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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

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*Proceedings of the Madras Government, Public Works Department,
10th September 1874.*

Read the following papers:—

No. 215. From the District Engineer, North Arcot, dated 4th August 1874,
No. 1,306.

No. 589-D.

No. 216. *Note by the Chief Engineer for Irrigation.*

THE following estimates for the repair and improvement of certain tanks in the North Arcot District have been submitted by the District Engineer, and are recommended for sanction:—

1. *Pully Tank.*—Estimate Rupees 2,100.

Ayacut Area	...	...	...	...	...	...	Acres	139
Do. Assessment	...	...	...	...	...	...	Rupees	1,094
Average Revenue	...	...	...	...	...	...	"	649

No expenditure on repairs has been incurred in the last four years. The drainage basin of the tank, including the basins of the Mungalum and Thumbey tanks, which surplus into it, is 4 square miles. The present calingulah has a length of 38 feet, of which 31 feet are effective. The upright stones are to be removed and the surplus weir lengthened to 77 feet, which will discharge the maximum estimated flood of 1,417 cubic feet a second, with a depth on crest of 3 feet. The bund which is shown by the longitudinal section to be much in need of raising in many places will be $5\frac{1}{2}$ feet above F. T. L. The tank was breached in 1872. The whole estimate may be treated as a repair, the cost of the extension of the weir being but slightly more than $\frac{1}{4}$ th of the total expenditure proposed. It may be hoped that, when the tank has been rendered efficient, the average revenue will approximate more closely to the ayacut assessment.

2. *Kagañum Hissa Tank.*—Estimate Rupees 4,690.

Ayacut Area	...	...	...	...	...	...	Acres	378
Do. Assessment	...	...	...	...	...	...	Rupees	2,242
Average Revenue	...	...	...	...	...	...	"	2,095

Expenditure on repairs in the last four years Rupees 500 in 1871-72. The supply proper of the tank is obtained from a drainage basin of about 2 square miles, but it receives also the surplus of eight tanks, thereby raising the total area of drainage to be provided for to 10 square miles. There were two calingulahs, one of which was swept away when the tank breached in 1872, since which time it has not been repaired. A new escape is to be constructed, having a length of crest of 120 feet, and with the southern calingulah, which will be converted into a flush escape, the total length available for discharging surplus will be 168 feet, which will suffice to pass the estimated maximum flood discharge of 2,610 cubic feet a second, with a depth of 2.67 feet going over. The bund is to be brought to a height of $5\frac{1}{2}$ feet above escape crest level. The wings of the southern escape should be raised to the full height of the bund instead of to $1\frac{1}{2}$ feet above M. W. L.; the difference in expense will be quite nominal, and the precaution is one which may with advantage be taken.

The part of the estimate chargeable to repairs is	...	...	Rs.	3,920
Do. do. Minor New Works, new surplus weir	...	...	"	770

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10th September 1874.

The rate* for earthwork is higher than would seem to be necessary, and, with reference to previous remarks and orders on this subject, it should be enquired into and sub-divided into its component parts, as well as fixed in detail for different parts of the work.

* 1½ Annas.

3. Nelly Tank.—Estimate Rupees 4,250.

Ayacut Area	...	...	...	...	...	Acres	125
Do. Assessment	...	...	...	...	...	Rupees	1,221
Average Revenue...	...	...	...	...	...	..	1,108

No repairs have been executed during the past four years.

The tank was breached in 1872, and the longitudinal section shows that much of the bund is below the water level, which will be the maximum when the capacity of the escapes shall have been increased. A sluice was washed away and is to be re-built: some of the dimensions shown in its plan are too slight for hydraulic works. Thus the front wing returns 6 feet high have a mean width of only $\frac{19+9}{2} = 13\frac{1}{2}$ inches, and the minimum allowable is 24 inches; the plug hole should be placed clear of the plane of the face wall; the lines of the sluice are somewhat too direct for a water-tight junction with the earthworks. To enable these details to be modified the estimate for the sluice will be increased from Rupees 400 to Rupees 450.

