

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referenceor _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 356 (2)	Press ~~Mis.~~
Dated 2-2-	1877.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
2nd February 1877. No. 356.

Read the following :—

No. 86-W.

No. 83.

Note by the Chief Engineer for Irrigation.

The following estimates from the Paracolum Sub-division are forwarded by the District Engineer, Madura, with his letter No. 3,156, dated 23rd November 1876. marginally noted :—

TANKS AFFECTING LINE OF RAILWAY.

Kulligoody Valley.

Taluq.	Village.	Work.	Amount.
Tirumangalam ...	Kulligoody ...	Shengolum Tank ...	Rs. 366
Do. ...	Do. ...	Arasacolum do. ...	480
Do. ...	Do. ...	Varatharajapoorum Tank ...	195
Do. ...	Do. ...	Culkolam Tank ...	190
Do. ...	Do. ...	Lalapoorum Tank ...	1,210
Do. ...	Anthanoor ...	V. Tank ...	1,765
Do. ...	Cunnathore ...	V. Tank ...	2,785
Total ...			6,991

2. The Financial and Hydraulic details of the Irrigation Works concerned are exhibited in the following statement :—

I.—Financial Details.

Name of Work.	Approx. Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	Outlay.			
					During the previous 5 years.	Proposed Ordinary Agricultural Irrigation.		
						Original Works.	Repairs.	Average Annual Proportion of Charges to Revenue.
	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	PER CENT.
Shengolum Tank ...	103	568	485	531	...	60	305	15.0
Arasacolum do. ...	99	530	400	430	...	150	330	24.0
Varatharajapoorum Tank ...	78	373	322	406	...	112	83	12.1
Culkolam Tank ...	45	213	120	121	...	110	80	31.6
Lalapoorum Tank ...	63	324	284	294	...	370	840	85.2
Anthanoor Tank ...	62	192	145	159	...	675	1,090	243.4
Cunnathore Tank ...	117	622	518	581	...	670	2,115	107.5
Total ...	567	2,322	2,274	2,522	...	2,147	4,844	61.4

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 M. T. L.	Above M. T. L.		
Shengolum Tank	0.5	283		W 46	46	2.70	2.70	283.9	1
Arasacolum do.	12.5	2,421		W 54	100	4.5	3.0	558.8	1
Varatharajapooram Tank	3.5	1,055		W 200	254	4.5	2.5	1,990.8	1
Culkolum Tank	3.0	936		W 168	168	3.0	1.5	858.2	1
Lalapooram Tank	2.0	721		W 152	152	3.0	1.5	773.8	1
Anthanoor do.	3.0	936		W 75	75	4.5	2.5	712.7	1
Cunnathore do.	4.0	1,134		W 99	99	4.0	2.0	940.7	1
				W 94	118	4.5	2.5	1,121.3	1

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

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

Shengolum Tank.—The bund of this tank is low and weak, but the revetment is in good order; the existing masonry weir is in need of repairs, and is insufficient to discharge the surplus. It is therefore proposed to construct an additional weir 54 feet in length at the junction of the bund of this tank with that of the Arasacolum Tank. The weir will consequently be common to both of these tanks.

The estimate provides for raising and repairing the bund, repairing the weir, and constructing an additional masonry weir.

Arasacolum Tank.—The bund of this tank is low and weak, and the tank is not provided with proper surplus works. It is proposed to raise and repair the bund, to bank up the existing outlets, and to construct a masonry weir 200 feet in length. The 54-feet weir referred to in the remarks on the Shengolum Tank will be effective, to a certain extent, for discharging the surplus of this tank also.

The estimate provides for raising and repairing the bund, closing outlets, and constructing a masonry weir.

Varatharajapooram Tank.—This tank has no surplus work; the bund is low and weak; it is proposed to provide the tank with a masonry weir, and to raise and strengthen the bund. The estimate provides for these repairs and additions.

Culkolum Tank.—This tank has no escape; the surplus is discharged through a cut; the bund is low and weak. The estimate provides for raising and repairing the bund, and for constructing a masonry weir.

Lalapooram Tank.—The bund is very low and weak, and requires to be raised and strengthened. The tank discharges through a natural escape. It is proposed to raise and strengthen the bund, to close the escape, and to construct a masonry weir. The estimate provides for these repairs and additions.

Anthanoor Tank.—The bund is low and weak, and needs to be raised and strengthened. The tank is provided with a calingulah, but it is in a ruined condition. It is proposed to replace it by a masonry weir.

The estimate provides for raising and repairing the bund, and constructing a masonry weir.

Cunnathore Tank.—The bund of this tank is low and weak, and the surplus works insufficient. It is proposed to convert the existing calingulah into a weir, and to raise and strengthen the bund. The estimate provides for these repairs and improvements.

4. The earth slopes shown in the sections of the proposed bunds are too steep to be at all permanent. The inner slope, unless revetted with stone, should be $1\frac{1}{2}$ to 1, the outer one 2 to 1.

It does not seem desirable to incur a debit to irrigation of Rupees 1,765 on account of the Anthanoor Tank, the average revenue of which is only Rupees 145, and the estimate cannot be brought forward for the sanction of Government unless it can be shown that the expenditure would result in extended irrigation.

