

Public Works (1899) Department.

G.O., No. 330 J

DATED 7 April 1899.

[Despatch Abstract.]

Despatch Abstract.

Damages to irrigation works

Note by the Chief Engineer for Long Island
 Sound, dated Sept. 1881, and E. E. Clapp, published in
 the ~~Journal~~ ^{Journal} of the American Society of Civil Engineers,
 Vol. 1, No. 1, p. 1.

Damages done to the Irrigation works in the Chugchepet in February 1899 Report on the — Submitted.

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BACK PAPERS.

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PROCEEDINGS OF THE MADRAS GOVERNMENT.

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5th Circle in letter of the hxc

Sing. Chingput D. N. 447358

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Public Works (1899) Department.

CURRENT No. 27 CN.

From The Suply Engineer
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No. 9069

Dated 2^o March 1899

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Enclosures 1 to be returned

Spare copies

SUBJECT.

Damages done to the Suply
works in the Lingayat
Submits for information Copy
of letter from the Engineer
ref the — during the 2 East
monsoon

FURTHER PAPERS.

they as flood
levels.

Cheyar flood
right bank

Alsin Tank
No. 5-35-

2. *Stenon macrus*
Tank Supply.
Channel N^o 537

Report on the floods of 1898 for the Chingpa
Sub Division -

Cheyar River

The floods in this river were about as high as those of 1884 and, from all accounts, did as much if not more damage to tanks &c. The Zutterammam Tank supply channel $\frac{M.S.W.}{P.W.D.}$ N^o 537 Head sluice was built in 1891 and the 1884 M.F.L. is put at 13.50 above sill. The level of 1898 highest flood was 13.10 feet and that was on the 1st December. The Chyera is a tributary of the Paler River; the maximum flood level on the S.I. Ry Paler Bridge was 16.00 feet for 1884 and it rose to the same height in 1898.

The Cheyar flood, overflowing its right bank between Perumazhar and the Utharammar Tank Supply Channel Head sluice at Anuman Tandalam, flowed over the fields, breaching several minor Irrigation Tanks (Revenue Department) and the Alisur Tank $\frac{M.S.L}{P.W.D}$ No 535 and then finding no other outlet, found its way to the Utharammar Tank Supply Channel $\frac{M.S.L}{P.W.D}$ No 537 and raised the water in the Channel from 5.50 F.S.L on sill of head sluice to 12.00. This proved

so much for the bank of the channel in its 3rd and 4th miles, which breached in 6 places with an aggregate width of 652 feet. The left bank of the Channel was supposed to be a River flood bank, but it is found that, beyond the first $1\frac{1}{4}$ miles, the flood waters of the River never reached the bank; hence it seems - inadvisable to close these breaches, except the last two, and even to make more openings for the exits of such floods - even in the event of a flood bank being thrown up between Perumezar and the Utharammaru head sluice, for this left bank of Utharammaru Tank supply Channel is not wanted. No estimate is therefore submitted for closing these breaches till the question is settled. The cost of closing them amounts to Rs 1660/-. The two last breaches should however be closed for the water escaping from them flowed into the Karuveppampadi Tank ^{M.S.W}_{P.W.D.} N^o 547 breaching it in 7 places, all of which are insignificant except one at the deep bed of the tank - 150' wide and 24' deep - which completely drained the tank. This tank was in very good order and fully up to the standard of efficiency but the sudden inflow of a very large volume of water filled the tank so quickly that, in spite of the breaches made by the pyots at high ground

Utharammaru
Head Sluice

Magaral Tank
N^o 539

at right flank, the water rose till it overflowed the bank almost everywhere, rendering it impossible to prevent its breaching somewhere. So far then is the effect of the flood on the Right bank side. The Utharammaru Tank supply Channel head sluice stood very well, and the only injury done was to the River side revetment to spur below the head sluice, which slipped into the scour formed at the toe. The Utharammaru Tank ^{M.S.W}_{P.W.D.} N^o 537 suffered no damage as water level was not allowed to rise above M.W.L. The water coming into the Tank was under perfect control.