The tank receives drainage from the following areas:—

Catchment basin of Iveditangle	...	...	...	...	2 square miles.
Do. do. Tirupananur Tank	...	...	...	...	3 .. "
Do. do. Selery do.	...	...	...	...	2 .. "
And its own do.	...	...	...	...	2 .. "
					9 .. "

The maximum flood discharge is estimated to be 2,434 cubic feet a second, and by the removal of the upright stones of two of the present escapes, and adjusting the levels of the crests to full tank level, an effective length of escape of 144 feet will be secured, and this will get rid of the maximum flood discharge with a depth of 3 feet passing over. The bund is to be 5½ feet above F. T. L., and with the upper tanks in good order this tank will be quite safe. The damage it sustained was due chiefly to the breaching of the Tirupananur and Selery tanks, for which estimates have already been sanctioned. The whole of the work provided for in the estimate, which as revised amounts to Rupees 4,300, will be chargeable to repairs.

G. O., 28th July 1874, No. 2,023.

4. Marianellore Tank.—Estimate Rupees 2,650.

Ayacut Area	...	...	...	...	...	Acres	53
Do. Assessment	...	...	...	...	...	Rupees	475
Average Revenue...	...	...	...	...	...	..	426

Expenditure on repairs in the last four years Rupees 1,066 in 1872-73. The tank was very badly breached in 1872, and the breaches were partly filled in by the villagers, who also did some work, apparently after the storm of May 1874. Special care must be taken that their work is examined completely, and all defects made good, otherwise there will be great risk of the old breaches giving way again. The old calingulah was 43 feet in length with 17 upright stones so

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that probably not more than 35 feet were effective; this work is so much injured that it is intended to remove it and to build a new one of sufficient capacity. The tank has a drainage basin, including those of the Judayairy and of the three tanks of Nedumbery, of 5 square miles, and the maximum flood discharge has been estimated to be 1,642½ cubic feet a second. To dispose of this a surplus weir 89 feet long has been included in the estimate, but it will be better to allow 100 feet; and as the estimate is, including wings, just under 7 Rupees a foot run, the additional 11 feet will cost about 60 Rupees, and the amount for this work will be increased from 620 to 680 Rupees.

The part of the estimate debitable to repairs is	...	...	Rs. 2,030
Do. Minor New Works, a new surplus weir 100 feet long	...	..	680

2. The District Engineer has also forwarded 24 estimates for the repair and improvement of a number of tanks in the Wandiwash Taluq, most of these being small. The average revenue of the whole of them is Rupees 6,412, and the estimates amount to Rupees 14,585 and

* By means of rough-stone pavement.

provide for repairs, for the disposal* of surplus, and for 23 sluices. The principal particulars are given in a list, dated 4th instant, and the following abstract shows the amounts chargeable to repairs and Minor New Works, respectively. Of the 24 tanks expenditure on repairs has been incurred during the last four years on 14, the total amount spent having been Rupees 3,973:—

	Names of Tanks.	Average Revenue.	Amount of Estimate.	CHARGEABLE TO		
				Repairs.	Minor New Works.	
		RS.	RS.	RS.	RS.	
1	Kunamungalum Pullithangle	112	355	190	165	One sluice, 26½ acres.
2	Nelloovoy Chittary	153	208	206	300	One sluice, 27½ acres.
3	Sadathangle	61	364	204	160	" " 17 "
4	Velariputt Valenthangle	45	300	140	160	" " 11½ "
5	Thelloor Chittary	144	720	420	300	" " 34½ "
6	Do. large	770	1,010	720	290	" " 158½ "
7	Alathoor Chittary	317	930	340	590	Two " 39½ "
8	Malmah do.	317	620	295	325	" " 56½ "
9	Iyanody	510	920	760	160	One " 75½ "
10	Pyoor	245	910	590	320	Two " 51½ "
11	Poonathoor	131	260	100	160	One " 19½ "
12	Ariathoor Chittary	369	885	725	160	" " 153½ "
13	Keelpakum	147	965	805	160	" " 52½ "
14	Applanthangle	912	735	735		
15	Covelay Chittary	507	1,050	1,050		
16	Sathanoor	138	540	380	160	One sluice, 25 "
17	Sengapully	106	150	150		
18	Ooloondy Chittary	326	525	225	300	One sluice, 43 "
19	Garudapuram	112	285	125	160	" " 18½ "
20	Poondy	122	405	245	160	" " 23½ "
21	Manalavady	152	290	130	160	" " 33 "
22	Noedoor Alanthangle	171	710	550	160	" " 27 "
23	Amdur Chittary	420	900	740	160	" " 67½ "
24	Do. large					
	Total...	6,412	14,585	10,075	4,510	

*Proceedings of the Madras Government, Public Works Department,
10th September 1874.*

