

(1) Number of pages 6.
(2) Date of repair 3. 11. 81.
(3) Initials of the Referencer _____

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No.	5590.	Press.
B.P. No.		Mis.
Dated	19. 9. 1877	-197.

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5590

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

7th September 1877, No. 306 I.

Irrigation.
Account.

Read the following paper :—

No. 155 I.

No. 51. *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. 587, dated 17th May 1877. marginally noted :—

Kuttagarompoliam Tank Group.

Taluq.	Village.	Work.	Amount.
Poloor	Kuttagarompoliam	V. Tank	RS. 3,220
Do.	Peroomapoliem	V. Do.	530
Do.	Athamungalum	V. Do.	605
Do.	Gungavarum	V. Chockuppanairy tank	875
Do.	Do.	V. Large tank	1,145
Do.	Kadampoliem	V. Tank	980
Total...			7,355

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

I.—Financial Details.

Name of Work.	Acreage Area.	Assessment.	Average Revenue for five years.	Highest Revenue for five years.	During the previous 4 years.	OUTLAY.		
						PROPOSED. ORDINARY AGRICULTURAL IRRIGATION.		
						Original Works.	Repairs.	Average Annual Proportion of Charges to Revenue.
Kuttagarompoliam tank	489	RS. 2,627	RS. 2,364	RS. Not stated.	RS. Nil.	RS. 620	RS. 2,600	PER CENT. RS. 27.2
Peroomapoliem tank	25	150	150	Do.	Do.	210	820	70.6
Athamungalum tank	80	378	350	Do.	Do.	605	...	33.6
Gungavarum Chockuppanairy tank	52	238	165	Do.	Do.	165	710	106.0
Gungavarum large tank	170	793	571	Do.	Do.	440	705	40.1
Kadampoliem tank	134	371	220	Do.	Do.	240	740	89.0
Total	950	4,563	3,830	..	..	2,280	5,075	38.4

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.	Channel per second.	Total.	Effective.	Above F.T.L.	Above M.T.L.		
Kuttagarampoliam tank	sq. M.	C. FT.	C. FT.	FT.	FT.	FT.	FT.	C. FT.	No.
Peromampoliam tank	0.5	354	..	W 264 264	5.00	3.00	2.508.7	1.476.4	7
Athamungalum tank	1.0	562	..	F 45 45	3.50	1.50	352.7	0.0	None.
Gungavarum Chockuppanairy tank.	1.25	650	..	W 54 54	4.50	2.50	513.1	0.0	1
Gungavarum large tank	1.5	737	..	W 60 60	3.50	1.50	570.1	0.0	None.
Kodampoliam tank	1.5	737	..	W 38 38	4.50	2.50	655.6	0.0	1
				W 80 80	4.50	2.50	760.2	0.0	

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

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

Kuttagarampoliam Tank.—This tank is situated in latitude $79^{\circ} 3' 50''$, and longitude $12^{\circ} 28' 48''$, and is the terminal tank of the group.

The tank receives a channel supply of 350 cubic feet per second, in addition to its own drainage area from a dam across the Mooroogundanathy stream and surpluses direct into the Cheyaur river.

The bund of this tank is low throughout and the revetment is in disorder, the two calingulahs are old and unsafe, the irrigation sluice is in need of petty repairs, and the bank of the supply channel also requires repairs.

The dam across the Mooroogundanathy, which was seriously damaged by the floods in 1874, is in need of repairs.

The estimate provides for—

- (1). Repairing the dam across the river.
- (2). Raising and repairing the bund, repacking revetment, turfing the front slope above revetment, sowing grass seeds on the rear slope of the bund, and executing some petty repairs to the irrigation sluice.
- (3). Converting the two calingulahs into weirs by removing the dam stones and raising the body walls up to F.T.L., and extending one of them by 12 feet and the other by 59 feet, and providing them with the necessary wings to protect the ends of the bund.

The estimates are recommended for sanction, but the District Engineer should satisfy himself as to the necessity of disturbing and resetting the whole of the existing revetment provided for in the estimate before allowing the expenditure of the large amount (Rupees 1,318) entered for that work.

Peromampoliam Tank.—The bund of this tank is low and weak, and it has neither permanent sluice nor surplusing work, but at present there are cuts at the end and in the middle of the bund for the purposes of irrigating and surplusing.

The estimates provide for—

- (1). Raising and repairing the bund, turfing the front slope, and sowing grass seeds on the rear slope of the bund.
- (2). Constructing a masonry irrigation sluice.

(3). Constructing a masonry flush escape.

The turfing and grass seed planting may be struck out leaving the estimate for the bank repairs Rupees 235.

The retaining walls and wings of the sluice should have their foundations carried down a foot deeper so as to rest on the "hard clay" which in the estimate notes is said to be 3 feet down from surface. Rear wings must be provided to take earth slopes of $1\frac{1}{2}$ to 1, and the form of the work had better be approximated to that of the type design No. 8, Circular No. 67, and for this purpose it is recommended that the estimate be raised from Rupees 80 to Rupees 120.

Athamungalum Tank.—This tank lies below the one last noticed and surpluses into the Kuttagarampoliam tank.

