said in my book about the increase in latter years. I have said the Revenue had increased from 42 to 52 lacs, since the construction of the annicuts. The first average of 42 lacs was not that of the years immediately preceding the annicuts, but of those preceding the commencement of the series of great works, for

properly regulating the supply and distribution of the water. It was in 1828, that I was first ordered to Tanjore, for the purpose of reporting upon the then alarming state of the rivers. Previous to that time, every work had been executed as an isolated improvement, and it was then that in consequence of the threatening state of things, the Government had come to the conclusion, that it was absolutely necessary to take the whole subject in hand—a system of works calculated to regulate the whole water supply, was therefore planned, and they were commenced in 1830.

23. The annicuts which were planned in 1833, and executed in 1836, were only a portion of that general system of works. It is quite evident from my mentioning the average of 42 lacs, which was not that of the years preceding 1836, but which was that of the years preceding 1830, that the mentioning 1836 as the beginning of the period I intended to speak of, was an oversight.

24. Allowing for this the statement I have made, of an increase of 10 lacs, is perfectly correct. The increase in Tanjore alone was 8 lacs, not allowing for the abolition of the transit duties, and in the two Delta Talooks of South Arcot, about $1\frac{1}{2}$ lacs making in all $9\frac{1}{2}$ lacs.

25. In the Board's calculated increase of 4 lacs, they do not include that in South Arcot which was caused by the operation of the new works. I have also made a mistake in stating the Revenue of Tanjore at 52 lacs, though it had one year risen to $51\frac{1}{2}$; the average as I have shewn above, was at least 50, exclusive of abolished taxes.

26. I must acknowledge that this passage was carelessly written, but the matter had been examined by me a hundred times, and I had fully assured myself of the truth of what I meant to have said, that the increase of Revenue from the new system of works, of which the annicuts formed a part, was 10 lacs. The works executed in 1830, -1, -2, -3, -4, and 5, were large Undersluices for discharging the muds of the Cauvery Calingulahs, for diminishing the floods in Tanjore; extensive excavations of the channels in South Arcot, &c. These works, were essential parts of the new order of things.

27. I do not go into all the details which the Board dilate upon, in the following paras. Though generally intended to show the advantages of the annicuts, all such writing rather tends to obscure the truth. The broad facts, as I have stated them, (I beg to urge) show the matter in its true light, and leave no possible room for mistake. Here is a District which has been improved by the application of capital and Western knowledge on Public Works, chiefly Hydraulic, and this District in 50 years increased in Revenue 20 lacs, (including the Talooks of South Arcot, 22 lacs for the whole Delta) while the neighbouring Districts have either retrograded or remained stationary. The average up to the present time in Tanjore, is $52\frac{1}{2}$ lacs, being an increase of $22\frac{1}{2}$, and adding to this $1\frac{1}{2}$ lacs increase in the other part of the Delta, the increase is 24 lacs, or $\frac{1}{4}$ Million per annum in a single District, notwithstanding the abolition of the transit duties.

28. The whole deficiency in the Indian Revenue, is stated at only 1 Million, so that four additional Districts so improved, would have adjusted the finances of all India.

2nd. It is well known that by far the greater part of the lands, have paid no additional tax for those improvements, and the whole of the Mannium lands, perhaps 20 per cent of the district, have never paid a Rupee to this day. The large French territory of Carical also, has had all the benefit of the new works, for nothing.

3rd. The saleable value of the lands, has increased in an extraordinary degree.

4th. The expenditure on these works, deducting cost of repairs, has been perhaps 30 lacs, by a rough calculation, up to the present time.

5th. It is notorious that this District, after paying this comparatively vast Revenue, has more wealth in it, in the saleable value of its land and other things, than perhaps all the other Districts of the Carnatic put together.

In para. 28, the Board think proper to say "Mr. Smollett's figures, are found on examination to be correct." They a little further on, say—"The years which he selected in his first pamphlet, &c., were open to objection, as not giving a fair comparison." How these two sentences can be reconciled, I cannot guess. The Board then give in the margin, the series of years, taken from the pamphlet, and proceed to point out how 3 ordinary years had been omitted from the series, and 2 added which did not belong to it, and which were such years as never occurred before or since, and which consequently would have vitiated the average, had they belonged to it. They were the two years of the dreadful famine of 1823-4, when Tanjore sold a good crop at enor-

mous prices. Besides this flagrant act, upon which the Board, I am grieved to say, have nothing to say expressive of abhorrence of such a proceeding; there are the following fallacies in the comparison then made.

1st. This is the "demand" not the collections. I said nothing about the "demand," nor had it any thing to do with the matter.

2nd. It is the demand on account of *Land Revenue*; I spoke of the whole Revenue of the district. The land Revenue alone, does not give a true measure of the effect of the improvements.

3rd. He gives the *average* of the years after the annicut. I did not say any thing about the average of the years. The effects of the works are of course not fully seen at once, nor is the whole of the money spent at once; the comparison can of course only justly be made between the average of years preceding the improvements, and the last year or the average of the last two or three years.

4th. The enormous land Revenue realized in 23 and 24, *viz.* 43 Lacks and 51 Lacks, when the ordinary Revenue was only about 36 Lacks, is one of the strongest possible proofs of the incalculable importance of the irrigation works. There was a district in the very midst of the country visited by a most awful famine, the inhabitants of which instead of being themselves divided into the two classes—one *buying* at famine prices, and the other dying by tens of thousands from their inability to *buy*,—are all *selling* at those enormous prices, and at the same time instead of adding to the mass of *consumers only*, are *supplying* immense quantities of grain to all the surrounding Districts, saving the lives of Lacs of *their* inhabitants. This is the effect of the irrigation works exclusively. Mr. Smollett takes these two years and puts them into a series of years to which they do not belong, in order to give a vicious average of that period, that he may compare it with a following period, in order to show that works of irrigation do not affect the welfare of the country, thus endeavouring to make these years prove exactly the opposite of what they truly show, and most wickedly thereby, doing his utmost to prevent the prosecution of works which had thus palpably and notoriously saved millions of people from a calamity, the measure of which cannot be calculated;—but of this much we are certain, that had Tanjore been without its irrigation works, another million of people would have been added to those who were consumers only, instead of being suppliers and that several hundreds of thousands of people additional would have perished, what but overwhelming caste feelings can be supposed to have so blinded faithful and honourable men to pass over without one word of conscientious indignation such an attempt, by means of a garbled return to propagate a view which if it could in the present day be adopted, would do such immeasurable mischief.

See appendix A.

30. The Board endeavour to shelter Mr. Smollett by saying that in a second edition this omission is supplied. It is painful to be obliged to point out, that what he did say afterwards, was in consequence of this flagrant proceeding being reprobated in the Public Papers, and that not one word of defence or apology was given by Mr. Smollett. I must state here that I speak from memory only, for I have failed to obtain a copy of that particular pamphlet at the present time.

31. In the 28th para. the Board say "although Mr. Smollett has successfully shown that Colonel Cotton has over estimated the profits of the general Marahmut in Tanjore &c." I have shewn above that there is no ground for this assertion; that the Revenue of Tanjore *had* increased 20 Lacs in 50 years, as I have asserted; the average is at present 24 Lacs for the whole Delta above what it was in 1800.

32. I give heret he Revenue of the District of Tanjore according to the Board's returns, with five years averages, striking out from those averages, the three wholly exceptional years—1800, 1823, and 1824, as they would entirely vitiate averages even of 20 years.

1800.....	46½	Lacs.
1.....	33	} 30 Lacs.
2.....	27½	
3.....	24½	
4.....	35	
5.....	33½	} 36 ,,
6.....	29½	
7.....	37	
8.....	39	
9.....	38½	

1810.....	36	}	38 Lacs.
1.....	35 $\frac{1}{4}$		
2.....	38		
3.....	41		
4.....	40 $\frac{3}{4}$	}	39 "
5.....	39 $\frac{1}{2}$		
6.....	39 $\frac{2}{3}$		
7.....	39		
8.....	38		
9.....	38 $\frac{1}{2}$	}	40 $\frac{1}{2}$ "
1820.....	40 $\frac{5}{8}$		
1.....	39 $\frac{1}{4}$	}	42 $\frac{1}{2}$ "
2.....	41 $\frac{1}{4}$		
3.....	52		
4.....	58 $\frac{7}{8}$		
5.....	44 $\frac{1}{2}$		
6.....	38 $\frac{3}{4}$		
7.....	37 $\frac{1}{4}$		
8.....	47 $\frac{1}{2}$		
9.....	43 $\frac{3}{4}$		
1830.....	43 $\frac{1}{2}$	}	45 $\frac{1}{2}$ "
1.....	44		
2.....	46 $\frac{3}{4}$		
3.....	48 $\frac{1}{2}$		
4.....	46	}	46 $\frac{3}{4}$ "
5.....	44 $\frac{1}{2}$		
6.....	46 $\frac{1}{4}$		
7.....	46 $\frac{1}{2}$		
8.....	48		
9.....	48 $\frac{1}{4}$	}	46 "
1840.....	46 $\frac{1}{3}$		
1.....	44		
2.....	46		
3.....	47		
4.....	46		
5.....	51	}	49 "
6.....	51 $\frac{1}{2}$		
7.....	48 $\frac{1}{2}$		
8.....	46 $\frac{1}{3}$		
9.....	48		
1850.....	49	}	52 $\frac{1}{2}$ "
1.....	49 $\frac{1}{4}$		
2.....	49 $\frac{1}{4}$		
3.....	51		
4.....	52 $\frac{1}{2}$		
5.....	54 $\frac{1}{2}$		
6.....	58		
7.....	56		

I have given the last average on the whole of the remaining 8 years, because the two last years were two of unusually high prices as the first were of unusually low ones.

The difference in Tanjore alone is 22 $\frac{1}{2}$ Lacs, besides 1 $\frac{1}{2}$ Lacs in South Arcot, and notwithstanding the abolition of the transit duties, amounting to 1 $\frac{1}{2}$ Lacs net.

33. Nobody knows better than the Board do that there is nothing like this in any other District in the Presidency excepting those of the Western Coast, which are so differently circumstanced that they cannot be compared with the Eastern Districts. Indeed their improvement is owing to the same cause, with only this difference that they are generally well supplied with water naturally, while the Eastern tracts require it artificially.

34. Nor does any body know better than the Board, that while this one District alone pays 75 per cent above its former Revenue, it is much better able to pay it than the other Districts or to pay their old Revenue, that the increase of Revenue is very far from being the measure of the increased wealth and prosperity of the District.

35. In the 27th para: the Board speak of the increased saleable value of the lands. They say that the value of land before 1833, was on an average about 80 Rupees a Vaylie and in 1854,

163 Rupees. I have fully ascertained that the latter of these is quite incorrect, and I believe the first to be wrong also, when I got returns at the former period, they gave 160 Rupees a Vaylie; and judging from two different returns which I have lately seen, one sent me by the present Collector, but which I have mislaid, and one shown to me by Mr. Forbes, which are fully supported by the information I have obtained on the spot, I conclude that the present price is about 340 Rupees. I should observe that in both these returns, a large quantity of land of small value sold in one Talook gave a lower average than this, but if the average of the mean prices in all the Talooks is taken, which is undoubtedly the true way of taking it, the present price is as I have stated. Taking the difference at 180 Rupees a Vaylie or 27 Rupees an Acre, and allowing the area of the irrigated lands of the whole Delta to be 900,000 Acres, including maniem lands, it gives nearly $2\frac{1}{2}$ Millions-sterling as the increased value of the lands in our possession (besides the French Territory) showing distinctly how far the increase of Revenue is from being a measure of the effects of the works. The money so invested, according to my information yields 6 per cent, so that that capital shows an increase of 15 Lacs a year to the income of the *land owners on the taxed lands only* besides any benefits to the tenants since 1833, that is, during the period that the Board endeavour to show that the District has so little benefitted by the irrigation works.