The information given in these estimates is not at all what it should be. All that is said in the accompaniments thereto is that the object of the work is "to retain water for the nunja cultivation and to secure the work from further injury." The estimates are signed by Overseer Sietaram Naidu, and counter-signed by Lieutenant Bevan, and they compare unfavorably with those prepared by Assistant Engineer Soobroyachariar in the Vellore Range. Instead of appending to every estimate a remark which has nothing to do with the particular circumstances of each tank, there should have been a short description of these. With regard also to those tanks on which a heavy expenditure has been incurred in the last four years, a few words of explanation would not only have been proper but was very necessary. Nearly three years' revenue were so spent on the Thalloor large tank, and now five years' revenue have to be asked for. On the Pyoor tank Rupees 1,076 were spent, and the present estimate is Rupees 920, the average revenue being Rupees 510. On the Keelpakum tank, the revenue of which is Rupees 369, Rupees 572 were spent, and now Rupees 895 are required. On the Applanthangle Rupees 615 have been expended, Rupees 965 are required, and the revenue is but Rupees 147. It is, therefore, not at all satisfactory that these facts should have been left without comment. No doubt they are to a great extent explained by the system which formerly prevailed of closing branches and raising low parts of bunds without providing for the safety of tanks in other ways, but it is as easy to write a few lines of information which would be of value, and such information must be acquired by a man of ordinary intelligence when estimating for a tank, as to write out a set phrase which really is of no significance, and which involves a simple waste of time. The arrangements made for the disposal of surplus will, as regards the smaller tanks, probably do permanently; but some of those in the list are of sufficient importance to make it desirable that they should at some future time be provided with masonry escapes, and the stone now to be used on the pavements will then be available for the regular surplus weirs.

3. It is extremely desirable that all the tanks in the valley of the Checar, which surplus into the Madranticum tank ultimately, should be rendered safe, and it is satisfactory to find that many of them are being taken up this year. The group must be worked at steadily until not one shall remain unattended to.

4. With regard to the sluices, it has not been stated what tanks have sluices already. The acreage of each of those tanks for which sluices are to be provided has been noted in the foregoing list, and it appears to be necessary to make two remarks—

1st.—That ordinarily a sluice should irrigate atleast 50 acres, and that unless clearly necessary a second sluice should not be given for a smaller area than 75 acres.

2ndly.—That for very small tanks, which nevertheless must have one sluice, which must not be a source of constant danger, a cheaper design seems to be desirable and necessary.

The estimates of Rupees 160 for a 4 yards sluice, and Rupees 300 for one of 6 yards are both high, and it is thought that for tanks irrigating less than 25 acres a sluice that would answer the required purpose might be built for 80 or 90

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Rupees. Some concrete sluices have recently been constructed in the Chingleput Range, and have, it is reported, been found efficient, and it would be well to seek in this or a similar direction for some arrangement whereby the many hundreds of sluices for petty tanks which are required may be constructed at as small an outlay as is possible without sacrificing efficiency and security to economy.

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

OOTACAMUND,
18th August 1874.

No. 217. ORDER THEREON, 10th September 1874, No. 2,576.

IRRIGATION, No. 30.

THE following estimates for the repair and improvement of tanks in the North Arcot District are sanctioned:—

Repairs.

	RS.
Pully Tank...	2,100
Kaganum Hissa Tank ...	3,920 ✓
Nelly do. ...	4,300
Marianellore do. ...	2,030
The estimates for 24 tanks specified in paragraph 2 of the Note by the	
Chief Engineer for Irrigation ...	10,075

Minor New Works.

Kaganum Hissa Tank, a new surplus weir ...	700 ✓
Marianellore tank a do. ...	680
The estimates for sluices to 20 tanks specified in the above-named list	
	4,510

2. The remarks of the Chief Engineer for Irrigation in paragraphs 2 and 3 of the foregoing Note will receive the special attention of the District Engineer. It is noticed with satisfaction that many of the estimates lately submitted from the North Arcot District have been very well prepared.

(True Extract.)

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

To the District Engineer, North Arcot.
" Chief Engineer for Irrigation.
" Officiating Controller of Public Works Accounts.

Exd. S. T. Austin.
Spare Copies

No 1306 North Arcot
District Engineer's Office
Vellore August 1874

Now
The District Engineer
North Arcot

The Chief Engineer
For Irrigation
Madras

Enclosures-33
28 Estimates
1 Section
1 List of
Estimates.

