

(1) Number of pages _____

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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue

DEPARTMENT

G.O. No.	3009	Press.
B.P. No.		Mis.
Dated	29.5.1877	197

Not to be folded or roughly handled.

3009
GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

8th May 1877, No. 16 L.

Irrigation.
Account.

Read the following paper:—

No. 31

No. 31. *Note by the Chief Engineer for Irrigation.*

THE Superintending Engineer, Chingleput, forwards with his letter marginally noted an estimate in connection with the Kuam Tank situated in the Conjeveram Taluq, No. 3 or Chingleput Range.

2. The nature of the work proposed for execution and the heads of account to which it is chargeable are as follow:—

PALAR ANICUT SYSTEM.

GOVINDAVADY HANNEL.

N. Tanks and sercoirs.

Revenue Extensions and Improvements.

	RS.
Constructing a rough-stone escape	430
Raising the crests of the north and south calingulahs and providing wooden shutters between dam stones	565
<i>Maintenance and Repairs.</i>	
Repairing the bund	4,840
Do. the southern calingulah	2,910
Total	8,745

3. The following particulars of this tank are recorded:—

Ayacut area	Acres	2,028
Assessment	Rupees	9,977
Average revenue	"	11,272
Highest do.	"	11,515
Expenditure during the previous six years	"	8,950

The area of the catchment basin is 37 square miles, the maximum flood supply is calculated at 6243.75 cubic feet per second, for discharging which as surplus there are two calingulahs, one at the north end and the other at the south end; the former

is $122\frac{1}{2}$ and the latter $97\frac{1}{4}$ feet in length, total $219\frac{3}{4}$; effective 180 feet. In addition to the above a rough-stone escape, 318 feet in length, is proposed to be built; the aggregate length available for the surplus discharge will then be 488 feet. The estimate of maximum flood discharge is liberal, and the weirs may be reckoned upon to discharge 6,160 cubic feet a second. The crests of the existing calingulahs are to be raised and wooden shutters are to be placed between dam stones. The estimate also provides for—

- (1.) Repairing the bund and raising it where necessary.
- (2.) Repairing the calingulah which was damaged to a considerable extent in 1874.
- (3.) Repacking much of the stone revetment.
4. The Kuam is the terminal tank of a somewhat extensive group, consisting apparently of the following:—

1. Pudupakkum large tank	...	It is stated that the estimates for these tanks have been already submitted, probably to the Superintending Engineer.
2. Do. small do.	...	
3. Perikarambur tank	...	
4. Velloyur do.	...	
5. Uvvery do.	...	
6. Boodery do.	...	
7. Kattoopettoo do.	...	
8. Putteri do.	...	
9. Parandur do.	...	
10. Govindavady large tank...	...	These two estimates have been sanctioned in G.O., No. 2,435, 13th September 1876.
11. Do. Chittary tank	...	
12. Maniyachi Mel tangle	...	
13. Do. Keel do.	...	It is stated that the estimates for these tanks are "herewith submitted," probably to the Superintending Engineer.
14. Kottavakkum tank	...	
15. Pallambakkum do.	...	
16. Velathur Madura tangle...	...	
17. Nagavodu tank	...	
18. Akkamapuram large tank	...	
19. Do. small do.	...	
20. Eknapuram tank	...	
21. Do. Vyalary tank	...	
22. Magadevimungalam tank	...	Estimates under preparation.
23. Kunakarambakkum do.	...	
24. Kannan tangle	...	
25. Ettikutbamedu tank	...	
26. Vuppurepalayam tank	...	
27. Edaiyarpakkam do.	...	
28. Vellattur large do.	...	
29. P. Pudilangal	...	
30. Karanum tangle...	...	In good order.
31. Konman do.	...	
32. Pudupatu tank	...	

5. The tanks of the group are fed by the Govindavady Channel and by the Kambakal, a tributary of that channel. The Govindavady Channel is a main channel of the Palar Anicut. It would have been much more satisfactory had the whole of the tanks in this group, including the Kuam, been taken up together, and if the renovation of the group had been considered as one project. One general abstract estimate for the whole of the repairs and new works required could then have been compared with an abstract of the ayacut area and revenue and the average cultivation and revenue of the group. There does not seem to have been any thing to prevent this; for emergent repairs could have been executed on distinct estimates sanctioned by the District Engineer which could have been supplemented by revised estimates including every thing which was considered necessary and framed after proper investigation.

The Kuam tank was repaired in 1869-70 at a cost of Rupees 8,950, the principal part of the outlay being for stone revetment.

- * To Superintending Engineer, No. 38, 9th January 1875.
From Superintending Engineer, No. 1,039, 24th June 1876.
To Superintending Engineer, No. 83-C.N., 1st December 1876.