36. Taking the present average value at 340 Rupees a Vaylie for taxed land, or 50 Rupees an Acre, it gives $4\frac{1}{2}$ Million Sterling for the actual value of those lands, and if we add to that about 25 per cent in area for the rent-free lands, or 2,25,000 Acres, and 85 Rupees for price, the capital represented by the average tax of 5 Rupees per annum at 6 per cent, the total capital, invested in them is 2 Millions, and it makes a total of $6\frac{1}{2}$ Millions-Sterling as the value of irrigated land in Tanjore. Compare this with the state of any unimproved district.

37. How can I conclude this paper without expressing not my surprise,—for I have had too long experience of the strength of caste feelings in the Revenue Officers, to expect a paper from most of them which is free from conclusions arrived at manifestly under the influence of that bias, but my sorrow to see a body of faithful men, when called upon solemnly by the Government to give a judicial decision upon a vital point in the question of the management of the country, endeavouring as far as possible to shelter this most wicked attempt to deprive the country of the works upon which not only wealth depends, but life and death. I call it most wicked, for were men of Mr. Smollett's stamp as influential as they wish, they would *succeed*, in depriving India of the only possible means of providing food in what would otherwise be times of famine. The Board know well, that had Tanjore not been irrigated in 1823 and 4, probably at least a Million more of people would have perished in the South, and that had Guntoor been irrigated in 1833, it would have saved at least $\frac{1}{2}$ a Million of lives in the North.

38. They know well that unirrigated land paying 1 or 2 Rupees an acre, and near an Inland Market and a Port, is unsaleable, while irrigated land cut off entirely from both by want of cheap transit, pays from 5 to 20 Rupees an Acre and is highly valuable property. They know also that on a large scale, land can be provided with these things at an annual expense to Government of $\frac{1}{4}$ or $\frac{1}{2}$ Rupee. And yet they cannot stand forward conscientiously and heartily to denounce the attempts that are made to deprive the people of those benefits, and as openly support every effort that is made to urge forward these essential measures.

39. It is not the writings of men like Mr. Smollett that do the mischief; he himself is too well known, as a man of strong prejudices, and his writings to all but men anxious to be misled answer themselves, but it is such papers as the one now under examination which really supports him, that are so mischievous.

40. Here was an opportunity given to the Board to show that they were above all minor feelings and when called upon, could and would give a manly, conscientious and unmistakable verdict in a cause so vitally affecting the welfare of Millions.

41. There is certainly such a thing as courtesy, but a courtesy which in such critical cases says that nothing is black, nothing white, but everything a little greyish; which makes out that nothing is true, and nothing false, but every thing neither, or both, or something between the two, is not courtesy, but something else.

42. Mr. Smollett says, "ten years ago ** I applied to the undertaking (the Godavery Delta Irrigation) the soubriquet of the "gigantic swindle," ten years later after scrutinizing the result in detail. I deliberately assert that the epithet was well deserved." This is the ground taken

up by the gentlemen whom the Board endeavour to shelter. Was it too much to expect that a body of conscientious men, would in an honest, manly and conscientious manner, express what is most assuredly their real opinion on this point. I know well that every member of the Board knows, that this is directly contrary to the true view of the case.

43. They know well that the Revenue in Rajahmundry has increased 7 Lacs, the exports and internal traffic 15 or 20 fold, the produce of the land 3 or 4 fold, that not a fifth part of the lands watered, yet pay one Rupee of tax, that the internal traffic is now carried by the Canals, at $\frac{1}{10}$ of the former cost, that passengers travel at 1 pie; a head per mile, &c.; they know also well that if these works are supposed to have failed in immensely improving the country, it will greatly tend to deprive other districts of similar incalculable benefits, yet they can write courteously on the subject, and thus identify themselves with the writer of these Pamphlets.

44. What I asserted was "India is like the field after an Indian battle; there is but one cry, water, water: All that is wanted is water and this want supplied, every thing else will almost follow of course. Water for irrigation and water for transit will provide for every thing else". Now either this proposition is true or it is not, and Mr. Smollett's proposition, that Hydraulic works are a gigantic swindle, is either true or false. Either water for irrigation and transit is the grand means of preserving life and the most effectual way of increasing the wealth of India or it is not;—Hydraulic works are a "swindle" or they are not. The Board, the body to whom is entrusted the material welfare of the Presidency, the lives of 20 Millions of people, are called upon by the Government to judge in this case. They *know* the truth of the case, and they write a long report calculated as far as possible to shelter the party which holds the view they *know* to be the false one. Can we be surprized if shortly, gentlemen who brought to a decisive test of this sort utterly fail, are set aside and other Agents are sought for to carry out God's purposes of mercy to India, which I for one, feel fully assured he will find Agents to do, however present Agency may fail. That India will be irrigated, I have no doubt, notwithstanding outward friends and open enemies.

45. There is one passage in Mr. Smollett's pamphlet which I am surprized that the Board do not notice. It seems to me that they might have heartily supported him in that without any suspicion of their motives, that is, where Mr. Smollett recommends that I should receive a grant of manium land of 2,000 acres in the Delta of the Godavery. A gentleman who rents a village there, was this year offered by natives 11½ Rupees an acre for the use of some land of his for one crop, and without any permanent right and they are now his tenants. From this circumstance and the ascertained value of produce, about 40 Rupees for two crops, it is quite certain that were I in a position to offer land on a permanent tenure, I should find abundance of tenants at 15 Rupees an acre, so that 2,000 acres would yield me an income without investing any capital of 30,000 Rupees or 3,000 £ a year. Such a proposal seems to me unexceptionable, and it seems to offer a good opening for the Board to express their further approval of Mr. Smollett's views, my only objection to it is that so far as I am myself concerned, I have been already so much more than amply remunerated for the performance of my pleasant duties.

46. If I might be allowed respectfully to make a suggestion to Government, it would be that they should now call upon the Board of Revenue for their estimate of the cost of cultivating and value of produce of an Acre of average dry land, 100 miles from the coast and without water carriage to either an inland market or a port, and the same of an Acre of land irrigated from one of the great rivers, and with water carriage to both home and foreign markets; and also the average expense of providing irrigation and water carriage on a large scale. No doubt the Board could easily furnish these, as after writing so many papers on the Revenue of the irrigated lands, they must have already satisfied themselves on these fundamental points.

A. COTTON, COLONEL,
Commandant of Engineers.

APPENDIX B.

Statement shewing the progress of the Revenue in the improved districts as compared with the adjoining ones unimproved.

Vizagapatam.		Averages.	Rajahmundry.	Averages.	Masulipatam.	Averages.	South Arcot.	Averages.	Tanjore.	Averages.	Madura.	Averages.						
1836	14 $\frac{1}{4}$ lacs	15 $\frac{1}{2}$	23	21 $\frac{1}{2}$	13 $\frac{3}{4}$	13 $\frac{3}{4}$	23 $\frac{1}{2}$ lacs	27 lacs.	46 $\frac{1}{2}$	47 $\frac{1}{2}$	21 $\frac{1}{2}$	22 $\frac{3}{4}$						
7	10		21		13 $\frac{3}{4}$		26 $\frac{1}{2}$		46 $\frac{1}{2}$		22							
8	15 $\frac{3}{4}$		21		13 $\frac{1}{2}$		27 $\frac{1}{4}$		48 $\frac{1}{4}$		23 $\frac{1}{4}$							
9	15 $\frac{3}{4}$		21		14		29 $\frac{1}{2}$		48 $\frac{1}{2}$		24 $\frac{1}{4}$							
1840	15 $\frac{3}{4}$	15	20	21 $\frac{3}{4}$	13 $\frac{3}{4}$	14 $\frac{1}{4}$	28	25 "	46 $\frac{1}{2}$	47	23	23 $\frac{1}{2}$						
1	15 $\frac{3}{4}$		22		13 $\frac{3}{4}$		26		44		24 $\frac{1}{2}$							
2	15 $\frac{1}{4}$		22		15 $\frac{1}{4}$		24		46 $\frac{1}{4}$		24 $\frac{1}{2}$							
3	15 $\frac{1}{4}$		22		14		24 $\frac{3}{4}$		47		23							
4	14 $\frac{1}{4}$	14 $\frac{1}{2}$	20	23	13 $\frac{3}{4}$	14	24 $\frac{3}{4}$	27 $\frac{1}{2}$ "	46 $\frac{3}{4}$	48 $\frac{1}{2}$	21 $\frac{3}{4}$	22 $\frac{1}{2}$						
5	14 $\frac{1}{4}$		21		14 $\frac{3}{4}$		25 $\frac{3}{4}$		51		21 $\frac{3}{4}$							
6	14 $\frac{1}{4}$		22		14		29		51 $\frac{1}{2}$		21 $\frac{1}{4}$							
7	14 $\frac{1}{2}$		22		13 $\frac{3}{4}$		29		48 $\frac{1}{4}$		22 $\frac{3}{4}$							
8	14 $\frac{1}{2}$	14	23	25 $\frac{1}{4}$	15	14	26 $\frac{1}{4}$	27 $\frac{1}{2}$ "	46 $\frac{1}{2}$	53	23	24						
9	14 $\frac{3}{4}$		23		13 $\frac{1}{2}$		23		48		22 $\frac{1}{4}$							
1850	14 $\frac{3}{4}$		23		13 $\frac{3}{4}$		28 $\frac{1}{2}$		49		23							
1	15		24		14		30 $\frac{1}{4}$		49 $\frac{1}{4}$		22 $\frac{1}{2}$							
2	15	15	25	14	13 $\frac{1}{2}$	14	28	27 $\frac{1}{2}$ "	51	53	24 $\frac{1}{2}$	24						
3	15		24		14 $\frac{3}{4}$		25 $\frac{3}{4}$		52 $\frac{1}{4}$		23 $\frac{3}{4}$							
4	15		25		13 $\frac{3}{4}$		23 $\frac{3}{4}$		54 $\frac{1}{4}$		24 $\frac{1}{2}$							
5	15		26		13 $\frac{3}{4}$		29		58		25							
6	15 $\frac{3}{4}$	15	26 $\frac{3}{4}$	25 $\frac{1}{4}$	14 $\frac{3}{4}$	14	29	27 $\frac{1}{2}$ "	58	53	25	24						
(Estimated 7		28)	
Increase.....		5 $\frac{1}{2}$	
Decrease.....		$\frac{1}{2}$ Lac	
							Deduct increase in Delta Talooks of South Arcot.....	1 $\frac{1}{2}$			Add increase in Delta Talooks of South Arcot.....	1 $\frac{1}{2}$						
							Decrease.....	1 Lac.			Increase.....	7 $\frac{1}{4}$						
							Increase.....					

