

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	1590	Press	<i>Original</i>
B.P. No.		Mis.	
Dated	15-6-	195	6874

Not to be folded or roughly handled

No. 296. Read the following endorsement of the Chief Engineer for Irrigation, dated Camp at Pelandorai, 4th March 1874, No. 193-C:—

From J. W. RUNDALL, Esq., District Engineer, Tinnevely, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Palamcottah, 21st February 1874, No. 191.

I HAVE the honour to forward, herewith, copies of correspondence with the Collector of Tinnevely, regarding the charge to be made to the Tuticorin Municipality for the supply of water now given to that town from the Streevigoontum Anicut Works.

2. I addressed the Collector in order that before sending on the matter for orders, an opinion might be elicited from the Municipal Commissioners as to the rate at which they would be prepared to pay for the water.

3. The present Vice-President, Mr. Boyle, c.s., in answer to my letter claims the right of a supply to the town free of all charge. The Collector and President, Mr. Puckle, does not apparently coincide in the Vice-President's opinions, but suggests the matter being referred to Government for orders.

4. If Mr. Boyle's claim is conceded, viz., that the town be gratuitously supplied with water, there is nothing more to be said, but I cannot see that there are any reasons whatever for the town not paying for the water furnished, at the expense of the empire in general, by means of borrowed capital. It seems hardly necessary to answer in detail Mr. Boyle's theories on the subject.

5. What has been done to supply Tuticorin is as follows: a sluice has been built in the Korumpollam tank, and a channel four miles long dug from this to Melur, immediately west of the town. The cost of these two special works is, in round numbers, Rupees 4,000.

6. The Municipality have at their own cost built a cistern at Melur, have dug a surplus channel running into a tank south of the town, and are now constructing masonry conduits with cisterns and dipping wells throughout the town. My estimate for these services amounted to Rupees 25,680, but by the use of quartz instead of sand stone as specified by me, the works will, I believe, cost somewhat less than the above sum. These works are being executed from current Municipal revenue. They have also constructed one low level tank on the south of the town (before mentioned), and are, I am given to understand, about to construct a second tank on the south and one on the north of the town.

7. The whole tract between Tuticorin and Korumpollam is at present a sandy waste; hence the discharge from the sluice in the tank is always considerably more than the quantity delivered at Melur. The "wastage" is really of great advantage to Tuticorin, as the water apparently lost is really filtering down through the sub-soil sweetening it and supplying the wells. At this present time, although water has not been running through the Korumpollam sluice for some days past, yet the water in wells near the town is higher and fresher than it ever was before; so Mr. Puckle recently told me.

8. On account of this wastage it seems to me impossible, as demanded by Mr. Boyle, to sell the water by volume to the town, the measurements being made

*Proceedings of the Madras Government, Public Works Department,
15th June 1874.*

at Melur; hence to avoid all trouble in keeping registers, I proposed a daily rate of charge irrespective of the volume delivered.

9. If we give the town as much water as it wants and for as many days as possible within 500 cubic yards per hour, our part will, I think, have been fulfilled.

10. I should mention that in order to avoid complications there will be no irrigation from the sluice and channel supplying Tuticorin; they were constructed solely for the purpose of supplying the town, and the irrigation will be arranged for by means of other sluices and channels.

11. The value of the water to the townspeople can hardly be represented by figures, for, as a general rule, some member of each household was employed for an hour or more each day in fetching water from wells outside the town, and even when procured with such labour the water was generally brackish and bad. There were very few wells in the town yielding water at all drinkable. When water was purchased by strangers in the town, the rate was 4 Pies for an ordinary country pot full.

12. The supply from the anicut when brought close to every ones door by the conduits which the Municipality are constructing, will save the labour hitherto expended in procuring the daily supply.

13. The calculations given in my letter to the Collector are necessarily but approximations. It will be only under exceptional circumstances, such as first filling up the tanks, that as much as 500 cubic yards per hour would be sent down the channel. It would be a pity to stint the supply at all, for the tanks are all on low levels, and the water in them would become brackish without a flow into and from them.

14. I request, therefore, you will be good enough to favour me with orders on the above subject. In the contingency of the Government consenting to supply the water free of charge, the Municipality would, I conclude, be called on to pay the cost of the special sluice and channel built for them.

