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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

DEPARTMENT

Revenue

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Dated	16.7.1877	197.

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3947

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

7th July 1877, No. 135 I.

Irrigation.
Account.

Read the following paper :—

No. 78 I.

No. 17. *Note by the Chief Engineer for Irrigation.*

THE following estimates from the Poloor Range are forwarded by the District Engineer, North Arcot, with his letter No. 472, dated 9th May 1877. marginally noted :—

Main Group—Nallur Large Tank.

Sub-Group—Theyar Chittary or Small Tank.

Taluq.	Village.	Work.	Amount.
Wandewash	Theyar	V. small tank	Rs. 3,020
	Codialum	V. small tank	775
		Total	3,795

2. The financial and hydraulic details of the Irrigation works concerned are exhibited in the following statement :—

I.—Financial Details.

Name of Work.	Acre Area.	Assessment.	Average Revenue for five Years.	Highest Revenue for five Years.	During the previous four Years.	OUTLAY.		
						PROPOSED ORDINARY AGRICULTURAL, IRRIGATION.		
						Original Works.	Repairs.	Average Annual Proportion of Charges to Revenue.
	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	PERCENT. RS.
Theyar Small Tank	192	1,195	117	Not stated	420	1,340	1,680	61.5
Codialum Small Tank	28	51			Nil.	415	360	102.6
					420			

II.—Hydraulic Details.

Name of Work.	Catchment Basin Area.	MAXIMUM SUPPLY.		LENGTH OF ESCAPE.		AVERAGE HEIGHT OF BUND.		Surplus discharged at M.T.L. per Second.	Tanks above.
		Catchment per Second.	Channels per Second.	Total.	Effective.	Above F.T.L.	Above M.T.L.		
	SQ. M.	C. FT.	C. FT.	FT.	FT.	FT.	FT.	C. FT.	NO.
Theyaur Small Tank	1475	815	..	NH.	NH.	2.22	0.22	0.0	1
Codialum Small Tank	375	292	..	W 83	83	4.50	2.50	798.2	
				NH.	NH.	2.45	0.95	0.0	
				F 45	45	3.50	2.00	229.0	None.

NOTE.—The proposed dimensions of escapes and heights of bund are printed in large type. The existing dimensions in small type. The following abbreviations are used:—C.—Calingulak with dam stones. W.—Weir with overfall. E.—Escape at ground level. B.—Bund of tank. V.—Village. E.—Masonry flush escape.

3. The following is a summary of the work proposed to be carried out in each case:—

Theyaur Small Tank.—This tank is at a latitude $12^{\circ} 22' 30''$ longitude $79^{\circ} 39' 45''$. It is the second of a sub-group of the N. or large tank group. The bund is low and weak and the revetment is in disorder. The tank has three irrigation sluices, two of which are in a leaky condition and choked up with silt.

The tank has no proper surplus cutting the bund. work; the surplus water is got rid of by

The estimate provides for—

1st.—Raising and repairing the bund, repacking the revetment, turfing the front and rear slopes of bund, and clearing the supply channel and raising its banks.

2nd.—Reconstructing two irrigation sluices.

3rd.—Constructing a masonry weir of 83 feet length of crest.

It is stated that the work has been, some time ago, put in hand from relief funds in anticipation of sanction, and the repairs of the bank are probably now far advanced; the estimate for them is recommended for sanction. The item for "turfing" is large, and expenditure against it should be confined to work which can be effectively done and maintained. Much money is frequently wasted on turfing.

The estimate for reconstructing the two irrigation sluices is recommended for sanction; but if their foundations are not already in, the District Engineer should see if their cost cannot be considerably lessened by shortening their tunnels to suit a rear slope of bank not flatter than 2 to 1.

The area of the catchment basin, $1\frac{3}{4}$ square miles, appears small for the acreage irrigated, which is about 180, or 103 acres to the square mile. The weir designed will do if the basin has not been under-estimated.