For the increase in Rajahmundry I deduct the average of the first period not from the average of the last period, but from the last year's actual collections because it is obvious that when the Revenue is regularly and steadily increasing, the latter is the true way of showing the progress.

FROM J. GOLDINGHAM, Esq., *First Member of the Board of Revenue.*

TO W. H. BAYLEY, Esq., *Acting Secretary to Government, R. D.*

SIR,

Government having been pleased to afford me the perusal of Colonel Cotton's Memo. on my Report, dated 9th July 1855, on the probable results of the Godavery Anicut, I would beg to make, the following few remarks.

2. Colonel Cotton naturally expresses much solicitude both as regards the estimation in which the Anicut shall be held as a means of developing the resources of the country, as well as the actual results of the work itself. He is under the impression that the value of the work has been underrated by me, and that my Report is calculated to discourage the extension of similar projects throughout India. A calm perusal of the Report will, I trust, shew that there are no grounds for such a conclusion. In para. 50, after reviewing what has been realized, I observed that the work had become essentially necessary to the country, and that true policy required that it should be completed and maintained at all times in a state of thorough efficiency. With this feeling of the great importance of the work, I should be glad to find that means had been adopted for enlarging the supply of water, whether by raising the Anicut itself, or by another work higher up or by both.

3. Colonel Cotton occupies a position rarely attained from the many useful works he has projected during a long course of years with a total denial of self, and the really substantial benefits he has conferred by these means both on the Government and the people. It is not going too far to say that lacs of Rupees would have been lost to both, but for his talents and devotedness to the cause. It is not likely that the Godavery Anicut will in any way diminish such a reputation, though the money results of that work to Government in the mere form of additions to the Land tax, as originally estimated, may not be realized. Colonel Cotton was of opinion that the Godavery Anicut would ultimately bring a clear addition to the revenue of 30 lacs of Rupees; the tenor of my Report was to shew that such magnificent expectations could hardly be realized.

4. Colonel Cotton complains of the inadequacy of present returns, and the inadequacy of the prospective estimate as to ultimate effects.

5. The present returns, it is true, do not represent every acre of land that has benefitted by the Anicut. It seems certain that here and there villages will be found, where concealment to a considerable extent has been successfully practised; but such cases do not furnish a standard for estimating the amount of revenue that is withheld in the delta generally. It is impossible that the Collector could have been imposed upon to the extent alleged. Colonel Cotton makes no allowance for the rule that was considered absolutely necessary of allowing two years of free enjoyment of the water before an additional impost would be imposed. The system of rents also renders it difficult to get at the true state of things. My report throughout para. 76 particularly, points out that the authorities must be kept in ignorance of the real bearing of the new works as to the occupation of the lands under their influence till the system of settlement shall be reformed. The desired reformation is now commencing, and as it proceeds will clear up all doubts as to what the present returns should be. The survey of a few villages will shew but little. Considerable progress must be made in a talook before general conclusions can be safely drawn.

6. Colonel Cotton is equally dissatisfied with the prospective estimate shewing the probable ultimate returns, and complains in strong terms of the insufficiency of the rate of increase per acre, viz., Rupees $1\frac{1}{4}$ which I have assumed. It seems unnecessary to recapitulate the grounds on which this rate, of increase was taken. They will be found in paras. 51 @ 55 of the Report. In para. 55 I pointed out that this increase did not represent the entire increase to be expected, which must embrace, besides direct augmented returns, the increase arising from the stability afforded to fluctuating revenue, from a discontinuance of remissions and the cessation of those heavy losses in Capital and Stock occasioned by inundations which it required years sometimes to replace before the ryot could recover his former position. The increase in sundry sources of revenue, as following an improved state of the country, was also mentioned. As regards the people at large, the ample supply of food held at their command must not be omitted, I observed, among the advantages derived, a benefit which the district had the good fortune to enjoy so largely during the drought of Fusly 1263, A. D. 1853-54.

7. The increase of Rupees $1\frac{1}{4}$ per acre is not the water cess as Colonel Cotton seems to suppose, (Memo. paras. 42 and 45) but as explained in the report it represents the probable increase per acre on the final re-adjustment of an assessment at present in a very confused state, and in many cases so high as to render an additional impost impracticable.

8. The simple fact that the present Land Revenue of the District was still considerably below the assets at the time of the Zemindary or Permanent Settlement, notwithstanding the Anicut and the outlay of money connected with it, was pointed out in para. 35 of the report, but not as an argument unfavourable to the work, though Government were entitled to expect the full amount of assets irrespective of any extraordinary expenditure.

9. The deterioration experienced in consequence of the decay of the manufactures of the District, did not fall under consideration in my report. It will probably be found that the increased and increasing foreign demand for its agricultural products has more than compensated for any loss under that head.

10. Viewed in its main and most important aspect, viz., that of a blessing to all concerned, I see no difference of opinion between the Memo. and the Report. In the matter of direct money returns there is a wide disagreement.

11. But the entire question of returns, present and future, is surrendered by Col. Cotton in p. 47 where he says "it must however be observed that the present population is not equal to the full cultivation of the Delta; even for Paddy." Col. Cotton's views as to the capability of the Godavery Delta are drawn from the circumstances of the Cauvery Delta. The population in the former he fixes at three-fourths of a million, while that of the latter is stated to be "nearly or quite two millions." The Godavery Delta it is added "will hold three millions or four times its present population," and considering its advantages over the Cauvery Delta "could when filled up in population, pay 100 lacs, or about five times what it has paid without artificial advantages." It appears then that the population of the Godavery Delta must be quadrupled before Col. Cotton's expectations can be realized. Can Col. Cotton from the experience of the past, assign a probable period for this consummation? His calculations of increase must remain in abeyance till the conditions on which they are founded are fulfilled.

Memo. p. 48.

NOTE—These statements of the population do not correspond with the returns in the Office of the Board of Revenue, but the argument is in no way affected by this circumstance.

12. In regard to the "artificial advantages" to be acquired by the Delta by means of the Anicut, Colonel Cotton should not lose sight of the fact that the waters of the river have flowed through that tract, though uncontrolled, at all times, and that the presence of this water has had its effect in raising permanently the ordinary standard of assessment. And in connection with this fact, I would call attention to p. 61 of the report where it is pointed out, as noticed by the Collector of Rajahmundry, that the ryot does not always require Anicut water, and that he uses it or not according to circumstances, shewing that a command of water is possessed in some seasons irrespective of the Anicut. Lands so situated, it is obvious are not likely to bear much additional cess, notwithstanding that the waters of the river have been brought under complete control.

13. Indications of cane culture are mentioned in para. 44 of the Memo. This commencement of investing capital in this way came incidentally under my notice lately, and I was given to understand that the speculation was likely to turn out well. More capital will doubtless be attracted to the locality if the returns of profit have not been exaggerated. The entire sugar-cane cultivation of the whole Presidency, however in Fusly 1266, A. D. 1856-57, was 32,637 acres and that of Rajahmundry only 3,275 acres. If, as Colonel Cotton, so stoutly maintains, the revenue authorities would not charge for Anicut water, how comes it that the sugar-cane cultivation is so small, so much below his expectation of 100,000 acres. I believe and trust it will increase, but if it has not done so with little or no charge for water, what may be expected from an enhancement of that charge?

14. But a check would be at once imposed on undertakings of this nature if the view enunciated by Col. Cotton in para. 49 of his Memo. were generally entertained. "A very low assessment," Col. Cotton thinks, "is decidedly objectionable on general principles." The expression "a very low assessment" is indefinite. There are limits beyond which the assessment cannot be carried consistently with the interests of the ryot, and the exigencies of the State will always prevent its being very low. After paying for outgoings including the Government assessment and subsistence, the ryot must have a surplus for improvements. Without this both he and his

farm, as well as the Revenue of Government, must remain in a depressed state. If in consideration of a heavy tax Government is called upon to furnish means for improvements, the ryot is reduced to the condition of a tenant at will or a mere workman, and experience shews that work done in this way is the dearest of any. It seems quite necessary that the ryot should have Capital of his own, and that he should feel that whatever he may lay out in improvements will be his own.

15. In advocating an assessment not "very low," Colonel Cotton places the ryot of India in the same category with the Pacific Islanders and tenants in England. The analogy does not hold good in either case. The state of civilization and motives to industry widely differ as regards the former, and in the latter the ryot of India is not a mere tenant, but to all intents and purposes owner of the soil, as nothing can prevent his exercising a proprietary power over it, so long as he pays the Government assessment. His tenure is more perfect than the right which it was hoped to create when the permanent settlements of 1802 were made, as it has been subsequently discovered that all that Government could make over to the Zemindars under that settlement was their own right, which extended to a certain portion only of the produce of the land. As pointed out at the time by Colonel (Sir Thomas) Munro, if Government were disposed to give up their own revenue, as was done so largely at the settlement in question, the relinquishment should have been in favor of ryots, from among whom a class of substantial men would ere long have sprung up.

16. As regards the effects of a low assessment in leading to idleness and slovenly culture, the case of the Enam tenures in India may, I think, be cited as a refutation of that view, and I find it stated that the tithe in England is even found to be a great hindrance to improvement. If Colonel Cotton is right surely Government have been in error in reducing the assessment of every district, and the simplest plan would be to revert to the heavy assessments of last century.

17. As regards conclusions to be drawn from examination of small patches of produce much caution is necessary, as not only is there a want of uniformity in the different fields of a village, but the capability of different parts of the same field is found frequently to vary. Such examinations, however interesting in themselves, must not be taken for more than they are worth, when the question of assessment is concerned. The adjustment of the assessment is a delicate operation, and much practical experience is necessary in the persons on whom the duty of fixing it may devolve. Colonel Cotton's remarks give the impression that the undertaking is easy, and that having estimates of the capability of the different classes of land, the whole work is in fact done. It is far otherwise. There are many disturbing circumstances arising from season, and the want of uniformity in the productive power of fields and tracts throughout, that point out that an estimate of the kind cannot be blindly applied to each field or tract, according to the class under which the assessor may place it. The average produce of each field must be correctly ascertained, and even then experience shews that the assessment cannot be finally fixed, as some correction must be first made to meet disturbing circumstances. "It is the nature of assessments proceeding from single fields to whole districts, and taking each field at its supposed average produce, to make the aggregate sum greater than what can be easily realized." The Collector has to make a further adjustment before a rate per acre can be finally applied to any field. A margin in fact to meet all circumstances is necessary, and it is here that experience and sound practical views are so much needed.

Colonel Munro's report on the Survey and Assessment of the Ceded Districts, 26th July 1807, p 6.

18. Colonel Cotton glances at the desirableness of requiring the Officers of the Department of Public Works to fix the Assessment themselves. If as shewn above matured experience in the particular line is required for this duty, it will hardly be supposed that the Maramut Department, whose habit of mind are chiefly familiar with strictly arithmetical processes, without any Revenue knowledge, possess the necessary qualification. The whole tenor of Colonel Cotton's arguments shew that he would speedily rack rent every province, and that he could not refrain from making his works pay in this simple manner. But Government have already had ample warning of the consequences of erroneous views in fixing the assessment of the country, in the history of the survey and assessment operations of Tanjore, where the Meerassidars of the first talook surveyed and assessed, pointed to the fields which were ready for the sickle, and left the Collector to realize the survey assessment himself without their agency.