The longitudinal section indicates that it is contemplated to increase the capacity of the tank, and if so, some comparison between the former capacity and the acreage supplied on the one hand, and the future capacity and corresponding acreage will be necessary. It is doubtful whether it is necessary to construct masonry surplus weirs to some of the smaller of these tanks. If good rubble stone be available, dry stone pavements and wing revetments would probably answer the purpose, and elsewhere this arrangement has been introduced with success.

The designs for surplus weirs are defective in several important details, as noted on the plans of the two last works.

5. 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.	
Shengolum Tank	Raising and repairing the bund	Rs. 280	Rs. 28	366
	Repairing the weir	60	330	
Arasacolum Tank	Constructing a masonry weir	150	88	480
	Raising and repairing the bund	112	50	
Varatharajapooram Tank	Constructing a masonry weir	110	840	1,950
	Raising and repairing the bund	370	55	
Culkolum Tank	Constructing a masonry weir	670	...	2,785
	Raising and repairing the bund	...	...	
Lalapooram Tank	Repairing calingulah	...	...	...
	Constructing a masonry weir	...	...	

Fort St. George,
29th January 1877.

(Signed) A. DE C. SCOTT, Major, R.E.,
Dy. Chief Engr. for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

Proceedings of the Madras Government, Public Works Department,
2nd February 1877. No. 356.

No. 84. Order in Council, 2nd February 1877, No. 356.

IRRIGATION, No. 9.

Account.

No. 86.W, dated 2nd January 1877.

The following estimates for Irrigation Works in the Paracolum Sub-division, Madura District, forwarded by the Chief Engineer for Irrigation with his Memorandum marginally noted, are sanctioned.

Irrigation.

Name of Tank.	Provision of Estimate.	Particulars of Estimate.	Amount.	Irrigation Register No.
			Rs.	
Shengolam Tank	Repairing bund	Repairs	280	1)
	Do. weir	Do.	26	2)
	Weir	Original works	60	3)
Aracolum Tank	Repairing bund	Repairs	330	1)
	Weir	Original works	150	2)
Varatharajapuram Tank	Repairing bund	Repairs	83	1)
	Weir	Original works	112	2)
Culakulam Tank	Repairing bund	Repairs	80	1)
	Weir	Original works	110	2)
Lalapooram Tank	Repairing bund	Repairs	840	1)
	Weir	Original works	370	2)
Gunnathore Tank	Repairing bund	Repairs	2,000	1)
	Do. oolingulak.	Do.	55	2)
	Weir	Original works	670	3)

2. These sanctions are registered as shown above.

(True Extract.)

Lieut. Colonel, R.E.,
Secretary to Government.

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

Exd. A. Grubert.
Spare Copies

P. L. Form No. 1.

OFFICE OF CHIEF ENGINEER FOR IRRIGATION,

No. 86.W.

Fort. St. George - 29th Jan'y 1877.

Note by the Chief Engineer for Irrigation.

No. 3156

Dated 23 Nov 1876.

Encls 28

The following Estimates from the Paracolum Sub-division are forwarded by the District Engineer Madura with his letter marginally noted:—

Tanks affecting line of Railway.
Talug. Village. Work. Amount.
Rs.

Kulligorey Valley.

Shroomangalam - Kulligorey - Shengolam Tank - " 366.
do do Aracolum Tank " 1480
do do Varatharajapuram Tank " 195
do do Culakulam Tank " 190
do do Lalapooram Tank " 1510
do do Gunnathore - V. Tank " 1765
do do Gunnathore - V. Tank " 2785

Total Rupees, 6991.

are exhibited in the following statement:—

1.—Financial Details.

Name of Work.	Acreage Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	During the previous 4 years.	OUTLAY.		
						Provisional Estimate.	Actual Expenditure.	Average annual proportion of Charges to Revenue.
	Acres	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Shengolam Tank	103	568	485	331	Nil	60	306	15.0
Aracolum Tank	99	530	400	430	"	150	330	24.0
Varatharajapuram Tank	78	373	322	406	"	112	83	12.1
Culakulam Tank	45	213	120	121	"	110	80	31.6
Lalapooram Tank	63	324	284	294	"	370	840	85.2
Gunnathore Tank	62	192	145	159	"	675	1090	243.4
Gunnathore Tank	117	622	518	581	"	670	2115	107.6
Total	567	2822	2274	2522	"	2117	4844	61.1

Name of Work.	Catchment Basin Area.	Maximum Supply.		Length of Escape.		Average Height of Bund.		Surplus discharged at M. T. L. per Sec.	Tanks above.
		Catchment per Second.	Channels per Second.	Total.	Effective.	Average Height of Bund.			
						Above F. T. L.	Above M. T. L.		
	Sq. M.	C. ft.	C. ft.	Ft.	Ft.	Ft.	Ft.	C. ft.	No.
Shengolam Tank	05 288	"	"	W. 46	46	220	070	220	1
Arasacolum Tank	125 348	"	"	K. 26	26	200	200	200	2
Varatharajapuram	25 1035	"	"	Nil.	Nil.	267	207	200	1
Julholum	10 936	"	"	Nil.	Nil.	226	226	200	1
Salaapuram Tank	20 721	"	"	K. 17	17	222	200	200	1
Anthuram Tank	30 936	"	"	K. 25	25	207	200	200	1
Jennathore Tank	10 1035	"	"	K. 26	26	200	200	200	1

