M.R.O. 1—77,006—8-6-37.

(1) Number of pages._____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 590 (9) Press ~~Mis.~~

Dated 22-2- 1877.

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 225 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.

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 for—

Palar Anicut System	5 lakhs.	
Striviguntum do.	½ „	
Cauvery Delta	12 „	
Pennair Anicut	2 „	
Chembrumbaukum Tank	½ „	
Pelandorai Anicut	1 „	
		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.

*Proceedings, 17th February 1865, No. 475.
Do. 19th October „ „ 2,931.
Do. 17th March 1876, „ 691.
Letter do. „ „ 694.

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 ⅓rd, $35 - (16 + \frac{1}{3}) = 35 - 21\frac{1}{3} = 13\frac{2}{3}$, and the total outlay on Original Works would be—

Lakhs... ... ... $23\frac{2}{3}$.

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.

Proceedings, Madras Government, No. 1,923, 28th July 1876.

	Rs.	Rs.
Net Revenue receipts to end of year...		174,68,216
Capital outlay	69,10,549	
Interest charges	46,98,602	
		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.

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:—

	Rs.
Surplus receipts as above	58,59,065
Interest on balances from 1860-61	36,14,341
Balance to credit of system ...	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.

2*nd*.—Kistna Delta System.

	Rs.	Rs.
Net Revenue to end of year		68,66,215
Capital outlay	44,93,902	
Interest charges	26,46,665	
		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—

	Rs.
Balance to debit...	2,74,352
Interest to credit	11,20,361
Balance to Credit ...	8,46,009

The annual net revenue is a little under 7 lakhs.

3*rd*.—Cauvery Delta and Lower Coleroon Anicut.

		Rs.	Rs.
	Net Revenue to end of year*		214,63,455
*1873-74. †1874-75.	†Capital outlay	13,48,900	
	†Interest charges	12,45,455	25,94,355
	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—

‡ Second year from commencement.

	Rs.
Balance as above	188,69,100
Interest on balances 4½ per cent.	129,91,298
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—

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

	With Interest.	Without Interest.
	Rs.	Rs.
Godavery Delta	94,73,406	58,59,065
Kistna „	8,46,009	2,74,352
Cauvery Delta and Lower Coleroon Anicut ...	318,60,398	188,69,100
	421,19,813	244,53,813

2*nd.*—Net Revenue—

	Rs.
Godavery Delta	14½ lakhs.
Kistna do.	7 „
Cauvery do.	10¼ „
Total ...	$32\frac{3}{16}$ „

7. Of the supposed total expenditure of 225 lakhs mentioned in paragraph 2 above, the following has been recouped—

	Rs.
Godavery Delta	69,10,549
Kistna do.	44,93,902
Cauvery do.	13,48,900
Total ...	1,27,53,351

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 $\frac{3}{4}$ths of the Capital Outlay, the amount to be recovered would be—

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

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 $23\frac{2}{3}$ 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 $23\frac{2}{3}$, it would take nearly twenty-five years to clear off the smaller balance* or that excluding interest, and 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

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

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

at any rate in the course of five or six years, an annual outlay of 40 lakhs on Original Works would 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 anicut 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. 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.

* Sungum Project.
Perryaur do.
Rooshkoolia do.

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

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 financial 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 "	*1,79,419
Deficit in 1875-76...	1,19,700

* These entries are taken from Audit Statement of Examiner, Guaranteed Railway and Irrigation Accounts, dated 16th 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.

Sir Louis Mallet's letter to J. Westwood, Esq., dated 12th April 1876. Proceedings, Madras Government, Tuesday 23rd May 1876, No. 1,296.

	£
The Guaranteed interest on Share 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, 14th December 1876.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E., Chief Engineer for Irrigation.