19. The question of the assesment of Government has undergone mature consideration recently, and final orders as to the principles which should guide the settlement Officer, have been laid down by authority. The Honorable Court in Despatch No. 17 of 1856, dated 17th December 1856, observe with reference to the course pursued in the N. W. Provinces of Bengal, that the operation of determining the assessment there has been declared to be "not one of arithmetical calculation, but of judgment and sound discretion," and the Court state that they "are well satisfied that absolute accuracy cannot be attained." They go on to observe, that "the main point to be regarded is that the assessment should be fixed at a rate sufficiently moderate to allow for errors of judgment on the part of the settling officer."

20. It seems important that these enlightened views should be borne in mind at all times, and that every tendency to a feeling of increasing the burdens of the people, for fear of their being idle, should be checked.

21. I would point out an inconsistency into which Colonel Cotton has been led in p. 57. So long as he is discussing the results of the Godavery Anicut, he expresses himself in strong language as to the false character of the accounts that are put before the Revenue authorities, and the readiness with which the authorities in general lend themselves to the statements of their subordinate Native Officers; but when it is pointed out to Colonel Cotton that in Guntoor higher results have been attained than in Rajahmundry without an Anicut, or any extra expenditure, his answer is that the revenue of that District had been carried too high. The same administrative machinery, and the same means of check exist in both Districts, and while their working has been so successful in Guntoor as to go beyond what was required, it will not be supposed that there has been such a complete break down in Rajahmundry as is alleged in the Memo.

22. As regards Guntoor it is quite true that the assessment of some lands was burdensome, and that the Poollery tax, which amounted to about Rupees 1,00,000 was a heavy drag upon the ryots. The former has been corrected, and the latter has been entirely relinquished. The consequence is a higher revenue than before, as has been already reported to Government:

23. The foregoing remarks are intended to embrace the principal features of the question, and are sufficient perhaps to lead to a tolerably correct general view of it. To take up the minor points as discussed in the Memo. would tend to no profit, particularly as the scientific survey now commencing will furnish correctly ascertained facts for data which are necessarily, as already explained, to some extent conjectural. One point however it would be improper to pass over in silence. The increase of revenue already obtained occurs for the most part under the Toolia Bagah and Samulcotah Channels, but Colonel Cotton deprives the Anicut of any share in producing this increase. "These channels" it is observed in para. 18 of the Memo. "were cut and improved two years before the Anicut was begun." This fact and the admission in para. 13, that much low land in the Delta had been relieved from excess of water by the new works, shew that irrigation to a very considerable extent was enjoyed before the Anicut was constructed, and confirm the view put forth in the report, that a large increase per acre, such as would be obtained under ordinary circumstances when water is newly applied to unirrigated land, was not to be expected in the Delta of the Godavery.

REVENUE BOARD OFFICE, }
Fort Saint George, }
22nd May 1858.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) J. GOLDINGHAM,

First Member and late Commissioner Northern Circars.

FROM
MESSRS. E. MALTBY and W. H. BAYLEY,

TO
T. PYCROFT, Esq.,
Chief Secretary to Government.

SIR.

Having been allowed to peruse Colonel Arthur Cotton's strictures on our report to Government of May 1855, on the results of the Coleroon Annicuts, we have the honor to request that the enclosed reply may be submitted to Government.

2. You are probably aware that we were the only Members of the Board of Revenue called upon by Government to report on this subject. The report on the Godavery and Kistna Hydraulic Works was reported on separately, by the Commissioner of the Northern Circars.

We have, &c.,

Madras, June 5th, 1858.

E. MALTBY,
W. H. BAYLEY.

REPLY to the "Memorandum" of Colonel A. Cotton, dated 4th March 1858, impugning the correctness of the statements made in the Proceedings of the Board of Revenue, dated 21st May 1855, regarding the Hydraulic and other Public Works in Tanjore.

1. Colonel A. Cotton in his Book entitled "Public Works in India," Revised Edition; March 1854, having made certain statements regarding the results of the Coleroon Annicuts in the Tanjore District, and of the Godavery and Kistnah Annicuts in Rajahmundry and Masulipatam, their accuracy was denied in a Pamphlet, dated 1854, written by Mr. Smollett of the Civil Service.

2. On the 7th December 1854, the Government called upon the Board of Revenue to test the accuracy of these conflicting statements.

3. At this time the only Members of the Board, were Messrs. Maltby and Bayley, the Senior Member being employed on special duty as Commissioner in the Northern Circars. It was therefore by direction of Government that the two former gentlemen undertook to investigate the results of the Annicuts in Tanjore, and as the Districts of Rajahmundry and Masulipatam had not been under the Board's jurisdiction for 5 years, the papers connected with the Godavery and Kistna Annicuts were referred to the Commissioner.

4. The two Members of the Board submitted their Report to Government, on the 15th May 1855, and it is this Report (connected with the Coleroon Annicuts) alone that Colonel A. Cotton deals with in the "Memorandum" now under reply.

Part I. (on general Public Works in Tanjore for 50 years.)

* Page 20 & 62 5. It was stated in page 19 of Colonel Cotton's Book, and repeated elsewhere,* that Tanjore exhibited "the example of a system of moderate but actual improvement, steadily pursued for 50 years, with unvarying success, raising the Revenue from 30 to 50 lacs (£5,00,000) a year, while the saleable value of the land has equally advanced till it is now (allowing for the difference in the value of money) equal to the value of land in England. All this being accomplished not by a sudden extensive outlay of capital, producing even temporary difficulty to Government, but by an average annual expenditure of only about 40,000 Rupees £4000 a year, besides current expenses for the repair of existing works." This Mr. Smollett characterized as a *delusion* (p. 11) and supported his views by tables of Revenue for the last 20 and 23 years.

6. The Board reported that on reference to the records, it appeared that from A. D. 1800, (when Tanjore was ceded to us) to 1851 inclusive, the sum expended on works of irrigation and communication in (Tanjore amounted to 52½ lacs,* and that in the same period (excluding the first year of all†) the total Revenue collections had risen from 31 to 48½ lacs per annum or an increase of 17½ lacs.

* Irrigation 43 lacs, Roads and Bridges 9½ lacs.
† For reasons of which Colonel Cotton does not question the propriety, (para. 6)

7. They *then* proceeded to consider how much of this was due to the outlay on Public Works.
8. Colonel Cotton in his "Memorandum" endeavours to shew that the Board were grossly in error throughout, and actuated by party feeling. He commences with his observations on the question just referred to, and points out first that the Board's estimate of expenditure is for 52 years, whilst he said 50 years.
9. It is to be explained, that though Colonel Cotton did mention a period of 50 years in his Book, he gave no table of annual expenditure, or used any dates whatever to shew when it commenced or ended; the Book was probably written in 1852, and the Board's intention was to compare the outlay from the time of the acquisition of the district, up to 1851, which they supposed* would be the latest date of Colonel Cotton's returns, and then compare the Revenue receipts at the beginning and end of the same period. They did not suppose that Colonel Cotton meant strictly 50 years neither more or less. This would have made 1849 the last year, which did not seem in accordance with views written in 1852 as to the progress of Tanjore, up to that time. Even had they taken the years up to 1849 inclusive, they would not have been on the same ground as Colonel Cotton, for he states in his present "Memorandum," para. 6, that he omitted the year 1800, but *no reference to this omission is made by him* in his Book. The Board were therefore left to their own judgment, and believed they were making a comparison which was in accordance with Colonel Cotton's period, and one which would honestly shew the actual outlay and the increase of Revenue from the time Tanjore came into our possession, up to the date of Colonel Cotton's writing.
10. If therefore the years 1800 and 1851 are to be struck out, $3\frac{3}{4}$ lacs must be deducted from the $52\frac{1}{2}$, leaving $48\frac{1}{2}$ lacs expended in *fifty* years.
11. Colonel Cotton then adverts to the $9\frac{1}{2}$ lacs stated by the Board to have been expended on 'Roads and Bridges,' and included in their outlay estimate of $52\frac{1}{2}$ lacs. He admits that this formed no part of the 20 lacs he mentioned in his Book as being the expenditure in Tanjore, and his explanation is as follows: "There is no doubt that the sums expended on Roads and Bridges ought to be considered. The reason why they are not, doubtless was, that they were not entered in the statement that I received."
12. That Colonel Cotton should not have noticed the omission of all works of communication in a statement prepared for the express purpose of shewing the results of Public Works of India, and which contains strong denunciations against the roads of the country, is most extraordinary; and it is still more so when we turn to page 62 of that Book, and find him distinctly stating that Roads and Bridges, did form part of his Estimate. His words are "Tanjore has been irrigated and drained, and provided with common roads and bridges, at an outlay of 20 lacs (2,00,000 £) in all (besides repairs) and both the Revenue and net income of the people have increased by at least that amount annually."
13. No one has been more severe than Colonel Cotton on others, for receiving statements, and arguing on them without careful scrutiny and this confession of carelessness on his part may perhaps be a useful warning to him hereafter.
14. The next objection made in the "Memorandum" to the Board's estimate of outlay, is the one no doubt on which Colonel Cotton depends as being fatal to their conclusions, as it is not very clear in the latter part, it will be better to use his own words.
15. "Nothing but a violent bias could induce gentlemen to offer it as their opinion that in calculating the results of works, all the cost of repairs for 50 years should be added to the first cost, and the total reckoned as the capital employed. I need not use arguments against so palpable a mistake. Of course I could not say positively what portion of the expenditure was properly capital, and what was for repairs, but when I allowed one half for each, it was certainly quite sufficiently near to be substantially a true representation of the case, while to charge the repairs as capital was palpably a false view of the matter. Reckoning the total capital at 20 lacs, and the mean during the whole period consequently at 10 lacs, 20 lacs for expenses in 50 years, 40,000 Rupees a year, would be 4 per cent. per annum supposing that the whole of this money was spent on the works executed for this capital, but this sum in repairs includes the cost of repairs of all the former works also, and cannot therefore be much out of the way."
16. The charge made by Colonel Cotton though specious in appearance is not fair. The question before the Board was not as to the *total gain* in a period of years from a certain amount of capital laid out; but it was as to the *increase* of revenue on a *comparison* of one set of years,

with another half a century subsequently, whereas the expenditure on Hydraulic works, referred to the whole continuous period.

17. Had it been a question as to the total gain, the Board would of course have sought to make out a more formal account of capital and Revenue, as they did in the same report when they came to consider the result of the Annicuts constructed in 1836. But the Public Works accounts of the last half century are far too imperfect to admit of such a process. The difference between the Board's way of putting the case and Colonel Cotton's is simply this. He says the increase of Revenue was caused by the expenditure of 20 lacs, besides repairs, and they say (even supposing these works were the sole cause of the increase which they were not) the expenditure was 48½ lacs *including* repairs. He speaks parenthetically of repairs without naming the cost: they think it necessary to point out what was the expenditure *with* their cost, as being better adapted for the information of the Public. They had not the means of shewing how much was spent on original irrigation works and improvements, and how much on repairs. Colonel Cotton estimates that out of a total 40 lacs, 20 were spent simply on repairs. He admits this is a mere guess, and the Board have every reason to believe that it is an erroneous one, for they are aware that it is usual to use the term *repairs* where *new works* would be more appropriate. For instance, the deepening of an existing channel, the widening of existing head sluices, the strengthening of existing masonry works, are often spoken of as *repairs*, when in fact they are improvements or new works. The Board would therefore be inclined to estimate at least 30 lacs as capital,*

* Out of the 40 spent on works of irrigation.

and 10 lacs as *bonâ fide* repairs. But whether their estimate or Colonel Cotton's is nearest the mark, it is evident that there do not exist the means of stating exactly what was the expenditure on new works and improvements, and what on repairs, whereas it *is* known and can be safely asserted what is the *total* expenditure, viz., † 40 lacs exclusive of the outlay of 9 lacs on roads.

