

(1) Number of pages 10
 (2) Date of repair _____
 (3) Initials of the Referencer _____

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

REVENUE DEPARTMENT

G.O. No.	1662	Press.
B.P. No.		Mis.
Dated	21-3-1877	197.

Not to be folded or roughly handled

MEMORANDUM.

IRRIGATION.

No. 520.

Read the following:—

An exact and complete account of the expenditure which has been incurred on Irrigation Works in the Madras Presidency cannot at present be made out up to date, but regarding the greater part of it information is available.

2. On the eight works for which Capital and Revenue Accounts have been opened, the outlay to the end of 1875-76 was as follows:—

	RS.
From Ordinary Funds	116,17,244
„ Extraordinary Funds	62,20,374
Total ...	178,37,618
There was also a sum under suspense of	20,316
Total of eight works ...	178,57,934

There are twenty-seven other works on which expenditure has in the past been separately recorded with greater or less completeness, and the outlay on these has been—

	RS.
From Ordinary Funds	25,45,523
„ Extraordinary Funds	4,25,371
Total twenty-six works ...	29,70,894

It will probably be safe to assume that the total expenditure which would be classed as Capital Outlay under any circumstances has not, so far, exceeded 22½ lakhs of Rupees.

3. The further outlay, which may be deemed for the most part unavoidable, is approximately as follows:—

Godavery Delta.			
Balance of estimates in round numbers.	Eastern Delta ...	5½ lakhs.	
	Western do. ...	5 „	
Estimates ready	Central do. ...	10 „	
			20½ lakhs.
Kistna Delta.			
Estimates all ready and some before Government	Eastern Delta ...	60 lakhs.	
Estimates some approved by Government and others ready	Western do. ...	50 „	
			110 lakhs.
			130½ lakhs.

*Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.*

The probable further outlay on the other six works for which Capital and Revenue Accounts are kept cannot be accurately stated, but it is not likely to exceed—

Palar Ancient System	...	...	5 lakhs.
Srivigantam do.	...	...	1 "
Cauvery Delta	...	...	12 "
Pennair Ancient	...	...	2 "
Chemburambakam Tank	...	...	1 "
Pelandurai Ancient	...	...	1 "
			<hr/> 21 lakhs.

Total for eight works... 151½ lakhs.

4. The probable rate of expenditure on the above eight works and on some of the larger of the other 26 works with which it may be decided to proceed, may be estimated at yearly 10 lakhs; this outlay would correspond to that from Loan Funds.

On all other works the expenditure which has been proposed* as the normal is 35 lakhs annually, of which 15 to 17 lakhs are to be set apart for Repairs, works, so that the amount available for Original Works would, be taking establishment and charges at 1rd, 35 — (16 + ½) = 35 — 21½ = 13½, and the total outlay on Original Works would be—

Lakhs... 23½.

5. It will not be difficult to show that the results of past expenditure on Irrigation Works make the proposed outlay reasonable and financially prudent. If the money spent upon the three principal works of this Presidency and the money which they have returned to the treasury be compared, it will be seen that these undertakings have been highly beneficial to the treasury, and that they afford and will continue to afford the means of carrying out improvements more rapidly than has been proposed. The particulars refer to the period ended 1874-75 as later revenue details are not yet ready.

1st the Godavery Delta System.

	ns.	ns.
Net Revenue receipts to end of year ...		174,68,316
Capital outlay ...	69,10,549	
Interest charges ...	46,98,602	
		<hr/> 116,09,151
Payments into the Treasury in excess of Capital outlay and interest ...		58,59,065

In the above account however while interest has been charged on all withdrawals from the treasury none has been allowed on the surplus receipts paid in, and the anomaly of this arrangement will be the more clearly understood when it is considered that for several years past these receipts in each year have greatly exceeded the withdrawals.

*Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.*

If interest be allowed on surplus receipts paid in, or if these receipts be taken in reduction of Capital the result would be as follows:—

	ns.
Surplus receipts as above	58,59,065
Interest on balances from 1866-67	36,14,341
	<hr/> 94,73,406

This balance alone would nearly or quite suffice to construct another Delta system like the Godavery were there a Delta on which to operate available.

The annual net revenue from the system is about Rupees 14½ lakhs.

2nd.—Kistna Delta System.

	ns.	ns.
Net Revenue to end of year		69,66,213
Capital outlay	44,93,902	
Interest charges	26,46,665	
		<hr/> 71,40,567
Balance against System		2,74,352

were interest allowed on surplus receipts as a set off against interest on withdrawals the result would be—

	ns.
Balance to debit	2,74,352
Interest to credit	11,20,361
	<hr/> Balance to Credit ... 8,46,009

The annual net revenue is a little under 7 lakhs.