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

Systems and Works.	Capital Outlay. Ordinary.	Capital Outlay. Extraordinary.	Capital Outlay. Total.	Interest Charges.	Net Revenue.	Difference between Net Revenue and Interest Charges.	Year to which made up.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
1. Godavery Delta	50,78,809	18,31,740	69,10,549	46,98,602	174,68,216	127,69,614	1874-75	
Do.	50,82,150	22,80,071	73,62,221	50,29,994	..	..	1875-76	
2. Kistna Delta	31,85,328	13,08,574	44,93,902	26,46,665	68,66,215	42,19,553	1874-75	
Do.	32,30,130	13,89,067	46,19,197	28,55,274	..	..	1875-76	
3. Palar Anicut	11,08,762	..	11,08,762	7,25,546	..	..	1874-75	Net revenue to 1872-73, Rupees 11,06,502.
Do.	12,57,922	..	12,57,922	7,82,133	..	..	1875-76	Difference N.R.—I, Rupees 4,79,617.
4. Striviguntum Anicut ..	..	10,60,597	10,60,597	1,94,236	..	..	1874-75	Net revenue not yet determined.
Do. ..	..	11,07,713	11,07,713	2,44,083	..	..	1875-76	
5. Cauvery Delta	9,34,481	4,14,419	13,48,900	12,45,455	..	..	1874-75	Net revenue to 1873-74, Rupees 214,63,455,
Do.	9,36,212	4,14,953	13,51,165	13,06,354	..	..	1875-76	Including Lower Coleroon anicut. Difference N.R.—I, Rupees 20,278,701.
	103,07,380	46,15,330	149,22,710	..	..	..	1874-75	
	105,06,414	51,91,804	156,98,218	..	..	..	1875-76	
6. Pennair Anicut	7,96,972	5,42,667	13,39,639	..	..	..	1875-76	The particulars for Nos. 1 to 5 are taken from Proceedings of the Madras Government, No. 1,923, 28th July 1876, and, as regards 1875-76, from information obtained from Examiner, Public Works Accounts. The particulars for Nos. 6 to 11 are taken from Proceedings of the Madras Government, No. 3,048, 14th November 1876.
7. Chembrumbaukam Tank ..	313,858	2,12,816	5,26,674	..	..	..	"	
8. Pelandorai Anicut.. ..	..	2,73,087	2,73,087	..	..	..	"	
	11,10,830	10,28,570	21,39,400	..	..	..	..	The first eight works are those for which Capital and Revenue Accounts have been ordered to be kept.
	116,17,244	62,20,374	178,37,618	..	..	..	1875-76	
9. Rooshkoolia Project ..	36,874	30,645	67,519	16,574	..	..	1875-76	The expenditure shown against Nos. 9, 11, and 35 is for investigations only.
10. Madras Water Works ..	11,26,620	347,748	14,74,368	..	..	..	"	
11. Perryaur Project	32,687	46,978	79,665	17,746	..	..	"	
12. Chennoor Tank Channel ..	21,991	..	21,991	..	..	..	1872-73	
13. Neingal Madagu Anicut ..	18,366	..	18,366	..	..	..	"	
14. Madarantikum Tank ..	22,484	..	22,484	..	..	..	"	
15. Vulloor Anicut	41,768	..	41,768	..	..	..	"	
16. Poiney do.	2,02,654	..	2,02,654	..	..	..	1875-76	
17. Alliabad Dam and Channel ..	35,539	..	35,539	..	..	..	1872-73	
18. Cheyaur Anicut	1,68,329	..	1,68,329	..	..	..	1874-75	
19. Thoringee Coopum, &c., Tanks.	13,597	..	13,597	..	..	..	1872-73	
20. Lower Coleroon Anicut ..	..	..	..	..	..	..	..	Included in Cauvery Delta.

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

System on Works.	Capital Outlay.			Interest Charges.	Net Revenue.	Difference between Net Revenue and Interest Charges.	Year to which made up.	
	Ordinary.	Extraordinary.	Total.					
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
21. Vellaur Anicut (Shatiatope)	95,271	...	95,271	...	...	...	1872-73	
22. Poonar Anicut ...	1,66,507	...	1,66,507	...	...	...	1875-76	
23. Trivady Anicut ...	13,981	...	13,981	...	...	...	1872-73	
24. Vicravandy do. ...	19,338	...	19,338	...	...	...		
25. Vanamadavy Anicut	23,298	...	23,298	...	...	...		
26. Keenanoor do.	34,846	...	34,846	...	...	...	1872-73	
27. Mahinatur do.	66,288	...	66,288	...	...	...		
28. Katoomyloor do.	13,295	...	13,295	...	...	...		
29. Nundyaur do.	78,653	...	78,653	...	...	...		
30. Thadapully Channel	69,146	...	69,146	...	...	...		
31. Kalingurayen do.	40,029	...	40,029	...	...	...		
32. Canienpolium do.	43,730	...	43,730	...	...	...		
33. Arkenkotta do.	76,702	...	76,702	...	...	...		
34. Yenamakal dam ...	42,600	...	42,600	...	...	...		
35. Sengum Project ...	51,130	...	51,130	...	...	...		
	25,46,623	4,25,371	29,70,894	...	...	...		
	141,62,767	66,45,745	208,08,512	...	...	...		

The particulars for Nos. 12 to 34 are taken from Proceedings, Madras Government, 13th May 1874, No. 1,300, except in the case of the few works for which outlay to a later date than 1872-73 is shown and for these outlay to 1872-73 has been taken from the above Proceedings, Madras Government, and that to later date from the District Progress Reports.