† The statements of expenditure were obtained by the Board from the Department of Public Works and were prepared by a professional Officer.

18. The Board repeat, that the question placed before them by Government was simply what is the present Revenue compared with what it was 50 years ago, and what sums have been expended by the State on Public Works. Their reply was that the present Revenue is 48½ lacs, whereas on first occupying Tanjore it was 31 lacs; and that the total expenditure on Public Works within that period had been 52½ lacs. In that reply they perceive neither bias nor error. The only inaccuracy that may be charged against their statement is, that they omitted the cost of the establishment, which has been a permanent annual charge upon the State. If this had been included, another 3 lacs at least would have been added to the expenditure, and its omission certainly does not look like a "violent bias" against Colonel Cotton.

19. In para. 5 of the "Memorandum" Colonel Cotton writes "The Board again say it may be assumed that Colonel Cotton alluded not only to the *Land Revenue &c.*, what can be the use of these insinuations? I expressly say the Revenue of Tanjore; not the Land Revenue."

20. The Board take leave to explain, that as Mr. Smollett to whose pamphlet the Government called their attention, all along repudiated, the idea of bringing the extra sources of Revenue into the calculation, and seemed to argue as if Colonel Cotton had excluded them, they considered it right to point out that the indirect taxes or "Extra Sources" of Revenue, such as those derived from Salt, Abkarry, Stamps, Sea Customs &c. were included in Colonel Cotton's estimate of returns, though they themselves were of opinion for reasons detailed in their Report that it was an erroneous assumption to attribute the increase under these heads of taxation altogether to works of irrigation and communication.

21. In para. 7. Colonel Cotton writes, "The Board then proceed to shew that the average of the last 5 years was 48 lacs, not 50, as I have stated. In the first place, I beg to observe, that it was quite unworthy of the Board to argue the matter in this way, because I was evidently speaking in round numbers, and the getting rid of one lac at the beginning, and 2 lacs at the end did not affect the substantial truth of what I was saying."

22. The Board had no intention to criticize, but they had before them a statement carefully prepared from their own Records, and those of Tanjore, shewing the Revenue of each year for a long series, and if the total of 5 years amounted as it did to 240,65,601 Rupees, they could not enter the average of this at 50 lacs when it was 48,13,120 Rupees. What unworthy line of argument there is in this, they are at a loss to conceive.

23. He proceeds (para. 7,) " My statement however was exactly right. Ist, the Board give " the average not of the last 5 years of the series of 50 years of which I spoke, but of the 52 years " of which they had given the expenditure."

24. Now the fact is, Colonel Cotton never gave any series of years at all. He did not mention a single date in his book which could guide the Board, and he admits (para. 6) that in his 50 years he did not mean the first year, though he gives no clue in his book to such an omission. For want of this definition of what years he alluded to, the Board concluded he spoke in round numbers (which in the beginning of para. 7., he says, he did) and naturally, and in good faith, concluded he meant from the time Tanjore came under British rule, to the latest date on which he could have had complete statements wherewith to draw his conclusions; and this was from 1800 to 1851 inclusive, or 52 years. (The subject has been already referred to, in paras. 8. and 9 of this paper)

* The "50 years" of Colonel Cotton's book, being 1801 to 1850, both inclusive, as it now appears.

25. In para. 8, Colonel Cotton says the 5th closing years he spoke of were 1846 to 1850 inclusive,* the average revenue of which he gives at 49 lacs, after giving his version of the revenue of each one of these 5 years.

26. The Board will therefore give *their* version of the revenue collections of these same 5 years, as compared with Colonel Cotton's; and it is clear that he has entered the revenues of the 5 years ending with and including 1851, and not 1850. The Board's figures are therefore correct for the years he refers to. This is another of those careless statements on which Colonel Cotton founds his supposed reputation of the results shewn in the Board's report.

	Colonel Cotton.	Board's Office.
	Lacs.	Lacs.
	A. D. 1846...51	51.46
	1847...51 $\frac{1}{2}$ *	48.24
	1848...48 $\frac{1}{2}$	46.30
	1849...46 $\frac{1}{2}$	47.96
	1850...48	48.95
	Average.....49	48.58

* What Col. Cotton enters for 1847, belongs to 1846, and so on all through.

27. So that, even if their former estimate of 48 $\frac{1}{2}$ lacs is disputed, this gives 48 $\frac{1}{2}$ lacs, and not 49, as Colonel Cotton asserts.

28. Colonel Cotton proceeds to state (para. 9.) " The average would thus be 49 lacs, but this average was undoubtedly below the real average revenue of the District at the time, on account of the very low prices of the last 3 years. The average was at least 50 lacs."

29. Colonel Cotton seems determined to uphold his estimate of 50 lacs, by calculating an average of certain years, and then asserting that this is not the real average. It is true, that prices were low in *two*, out of the 5 closing years, but on the whole it is as good an average as could have been taken. If not, why did he take it? At all events if the revenues of 5 successive years are specified by Colonel Cotton for comparison, it is absurd to say that their mean is not a true average. Surely he could not pick out all the high-price-years, and take the average of them.

30. Colonel Cotton then goes on to state, what has been the revenue in succeeding years, *since his book was written*; but this has nothing to do with the question at issue.

31. The Board in their Proceedings of 1855, after shewing that the *whole revenue of the District* had increased 17 $\frac{1}{2}$ lacs, that is from 31 to 48 $\frac{1}{2}$ lacs, pointed out that 17 $\frac{1}{2}$ lacs of this 17 $\frac{1}{2}$, was an increase in the revenue from *Salt, Abkary, Stamps, and Sea Customs*, which they considered could not fairly be said to be the result of works of irrigation and communication; that even in the Sea Customs revenue, the increase was not in *Export Duties*, (which Colonel Cotton in para. 5 of his "Memorandum" notes as dependent on Public Works) and that almost all these were taxes *newly imposed, after those 5 first years which had been taken as a period for comparison* with the last 5 years, similar items of taxation, they observed, were at the same time imposed in other Districts, and had in like manner, caused a considerable increase in their total revenue, even though no Public Works had been undertaken. The Board do not doubt but that the result of Public Works has been to add greatly to the wealth of the country, and thus

enable the people better to bear taxation ; but they deny the propriety of carrying every Rupee of the Collections under these heads, to the credit of Public Works. The imposition of a new tax may raise the revenue considerably, without any reference to State or Private improvements, as in the case of the Income-tax in Great Britain.

32. The Board not only argued against Colonel Cotton claiming these $7\frac{1}{4}$ lacs from "extra sources," but they also maintained, and gave full reasons for, the following opinion, viz. that the increase in land revenue was owing greatly to *improved Administration* ;—They proved from reference of Official-papers, that during the first few years, which have been made the period of comparison with the last, the District of Tanjore, was so mismanaged, as to call for the direct condemnation and interference of Government. It was a natural consequence that when a regular system of administration was introduced, the revenues of the District would increase. This was a very marked and undeniable case, but Colonel Cotton refrains now from all allusion to it.

33. The Board do not lay to the account of improved management, the *whole* increase of 31 to $48\frac{1}{4}$ lacs of annual revenue, but they have given their reasons for asserting that it can be accounted for without admitting the truth of Colonel Cotton's assertion, that it *all* arose from the outlay on Hydraulic and other Public Works.

34. To meet the arguments referred to in the preceding paragraphs, Colonel Cotton has nothing more to offer than this (para. 12). "I shall not attempt to answer the Board's arguments, that the greater part of the increase cannot be ascribed to the outlay on Public Works.

35. It may therefore be inferred, that he was unable to meet their statements, for he proceeds to generalize by saying that no one knows better than the Board, the effect of irrigation on the produce, and on the wealth of the people, and on the value of the land ;—and he subjoins a statement of the revenue of Tanjore, as compared with South Arcot and Madura ; and another of the revenue of Rajahmundry as compared with Vizagapatam and Masulipatam. All this is an evasion of the point at issue, viz. Has the whole increase in the annual revenues of Tanjore, ($17\frac{1}{4}$ lacs, including Salt, Abkary, Stamps and Sea Customs) been entirely owing to the outlay on Public Works, or has it not ? Colonel Cotton asserts it has, the Board asserts, (and give their reasons, which Colonel Cotton declines to argue upon), that it has not. They acknowledge the very great benefits derived from Public Works, especially those planned and executed by Colonel Cotton, and they have dwelt on them in their report to Government,—but they cannot go to the length of endorsing his extreme views.

36. In para. 15, Colonel Cotton notices that the increase in the Tanjore revenue has taken place, notwithstanding a reduction of $1\frac{1}{2}$ lacs a year, formerly levied as transit duties. He however omits to mention, that at the same time (A. D. 1844) the monopoly price of Salt was raised from 105 to 120 Rupees a garce, and that extra duties were levied in the Sea Customs in order to meet the deficiency of revenue from the abolition of the transit duties as was noticed by the Board in para. of their Proceedings of 15th May 1855. The Board however, as before stated, do not consider that any fluctuations of Revenue arising from the imposition or abolition of such a tax as this, are attributable to the construction of Hydraulic and other Public Works.

37. The Board adverted in their Proceedings of May 1855, to the fact, that, during the 35 years previous to the construction of the Coleroon Annicuts, namely from 1801 to 1836, 30 lacs of Rupees were expended on Public Works, and the annual increase of Revenue was 15 lacs ; whereas, during the 17 years since the Annicuts were built, 20 lacs had been expended, and the Revenue had risen only $2\frac{1}{2}$ lacs annually.

38. To this Colonel Cotton replies in para. 17. "On this I beg to remark ; 1st. That the increase not being proportioned to the expenditure proves nothing, unless the Board had shewn that additional taxes had been levied in proportion to the increase of produce, and diminution of the cost of transit. Every body knows this has not been the case in Tanjore ; by far the greater part of the lands that have been so benefited by the Annicuts pay no additional tax whatever, while on the other hand $1\frac{1}{2}$ lacs of extra taxes have been taken off. But the benefits of the latter expenditure appears plain enough, in the enormous increase of the saleable value of land of late years. This is the same refuge that has been occupied in the discussion about the results of the works in Rajahmundry. The Revenue Officers determinately refuse to levy the water rate,

and then *concealing this fact*, argue that the results of the works are not so great as was expected." (The italics are Colonel Cotton's.)