Sir

I have the honor to forward the estimates noted in the margin, for the repair of tanks in the Arcot and Wandiwash Taluqs, with the following remarks.

1. Arcot Taluq. Pully tank, estimate Rs 2,100. This tank breached in 1872, owing in doubt as much to the condition of the bund, which for the greater part of its length is barely above the top of the clau-stones, and in parts even below this level, as to the insufficiency of co-
2. The estimate provided for

Pully Tank	Rs. 2100
Idaganam	" 1,690
Stelly	" 1,250
Marianellur	" 2,650

extending the escape to a clear length of 77 feet so as to discharge the surplus required with a depth of three feet and raising the bund to $5\frac{1}{2}$ feet above full tank level. It will be seen that there is room for a considerable increase of revenue from this tank.

3. Raganam tank Estimate Rs. 2640. This tank breached in 1872 and has not since been repaired. The escape is manifestly insufficient and the bund is in very bad order. The estimate provides for extending the escape to 168 feet and raising the bund to $5\frac{1}{2}$ feet above full tank level (not quite three feet above maximum water level).

4. Killy tank Estimate Rs. 4250. This tank breached in 1872 owing to the breaching of the Stipana-mara tank, an estimate for the repair of which has recently been submitted (O. G. No. 2023 of 28 July last). It has three escapes on different levels, built apparently at

at different times and without much reference to one another. Their aggregate length is sufficient if the dam-stones of two of them be removed, but extensive repairs are required to the bund, which in some parts is not three feet above the lowest of the three escapes and barely one foot above the principal one. It is proposed to remove the dam-stones of the two escapes which have them, and raise their crests to the level of the central one, which is, as nearly as can be judged, at the proper full tank level. The maximum water level will be about 2.82 feet and the top of the bund $5\frac{1}{2}$ feet above full tank level. Provision is made for the reconstruction of a sluice.

5. Marianellore tank Estimate Rs. 2650. This tank breached in 1872 and an attempt at repairing it has been made by the villagers. The estimate amounts to six years revenue, and this sum might doubtless be more profitably spent in other places but it is desirable that

That this tank should be put in order in the interests of the Chhattham tank below it, and also because other tanks in its neighbourhood are now being attended to, and it is as well to concentrate expenditure as much as possible.

6. The remaining estimates are all for works in the Wandewash Taluq. The first four are situated near the right bank of the Chagar, a little to the west of the Wandewash Trivartan Road. The two next are close to the angle between the Wandewash Trivartan and Wandewash roads. The remainder are all in the Clear valley in the space between the Wandewash - Congari road and the eastern boundary of the district. This space was more than the rest of the Taluq, is filled up with small tanks, the great majority of which have neither revenue sluices nor escapes.

7. The circumstances of these tanks have been ascertained as accurately as possible, and provision for their requirements has been made.

32. A 3-75

as explained in para 4 to 7 of my letter No. 959 of 322. Ultimo. It would be a waste of time to go into a detailed explanation regarding each one of these small works. The principal points requiring notice are therefore shown in the enclosed statement. It will be seen that in many instances the estimate is high as compared with the revenue of the tank, but this cannot be avoided if the tanks are to be kept up at all. It is worthy of notice that the Clear valley is closed by the large Ganga tank in the Chingdeput district, which I was informed by the District Engineer of Chingdeput was placed in great danger during last May owing to the breaching of tanks in the Wandewash Taluq.

9. I hope that the repairs now proposed will be sufficient to make the tanks safe for the present, but they are but unsatisfactory works at the best, and will always cost more for maintenance in proportion to their revenue than larger ones.

ones would do.

10. The repairs executed during the last four years were almost entirely for closing breaches caused by the floods of 1872.

I request that the following estimates may be retained when sanctioned.

I have the honor to be

Yours Most Obedient Servant

James L. Capitan R.C.
Highway Engineer of North Creek.

The drainage basin of the tank, including the basins of the Mun-
galund and Shumbay Tanks which
surplus into it, is 4 square miles.
The present catin gulah has a length
of 38 feet of which 31 feet are effie-
tive. The upright stones are to be
removed and the surplus weir
lengthened to 77 feet, which will
discharge the maximum estimated
flood of 1417 cubic feet a second with
a depth on crest of 3 feet. The hind
which is shown by the longitudinal
section to be much in need
of

of raising in many places will be $5\frac{1}{2}$ feet above F.T.L. The tank was breached in 1872. The whole estimate may be treated as a repair, the cost of the extension of the weir being but slightly more than $\frac{1}{8}$ of the total expenditure proposed. It may be hoped that, when the tank has been rendered efficient, the average revenue will approximate more closely to the agent's present.