3rd.—Cauvery Delta and Lower Coleroon Ancient.

	ns.
Net Revenue to end of year*	214,63,455
† Capital outlay	13,48,900
† Interest charges	12,45,453
	<hr/> 25,91,355
Balance to credit of System	188,69,100

The interest charges in the case of these works, without corresponding credits, must make the accounts radically incorrect for from a very early period† all expenditure and all interest had been recouped, and all further outlay was more than covered by net revenue. Were interest allowed on net revenue receipts in excess of interest charges, the account would stand thus—

	ns.
Balance as above	188,69,100
Interest on balances †½ per cent.	129,91,298
	<hr/> Balance to credit of System ... 318,60,398

The annual net revenue is about Rupees 10½ lakhs.

6. It appears then that the general results of these three Systems of Irrigation are—

1st.—Balances of receipts in excess of charges.

	With Interest.	Without Interest.
	Rs.	Rs.
Godavery Delta	91,73,406	58,59,065
Kistna "	8,46,009	2,74,352
Cauvery Delta and Lower Coleroon Ament ...	318,60,298	188,99,100
	<u>421,19,813</u>	<u>244,53,513</u>

2nd.—Net Revenue—

	Rs.
Godavery Delta	144 lakhs.
Kistna do.	7 "
Cauvery do.	104 "
Total ...	22 1/2 "

7. Of the supposed total expenditure of 22 1/2 lakhs mentioned in paragraph 2 above, the following has been recouped—

	Rs.
Godavery Delta	69,10,749
Kistna do.	44,95,592
Cauvery do.	13,48,000
Total ...	<u>1,27,53,351</u>

and the interest charges have also been repaid. Were it to be supposed that all the other Irrigation Works have been unremunerative, and that the charges for interest amounted to 1/4th of the Capital Outlay, the amount to be recovered would be—

	Rs.
Money spent	97,47,000
Interest charges	73,10,250
Total ...	<u>1,70,57,250</u>

Deducting this from the balance to credit of the three Systems—

The difference on the balance without interest would be ...	73,96,563
Do. on that with interest	2,50,52,563

and, as the proposed future outlay of 22 1/2 lakhs annually on Original Works is much less than the annual net revenue from these three systems, it follows that the balance to credit of the Irrigation Works of this Presidency will, if that scale of expenditure be not greatly exceeded go on steadily increasing. If 35 lakhs a year were spent instead of 22 1/2, it would take nearly twenty-five years to clear off the smaller balance* or that excluding interest, and

* Say ... 74 lakhs.
Annual income 32 "

if the 74 lakhs were invested at 4 per cent., an expenditure of nearly 35 lakhs a year would be possible without touching the accumulated balance. Moreover, the net income is really more than 32 lakhs now, and it will go on increasing, so that

at any time in the course of five or six years, an annual outlay of 40 lakhs on Original Works could be practicable without in any way drawing on the resources of the State beyond the utilization of the extra revenue which the expenditure on irrigation works has created.

8. The conclusions which have been above drawn are based upon the statements which have been prepared from information furnished by the Revenue Department and by the Accounts Branch of the Public Works Department. They are liable to modification, but it is as probable that the final statements will show more favorable results as that the investigations when completed will exhibit smaller net returns. For instance no account has been taken of the Pennair and its irrigation which in its small way has been successful, and there are numerous other works which have certainly contributed materially to increase the revenue.

Again, no notice has been taken of the trade at Cocanada which the Godavery Delta works have been the means of creating.

It is then sufficiently clear apart from the exact figures denoting results, that on the whole the expenditure of the last forty years, and there was no outlay of any moment before that time, on Irrigation Works has been highly beneficial, and that so far from its having occasioned any financial embarrassment it has permanently increased the resources of the State out of all proportion to the amount of money temporarily advanced for the purpose and already fully repaid.

9. If future outlay be prudently managed the results will be, it cannot be doubted, fully satisfactory. No such enormous results as in Tanjore (Cauvery Delta) can be expected, though there a material increase of revenue may yet be secured, and there is no new delta like the Godavery to be transformed from comparative desolation to the condition in which it now is, but there is something not inconsiderable to be done in one of its sections, the Central Delta, and there is the Kistna Delta as yet less than half finished, and now almost at a stand still because funds have been refused until the estimates for an amount of work, which will take some twenty years to carry out, have all been completed. All over the country also there are comparatively small irrigation works to be constructed or rendered more useful, and there are great numbers of old works of native construction to be made safe and to be prevented from deterioration.

* Sungum Project.
Perrysur do.
Roosikoolia do.

Lastly, there are some few large projects* from which much benefit to the people has been anticipated, but which it has not

been thought prudent to undertake because it is somewhat doubtful whether they would be sufficiently remunerative. Perhaps a consideration of the great profits which have been realized on some Irrigation Works will make it possible to carry out others less remunerative if it be clear that their effect on the prosperity and advancement of considerable populations will be highly beneficial. As a rule in this Presidency it is rarely right to spend money on irrigation without a good prospect of a considerable margin of profit beyond the bare interest on the outlay, because remunerative works are not hard to find, and they must generally do more good than those which are less profitable, but there may be some exceptions to this general rule.

10. The only considerable Irrigation Work in this Presidency which has financially been a failure is the Madras Irrigation and Canal Company's Canal from the

Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.