The bund was repaired a few years ago and is in good order, but the only sluice which this tank has is out of order and not repairable, and the present means of the surplusing is merely a cut at the end of the bund.

The estimate provides for—

- (1). Reconstructing the Irrigation sluice.
- (2). Constructing a masonry weir.

The length of the barrel of the sluice as designed is very great—upwards of 50 feet—as it has been adapted to a bank with a front slope of 3 to 1 and a rear slope of 2 to 1. It will probably be feasible and economical to reduce the length to about 35 feet. The interior dimension should not be less than 2 feet $\times$ 2 feet 6 inches. The retaining walls and wing foundations had better go down to the "red gravel" said to be the underlying soil at the site.

The estimates are recommended for sanction.

Gungavarum Chockuppanairy Tank.—There are no tanks above this one; it surpluses into the Kuttagarapoliam tank.

The bund is low and weak throughout, and the present means of the surplus discharge is a cut at the end of the bund.

The estimates provide for—

- (1). Raising and repairing bund, turfing the front slope, and sowing grass seeds on the rear slope of the bund.
- (2). Constructing a masonry weir.

The turfing and grass seed planting provided for may well be struck out, and the estimate for repair of the bund thereby reduced from Rupees 710 to Rupees 510, which amount is recommended for sanction.

The estimate for the weir, Rupees 165, is recommended for sanction as it stands.

Gungavarum Large Tank.—This tank also has no tank above it, and surpluses direct into the terminal tank of the group. The bund is low and weak throughout, its sluice is out of order and not repairable, and the existing calingulah is insufficient to discharge the surplus.

The estimates provide for—

- (1). Raising and repairing the bund, turfing the front slope, and sowing grass seeds on the rear slope of the bund.
- (2). Converting the calingulah into weir.
- (3). Reconstructing the Irrigation sluice.
- (4). Constructing a masonry flush escape 40 feet in length.

It is recommended that the estimates be sanctioned; that for repairing the bund, however, being reduced to Rupees 450, by striking out the turfing and "grass seed sowing." The length of the barrel of the sluice might probably be shortened with advantage, but even then it will be so long that possibility of interior inspection must be provided for, and the size of the tunnel should not be less than 2 feet $\times$ 2 feet 6 inches.

Kadampoliam Tank.—This tank receives the surplus at the Gooliar tank and itself surpluses into the Kuttagarompoliam tank.

The bund is low and weak throughout, and the present means of the surplus discharge are merely cuts at the ends of the bund.

The estimates provide for —

- (1). Raising and repairing the bund, turfing front slope, and sowing grass seeds on the rear slope of the bund.
- (2). Constructing a masonry weir.

The estimates are recommended for sanction; that for repairing the bund, however, being reduced to Rupees 550, by striking out the "turfing" and "grass seed sowing."

The six tanks here dealt with all belong to the one main group, and there are two others which also belong to it; one the Gooliar tank, the District Engineer reports to be in good order; whilst the other, the Kondapoliam tank, is of such insignificance that it is not worthwhile spending money on it.

FORT ST. GEORGE,
30th August 1877.

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

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

No. 52.

ORDER THEREON, 7th September 1877, No. 306 I.

THE following estimates for Irrigation works in the Poloor Range, North Arcot District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted are sanctioned:—

Irrigation.

Name of Tank.	Provision of Estimate.	Fund, Ordinary Agricultural, Irrigation.	Amount.	Irrigation Register Number.
Kuttagarompoliam Tank Group.	Repairing tank bund, sluice, and channel bank.	Repairs	Rs. 2,180	1
	Repairing dam	Do.	420	2
	Extending and converting two calingulahs into weirs.	Original Works.	620	3
	Repairing bund	Repairs	235	1
	Irrigation sluice	Original Works.	120	2
	Flush escape	Do.	130	3
	Reconstructing irrigation sluice.	Original Works.	370	1
	Weir	Do.	235	2
	Repairing bund	Repairs	510	1
	Weir	Original Works.	165	2
Kuttagarompoliam Tank Group.	Repairing bund	Repairs	450	1
	Converting calingulah into weir.	Do.	35	2
	Reconstructing sluice...	Original Works.	310	3
	Flush escape	Do.	130	4
Kadampoliam tank	Repairing bund	Repairs	550	1
	Weir	Original Works.	240	2

2. These sanctions are registered as shown above.

(True Extract.)

Colonel R.E.

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

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

E. C. Shunker.
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Revenue Department
No 4068

IRRIGATION.
ACCOUNT.

Govt. of 1877 Madras.

PUBLIC WORKS.

under hand

The DISTRICT ENGINEER.
NORTH ARCOT.
&c. &c. &c.

Dated September 7th.

Issued

Recd. 19 September 1877. Encl.

G. O., 7th September 1877, No. 306 L.

SEPTEMBER.

Nos. 51-52.

Kottagurampallam Tank Group, North Arcot
District. — Sanctions estimates for repairs to
certain tanks of the

45599
Comm. to the
Board of Revenue
19. Sep 77

77419 of 1877 (20-9-77)