Codialum Small Tank.—This tank lies above the one just noticed, and is the highest of the sub-group. It was checked and its irrigation sluice carried away by the rains of 1874. The bund is weak at the ends. The water in the tank is retained by a ring-bund and is used for irrigation purposes by means of a

The estimates provide for—

1st.—Raising and repairing the bund, closing the breach, and turfing front and rear slopes.

2nd.—Reconstructing an irrigation sluice, and

3rd.—Constructing a masonry flush escape.

The expenditure proposed is upwards of five years' average revenue. Nearly one-half of the estimated cost of repairing the bund is for "turfing," which is provided for both slopes; probably Rs. 66 will be enough for all this kind of work that is necessary, and it is recommended that only Rs. 260 instead of Rs. 360 be sanctioned for the bund repairs.

The estimate for reconstructing the sluice is recommended for sanction, though probably it might be somewhat reduced by shortening the tunnel.

The design for the surplus weir is considerably more expensive than is needful. An altered section of bund would have to be made to fit the wings instead of the wings fitting the bund, $5\frac{1}{4}$ feet instead of $7\frac{1}{2}$ feet will be the proper length of the front wing and $5\frac{1}{4}$ instead of 9 feet for the rear wing, and 6 feet width of apron will suffice. The estimate may be reduced to Rs. 100. It is moreover by no means clear that a dry-stone pavement with revetment to the end of the bund would not do all that is required, and the cost of this would be about Rs. 25.

In both these estimates sufficient attention has not been paid to economy.

The following statement shows the proposed distribution of the outlay recommended for sanction to the debit of the several heads of account involved:—

Name of Tank.	Items of Estimate.	FUND, ORDINARY AGRICULTURAL IRRIGATION.		Total for each Tank, &c.
		Original Works.	Repairs.	
		RS.	RS.	RS.
Sub-Group of Nalloor Large Tank, Main Group.	Theyaur Small Tank.	Raising and repairing the bund and repacking the supply channel ...	1,680	3,020
		Reconstructing two irrigation sluices ...	850	
		Constructing a masonry weir ...	490	
	Codialum Small Tank.	Raising and repairing the bund and closing the breach ...	260	630
		Reconstructing an irrigation sluice ...	270	
		Constructing a masonry flush escape ...	100	

FORT ST. GEORGE,
29th June 1877.

(Signed) G. T. WALCH,
Ag. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Joint Secretary to Government, Public Works Department, Irrigation Branch.

No. 18.

ORDER THEREON, 7th July 1877, No. 135 I.

The following estimates for Irrigation are in the Poloor Range, North Arcot and forwarded by the

Irrigation.

Name of Tank.	Division of Estimate.	Fund, Ordinary Agricultural. Main Head, Irrigation.	Amount	Irrigation Registry No.
Sub-Group of Nalloor Large Tank, Main Group.	Theyaur Small Tank.	Repairing bund and supply channel.	CLASSES. Repairs ...	Rs. 1,680 1
		Constructing two sluices ...	Original Works.	850 2 82 I.
	Codialum Small Tank.	Weir ...	Do. ...	490 3
		Repairing bund and closing breach.	Repairs ...	260 1
		Reconstructing sluice ...	Original Works.	270 2 83 I.
		Flush escape ...	Do. ...	100 3

2. These sanctions are registered as shown above.

(True Extract.)

W. L. L. L.

Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the District Engineer, North Arcot.
" Collector of North Arcot.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.

3947

1.

Revenue Department

No 3266

IRRIGATION.
ACCOUNT.

Govt. of 1877 Madras.

PUBLIC WORKS.

To

THE DISTRICT ENGINEER,
NORTH ARCOT.
&c. &c. &c.

Dated July 7th.

Issued

Recd.

16 July

End.

G. O., 7th July 1877, No. 135 I.

JULY.

Nos. 17-18.

8/10 to 16/7 of 1877

Podiatum Tanks, North Arcot
estimates for certain works
done. 1877