From J. W. RUNDALL, Esq., District Engineer, Tinnevely, to R. K. PUCKLE, Esq., Collector of Tinnevely, dated Camp at Chidambaram, 6th January 1874, No. 758.

I have the honour to request that some arrangement may be come to with the Municipality of Tuticorin with regard to payment for the water supplied to them from the sluice and channel.

2. The sluice and channel from the K. Camp tank have been calculated to deliver 500 cubic yards per hour, and although for the present the consumption of water is not likely to amount to that quantity, yet eventually when the conduits are extended, if the water is used extensively for gardens and by the streets and the way, very nearly that amount will be required to be delivered from the tank.

3. 500 cubic yards per hour running steadily for 240 days would be equivalent to irrigate 500 acres of double crop, the amount of water required to the old rate of Rs. 8 would be 2,500, or Rupees 12 per diem.

4. Looking at it in another way, 500 acres would be irrigated at the old rate of Rs. 8, and 12 per diem by the anicut.

Tuticorin will be the probable expenditure on the sluice and channel and 12 per diem would be the interest on the same.

At Rs. 12 per diem — Rupees 12,720, the general capital cost to provide Tuticorin with water.

*Proceedings of the Madras Government, Public Works Department,
15th June 1874.*

	Rs.
Interest at 12 per cent...	1,440
Special capital construction of sluice and channel, Rs. 4,000,	
Interest at 12 per cent.	480
General repairs at 2 per cent. of general capital	240
Special repairs to sluice and channel per annum	400
Total...	2,560

or for 240 days — Rupees 10½ per diem.

5. I think that for the present, as the conduits, etc., are not completed, we might charge Rupees 8 per diem, to be increased after six months' notice to Rupees 10 or 12, and I would, through the Chief Engineer for Irrigation, recommend this charge should you concur.

6. I have already in my previous letters mentioned that I could not guarantee a supply of water for more than 240 days out of each year. It will generally, however, in ordinary seasons be possible to give water for a longer time, and it is only after the cultivation from the anicut has extended that there would be danger of our having to run the water off for irrigation to the detriment in any way of the Tuticorin supply. This danger is not likely to arise for some years, but it is only by experience that we can judge whether the supply will be continuous throughout the year. I have, therefore, based my calculations on a supply for 240 days only, and would suggest that for all days above 240, half the fixed daily charge be made.

7. The Municipality having undertaken the construction of the conduits and reservoirs and also the general management of the distribution, it is with them alone that we can deal, leaving them to collect from those who benefit by the water-supply. Please favor me with your views and those of the Municipal Commissioners on the subject of the charge to be made.

8. I would request you also to note that water has been supplied since the 17th November last, and that we should receive payment from that date.

From R. K. PUCKLE, Esq., President, Municipal Commission, to J. W. RUNDALL, Esq., District Engineer, Tinnevely, dated Tinnevely, 5th February 1874, No. 37.

In reply to your letter, No. 758, dated 6th ultimo, I have the honour to enclose a copy of a communication from the Vice-President of the Tuticorin Municipality, claiming a gratuitous water-supply, though consenting to pay under protest for the quantity actually delivered at the cistern in the town.

2. The fact of the works supplying the water having been constructed by Government from Loan Funds and the possibility of the water being turned to better advantage pecuniarily than in supplying the town at all, seems to have escaped the Vice-President's notice. As a mere matter of business as he says if the town does not take the water on the same terms as the cultivating ryots, it will be more profitable to the anicut work to divert the water to the fields and allow Tuticorin only such surplus as can be spared by the fields.

3. I do not anticipate, however, that the townsmen as a body will object to pay the equivalent of 5 Annas a head per annum for a pure substitute for the brackish water, which the Vice-President admits has hitherto cost much to procure, but as the charge for the Tuticorin water-supply is a matter that had better be decided by Government, I suggest your referring the papers to the Chief Engineer for Irrigation.

From J. A. BOYLE, Esq., Vice-President, Tuticorin Municipality, to R. K. PUCKLE, Esq., President, Municipal Commission, Tinnevely, dated Tuticorin, 2nd February 1874, No. 100.