The floods of the Chejar on its left bank entered into the Magaral Tank ^{M.S.W}_{P.W.D.} N^o 539, which intercepts all flow of flood ^{spill} water flowing along and the water of the River has to flow between the Magaral Tank on the left bank and the Kadambarkoil temple on the right bank. This causes a considerable afflux. The flood waters entered the Magaral Tank through a gap 330' at its extreme right flank at the Village of Arasanapatti (which was formed by the floods of 1884 and was intentionally but, as it now proved erroneously, never closed) filled the tank so that it overflowed its banks all along the left bank which portion of the tank bund was not sufficiently high above

Karuveppampadi
Tank N^o 547

above the flood level. The tank breached in 4 places with an aggregate width of 4 1/4 feet, two of these breaches to the right of the weir are wide and deep and drained the tank completely but ring bunds were put up speedily after the floods, and water from the supply channel has been stored in the tank. The levels of the bhuyas River floods at this tank stood thus before breaching. Crest of tank weir taken as +100.00.

Above the tank (outside) + 103.00

Inside tank + 102.50

Below - do - (outside) + 96.20

From these flood levels it is plain that what is wanted for this tank is (1) to maintain the tank bank at its right flank, which runs at right angles to the River, from the River to its extreme right flank at Arasana-pali Village, closing the 330' gap there, to a level well above the highest floods, say 4 feet; the portion of the tank bank running parallel with the River to have a fall from this flood bank level to ordinary tank bank level and the rest of the tank bank forming the left flank, containing the weir and all the irrigation sluices, and which runs at right angles to the river, to be kept as now at ordinary T.B.L. Although the crest of the tank weir was reported to be 1.28 feet too high

too high for the tank, still this tank, which but for the 330' gap, would not have breached, for its bank and masonry works were a few years back made up to the standard of efficiency.

The Bhagarel flood bank parallel to the River and below the tank breached at side of the ruined sluice at head of the old abandoned Bhagarel River supply channel. The breach is 150' wide and 19' deep. It is not advisable to close it, for it is too near the River, and the flood has a set on the bank there. It would be well to recess the bank some 300 feet. The maintenance of a flood bank here is necessary for the protection of the fields under Bhagarel tank and lands and towns further away.

The flood water from the breaches in the Bhagarel Tank and the one in the Bhagarel flood bank brought down a lot of sand and silted up the field immediately in rear of Bhagarel tank, completely destroying the crops on them. The flood continuing to flow eastward entered the Vayalur tank, Minor Irrigation Tank, Revenue Department, breaching that badly, and the Kavantham dalam Tuhuveneri ^{16.9.13} _{P.W.D.} N^o. 541 not being able to snaphs into the Vayalur Tank - it being abnormally high - breached at the spot not repaired and which was left for

The tank here refers to as Bhagarel tank a Revenue work is already the tank ~~against~~ which the N^o. 541 is pointed the map 540 sh^d relate to the Kavantham supply channel & 541 to the tank The numbers are wrongly placed

for building a pot sluice. The breach is however insignificant and can be closed from savings on the present repair estimate for the tank. The floods continuing breached the Kambarajapuram Tank $\frac{16.3.W}{S.P.W.} N^{\circ} 532$ supply channel badly and then, helped by a further accession of floods waters, from the Chayas from below Kavanthandalem silted up the Kambarajapuram River supply channel and breached the Kambarajapuram flood bank below Kambarajapuram Tank completely washing away the bank just below the Village at the place where a bank is most needed, and where it was proposed to build 4 pipe culverts for Irrigation - Estimate Rs 500/. As in 1884 a large area of valuable crops ^{have} been destroyed and much land rendered unfit for cultivation by sand silt and which, as in 1884, must be removed before the lands can be cultivated again. This flood bank, at least for a length of 1240' from the Village, across the hollow there, requires to be made high and strong and maintained so, having the four pipe culverts now sanctioned for execution in it for Irrigation purposes.

An estimate was submitted for making up this flood bank but it was not sanctioned, for some reason or other.