Note.—The proposed dimensions of escapes and heights of bund are entered in red. The existing dimensions in black. The following abbreviations are used: K.—Kalligulak both dam stones. W.—Weir with Bush cross. F.—Escape at ground level. B.—Bund of tank. V.—Vellam.

each case—:

Shengolam Tank—The bund of this tank is low and weak, but the revetment is in good order, the existing masonry weir is in need of repairs and is insufficient to discharge the surplus. It is therefore proposed to construct an additional weir 54 feet in length at the junction of the bund of this tank with that of the Arasacolum Tank. The weir will consequently be common to both of these tanks.

The estimate provides for raising and

repairing the bund, repairing the weir and constructing an additional masonry weir.

Arasacolum Tank—The bund of this tank is low and weak and the tank is not provided with proper surplusing works. It is proposed to raise and repair the bund, to bank up the existing outlets and to construct a masonry weir 200 feet in length. The 54 feet weir referred to in the remarks on the Shengolam Tank will be effective to a certain extent for discharging the surplus of this tank also.

The estimate provides for raising and repairing the bund, closing outlets and constructing a masonry weir.

Varatharajapuram Tank—This tank has no surplusing work, the bund is low and weak, it is proposed to provide the tank with a masonry weir and to raise and strengthen the bund. The estimate provides for these repairs and additions.

Julholum Tank—This tank has no

escape

escape, the surplus is discharged through a cut, the bund is low and weak. The estimate provides for raising and repairing the bund and for constructing a masonry weir.

Lalapooram Tank - The bund is very low and weak and requires to be raised and strengthened. The tank discharges through a natural escape. It is proposed to raise and strengthen the bund, to close the escape and to construct a masonry weir. The estimate provides for these repairs and additions.

Anthanoor Tank - The bund is low and weak and needs to be raised and strengthened. The tank is provided with a Kalingulak but it is in a ruined condition, it is proposed to replace it by a masonry weir.

The estimate provides for raising and repairing the bund & constructing a masonry weir.

Lennathore Tank - The bund of this tank is low and weak and the surplus

26
works insufficient. It is proposed to convert the existing Kalingulak into a weir and to raise and strengthen the bund. The estimate provides for these repairs and improvements. The earth slopes shown in the sections of the proposed bunds are too steep to be at all permanent. The inner slope unless revetted with stone should be $1\frac{1}{2}$ to 1 the outer one 2 to 1.

It does not seem desirable to incur a debit to Irrigation of Rs 1765 on account of the Anthanoor Tank, the average revenue of which is only Rs 145 and the estimate cannot be brought forward for the sanction of Govt unless it can be shown that the expenditure would result in extended irrigation.

The longitudinal section indicates that it is contemplated to increase the capacity of the tank and if so some comparison between the former capacity and the acreage supplied on the one hand and the future capacity and corresponding acreage will be necessary.

1877.

From
The Chief Engineer for Irrigation
P.W.D.
31/1/77
No. 287

Dated 29th January 1877.
Recd 30th January 1877.

Encls 28.

No. 86-W.

Tank Repairs - Madura District.
Note submitting for sanction estimate
for certain —.

P. L. Form No. 3.

No 356 of 2/1/77

Mr. Secy

The following Estimates for Irrigation
Works in the *Paracolum* Sub-Division
Madura District, forwarded by
the Chief Engineer for Irrigation with his
No. 86-W. dated 29th Jan'y 1877. Memorandum marginally noted are sanctioned.

Irrigation.

Name of Tank.	Provision of Estimate.	Kind Ordinary agri- cultural — Irrigation	Amount	Irrigation Register No.
Thucolum Tank.	Repairing bund	Repairs	280	292 I
	do weir	do	26	
	Weir	original works	60	
Arasacolum Tank	Repairing bund	Repairs	330	293 I
	Weir	original works	150	
Varatharajapuram Tank	Repairing bund	Repairs	88	294 I
	Weir	original works	112	
Putholam Tank	Repairing bund	Repairs	80	295 I
	Weir	original works	110	
Lalapoom Tank	Repairing bund	Repairs	840	296 I
	Weir	original works	370	
Sunnathore Tank	Repairing bund	Repairs	2060	297 I
	do habigulab	do	55	
	Weir	original works	670	

2. These sanctions are registered

as shown above.

By Madura
Collectors do
Ch. for Irrig. (with 2) Encls.
Sent. H. H.
Madura District
Dated 6-2-77

Gr 31-1-77

1898

OF 1877
PUBLIC WORKS.

To

Dated

Amount

By

For

1877

1877

30

No. 83-26

Santh affecting line of
Railway, Madras &c

The estimate amounting
to Rs 6991 for repairs to
certain —, sanctioned.