In reply to the letter of the District Engineer, the Commissioners beg to express their unanimous opinion that, if this town must bear any charge whatever for the supply of fresh water from the Tambrapoorney river, the amount demanded for that water is decidedly excessive.

2. The Commissioners, however, are by no means prepared to concede, what the District Engineer takes for granted, that the town of Tuticorin stands in the same position as regards

this supply of fresh water as the cultivating classes of the delta; water is to them a source of profit; to us a necessary of life; they can live and have hitherto prospered without this increase in the water-supply; the town of Tuticorin has hitherto had a hard struggle for existence mainly owing to this natural defect in its situation and condition.

3. When the Secretary of State gave his sanction to the scheme of which the Streevigoontum Anicut is the basis, he expressly enumerated as one of the recommendations of the scheme the fact that the rising seaport of Tuticorin would obtain a supply of fresh water, from the want of which it had hitherto severely suffered.

4. And when he wrote this he cannot have meant that Tuticorin and the paddy-fields of the delta were to stand in the same category and be treated on the same footing, and that water to feed our town was to be sold on the same terms as the water which is to grow their rice. The Commissioners venture to ask whether Government would ever sanction such a proposition.

5. There is a town with a population of 10,000 souls, the chief harbour of South India, as necessary to the welfare of the commerce of the country as any town in the Presidency, where men can hardly live now for want of fresh water, and when health is injured and life shortened by the dreadful character of the liquid which men must drink, and the District Engineer gravely proposes to bargain with them for the water-supply as he bargains with the cultivators of paddy-fields. "Here is the water," he says, "take it or leave it as you will, but if you take it you must pay Rupees 3,000 a year for it."

6. The Commissioners venture to doubt whether this is the attitude that Government desires to assume towards the people of this town. They consider that the town has a strong claim to be supplied with the bare means of existence by the expense of the public revenues. They think that as they have with their own money built their own town, made their own streets, and executed costly works for the distribution of this river water, it is scarcely too much to ask that they should not be obliged to drive a hard bargain for the water itself. That which other towns find ready to their hand; which every poor villager takes from the public well at his cottage door, has here to be brought for miles with great trouble and at considerable expense. It may be our misfortune; it is not our fault; and the Commissioners are loath to believe that it can be the intention of the Government to sell fresh water to the townspeople of Tuticorin at the highest rate that their necessities can extort.

7. For this is, in fact, the result of the District Engineer's calculations. We are treated as $\frac{1}{10}$ of a project, calculated to return so much profit, and it is therefore essential that $\frac{1}{10}$ of that profit should be made out of the relief of our drought and barrenness. Tuticorin may be regarded as a fraction of a commercial project, but it may also claim to be treated as a portion of the empire, entitled to its share of imperial revenues and of public benefits.

8. On such grounds as these the Commissioners venture to dispute the presumption of the District Engineer that the town must pay about Rupees 3,000 a year for the supply of the Tambrapoorney river water. They do not consider that they are liable to the payment of any charge whatever; and it is only after entering this protest that they proceed to discuss the details of the District Engineer's proposal, and to express their opinion that, even on his grounds, the charge proposed is excessive. The reasons upon which they base this conclusion are the following:

9. The discharge from the sluice of the Korumpollam tank bears no reasonable proportion to the supply received in the town, and the charge ought, therefore, to be calculated, not on the amount of water discharged from the tank, but on the quantity actually received in the channel at Melur.

10. This, they think, is undeniable, because the peculiar nature of the supply channel renders the waste of water between the tank sluice and the Melur reservoir enormous. In the words of the District Engineer in a recent letter, the land adjoining the channel on each side is "an immense sponge," and the Commissioners see nothing reasonable in the proposal to saddle this town with the cost of the consumption of this immense sponge, which the townspeople have no opportunity of using.

11. Again, the land through which the channel passes and that which adjoins the channel on either side should, the Commissioners think, bear the cost of the water which it actually consumes. Hereafter much of this land may be brought under cultivation; much is being utilized now by Government for the growth of trees and reserve jungle, and the water drunk up by that land should be paid for by those who occupy that land, and not, as the District Engineer proposes, by the town.