39. These remarks will apply more to the question as to the direct result of the Coleroon Annicuts constructed in 1836, and will be therefore noticed hereafter. (para. 60). It will be sufficient here to state, that, if the Civil Authorities have been remiss in increasing the taxation on the irrigated land, the charge is as true in respect to those who administered the affairs of Tanjore previous to 1836, as to their successors; and the unresolved question remains as before, viz., How is it that during the years most money was spent on works of irrigation and communication in Tanjore, the Revenues did not increase nearly as much as in the years, when the expenditure was much less?

40. The subject was not adverted to by the Board, with any view of cavilling at the outlay on Public Works, but it struck them on going over the annual accounts of past years, as being a caution against receiving too implicitly, the doctrine that, the greater the expenditure on works of irrigation and communication, the greater will inevitably be the increase in the Revenues of the State.

Part II. (on the Coleroon Annicuts.)

41. The 2nd question discussed by the Board, and on which from being of later date, they were enabled to give a more decided opinion, was the effect of the Coleroon Annicuts; Colonel Cotton having stated in page 208 of his Book as follows:—"Is it surprising that in Tanjore $1\frac{1}{2}$ Millions Sterling have been added to the saleable value of the land, since the construction of the Coleroon wears? Those works were executed in 1836, and up to the present time there has been expended on them, and on various other improvements in the Delta of Tanjore, perhaps 10 lacs (£100,000 besides the outlay for necessary repairs,) and the Revenue has increased from 42 to 52 lacs. The increase of value of land has been, so far as I have been able to ascertain, from about 20 Rupees an acre, to 40 or 45 Rupees, making a difference on 700,000 acres of, at least, $1\frac{1}{2}$ millions sterling."

42. The Board in their Proceedings of May 1855, by way of comparing the revenue before and after the Annicuts, took the *ten* years previous to 1836, and compared them with the 10 years following. The result was an increase from 44 lacs to 47; or 3,10,000 Rupees per annum in the total Revenues of Tanjore (including 3,000 Rupees in extra sources;) and another 90,000 Rupees increase in the portion of South Arcot, irrigated from these wears, or a total of 4 lacs. What portion of this sum is due to the Annicuts, will be hereafter discussed.

43. But it appears that Colonel Cotton's comparison was made between the *five* years preceding the Annicuts, and the *five* years ending in A. D., 1850 as he did not state in his book what years he took, the Board were left to their own discretion as to the number of years to be taken for comparison. They will however, now give the result in Colonel Cotton's quinquennial comparison.

44. In para. 18. of his "Memorandum" Colonel Cotton gives the Revenue collections from Tanjore for each of the 5 years preceding the Annicuts, and the figures agree with those of the Board's Records. The Annual average revenue is 46 lacs.

45. The revenue of each of the 5 years ending in 1850,* has already been given in this paper, (para. 26.) and the average annual revenue is there shown to be $48\frac{1}{2}$ lacs. This, compared with the 5 years before the Annicuts, gives an annual increase of $3\frac{1}{2}$ lacs only, even including 1 lac for South Arcot, and not 10 lacs, as stated by Colonel Cotton in his book.

46. How does Colonel Cotton attempt to prove the correctness of his 10 lacs in his "Memorandum"? By a method which cannot certainly be considered justifiable. He ignores the quinquennial series preceding the writing of his book (though he had expressly said, as

* The last of Colonel Cotton's fifty years (para. 8. of his "Memorandum.")

quoted in para. 41 above "up to the present time."*) and takes 5 years (1853 to 1857, both inclusive *after his book was written!* during which the revenue of Tanjore received an addition of 1,70,000 Rupees a year (in 1852) by a large extent of Pagoda-Maniem-land coming into the hands of Government.

47. No real reply has therefore been made to the opinion expressed by the Board, that Colonel Cotton had exaggerated the increase which the revenues have shewn, since the construc-

tion of the Annicuts. That increase consisted not of 10, but of 4 lacs, and a portion of it must be assigned to other causes.

48. It is also to be observed, that although when the revenue declined, Colonel Cotton has shown himself alive to the effect of *low* prices, (See ante para. 28,) he here claims for the Annicuts a temporary increase of revenue, caused by the accident of *high* prices. In the years subsequent to his book, ending with Fusly 1265 (July 1855 to July 1856) to which he now refers, prices ranged unusually high, and the revenue rose accordingly, but the fallacy of attributing this increase to the Annicuts will be apparent, from the result of the next revenue year, or the recently expired Fusly 1266, when prices underwent some decline. The Annicuts still furnished irrigation, the irrigated area under cultivation shewed a small increase, and yet from prices making some approach to their ordinary level, the annual revenue fell off at once more than 4 lacs of Rupees, as shown in the following statement.

Fusly.	Usual Bazar price of 2nd sort paddy per Garce, being the average of 10 years.	Current price for these years.	Irrigated cultivation.	Assessment.	Rate per acre.
	Rupees.	Rupees.	Acres.	Rupee.	
1265	} 74	93	6,98,472	42,87,358	6 2 2
1266		87	7,00,679	38,74,683	6 8 5
			Decrease.	4,13,675	

These fluctuations of revenue from changes in the price of grain, affect so vitally the question in dispute respecting the Annicuts that the Board took care in their report (of May 1855) to shew, how, under the Ooloongoo system which prevails in Tanjore, the rate of the tax on irrigated land rises or falls with the price of grain.

50. But in para. 22, Colonel Cotton is thus compelled to speak of his own positive and repeated assertions. "I must acknowledge that I have made a mistake in what I said in my book about the increase on the latter years. I have said that the Revenue had increased from 42 to 52 lacs since the construction of the Annicuts. The first average of 42 lacs was not that of the years immediately preceding the Annicuts,† but of those preceding the series of great works for properly regulating the supply and distribution of the water. It was in 1828, that I was first ordered to Tanjore, &c."

51. It is not impossible that if the comparison had been made with earlier years, the increase in later years might have been greater, but as Colonel Cotton expressly stated that he reckoned from the years preceding the construction of the Annicuts, the Board of course followed on the same ground, and they cannot permit him to controvert their statements by shifting the period to years before the Annicuts were constructed, when it is *their effect* that was under consideration. The "mistake" is the more extraordinary since in the very passage in which Colonel Cotton insists on the increase of 42 to 52 lacs, he expressly mentions the year 1836. Vide para. 41 of this paper.

52. Here then instead of comparing the two quinquennial periods, one immediately before the construction of the Annicuts, and the other immediately preceding the writing of his book, Colonel Cotton to avoid the unpleasant alternative of admitting that his assertions were not borne out by facts, when tested by Official returns, changes the first into a period some years *before the Annicuts were built*, and the latter into a period *subsequent to the writing of his Book*, and then says (para. 25) "allowing for this, the statement I have made of an increase of 10 lacs, is perfectly correct." And, as if the more the blunders, the more perfect the accuracy, he says in the very next para. "I have also made a mistake in stating the Revenue of Tanjore at 52 lacs, though it had

§ The Revenue including extra sources, never reached 50 lacs, but 4 times in 50 years, and the 2 best revenue-years in Tanjore were before the Annicuts were built.

in one year risen to 51½. The average as I have shown above, was at least 50§ exclusive of abolished taxes." The extraordinary excuse that he offers for his over-estimate (which he still

insists upon is perfectly correct, allowing for errors,) is as follows, para—26. "I must acknowledge that this passage was carelessly written, but the matter had been examined (?) by me a hundred times, and I had fully assured myself of the truth of what I meant to have said."

*It is contained in the "revised Indian Edition of March 1854."

53. In para. 25, Colonel Cotton states that the Board, in assuming 4 lacs, as the increase of Revenue from all sources subsequent to the Annicuts do not include that in South Arcot; but it will be seen from para. 42 of this paper, that they did include 90,000 Rupees annual increase in South Arcot.

54. The Board in their proceedings of May 1855, after shewing that on comparing the years before and after the Annicuts, there was a total increase of Revenue of about 4 lacs annually, argued that it is an error to suppose that the whole of this is owing to the Annicuts. They observed that the *Revenue* effect of the Annicuts must be judged of by the effect on the Revenue derived from the lands *watered by them*, and not by the Revenue of the whole District; neither should the increase in the amount derived from the Salt, Stamps, Abkarry &c.,* be credited to them. Comparing the 6 years before the completion of the Annicuts, with the last seven years up to the date of Colonel Cotton's Book, they estimated the annual increase of Revenue in Tanjore, from the river irrigated lands, at Rupees 1,77,952; to which they added Rupees 90,000 for South Arcot, making a total of 2,67,952 per annum. From this they deducted Rupees 10,419, the average annual expenditure on *repair*,* leaving 2,57,533 Rupees as the *net annual Revenue*, or 41,20,528 in 16 years, or a return of 118 per cent. per annum on the original cost of the works which was 2,17,389 Rupees.

55. The computation thus made of a capital of Rupees 2,17,389 against an increase of Rupees 2,57,533 was the best that the materials before the Board enabled them to make. They obtained those materials from the Department of Public Works and framed their calculation on the same principles as had been followed by the Commissioners on Public Works in making their estimates of the result of Hydraulic Works. But the Board omitted to make an allowance for the expenditure incurred by Government on account of "Establishment" which would probably amount to a lac of Rupees. The result which they exhibited of the gain from the Annicuts was in consequence over the mark rather than under, and they cannot be therefore thought to have shown any "bias" against Colonel Cotton.

56. The Board further observed that the good result of the Annicut *was not limited to this pecuniary advantage*, and they referred to the saleable value of land, having risen 100 per cent, and to the discontinuance of "remissions" on account of short produce; and even as regards the increase of Revenue they pointed out that in many years when the revenue fell short, the advantages of the Annicuts were peculiarly conspicuous.

58. Colonel Cotton does not notice the correction made of his estimate of Revenue increase (from 200 per cent. per annum to 118 per cent.) but says (para. 27) "I do not go into all the details which the Board dilate upon in the following paras. Though generally intended to shew the advantages of the Annicuts, all such writing tends to obscure the truth. The broad facts as I have stated them, I beg to say, shew the matter in its true light, and leave no possible room for mistake."

59. The Board here leave this part of the discussion, satisfied to place the result of their investigation against Colonel Cotton's "broad facts."

60. The Board must now return to para. 17 of Colonel Cotton's "Memorandum" quoted in para. 38 of this paper, which requires explanation, not so much for Colonel Cotton as for Government. He asserts that the effects on the Revenue would have been much greater if a proper additional tax had been levied for the water supplied, but that the Revenue Officers determinately refuse to levy the water rate, and then *concealing the fact*,* argue that the results of the works are not so great as was expected.