1st 8th
in photo
map

As regards Kavanthandalem Tank and Supply Channel $\frac{16.3.W}{S.P.W.} N^{\circ} 540$ the Chayas flood rose over the bank at the Head sluice and, washing round both sides of the sluice, entered the channel and being joined by further floods entering the channel a little lower down, completely silted up the channel at its head, in fact almost obliterating it there. The flood flowed down the channel; a portion returned to the River on being stopped by the inlet sluice to the tank, and the rest overflowing the left bank just above the Inlet sluice, flowed into the tank and raised the water in the tank to $2\frac{1}{2}$ feet above F.T.L. The weir lately built for this tank would have proved wholly inadequate but for the provision of a portion of the bund at the extreme left flank being kept purposely low, this was washed away. With a depth of $2\frac{1}{2}$ feet going over the crest of the weir the 1st apron was a little disturbed ~~completely washed away~~, and the 2nd or lower apron completely washed away, a scour hollow being formed there. This completes ^{the} damage done by the Chayas floods of 1888 and may be summed up thus:—

Repairs to Uttarannamur Tank supply channel	Rs 500
— — — Masur Tank — — —	150
— — — Muzaral — — —	2280
— — — Kervappampundi — — —	770

Repairs to Karimthandalam Tank	
do do Channel	470
Magaral flood bank &c	6000
Kamburayapuram Tank Supply Channel	150
do do Flood bank	1700
do do River Channel	340
	11360
Total Rupees	13520

These are exclusive of works under the charge of the Revenue Department.

Palas River

The floods for 1888 for this river as stated before was fully up to those of 1884. The M.F.L flood level at the S.I. Ry Bridge across the river near Padalam being the same is 16 feet on the Bridge gauge.

On the left bank the only works affected were the Blalore River Channel $\frac{M.S.W}{P.W.D}$ N^o 513 which was breached in several places and the head considerably silted up. This is inevitable with this channel in all extraordinary floods like the one under notice. There is a hill that forces the channel to hug the bank of the River for a mile near its head and sooner or later it must be washed away, and it cannot be recessed. The Annur River Channel $\frac{M.S.W}{P.W.D}$ N^o 520 was silted up at its head the channel breached a long side and to the right of the escape a mile down the channel.

As regards the floods on the right bank of the River the first affected is the Kilakkattur Tank $\frac{M.S.W}{P.W.D}$ N^o 470. The tank though in very bad order did not breach but nearly half of the right side of the tank balingah was washed away and which probably preserved the bank. The balingah should be replaced and the tank repaired as early as possible. Lower down the River has made inroads into the Angambakkam Low Level River Channel $\frac{M.S.W}{P.W.D}$ N^o 485, and silted up its head. It is necessary to recess this channel first by diverting a portion of the high level channel and then connecting the Low level channel below the diversion and reconnecting it lower down from the portion diverted.

The following $\frac{M.S.W}{P.W.D}$ River Channel were all silted up considerably at their heads and some almost obliterated.

N^o 488 Arambalingur channel

N^o 490 Penayur do

N^o 492 Gittanakkavur do

N^o 495 Gittanangeri do

N^o 504 Kalayapettai do

N^o 505 Karithandalam do

N^o 507 Maingur do

N^o 55-7 Ydandi.

550 Sirumagallur

604 Valarparai

The cost to repairs these damages is not yet estimated for but taking the average cost to repair a tank to be Rs 150/- the total cost will be Rs 5850/-

Besides the tanks that breeched there are others that showed signs of weakness such as ships and leaks in masonry works. These are;—

Lehrhaupt Ichig

M 312 No. 388 Kalvanthapattu Tank
P. W. D.