12. To say that 500 cubic yards per hour pass from the sluice of the Korumpollam tank is one thing, and to show that this town receives anything like that quantity, a very different thing. A reasonable charge would be ordinary rate on the amount of water received in our channel at Melur, plus a reasonable allowance, say 10 per cent. for leakage and evaporation.

13. The District Engineer proposes to make us pay for 500 cubic yards per hour, whether we receive it or not. It can hardly be said that we must receive the water eventually, after it has percolated through the sponge 4 miles long, for the waste and evaporation over that large area must be enormous. If the water came to the town down a channel, and not through a sponge, we might fairly take the discharge from the tank to represent our receipt at Melur, but no one can seriously contend that the latter is anything like equal to the former.

14. Nor is the suggested estimate of discharge from the tank an accurate basis of calculation for our payment due for the last two months. The District Engineer is correct in his date of the first supply to the town; but from November 16th the sluice has not been running at the rate of 500 cubic yards per hour, nor anything at all approaching that rate.

15. For some days the sluice has been closed altogether; for many days it has had only one shutter open out of four; and the time for which the sluice has been in full discharge must therefore be reduced considerably from the District Engineer's statement.

16. The Commissioners do not wish to dispute the estimate quoted, but they presume that the discharge of 500 cubic yards per hour refers to the rate of discharge of a full tank; and they would remark that this rate of discharge must have considerably varied during the last two months, as the head water in the tank rose or fell, and the depth of water through the sluice varied accordingly.

17. If the Commissioners hesitate to accept the proposed charge, it is not because they under-value the blessing of this water-supply, but simply because they do not care to saddle the town with a burden that is sure to be heavy and may become insupportable. The proposal to defray this charge by a rate payable by those who take the water for cultivation, or for steam engines within the town, seems to the Commissioners more ingenious than practical. The area under cultivation or for land that will be within reach of the water and vacant for cultivation will be so small that it is doubtful whether on Rupees 8 water-rate would produce Rupees 200 a year, especially as the cultivation supply would always have to be made secondary to the drinking supply, and might, therefore, be cut off at a critical moment. In any case this assessment would be collected by the revenue, and not by the Municipal Authorities.

18. As for the steam engines, it is extremely doubtful whether we have any power to charge any such rate at all. The merchants are tax-payers who have as much right to be supplied with water free of payment as anybody else; and if we omit to give them supply channels, unless they submit to such a charge they will simply, as they now do, send their carts to our public wells and take the required quantity free of charge. As for applying to Government for special legislation on the subject, the refusal seems so certain, that the request had better not be made.

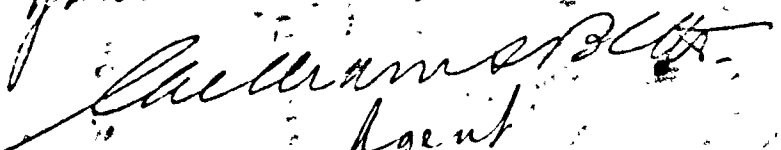
19. The Commissioners must, therefore, treat this matter from a purely business point of view, and make the best bargain for the town that they can in supplying it with water, and they think it is obvious that they cannot fairly be asked to pay for more water than they actually receive, and would therefore propose that the simple test be adopted of a gauge fixed at the Melur reservoir to register the depth of water received there.

20. If the District Engineer will correct his estimate of the amount received during the last two months, the Commissioners will be happy to accept it as a demand against the town; but

For Negapatam -	Miles -	<u>Rails</u> 42.	Miles	<u>sleepers</u> 50
Subicoria -	"	15		15 1/2

The last month paid for the delivery of rails in England is September 1874, and for sleepers, December 1874; but delivery may be completed before those dates.

I have the honor to be
Sir

Yours most obedient servant

 Agent.

they cannot accept as a reasonable basis of calculation for the future, 1st an estimate of quantity which would make the town liable to pay for water which it never received; 2nd an estimate of duration of supply which may or may not be realized.

21. It is true that a town of 10,000 souls should not grudge Rupees 10 for their daily supply of water, but when the whole income of that town only amounts to Rupees 46 a day, a new burden of 22 per cent. of that income should not lightly be imposed.