* This imputation is beneath notice

61. It has already been shewn that an additional Revenue of upwards of 2 lacs of Rupees a year, has been levied from the lands under the Annicuts, and this was of course levied from lands which formerly were not irrigated but are so now, or else on lands, which now yield regularly two crops instead of one. So much for Colonel Cotton's assertion that by far the greater part of the lands that have been benefitted pay no additional tax whatever. It appears from the correspondence which took place when the Annicuts were proposed, and in which he himself bore a part, that their object was chiefly to restore the deteriorated irrigation of the District of Tanjore, and therefore it was not to be expected that an additional tax was to be levied on lands, which were

already taxed for an irrigation that had become defective. The subject was not lost sight of by the Revenue Authorities, and Mr. Kindersley (than whom no man knew Tanjore better) in 1838 distinctly stated in regard to the Annicut that "its primary object was not to increase but to keep up the cultivation and Revenue, not to convert a desert into a garden but to prevent a garden becoming a wilderness." There are peculiarities about Tanjore which should be considered, with reference to expectations of obtaining a very great increase of Revenue from converting unirrigated land, into irrigated and from making single crop land yield two crops. In the first place almost the whole area of Tanjore commanded by the river, was under irrigation before the Annicuts were constructed. Though the Annicuts restored what had become deteriorated (chiefly by the silting up of the river Cauvery) it did not effect much (nor was it expected it would) in conveying water to higher levels, so as to bring under its influence lands hitherto unirrigated. Secondly, as regards increase in produce, it is known that the rice cultivation of Tanjore commences with the river freshes of July and August, and is brought to maturity by the rains of the N. E. monsoon in October and November. There is no storing of water in tanks in Tanjore, and when the monsoon is over, there is little or no water available for a second crop.

62. Colonel Cotton seems to think the assessment on the land should have been raised in consequence of the cost of Transit being less than it was, but the means of Transit in Tanjore are yet very indifferent, and even if it were better, the Board of Revenue would (as they think rightly) object to making this a plea for now enhancing the land Assessment.

63. Colonel Cotton also deprecates the non-imposition of an extra tax on the lands held 'free' by grants of the former, or present Government. It is to be observed that most of these rent free lands, have always been classed as 'irrigated' and it would be as unjust to put an extra tax upon them, as it would be to enhance the Assessment on Government lands of the same classification. There are no doubt some rent free lands, which were *not* irrigated at the time of their gift, but are so now. There has been a discussion as to whether the terms of their grant admit of the imposition of an extra tax for the use of water, and it has eventually been ruled that they are not exempt, and perhaps some 15,000 or 20,000 Rupees a year may be realized from them.

64. The next question is with regard to the saleable value of land. The Board in their report to Government pointed out this as a material advantage gained by the Annicuts chiefly, and estimated the increase at *double* or from 80 to 163 Rupees per Vaylie (of $6\frac{1}{8}$ acres) and they referred to a case where 138 Vaylies were mortgaged for 200 Rupees a Vaylie. Colonel Cotton in page 208 of his book states that the selling value of land has risen from 20 to 40 or 45 Rupees an acre; that is from 132 to 264 or 297 Rupees per Vaylie, and in para 35 of his "Memorandum," he says 340 Rupees per Vaylie.

65. The Revenue Authorities have no official cognizance of private sales of land, and therefore the Board could not speak so decisively as in matters of Revenue account, but their information was chiefly derived from the Report of the Collector who had been many years in Tanjore, and who had taken the opportunity of examining several deeds of sale and mortgage. Colonel Cotton states that his information is derived from the present Collector, and also from the same Officer as the Board referred to, but as he gives no *data* or Memoranda to prove his statements, the Board must abide by their former estimate.

66. Colonel Cotton then deals with Mr. Smollett and with the Board's view of that Gentleman's Pamphlet para 29 of Colonel Cotton's "Memorandum" commences thus. "In para 28 the Board think proper to say Mr. Smollett's figures are found on examination to be correct. They a little further on say. The years which he selected in his first pamphlet were open to objection, as not giving a fair comparison. How these two sentences can be reconciled I cannot guess."

67. There is no intention of *reconciling* them in the sense of making them express the same thing. Mr. Smollett gave long tables of the Revenue of each year, and these were tested by the Board's records, just as Colonel Cotton's would have been, had he given any. This was the first process. They were, as far as, they went, found correct, but during the next process, which was to see if they went *far enough*, they were found deficient, and were condemned as not giving a fair comparison; just as Colonel Cotton's comparative years, taken from a period *subsequent to the printing of his book* are now condemned for going too far. Colonel Cotton calls this omission of Mr. Smollett's a "flagrant act, upon which the Board I am grieved to say have nothing to say expressive of abhorrence of such a proceeding."

68. In the same para. he continues ; “ Mr. Smollett endeavours to make these years prove “ exactly the opposite of what they truly shew, and most wickedly thereby doing his utmost to “ prevent the prosecution of works which had thus palpably and notoriously saved millions of “ people from a calamity which cannot be calculated” * * * * “ what but overwhelming caste “ feelings can be supposed to have blinded faithful and honorable men to pass over without one “ word of conscious indignation such an attempt by means of a garbled return to propagate a “ view which if it could in the present day be adopted, would do much immeasurable mischief.”

69. The Board had before them for consideration Mr. Smollett's *revised* edition, and that Gentleman might very reasonably have objected to expressions of abhorrence at omissions in a table which had been corrected by him. The Board were not bound to notice Mr. Smollett's first edition, more than Colonel Cotton's first edition.

70. The Board did not think it necessary in their Report to Government to dilate much on Mr. Smollett's version of the Tanjore Revenue. They pointed out that his conclusions drawn from the *demand* instead of the *collections* of successive years, were valueless, and noticed that he argued from the Revenues of the whole District, whereas the Annicuts only affected a portion of the District, so that his statement were open to the same objections as were made to Colonel Cotton's ; and the Board took special pains to shew that even a decrease in the Revenue did not necessarily tell against the Annicuts, inasmuch as in the years when they brought in a very abundant supply of water, and increased the produce and breadth of cultivation, the revenue often diminished, in consequence of its being dependent on the price of grain ; and they explained these results by annual tabular statements shewing what would have been the revenue at ordinary prices. In short they ignored Mr. Smollett's disparagement of Public Works.

71. The Board certainly did assert, and do now assert that “ Colonel Cotton over-estimated the profits of the general maramut works in Tanjore,” and Colonel Cotton in paras 31 and 32 of his Memorandum endeavours to refute this by giving a table of the Revenues of Tanjore (including the revenue from Salt, Stamps, &c.) for every year from 1800 to 1857 both inclusive.

72. The Board cannot admit that this table improves Colonel Cotton's case. In the first place he breaks it up into decennial series, giving the average of each, but omitting to include two of the best years “ as they would entirely vitiate the averages.” This mode of proceeding is somewhat akin to Mr. Smollett's omission, and is, to say the least, a departure from the professed object of averages, *especially when* two years which would tell against what the party wishes to prove, are omitted from the calculation, though entered in the table. In the 2nd place he brings the table up to 1857, or 6 years later than the date used in his book and in this way expects to refute the Board's statements which *of course* could only have reference to the period stated in that book ! Lastly as before observed, statements of the Revenue of the whole District are not a fair representation of the effects of the annicuts, which only irrigate parts of the District, and to attribute every Rupee of increase derived from the Salt, Stamps, and spirit taxes to improved irrigation, is a fallacy.

73. The Board having thus, as they trust, shewn that their report of May 1855 was carefully prepared, with a scrupulous desire to arrive at just conclusions, and to point out the full benefits which have resulted from those most valuable works and having as they believe successfully met every one of Colonel Cotton's objections to that report, must leave it to those who will have to dispose finally of the matter to decide whether the following comments of Colonel Cotton in para. 36 are justifiable.

74. “ How can I conclude this paper without expressing my surprise for I have had too “ long experience of the strength of caste feelings in the revenue officers to expect a paper from “ most of them which is free from conclusions arrived at manifestly under the influence of that “ bias, but my sorrow to see a body of faithful men when called upon solemnly by the Government “ to give a Judicial decision ? upon a vital point in the question of the management of the country, “ endeavouring as far as possible to shelter this most wicked attempt to deprive the country of “ the works upon which not only wealth depends, but life and death.”

75. In para. 39 Colonel Cotton says “ Here was an opportunity given to the Board, to shew “ that they were above all minor feelings, and when called upon, could and would give a manly “ conscientious and unmistakeable verdict in a case so vitally affecting the welfare of millions.”

76. The Board purposely avoided assuming the position of a judge between two contending parties. They saw that the assertions of neither would stand the test of that investigation

which the Government directed them to make, and their report was for the information of Government, and not to enable either pamphleteer to claim the award of accuracy. It was to the instructions of Government and not to the expectations of Messrs. Cotton and Smollett that they paid attention, and their instructions were as follows. "The Board are aware that the correctness of the accounts given by Colonel Cotton in his publication have been impugned, and other writers have argued that the large returns anticipated from the outlay on these works have not been or cannot be realized. It is with a view of clearing up all doubts on this subject so far as it is possible, that the Government have called for these reports and it is therefore of the utmost importance that their accuracy should be rigidly tested by the Board both in the Revenue and Public Works Department*."

* At this time the Public Works Department was connected with the Board of Revenue.

77. The Board cannot but think that any one reading their Report will perceive that they have set forth most unreservedly the great success of the works of Irrigation in Tanjore, especially the Annicuts constructed by Colonel Cotton, but the offence taken by him seems to be that they did not go far enough in their eulogies of him, or their condemnation of his adversary.

78. As to entering into the general subject of the advantage of a liberal outlay on Public Works, the whole matter had been lately most fully and ably discussed in the 1st and 2nd Reports of the Public Works Commissioners, and the Board were not called upon to undertake what would have been a work of supererogation, however much it might have been in accordance with Colonel Cotton's wishes.

79. In para. 41 Colonel Cotton refers to Mr. Smollett's written assertion that the Godavery Annicut was a "gigantic swindle," and thus proceeds. "This is the ground taken up by the gentlemen whom the Board endeavour to shelter, was it too much to expect that a body of conscientious men, would in an honest, manly and conscientious manner express what is most assuredly their real opinion." * * "They know the truth of the case, and they write a long Report calculated as far as possible to shelter the party which holds the view they know to be the false one. Can we be surprized if shortly gentlemen, who brought to a decisive test of this sort, utterly fail, are set aside, and other agents are sought for to carry out God's purposes of mercy to India?"

80. The Board do not know exactly what construction to put on Colonel Cotton's prophesy as to their being set aside, but with regard to this exhibition of petulancy they have only to observe that, the expression used by Mr. Smollett occurs in a pamphlet bearing date 30th June, 1856, or more than a year after they had submitted their Report. No such expression is to be found in the pamphlet, to which their attention was directed by Government. It was not possible therefore that the Board could have seen it; or tacitly admitted its truth.

81. With the same disregard of dates Colonel Cotton says in para. 44. "There is one passage in Mr. Smollett's pamphlet which I am surprised the Board do not notice. It seems to me, that they might heartily have supported him in that without any suspicion of their motives, and that is where Mr. Smollett recommends that I should receive a grant of Maniem land of 2000 acres in the Delta of the Godavery." * * "such a proposal seems to me unexceptionable and it seems to offer a good opening for the Board to express their further approval of Mr. Smollett's views." However Mr. Smollett's ridicule might have provoked Col. Cotton it is only necessary to observe as regards the Board's possible view of it, that it appears in the pamphlet above referred to which was written a year after the Board's report. Col. Cotton might therefore in this case as well as the other have spared himself his remarks.

82. In conclusion the Board assure Government that they have felt it imperative upon them to correct the mistakes into which Col. Cotton has fallen regarding their Report, but they have returned to the subject with reluctance. It is far more satisfactory to them as their records shew, to advocate the cause of Hydraulic improvements, than to enter into controversies regarding their precise value. The present discussion is however not of their seeking, and they must deplore any obstacles which are likely to retard the spread of Public Works, whether they arise from the attacks of open assailants, or from doubts occasioned by the exaggerated statements of over sanguine partizans.