Toombudra, a work which, from the disinclination of the ryots to make use of the water to more than a nominal extent, has hitherto failed to yield even enough revenue to cover the working expenses. Its social position is extremely unsatisfactory. According to the latest information, the following are the particulars of expenditure and revenue:—

	Rs.
Capital outlay to end of 1875-76*	150,96,095
Gross revenue of the season	59,719
Working expenses	1,70,419
Deficit in 1875-76...	1,10,700

* These entries are taken from Audit Statement of P. Ramiah, Secy. to Government, dated 10th June 1876.

The Government have until recently advanced to the Company the funds required to meet working expenses, and the debt thus incurred by the Company amounted up to the end of 1875-76 to Rupees 4,30,218.

San. Louis Muller's Letter to J. Westwood, Esq., dated 12th April 1876.	The Guaranteed interest on Share	£
Proceedings, Madras Government, Tuesday 23rd May 1876, No. 1266.	Capital amounted to ...	711,785
	Interest on Debentures	176,000

The total expenditure incurred by the State in connection with this Company amounted therefore up to the end of the last official year to about £930,807 besides the loan on Debentures of which the amount outstanding on that date was £372,000.

Fort St. George, (Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
14th December 1876. Chief Engineer for Irrigation.

Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.

Statement of Outlay, Interest, Charges and Results for Irrigation Works.

Schemes and Works.	Capital Outlay.		Interest Charges.	Net Revenue.	Deferred to Subsequent Years No. of Years and Charges.	Year in which made up.
	Ordinary.	Extraordinary.	Total.			
1. Godavari Delta	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
2. Elam Delta	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
3. Palar Delta	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
4. Sivasamudram Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
5. Cauvery Delta	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
6. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
7. Charambaram Tank	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
8. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
9. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
10. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
11. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
12. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
13. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
14. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
15. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
16. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
17. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
18. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
19. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
20. Ponnai Aqueduct	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75
Do.	50,78,508	15,31,740	66,10,248	17,48,215	49,62,033	1874-75

Net revenue for 1875-76, Rupees 11,06,602. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Net revenue for 1875-76, Rupees 214,43,465. Difference N.R. - 1, Rupees 1,70,419. Not verified by the Government.

Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.

Statement of Outlay, Interest, Charges and Results for Irrigation Works—(Continued).

System or Works	CAPITAL OUTLAY.		Interest Charges. Not Revenue.	Difference be- tween Net Revenue and Charges.	Year to which made up.
	Ordinary.	Extraordinary.			
21. Vellur Aikur (Siamatepe)	Rs. 50,571	Rs. 50,571	Rs. 1,011	Rs. 1,011	1872-73
22. Ponnar Aikur	1,00,537	1,00,537	20,107	20,107	1872-73
23. Tiruvady Aikur	18,381	18,381	3,676	3,676	1872-73
24. Tiruvady Aikur	23,338	23,338	4,668	4,668	1872-73
25. Vayalpur Aikur	24,825	24,825	4,965	4,965	1872-73
26. Kottanur Aikur	20,258	20,258	4,052	4,052	1872-73
27. Kottanur Aikur	43,295	43,295	8,659	8,659	1872-73
28. Kottanur Aikur	78,633	78,633	15,727	15,727	1872-73
29. Kottanur Aikur	63,116	63,116	12,623	12,623	1872-73
30. Kottanur Aikur	40,029	40,029	8,006	8,006	1872-73
31. Kottanur Aikur	43,781	43,781	8,756	8,756	1872-73
32. Kottanur Aikur	70,102	70,102	14,020	14,020	1872-73
33. Kottanur Aikur	52,533	52,533	10,507	10,507	1872-73
34. Kottanur Aikur	51,193	51,193	10,239	10,239	1872-73
35. Kottanur Aikur	25,40,523	4,45,371	29,70,344	29,70,344	1872-73
36. Kottanur Aikur	141,02,757	36,45,745	208,06,512	208,06,512	1872-73

For No. 590.
December 1876

1500
May 1874. No. 1309. In the case of the five works for which outlay is shown above, the outlay is shown and for these outlay to 1872-73 has been taken from the above Proceedings. No. 590. Item, and that is later date from this District Progress Reports.

Proceedings of the Madras Government, Public Works Department,
22nd February 1877. No. 590.

No. 590. ORDER THEREON, 22nd February 1877, No. 590.

IRRIGATION, No. 50.

Account.

ORDERED that the Government of India be addressed.

(Here enter No. 590, dated 22nd February 1877.)

(True Extract.)

Lieut.-Colonel, R.E.,

Secretary to Government, P.W.D.

To the District Engineers concerned.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.

Ed. E. C. Shanks.

3000 Copies

Rev. J. M. H. 1838

DEPT. OF THE
PUBLIC WORKS.

THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

16 To the Board of Revenue

20 March

TO THE DISTRICT ENGINEER

TO THE DISTRICT ENGINEER

Comme to the
Board of Revenue

20 March

TO THE DISTRICT ENGINEER