22. The Commissioners anticipate no difficulty in correctly registering the inflow of water to their channel at Melur. Daily record can be kept of readings on a fixed gauge, and the Department of Public Works will not be without a check on our returns, as their Resident Overseer can scrutinize them whenever he wishes, and may note the readings himself from time to time.

SUBMITTED for the consideration of Government.

I am aware of no reason why the Municipality of Tuticorin should not pay a reasonable amount for the water-supply of the town, which has been provided at considerable expense, and by an outlay of Loan Funds, through the Streerivoontum Anicut Works.

2. A charge of 1 Rupee per thousand cubic yards of water, or a penny for 6,750 gallons is the low rate which has, under similar circumstances, been considered appropriate, and I would suggest that this should be imposed. The charge might be made from the 1st April 1874.

3. It should, I think, be ascertained by the District Engineer, whether the channel from the Korumpollam tank to Melur, 4 miles in length, cannot be made fairly water-tight by lining it with clay. If no remedy for the loss of water by absorption can be applied however, it seems clear that, as this channel was constructed for the supply of the town and is not, and will not be, used for any other purpose, the town-supply must be measured at the Korumpollam sluice, and not at Melur. Were the reduced volume at the latter point to be measured, it would be necessary to raise the charge proportionately. The water discharged at the Korumpollam sluice is that which the Streerivoontum works will have to provide for the town, and, if its position and circumstances unfortunately lead to waste, the result must be increased expense. A town population can afford to pay much more for water for domestic and other purposes than a rural population for its agricultural operations, but hitherto there has been every desire to afford a supply to the former at as low a rate as would suffice to prevent the cost of benefits secured specially to towns from being a burden on those who in no way share those benefits.

(Signed) J. MULLINS, Lieut.-Col., R.E.,
Chief Engineer for Irrigation.

No. 297.

ORDER THEREOF, 15th June 1874, No. 1,500.

IRRIGATION, No. 27.

His Excellency the Governor in Council considers that it is necessary that the Municipality of Tuticorin should pay for the water-supply of the town, which has recently been made available by the construction of the Streerivoontum Anicut Works from Loan Funds.

and His Excellency is of opinion that a charge of 1 Rupee for each 1,000 cubic yards of water discharged into the town channel at the Korumpollam tank sluice is as low a rate as can be fixed.

2. The difference between the quantity discharged at the above-mentioned sluice and that available at the lower end of the channel, at Melur, has not been reported. The District Engineer, Tinnevely, will, however, ascertain, as soon as possible, what the wastage by absorption is, and then see what can be done to reduce it to a minimum. It is quite possible that some indirect benefits may result from this infiltration, but it appears to be certain that greater advantages would be derived from the direct use of this absorbed water, as with a limited supply, waste of any kind is to be deprecated; the Government will be prepared to sanction any reasonable expenditure which may give good promise of preventing any considerable loss between Korumpollam and Melur.

3. The Government are willing to allow the water-supply, up to the 31st March 1874, to be given free of charge, which latter will, therefore, commence from the 1st April. The Chief Engineer for Irrigation will see that the arrangements for measuring the volume of water are complete and sufficiently accurate, and he will obtain from the District Engineer a monthly return of the quantity supplied.

(True Extract.)

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

To the Chief Engineer for Irrigation.
.. District Engineer, Tinnevely.
.. Municipal Commissioners of Tuticorin, through Financial Department.
.. Officiating Controller of Public Works Accounts.

Exd. E. C. Shunker.
Spare Copies

To Encl: See Encl: No. 191 District Engin. Office, Trivello
Palanacottah 21 February 1874.

From, J. W. Randall Esquire
District Engineer, Trivello.

To, Lieut: Colonel J. Mullins R. C.
Chief Engineer for Irrigation.

Sir, I have the honor to forward herewith
copies of correspondence with the Collector of Trivello regarding the charge to be made to the
Tuticorin Municipality for the supply of water
now given to that town from the Sheerigundam
Ancient works.

2. I addressed the Collector in order that
before sending on the matter for orders, an
opinion might be elicited from the Municipal
Commissioners as to the rate at which they would
be prepared to pay for the water.

3. The present Vice President Mr. Boyle. Esq.
in answer to my letter claims the right of a supply
to the town free of all charge. The Collector and
President Mr. Puckle does not apparently coin-
cide in the Vice President's opinions, but suggests
the matter being referred to Government for
orders.