Fort St. George,
December 1876.

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

No. 521. Order thereon, 22nd February 1877, No. 590.

IRRIGATION, No. 50.

Account.

Ordered that the Government of India be addressed.

(Here enter No. 591, 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.

Exd. E. C. Shunker.

Spare Copies

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 22*nd February* 1877.

No. 522.

No. 591.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department, Irrigation Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

IRRIGATION, No. 51.

Account.

From Government of India, No. 106-I, of the 24th March 1875.
To Government of India, No. 1,339, of 10th May 1875.
From Government of India, No. 323-I, dated 13th September 1875.

SIR,—I am directed, with reference to the correspondence as per margin relating to the postponement of sanction of certain estimates for the improvement of the Western Delta of the Kistna, to transmit, for the information of the Government of India, a copy of a memorandum, dated 14th December last, which has been drawn up by the Chief Engineer for Irrigation from the statements printed in Proceedings, Madras Government, No. 1,923, of the 28th July 1876, a copy of which was duly forwarded to you, and from later information as regards expenditure, and to request that the proposals to go on with the works of the Kistna Delta under the completion estimates which have been approved by this Government may be reconsidered in the light of the information regarding the results of past outlay which are now available.

2. According to information obtained from the Revenue Officers the area of irrigation and gross revenue of the Kistna Delta were as follow:—

Proceedings of Madras Government, No. 1,268, dated 20th May 1876.

1874-75 Area of irrigation	Acres	226,226
Revenue	Rupees	8,80,314

I am to point out that up to the year 1874-75 the—

	RS.	RS.
Net revenue amounted to		68,66,215
Capital outlay to	44,93,902	
Interest charges	26,46,665	
		71,40,567
Balance against system...		2,74,352

the net revenue at that date also was a little under seven lakhs. It will be observed also that while interest has been charged on outlay no credit has been given in any shape for surplus revenue.

3. There can be no room whatever I am to say for doubting the financial success of the works so far, and there is no reason to doubt their continued success if

the means of extending irrigation and of improving navigation be provided. All or more than all past outlay has already been recouped, and if every estimate which is ready be sanctioned, and the works be allowed to be gone on with as fast as circumstances will permit, the expenditure cannot only be entirely met from the net surplus revenue derived from the works as they now stand, but there will continue to be a considerable balance after meeting such charges.

4. The ultimate area of irrigation is expected to be in the—

Proceedings, Madras Government, 19th December 1874, No. 3,573.
Proceedings, Madras Government, 22nd December 1876, No. 3,528-A.

	ACRES.
Western Delta	200,000
Eastern do.	270,000
Total area ...	470,000
Present area as above	226,226
Expected increase	243,774

To secure this increase and to obtain also from the present irrigation a better average rate per acre than is at present practicable, a total further expenditure of about 110 lakhs is contemplated. To produce a net return of 5 per cent. on this outlay a gross* revenue of Rupees 3-2-8 per acre would be necessary, and the water-rate being 4 Rupees an acre nominally, and practically approximate to this where the irrigation arrangements are complete and efficient, there should be no difficulty in making future outlay like that of the past profitable, while to the country it will be highly beneficial.

* Maintenance charges 10 Annas an acre.
Collection charges 9 per cent.

I have the honor to be,
Sir,
Your most obedient servant,

Lieut.-Colonel, R.E.,
Secretary to Government, P.W.D.

Exd. E. C. Shunker.
Spare Copies

PUBLIC WORKS DEPARTMENT.

13

Memorandum by the Chief Engr. for Irrigation dated 14th December 1876.

FOR ORDERS.

A Memorandum drawn up by the Chief Engineer for Irrigation for a special purpose in December last is circulated for orders as it appears to be desirable that the Government of India should be made acquainted with the results of past expenditure on Irrigation works in Madras so far as they have

have been ascertained in order that the grant of funds for carrying forward the Kistna Delta and other works may be facilitated. If it appear to Govt. advisable therefore it is proposed to transmit copies to the Govt. of India with a letter applying for the sanction of the estimates for the Kistna Western Delta which were submitted with docket No. 3573 dated 19th December 1874 and to which sanction was deferred for want of more complete Revenue information.

The Memorandum may also be of use to the Revenue Department while it will be encouraging to many officers of the Revenue and

Public Works Departments to find that some useful results have been obtained from the labour which has been devoted to ascertaining the effect of expenditure on irrigation works.

Arthur Scott
Major R.E.
for Secy. to Govt. P.W.D.

FOR ORDERS.

1510

80-590 W

Rec'd 21-2-77. Rels 20-2-77

Rec'd - 21-2-77 Civil 2-2-77. Rlo 20-2-77

Gd 590 § 22-2-77.