It will be seen from the correspondence* and the longitudinal section of the bund that a large part of the estimate (Rupees 2,621) is for the repacking of revetment done prior to 1869-70 and in the years 1869-70 and 1870-71. It is not

shown what the quantity in the later period was, but roughly it may be taken that three-eighths of the above sum, or Rupees 980, appertain to this recent work. It will be seen also from the revised cross sections, and especially from the enlarged cross section No. 36, in which the details of the revetment are more clearly shown, that the design for rebuilding the stone work is inappropriate, inasmuch as the toe is everywhere unprotected and would be liable to be undermined. It is moreover unnecessary to lay the stone at so flat a slope as 2 to 1. Stone of the kind indicated in the section will certainly stand very well if properly built at 1 to 1, and the same quantity will then suffice to protect the bund up to 18 inches above M.W.L. and to secure a good foundation. Indeed with this altered slope a length on the slope of 10 feet instead of 13 feet will do, as no part of the toe will then be less than 3 feet from the surface of the ground. The earth of the slope above A.B. and in front of the surface of the revetment should be replaced and rammed; that removed to find place for the revetment will suffice to repair the upper part of the bund, and a material reduction of cost and a greater security may be thus obtained.

6. The crests of the two masonry calingulahs are at present at varying levels between 22.00 and 23, and they are to be brought to a uniform level of 23 on the raised datum of 25 feet below the higher part of the crest of the south calingulah. F.T.L. is taken to be at 25.00, and the water is to be retained to this level by means of planks to be hung from hooks in the upright stones (Superintending Engineer's No. 1,039, 24th June 1876,) and are to be removed and locked up during the heavy rains. The details of the arrangement are not clear, and no provision has been made for shutter lock-ups. Under present circumstances perhaps this way of disposing of surplus may be allowed, but if another 300 feet of escape at F.T.L. can be given at the north end, the whole of the escapes might be at F.T.L. and self-acting and irrigation water could be passed through nice openings left in the crest walls of the old weirs and regulated by shutters. Without a conservancy establishment the management of the planks on the weir crest is not likely to be satisfactory. The repairs to the south calingulah have been executed in anticipation of sanction.

7. The capacity of the tank at proposed F.T.L. 25.00 is stated to be 8,720,000 cubic yards, which gives about 4,200 cubic yards to each acre of the ayacut area. This is below the average requirements of an acre of rice-planted land; but the revenue particulars indicate that the storage is sufficient.

8. The work proposed for this tank is recommended for sanction; but, as the requirements of the group, of which the Kuam tank is a part, cannot be properly considered unless the whole of its component parts and their circumstances are placed before the Government at one and the same time, the Superintending Engineer should supply an abstract of the estimates, cultivation, revenue, and past outlay for the whole group as soon as the requirements of the other tanks have been ascertained.

9. The Superintending Engineer should be careful to show on the estimates of all irrigation works connected with the Palar Anicut system that they appertain thereto.

FORT ST. GEORGE,
27th April 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. 32. ORDER THEREON, 8th May 1877, No. 16 I.

THE following estimate from the No. 3 or Chingleput Range forwarded by the
Superintending Engineer, Chingleput, is sanctioned:—

KUAN TANK.

Head of Service—Irrigation.

Group or Project.	Fund and Class.	Name of Tank.	Particulars of Work.	Amount
Palar Ancient System.	Revenue—Extensions and Improvements.	Kuan Tank.	1. Constructing a rough-stone escape.	Rs. 430
	Do. ...		2. Raising the crests of the north and south calingulabs and providing wooden shutters between dam stones.	565
	Revenue—Maintenance and Repairs.		3. Repairing the bund ...	4,840
			4. Repairing the southern calingulah.	2,910
			Total ...	7,750

Total Rupees 8,745.

To be carried out by the Public Works Department.

2. This sanction has been registered as No. 39-I of 1877-78.

3. The Superintending Engineer, Chingleput, will supply abstracts of outlay, past and proposed, and particulars of cultivation and revenue, ayacut area, and assessment for all the tanks of this group as suggested by the Chief Engineer.

(3 Extract.)

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

To the Superintending Engineer, Chingleput
" Collector of Chingleput.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts
" Revenue Department.

Revenue Dep

IRRIG.
ACCOUNT.

Govt. of 1877 Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER,
CHINGLEPUT,
&c., &c., &c.

Dated May 8th.

Issued

Recd. *30th May 1877* Encl.

G. O., 8th May 1877, No. 16 I.

MAY.

Nos. 31-32.

Kuam Tank, Chingleput District.—The
estimate of Rupees 8,745 for certain works
to the —, sanctioned. *No 3009*

Comm^d to the
Board of Revenue
20th May 77