2. Nagarnum Hippa Tank. Estimate

Agent area	Rupies 4,690
— adjacent	— 578
— adjacent	Rupies 2,242
Average revenue	— 2095

Expenditure on repairs in the last 4 years Rupies 500 in 1871-72.

The supply proper of the tank is obtained from a drainage basin of about 2 square miles, but it receives also the surplus of 8 tanks, thereby raising the total area of drainage to be provided for to 10 square miles. There were two calingulabs one of which was swept away when the tank breached in 1872, since which time it has not been

* $1\frac{1}{2}$ annas

been repaired. A new escape is to be constructed having a length of crest of 120 feet, and with the southern calingulah, which will be converted into a flush escape, the total length available for discharging surplus will be 168 feet, which will suffice to pass the estimated maximum flood discharge of 2,610 cubic feet a second with a depth of 2.67 feet going over. The bund is to be brought to a height of $5\frac{1}{2}$ feet above escape crest level. The wings of the Southern escape should be raised to the full height of the bund instead of to $1\frac{1}{2}$ feet above M.W.L. the difference in expense will be quite nominal, and the precaution is one which may with advantage be taken. The part of the estimate chargeable to repairs is Rupies 3,920 $5\frac{1}{2}$.
 — — — — — for new work — 770
 — — — — — new surplus weir — 770

The rate for earthwork is higher than would seem to be necessary, and with reference to previous remarks and orders on this subject

it should be engraved, large and subdivided into its component parts as well as given in detail for different parts of the work.

3. Polley-Tank. Estimated Pines 4250

bygone area. Dec. 1955

absent - 12/21

Stenopoma acuminatum — 1106

No repairs have been needed during the past 4 years.

The tank was breached in 1875, and the longitudinal section shows that much of the head is below the water level which will be the maximum when the capacity of the escapes shall have been increased. A sluice was washed away and is to be rebuilt. Some of the dimensions shown in its plan are too slight for hydraulic works. Thus the front wing returns 6 feet high, has a mean width of only $\frac{18+9}{2} = 13\frac{1}{2}$ inches, & the minimum allowable is 24 inches; the plug hole should be placed clear of the plane of the face wall; the lines of the sluice are somewhat too direct for a water.

tight junction with the earthworks
 To enable these details to be modified
 the estimate for the sluice will
 be increased from Rupees 400 to Ru.
 450.

pgs 1450.
 The tank receives drainage from the
 following areas
 Catchment basin of Lodditangle, 2 square miles
 P. Panamue, 2

Catchments of
do
Tiruppanamur
Saut. 3. ---

No. 2

4. The new $\frac{2}{9}$

und discharged.

The maximum flood, mated to be 2434 cubic feet a second, and by the removal of the upright stones of ~~the~~ 2 of the present escapes, and adjusting the levels of the crests to full tank level, an effective length of escape of 144 feet will be secured, and this will get rid of the maximum flood discharge with a depth of 3 feet passing over the bend, is to be 5 feet above F.T.L., and with the upper tanks in good order this tank will be quite safe. The damage it sustained was due chiefly to the

to the breaching of the Impiana
 and Selery Tanks, for which esti-
 mates have already been sanctioned G.O. 28 July 1874
 The whole of the work provided for in the estimate, which as re-
 vised amounts to Rupees 4,300,
 will be chargeable to repairs.

4. Marianello's Tank Estimate Rupees 2,650
 .. adjacent area Acres 53
 .. — — — — — Rupees 475
 .. average revenue — — — 426

expenditure on repairs in the last
 4 years Rupees 1066 in 1872-73
 The tank was very badly breached
 in 1872, and the breaches were partly
 filled in by the villagers, who
 also did some work apparently
 after the storm of May 1874. Special
 care must be taken that this
 work is examined completely, and
 all defects made good, otherwise
 there will be great risk of the
 old breaches giving way again.
 The old calingrah was 43 feet
 in length with 17 upright stones
 so that probably not more than
 35 feet were effective; this work is
 so much injured that it is intended
 to remove it and to build a new one
 of

of sufficient capacity. The tank has a
 drainage basin, including those of
 the Judayairy and of the 3 Tanks^{at}
 of Nedumberry, of 5 square miles, and
 the maximum flood discharge has
 been estimated to be 1642½ cubic
 feet a second. To dispose of this a
 surplus weir 89 feet long has been
 included in the estimate, but it
 will be better to allow 100 feet, and
 as the estimate is, including wings,
 just under 7 Rupees a foot run,
 the additional 11 feet will cost
 about 60 Rupees and the amount
 for this work will be increased
 from 620 to 680 Rupees.