440. *Orthivakkam*

390 Karmelam

444 Henry

453- Thermani

456 — 50 Tangal

436 Thennelpstkaun Funk

458 Veerchuppan Edayar Hase Jank

Madman's Creek Valley

573 Vellaputhur Tank

6/10 Kondacheri

592 Gudalove

649 Tunalone

659. 50 Vayshi Tangel

657 Vajjambakkam Tank

680 Nader Junk

No 587 Gralhus Junk

581 Tandari Junk

573 Velloputhur Tank

548 Pulivay Junk

619 Vennari Funk

But ^{of} all these the most serious is the slip that has taken place in the Gundalur Tank, M.O.W. No 592, P.W.D. at the same place where it slipped before i.e. at the deep bed of the tank on one side and a deep mudging on the other. This ship was last year repaired on estimate for Rs 350/- but it proved of no avail for the slip has taken place again. The earth for making up the slope has to be brought, as before, across the mudging from the bed of the Gundalur tank but this time the earth after properly stepping will be thrown on the inside of the tank bund and not as before on the outside.

The total flooded damages therefore is

they are floods ————— Rs. ¹²³⁴⁰~~13520~~

Palat_____ do _____ R. 8210

Rain fall - do _____ B 5850

Total Rupees 27,580

Rs. 26420

Of which sum about Rupees 3000 will be wanted before the close of the official year

(True copy) 10/29/99 (Sd) J. Mahony
SS-10

Excelsior Engineer
Chungking S. S.

Copy of letter from J. B. Paul Esquire, Executive Engineer,
Chingleput Division, to the Suptg. Engineer, 5th
Circle, N. 4473 Sd. dated 23rd February 1899.

I have the honour to forward a brief report
on the damages done to the irrigation works in
this Division during the North East monsoon.

2. The monsoon in the Chingleput District has
been very heavy, but fortunately has not been
accompanied by much wind and the fall at
any one time has not been very abnormal,
the heaviest fall was 10.41 inches in two days
October 30th and 31st at Chingleput.

3. The damage to irrigation works have been
by far the greatest in the southern parts of this
District - the Chingleput and Madurantakam
Taluk - but the reason of this is that in this
portion of the District the irrigation works
have not been restored under the Tank
Restoration scheme.

4. The only damage done to the larger works
was the destruction of a portion of the apron of
Tamarapak anicut and the sinking of the
rear portion of the bank of Chembambakkam
Tank at the site of the breach that occurred
as far back as 1818, neither of these is in any
way serious.

5. The flood banks, which are placed here
and there along the Kasuaveram river, breach
in many places and as this invariably happens

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whenever high freshes come down this river it appears to be inadvisable to maintain them.

6. In the Tiruvallur and Ponneri taluks, the damages are slight and breaches that occurred were mostly at the flanks of the tanks and the repairs can be carried out by the villagers.

7. In Conjeevaram Taluk, Polivakam Tank ^{M.D.W.} _{S.P.W.} No 239 and Odayarakkam Tank No 233 breached.

8. In Saidapet Guduvancheri Tank and Padi Tank ^{M.D.W.} _{S.P.W.} No 192 breached.

9. In Chingleput and Madurantakam Taluks considerable damage was done and is fully described in the report by Sub Engineer Mr. Mahony a copy of which, with a few alterations, I enclose.

10. The estimate given by Mr. Mahony is probably too high and as a considerable amount of the work such as filling in breaches in the flanks of tanks will be done by the villagers, the amount may be taken as Rs 15,000/- instead of Rs 27,580/- or Rs 20,000/- for the whole Division excluding the Buckingham canal.

11. Mr. Mahony's report shows I consider conclusively, that it would be wise to appoint a special officer for the investigation of the Cheyar ancient Project for the supply of Uttaramerur Madurantakam and other tanks with which could be combined the embanking of the Cheyar

Cheyar River.

12. I should add that I have had very few complaints of tanks having breached owing to the villagers not removing the bunds from their calingulaks. This is a matter that must be left to them and on the whole I think they do this regulation very fairly. In fact the replacement of calingulaks by flush weirs by this Department, and which cause so many disputes, is probably often illadvised.

No 90 E.1.

Enclosure 1
Report (to be ^{returned} ~~not~~ _{not})

To the Chief Engineer for Irrigation
for information.

As I am
2/3/99 *ledonel Rb.*
Supg. Engineer & Circle.

8/20/92
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