Encl: 1
Copies of
Correspondence.

orders.

4. If Mr. Boyle's claim is conceded, viz that the town be gratuitously supplied with water, there is nothing more to be said, but I cannot see that there are any reasons whatever for the town not paying for the water furnished, at the expense of the empire in general, by means of borrowed capital. It seems hardly necessary to answer in detail Mr. Boyle's theories on the subject.

5. What has been done to supply Tuticorin is as follows; a sluice has been built in the Hornum-pollam Tank, and a channel 14 miles long, dug from this to Meliur, immediately west of the town. The cost of these two special works is in round numbers Rs. 14,000.

6. The Municipality have at their own cost built a cistern at Meliur, have dug a surplus channel running into a Tank South of the town and are now constructing masonry conduits with cisterns and dipping wells throughout the town. My estimate for these services amounted to Rupees. 25,680, but by the use of Quartz instead of sand stone as specified by me, the work will I believe cost somewhat less than the above sum. These works are being executed from contributions

Municipal Revenue. They have also constructed one low level Tank on the South of the town (before mentioned) and are I am given to understand about to construct a second Tank on the South and one on the North of the town.

7. The whole tract between Tuticorin and Hornumpollam is at present a sandy waste, hence the discharge from the sluice in the Tank is always considerably more than the quantity delivered at Meliur. The "wastage" is really of great advantage to Tuticorin, as the water apparently lost is really filtering down through the sub soil sweetening it and supplying the wells. At this present time although water has not been running through the Hornumpollam sluice for some days past, yet the water in wells near the town is higher and fresher than it ever was before, so Mr. Puckle recently told me.

8. On account of this wastage it seems to me impossible, as demanded by Mr. Boyle, to sell the water by volume, to the town the measurements being made at Meliur; hence to avoid all trouble in keeping registers, I propose a daily rate of charge irrespective of the volume delivered.

9. If we give the town as much water as it wants and for as many days as possible, within 500.

500 cubic yards per hour, our part will I think have been fulfilled.

10. I should mention that in order to avoid complications there will be no irrigation from the sluice and channel supplying Taticonin, they were constructed solely for the purpose of supplying the town, and the irrigation will be arranged for by means of other sluices and channels.

11. ^{value of the} The water to the town people can hardly be represented by figures, for as a general rule some members of each household was employed for an hour or more each day in fetching water from wells outside the town, and even when procured with such labor the water was generally brackish and bad. There were very few wells in the town yielding water at all drinkable. When water was purchased by strangers in the town, the rate was 16 pias for an ordinary country pot full.

12. The supply from the Aqueduct when brought close to every one's door by the conduits which the Municipality are constructing, will save the labor hitherto expended in procuring the daily supply.

13. The calculations given in my letter to the collector are necessarily but approximations, it will be only under exceptional circumstances, such as first filling up the Tanks, that as much as 500.000

500 cubic yards per hour would be sent down the channel. It would be a pity to stint the supply at all, for the Tanks are all on low levels ^{the water in them} and would become brackish without a flow into and from them.

14. I request therefore you will be good enough to favor me with orders on the above subject. In the contingency of the Government consenting to supply the water free of charge, the Municipality would I conclude be called on to pay the cost of the special sluice and channel built for them.

I have the honor to be
Sir,

Your Most Obedt. Servt

L. W. Studdall
District Engineer

8758

Tinnevely Dist. Eng. Office 4
Camp. Coivilpatty. 6 January 1874

From,

The District Engineer
Tinnevely

To,

The collector of
Tinnevely

Sir,

I have the honor to request that
some arrangement may be made with
the Municipality of Tuticaurin with re-
gard to payments for the water supplied
to them from the Perumpallam sluice.
Tutic.

2. The sluice and channel from
the Perumpallam Tank have been cal-
culated to deliver 500 cys per hour,
and although for the present the
consumption of water is not likely
to amount to that quantity, yet even-
tually when the conduit is extended,
if the water is used extensively for
gardens and by the screws and Rail-
way, very nearly that amount will be
required to be delivered from the Tank.