The part of the estimate debitable
 to repairs is Rupees 2,030.

— do — minor new works — a new
 surplus weir 100 feet
 long ————— 680

2. The District Engineer has
 also forwarded 24 estimates for
 the repair and improvement of a
 number of tanks in the Wandu
 wash Taluq, most of them being
 small. The average revenue of the
 whole of them is Rupees 6,412 and
 the

the estimates amount to Rupees 14,585 and provide for repairs, for the disposal of surplus, and for ^{by means of rough stone} 23 sluices. The principal particulars are given in a list stated.

4th Instant, and the following abstract shows the amounts chargeable to repairs and minor new works respectively. Of the 24 Tanks expenditure on repairs has been incurred during the last 4 years on 14, the total amount spent having been Rupees 3973-

Names of Tanks	Average Annual Chargeable to				
	Revenue	Estimate	Repairs	Minor new works	
1 Kinnamungalam	112	355	190	165	one sluice, 26 1/2 acres
2 Puththangale					
3 Killoor Chittay	153	206	206	—	—
4 Adathangale	125	550	250	300	one sluice, 27 1/2 acres
5 Kalariputh Kallanthangale	61	364	204	160	one sluice, 17 1/2 acres
6 Thellor Chittay	45	300	140	160	one sluice, 17 1/2 acres
7 — do — large	144	720	420	300	one sluice, 34 1/2 acres
8 Alathor Chittay	770	1010	720	290	one sluice, 158 1/2 acres
9 Malimadu — do —	317	930	340	590	two sluices, 59 1/2 acres
10 Iyandiy	317	620	295	325	two sluices, 55 1/2 acres
11 Payor	510	920	760	160	one sluice, 75 1/2 acres
12 Poonathor	245	910	590	320	two sluices, 51 1/2 acres
13 Ariathor Chittay	131	260	100	160	one sluice, 19 1/2 acres
14 Kulpakum	369	885	725	160	one sluice, 158 1/2 acres
15 Appalanthangale	147	965	805	160	one sluice, 52 1/2 acres
16 Covelay Chittay	912	735	735	—	—
17 Tathanor	507	1050	1050	—	—

17. Iyagapully	138	540	380	160	one sluice, 25 acres
18. Oolondy Chittay	106	150	150	—	—
19. Garindapuram	326	525	225	300	one sluice, 43 1/2 acres
20. Pandy	112	285	125	160	one sluice, 18 1/2 acres
21. Manalavady	122	205	205	160	one sluice, 23 1/2 acres
22. Nodori Kallanthangale	152	290	130	160	one sluice, 33 1/2 acres
23. Andur Chittay	171	710	550	160	one sluice, 27 1/2 acres
24. — do — large	420	900	740	160	one sluice, 67 1/2 acres
		14,585	10,075	4,510	

The information given in these estimates is not at all what it should be. All that is said in the accounts thereto is that the object of the work is to retain water for the paddy cultivation and to secure the work from further injury. The estimates are signed by Overseer Sutarani Naidu, and counter-signed by Lieutenant Dewan, and they compare unfavourably with those prepared by Assistant Engineer Sooboyachariar in the Yellow Book - instead of appending to every estimate a remark which has nothing to do with the particular circumstances of each tank, there should have been a

a short description of them. With
regard also to those tanks on
which a heavy expenditure has been
incurred in the last 4 years, a
few words of explanation would
not only have been proper but very
necessary. Nearly 3 years revenue
were so spent on the Thaloor large
tanks, and now 5 years revenue have
to be asked for. On the Poon Tanks
Rupees 1076 were spent and the
present estimate is Rupees 920, the
average revenue being Rupees 510.
On the Kulpattum tank, the revenue
of which is Rupees 369, Rupees 572
were spent, and now Rupees 885 are
required. On the Appanthangle
Rupees 645 have been expended. Ru-
pees 965 are required, and the
revenue is but Rupees 147. It is
therefore not at all satisfactory
that these facts should have
been left without comment. No
doubt they are to a great extent
explained by the system which
formerly prevailed of closing
breaches and raising low parts