83. With respect to the Coleroon Annicuts the Board took pains to prove that those works had yielded to Government a profit of no less than 118 per cent on the capital expended in their

construction, besides rendering the revenue of the Tanjore Delta more secure and adding largely to the wealth and prosperity of that province, Col. Cotton is so little satisfied with this result as to accuse the Board not of mere inaccuracy, but of an unfair bias and a wish to suppress the truth. They however, feel thorough confidence in the general correctness of their Report, and believe that the results noted in it will be considered as sufficiently testifying to Col. Cotton's skill, and sufficiently encouraging for Government to persevere in improving the irrigation of the country.

E. MALTBY.

Madras, June 5th 1858.

W. H. BAYLEY.

No. 23.

FROM G. N. TAYLOR, Esq.,

Acting Collector of South Arcot.

TO W. H. BAYLEY, Esq.,

Secretary to Government, Revenue Department, Fort St. George.

SIR,

I have the honor to forward for submission to Government a short paper which I have written in correction of certain statements and figures occurring in para. 16 of a Memorandum published by Colonel Arthur Cotton, on the causes of a recent breach in a branch of the Godavery annicut.

2. Colonel Cotton's pamphlet is, I believe, an Official Paper and printed copies have been circulated to Public Officers in every district of the Presidency. I refrain from entering into any discussion on the subject of which he writes in the Para. alluded to, but it has appeared to me proper to bring to notice officially the errors into which he has fallen in regard to the revenues of the Sub-Division of Rajahmundry.

I have, &c.

(Signed) G. N. TAYLOR,

Acting Collector.

South Arcot, Collector's Cutcherry, }
Cuddalore, 31st May 1858. }

MEMORANDUM.

Colonel Cotton's printed Memorandum on the late breach in the Godavery Annicut having reached me only within the last few days, I have been unable to take earlier notice of the remarks which he has been led to make regarding the increase of Revenue in the sub-division of Rajahmundry. I have no intention to discuss in this place, the merits of the settlement which is called in question by Colonel Cotton, but I desire to correct the erroneous impressions which his observations, evidently written under great misapprehension, are calculated to convey.

In para. 16 of the paper in question, after stating that the present Officiating Sub Collector had shown him a letter prohibiting a departure from the terms of my settlement, Colonel Cotton proceeds to say, "as the whole former Revenue was only 4 lacs, this prevents him (Sub-Collector) from levying more than 40,000 Rupees." The inference to be drawn from this statement and from the remarks which follow clearly is, that the former Revenue independently of the

Annicut was 4 lacs, and that the present Revenue is Rupees 4,40,000, and will continue at the latter figure until the survey. This, however, is far from being the fact. If by *former* Revenue is meant the actual collections realized from the 3 talooks of the division in former years, the sum of 4 lacs is rather above the average. On referring to official returns in my possession, I find that the average collections for a series of years before the construction of the Annicut, amounted to Rupees 3,75,000; and a paper recently received gives the average of the last 5 years of the series, (Fuslies 1251 to 1255) as only Rupees 3,55,000. In the Fusly year 1256, when the Annicut was commenced, the collections were, however, a little above 4 lacs, the average of the succeeding 6 years (Fusly 1257 to 1262) was nearly 4½* lacs, and the actual collections from the 3 talooks in each successive year since Fusly 1262 have been in round numbers, as follows:

Fuslies 1263.....	4,73,000
1264.....	4,74,000
1265.....	5,20,000
1266.....	5,44,000
1267.....	5,57,000

The collections of the current Fusly (1267) are not yet complete,—the figures opposite to that year represent the demand. But as the uncollected balance for Fuslies 1265-66, was only a few hundred Rupees, there can be little doubt that the demand for Fusly 1267 will be similarly realised. The present revenue therefore is Rupees 1,17,000 above the limit supposed by Colonel Cotton.

5,57,000
4,40,000
1,17,000

The settlement to which exception is now taken was made for Fusly 1265—not by an addition of 10 per cent to the *former*, but to the *present* Revenue, i. e., the Revenue of 1264. It is shewn by the above returns that the Revenue of the current Fusly (1857-58) from the 3 talooks of the Sub-division is Rupees 83,000 in advance of the collections in Fusly 1264 (1854-55); Rupees 1,10,000 or nearly 25 per cent., above the average of the 6 years immediately following the commencement of the Annicut; Rupees 1,82,000, or nearly 50 per cent., over the average * *former* Revenue—and a trifle more than 2 lacs, or 57 per cent. above the average collections from Fusly 1251 to 1255. I am not aware of any error in the above figures, but believe that the records of the Collector's, or the Sub-Collector's Office, will prove them to be correct.

With respect to the watered area, it is impossible to determine any thing with certainty until a survey is made. Colonel Cotton assumes the watered area of the Sub-division to be 200,000 acres which, according to district accounts, is about equal to the entire culturable ayacut of the 3 talooks. His estimate is, I think, in excess of the truth—but assuming it to be correct—as the present collections are nearly two lacs of Rupees above the *former* Revenue, the increased teervah is at the rate of one Rupee per acre. In advocating a survey, I have so repeatedly pointed out the palpable inaccuracy of the present District accounts, that I have no wish to go over this ground again. I suppose, however, that in the absence of more accurate returns, the Revenue Officers are compelled to accept the talook and village accounts for what they are worth, to check them by all available means and to assess accordingly. The difficulty of this process can only be properly understood if we attempt to realise the hopeless confusion into which lands, classes, fields, and teervah must inevitably fall where a village has been rented out in common for a number of years. As the joint rents could not be disturbed until the survey, the object of my settlement was to enhance meanwhile the collective demand upon the ryots in a tangible form; and to secure a gradual increase to the Revenue, without depending upon doubtful returns of watered area. I am not in a condition to compare the results with other parts of the Delta, where a different course has been pursued, but, so far as the Circar lands are concerned, I believe the comparison would not be unfavourable to the Sub-division.

G. N. TAYTOR,

Sub-Collector of Rajahmundry, and Acting Collector,

Cuddalore, 29th April 1858.

of South Arcot.

No. 1108.

Extract from the Minutes of Consultation, under date the 10th August 1858.

Read the following papers.

Proceedings of the Board of Revenue, being the report of Messrs. Malby and Bayley on the Coleroon Annicuts. } (Here enter 21st May 1855, No. 1325.)

Proceedings of Commissioner Northern Circars, (Mr. Goldingham) being his report on the Dowlaishwaram and Kistna Annicuts. } (Here enter 9th July 1855, No. 84.)

From Colonel A. Cotton being his Memorandum on Mr. Goldingham's report. } (Here enter 19th September 1857.)

From Do. being his Memorandum on Messrs. Malby and Bayley's report. } (Here enter 4th March 1858.)

From Mr. Goldingham, reply to Colonel Cotton. } (Here enter 22nd May 1858, No. 1250.)

From Messrs. Malby and Bayley, reply to Colonel Cotton. } (Here enter 5th June 1858, No. 1247.)

From the Sub-Collector of Rajahmundry and Acting Collector of South Arcot. } (Here enter 31st May 1858, No. 23.)

Para. 1. In the Proceedings above recorded, the Board of Revenue and Mr. Goldingham, late Commissioner in the Northern Circars, furnish in compliance with the requisition of Government Revenue Diary, 12th December 1854, No. 12. contained in Extract Minutes Consultation 7th
 " " 17th April 1855 " 15 and 16. December 1854, No. 1592, information regarding the effects of the Coleroon Annicuts in Tanjore, and Godavery Annicut in Rajahmundry, on the Revenues and prosperity of those districts. The circumstances which led to the call for this information, and the object which the Government had in obtaining it, are stated in the resolution of the above date. It might be here briefly mentioned that the correctness of certain statements made by Colonel Arthur Cotton of the Engineers in his book on Public Works in India, regarding the results obtained and expected from the great works of irrigation on the Godavery, the Cauvery, and the Coleroon, which were planned and executed by him, having been impugned, and certain other writers having also argued that the large returns from the outlay on these works had not been, or could not be realized, the Government were most anxious that the matter should be fully investigated and finally set at rest. An opportunity for this purpose offered itself by the receipt of a report, dated 23rd September 1854, from Mr. G. N. Taylor, the Sub-Collector of Rajahmundry then in charge of the district, shewing the effects of the Godavery Annicut and its Subsidiary works upon the general circumstances of the district; but as this report was unaccompanied by any opinion from the Board of Revenue, the Government resolved on having the statements it contained carefully tested. The Sub-Collector's report and statements, with others that had been received from the Officers administering the affairs of the Tanjore and Gunttoor districts bearing on the subject of the advantages derived from the Annicuts in those districts, were accordingly sent to the Board of Revenue, and the Commissioner of the Northern Circars;—the Commissioner to report on the results in the districts under his charge as affected by the Godavery and Kistnah Annicuts, and the two other members of the Board of Revenue upon the results in Tanjore and South Arcot, as affected by the Coleroon Annicuts, for the above purpose;—and these authorities were informed that as it was intended to publish all these reports for general information, the Government were very desirous that they should exhibit with the strictest accuracy possible, and with the utmost impartiality, the results of the outlay on these important works.

2. The two reports of the Board and of the Commissioner having been forwarded to Colonel Cotton, have elicited the two papers, dated 19th September 1857 and 4th March 1858, and these again have a rejoinder from the Commissioner (who has now removed his seat at the Board of Revenue,) dated 22nd May 1858, and another from the two members of the Board who reported

on the Southern districts. It is not the desire of Government to enter into a discussion of the various, and in some instances, conflicting statements contained in these papers; the matter appears to have gone to a sufficient length, and as any further agitation would lead to an interminable controversy, the Government resolve to direct in pursuance of the intention of the Order of the 7th December 1854, that the whole of these papers be printed, and copies of the compilation forwarded for the information of the Honorable Court of Directors, who will thus have the opportunity of forming their own opinion of the value of the different statements.

3. The Government have recently received a communication from Mr. G. N. Taylor from South Arcot, the district to which he now stands appointed Acting Collector, in reply on some remarks reflecting on his management of the sub-division of Rajahmundry, which appear in a printed pamphlet by Colonel Cotton, and designated a "Memorandum on the late breach in the Murdoor section of the Godavery Annicut." As bearing on one of the points in discussion, the Government resolve to have it printed and submitted to the Honorable Court with the other papers.

4. As regards that part of the discussion which relates to the "area under the influence of the Godavery and Kistnah Annicuts, and the returns which should have been obtained from those works," and regarding which there are no absolute data at present, the Government would remark, that in reviewing on a recent occasion a report furnished by the Acting Collector of Masulipatam, on the effects of the two Annicuts on the revenues of that district, the Government resolved on deputing a Revenue Officer to the two districts of Rajahmundry and Masulipatam, for the special purpose of ascertaining in communication with the District Engineers, the actual area irrigated in a certain number of villages under the influence of the Annicuts and their increased produce. Mr. Dykes has been directed to undertake this duty, and it is to be hoped that his enquiries will set at rest the disputed point.

(True Extract.)

(Signed) T. PYCROFT,

Chief Secretary.

Cons. 12th March 1858 Nos. 99, 100 and 101.
 19th " " 45.
 18th May " 39 and 40.