3. 500 cys per hour running conti-
nuously during 240 days would be
sufficient to irrigate 360 acres of
double

2401
From, The District Engineer
Tinnevely

To, The District Engineer
Tinnevely

129 27/15/1874
2401 21/18/1874
2537 February 1874

Enclo: one

100 yards for orders copies

of correspondence with the
Collector of Tinnevely regarding
the change to be made to the
Tuticaurin Municipality for the
supply of water to that town
from the Perumpallam
Tank and the

P.N. 1402/74

double crop, the assessment on this accord-
ing to the ordinary rate of Rs 8 would
be 2,880 or Rs 12 per diem.

4. Looking at it in another way
360 acres would be too of the probable
area to be irrigated by the Anicut.

12 Lacs will be the probable
expenditure (including establishments)
and 12 per cent would be fair inter-
est on this.

•• $100 \times 12 \text{ Lacs} = \text{Rs } 12,000$ the gen-
eral capital sunk to provide water
carried with water.

Interest at 12 per cent ——— 1440

Special Capital Construction
of sluice and channel — Rs 4,000

Interest at 12 per cent ——— 480

General repairs at 2 per cent
of general capital ——— 240

Special repairs to sluice and
channel per annum ——— 110

or for 240 days = Rs 10 per diem.

5. I think that for the present
as the conduits remain completed
we might charge Rs 8 per diem, but
increased a few months later to
Rs 10 or 12, and I would through the

Chief Engineer for Irrigation recom-
mend this charge should you concur.
b. I have already in my previous
letters mentioned that I could not
guarantee a supply of water for more
than 240 days out of each year.

It will, generally however in ordinary
seasons be possible to give water for
a longer time and it is only after
the cultivation from the Anicut
has extended that there would be
danger of our having to run the water
off for irrigation to the detriment
in any way of the Suticorin supply.

This danger is not likely to arise for
some years but it is only by experi-
ence that we can judge whether the
supply will be continuous throughout
the year. I have therefore based my cal-
culations on a supply for 240 days
only, and would suggest that for all
days above 240 half the fixed daily
charge be made.

7. The Municipality having under-
taken the construction of the con-
duits and Reservoirs and also of the
general management of the distribution,
it is with latitude that we can
deal.

double crop, the assessment on this accord-
ing to the ordinary rate of Rs 8 would
be 2,880 or Rs 12 per diem.

4. Looking at it in another way
360 acres would be 100 of the probable
area to be irrigated by the Anicut.

12 Lacs will be the probable
expenditure (including establishments)
and 12 per cent would be fair inter-
est on this.

100 x 12 Lacs = Rs 12,000 the gen-
eral capital sunk to provide Tuti-
corin with water.

Interest at 12 per cent. ——— 1440

Special Capital Construction
of sluice and channel — Rs 4,000

Interest at 12 per cent. ——— 1,800

General repairs at 2 per cent
of general capital ——— 240

Special repairs to sluice and
channel per annum ——— 1100

or for 2,400 days = Rs 10 2/3 per diem.

5. I think that for the present
as the conduits &c are not completed
we might charge Rs 8 per diem, to be
increased after 6 months notice to
Rs 10 or 12, and I would through the
Chief

Chief Engineer for Irrigation recom-
mend this charge should you concur.

6. I have already in my previous
letters mentioned that I could not
guarantee a supply of water for more
than 240 days out of each year.

It will generally however in ordinary
seasons be possible to give water for
a longer time and it is only after
the cultivation from the Anicut in-
has extended that there would be a
danger of our having to run the water
off for irrigation to the detriment
in any way of the Tuticorin supply.

This danger is not likely to arise for
some years, but it is only by experi-
ence that we can judge whether the
supply will be continuous throughout
the year. I have therefore based my Cal-
culations on a supply for 240 days
only, and would suggest that for all
days above 240 half the fixed daily
charge be made.

7. The Municipality having under-
taken the construction of the Con-
duits and Reservoirs and also the
general management of the distribution,
it is with them alone that we can
deal.

deaf.
leaving them to collect from those
who benefit by the water supply. Please
favor me with your views and those
of the Municipal Commissioners
on the subject of the charge to be made.

8. I would request you also to note
that water has been supplied since
the 17th November last and that we
should receive payment from that
date.