of tanks without providing for
the safety of tanks in other ways,
but it is as easy to write a few
lines of information which would
be of value, and such informa-
tion must be acquired by a man
of ordinary intelligence when est-
imating for a tank, as to write
out a set phrase which really is
of no significance, and which
involves a simple waste of time.
The arrangements made for the
disposal of surplus will, as re-
gards the smaller tanks, pro-
bably do permanently, but some
few of those in the list are
of sufficient importance to make
it desirable that they should
at some future time be pro-
vided with masonry escapes,
and the stone used to be used
on the pavements will then
be available for the regular
surplus weirs.
It is extremely desirable
that all the tanks in the valley

of the Chear, which surplus in
to the main drainage tank ultimately,
should be rendered safe,
and it is satisfactory to find
that many of them are being
taken up this year. The group
must be worked at steadily
until not one shall remain
unattended to.

4. With regard to the sluices
it has not been stated what
tanks have sluices already.
The acreage of each of those
tanks for which sluices are
to be provided has been noted
in the foregoing list, and
it appears to be necessary to
make two remarks.

1st that ordinarily a sluice should
irrigate at least 50 acres, and
that unless clearly necessary
a second sluice should not
be given for a smaller area
than 75 acres.

2nd that for very small tanks, which
nevertheless must have one sluice,
which must not be a source of

constant danger, a cheaper design
seems to be desirable and neces-
sary.

The estimates of Rupees 160 for a
4 yards sluice, and Rupees 300
for one of 6 yards are both high,
and it is thought that for
tanks irrigating less than 25
acres a sluice that would answer
the required purpose might be
built for 80 or 90 Rupees. Some
concrete sluices have recently been
constructed in the Chingleput
Range, and have it is reported
been found efficient, and it
would be well to seek in this
or a similar direction for some
arrangement whereby the many
hundreds of sluices for petty
tanks which are required may
be constructed at as small an
outlay as is possible, without
sacrificing efficiency and security
to economy.

Ootacamund 18 August 1874. W. H. H. L. S. H. H. L.
Chief Engineer for Irrigation
The Secretary to Govt P.W.D.

W. 1874 Reports
 P. 1874 for report
 5482.

The Chief Engineer
 for irrigation.

July 2, 1874
 P. 1874 for report
 5892

5892

Enclosure 69.

105 Aug 1874 C. 1874-75

July 2, 1874 10-9-74

State on the
 estimates for the
 year of certain tanks

the N. West Dist.

Proceedings of the Public Works Department
 of the Madras Government
 The Engineer
 The following
 "Chief Engineer for Irrigation" (H. C. 1874 dated
 1874)

with the following
 attached for the repair
 and improvement of
 tanks in the North
 West District are
 named.

Repairs to tanks
 Pully Tank Rupees 2,100
 Kaganum Hapa do 3,920
 Pully do 2,300
 Mariavellor do 2,030

The estimates for 24
 tanks specified in
 para 2 of the
 by the Chief Engineer
 for irrigation 10,075

Minor new works
 Kaganum Hapa tank a
 new surplus weir 770
 Mariavellor tank and 680

The estimates for sluices
 to 20 tanks specified
 in the above named list 4,510

MR
 20/10

2. The remarks of the Chief Engineer for Irrigation in paras 2 & 3 of the foregoing Note will receive the early attention of the District Engineer.

It is noticed with satisfaction that many of the estimates lately submitted from the North West District have been very well prepared and Captain Pennycook

will do well to require all his Range officers to record, in connection with all irrigation work which they may be set, or for which they may

estimate, those facts which are essential to their proper treatment, and not mere general remarks which can have no value.

24/9/74

C.M.W.

364
4

The D.E. North West
--- Chf Engr for NW
--- Controller Mr Acety with two Enclaves
S. Capis despatch 21/9/74
+ 2 Enclaves of Mr Acety
Control Enclaves of Mr Acety
21/9/74

人 33

215-217

5482 1306

Off. of U.S. Engineers.
PUBLIC WORKS.

The Lt. Supt.
H. A. A. A.

Date

By

10 Sept. 1906

215-217

Tancho Estimates for
the repair and im-
provement of Tancho
in the Fortia Arch
District, San Antonio.

215-217