Che 1570

Cir: 12-2-77

Letter to Chief Engr for Irrigation dated 11th Dec 1876 transmitting Memorandum

The papers connected with this memorandum are not filed as complete the original ones after noted as are sent here. Petitions from ryots of the Periyar Project Committee & Collector of Madura. Please order a Correct & Complete file

B. Ranganadha Rao
Draft
Sec 8-2-77.

Issue orders for circulation

Mr 10/2

Public Works Department.

No 590

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 22nd Feb 77

Read the following:—

Memo: of Chief Engineer for Irrigation of 14th Dec 1876.

Ordered that the Government of India be addressed.

W.G. Dis. 591 dated 22 Feb 77

Mr. 2/2

To
the District Engrs concerned
" Chief Engr for Irrigation
" Exec: of P.W. Accts
" Rev: Departt

Despd 19-3-77

P. W. Dept.

No 591 Dated 26/5/77

23

To,

The Secy. to the Govt. of India

Sir,

I am directed, with reference to the correspondence as per margin relating to the postponement of sanction of certain estimates for the improvement of the Western Delta of the Kistna, to transmit for the information of the Government of India a copy of a Memorandum dated 14th December last which has been drawn up by the Chief Engineer for Irrigation from the statements printed in

From Govt. of India No 1061 of the 24th March 1875.

To Govt. of India No 1339 of 10th May 1875.

From Govt. of India No 323 I dated 13th Sept. 1875.

Proceedings Madras Govt.
No. 1923 of the 28th July
1876, a copy of which was
duly forwarded to you,
and from later information
as regards expenditure, and
to request that the pro-
posals to go on with the
works of the Kistna Delta
under the completion estimate
which have been approved
by this Government may
be reconsidered in the light
of the information regarding
the results of past outlay
which are now available.

2. According to informa-
tion obtained from the
Revenue Officers the area
of irrigation and gross
revenue of the Kistna

Delta

P. M. G. No. 1268 d/ 20 May/76.

Delta were as follows.

1874-75 Area of irrigation acres 22[illegible]

Revenue - Rupees 8,80[illegible]

I am to point out that up
to the year 1874-75 the
net revenue amounted to Rs 6,66,215
Capital outlay to 44,93,902
Interest charges - 26,6665 7,14,567
Balance against system 2,74,352.

the net revenue at that
date also was a little
under 7 lakhs. It will
be observed also that
while Interest ~~Charges~~
has been charged on
outlay no credit has
been given in any shape
for surplus revenue.

3. There can be no
room whatever, I am to

say

say for doubting the financial success of the works so far, and there is no reason to doubt their continued success if the means of extending irrigation and of improving navigation be provided. All or more than all past outlay has already been recouped, and if every estimate which is ready be sanctioned, and the works be allowed to be gone on with as fast as circumstances will permit, the expenditure cannot only be entirely met from the net surplus revenue derived from the works as they now stand, but there will continue to be a

P.M.G. 19th Dec. /74 No. 3573
— " — 22 — " — /76 — " — 3528 A

considerable balance after meeting such charges.

4. The ultimate area of irrigation is expected to be in the

Western Delta	200,000 acres
Eastern do	270,000 "
Total area	470,000 "

Present area as above 226,226

Expected Increase acres 243,774

To secure this increase and to obtain also from the present irrigation a better average rate per acre than is at present practicable, a total further expenditure of about 110 Lakhs is contemplated, to produce a net return

of

of 5 per cent on this outlay a gross revenue of Rupees 3. 2. 8 per acre would be necessary, and the water rate being 4 Rupees an acre nominally, and practically approximate to this where the irrigation arrangements are complete and efficient, there should be no difficulty in making future outlay like that of the past profitable, while to the country it will be highly beneficial.

Wm. 19/2

× maintenance charges 10 annas an acre.
Collection charges 9 per cent.

Recd - 19 - 3. 77

Copy to

Govt. of {1877} Madras.

PUBLIC WORKS.

To The Secretary Government

Dated

Issued

Recd. Encl.

G. O., 25th Feby. 1877, No. 59 & 71

Nos. 370 & 372

Irrigation Works in the Madras Presidency

Ordered that the Government of India be addressed on the subject of a Memorandum drawn up by the Chief Engineer for Irrigation relating to past expenditure which has been incurred on —

Transmitting copy of a Memorandum drawn up by the Chief Engineer for Irrigation relating to past expenditure on the Irrigation Works in the Madras Presidency, and requesting reconsideration of the question of the sanctioning of certain Provisional estimates for the improvement of the Western Delta of the Kistna.

Rev. 25 Feb 77