I have &c
(Signed) J. W. Rundall
District Engineer

By
From,

Tinnevely, 5th February 1874

To,
R. K. Puckle Esq.
President Municipal Commission

J. W. Rundall Esq.
District Engineer

Sir,
In reply to your letter of 7th 5th
dated 6th Ultimo, I have the honor to
enclose a copy of a communication from
the Vice President of the Tuticorin Munici-
pality claiming a gratuitous water
supply

10/5/70 6
supply, though consenting to pay under
protest for the quantity actually de-
livered at the cistern in the town.

2. The fact of the works supplying
the water having been constructed by
Government from loan funds and
the possibility of water being turned
to better advantage pecuniarily than
in supplying the town at all, seems
to have escaped the Vice President's
notice. As a mere matter of business, as
he says, if the town does not take the
water on the same terms as the culti-
vating ryots, it will be more pro-
fitable to the ancient works to divert
the water to the fields and allow
Tuticorin only such surplus, as can
be spared by the fields.

3. I do not anticipate, however,
that the town's men as a body will
object to pay the equivalent of 5
annas ahead per annum for a pure
substitute for the brackish water,
which, the Vice President admits,
has hitherto cost much to procure, but
as the charge for the Tuticorin water
supply is a matter that had better
be

be decided by Government, I suggest your referring the papers to the Chief Eng^r for Irrigation.

I have ^{you}
(Signed) D. K. Puckle
President

Tuticorin. 2nd February 1876.

No. 100.
From,

The Vice President
Tuticorin Municipality

To,
The President
Municipal Commission

Sir,
I in reply to the letter of the District Engineer the Commissioners beg to express their unanimous opinion that if this town must bear any charge whatever for the supply of fresh water from the Tambrapoorney River, the amount demanded for that water is decidedly excessive.

2. The Commissioners however are by no means prepared to concede, what the District Engineer takes for granted; that the town of Tuticorin stands in the same position as regards this supply of fresh water as the cultivating classes of

of the Delta, water is to them a source of profit; to us a necessary of life: they can live and have thitherto prospered without this increase in the water supply, the town of Tuticorin has hitherto had a hard struggle for existence mainly owing to this natural defect in its situation and condition.

3. When the Secretary of State gave his sanction to the scheme of which the Greenigundam Aicut is the basis, he expressly enumerated as one of the recommendations of the scheme the fact that the rising sea port of Tuticorin would obtain a supply of fresh water, from the want of which it had hitherto severely suffered.

4. And when he wrote this, he can not have meant that Tuticorin and the paddy fields of the Delta were to stand in the same category, and be treated on the same footing, and that water to feed our town was to be sold on the same terms as the water which is to grow their rice. The Commissioners venture to ask whether Government would ever sanction such a proposition.

5. Here is a town with a population of

of 10,000 souls, the chief harbour of South India, as necessary to welfare of the Commerce of the Country as any town in the Presidency, where men can hardly live now for want of fresh water, and where health is injured and life shortened by the dreadful character of the liquid which men must drink; and the District Engineer gravely proposes to bargain with them for the water supply as he bargains with the cultivators of paddy fields. Here is the water," he says take it or leave it, as you will but if you take it you must pay Rs 3,000 a year for it."

6. The Commissioners venture to doubt whether this is the attitude that Government desires to assume towards the people of this town. They consider that the town has a strong claim to be supplied with the bare means of subsistence by the expense of the public revenues. They think that as they have with their own money built their own town, made their own streets & executed costly works for the distribution of this river water, it is scarcely too much to ask that they should not

be obliged to drive a hard bargain for the water itself. That which other towns find ready to their hand; which every poor villager takes from the public well at his Cottage door, has here to be brought for miles with great trouble and at considerable expense. It may be our misfortune, it is not our fault, and the Commissioners are loath to believe that it can be the intention of the Government to sell fresh water to the townspeople of Tuticaurin, at the highest rate that their necessities can exact.

7. For this is in fact the result of the District Engineer's calculations. We are treated as too of a project; calculated to return so much profit; and it is therefore essential that 100 of that profit should be made out of the relief of our drought and barrenness. Tuticaurin may be regarded as a fraction of a commercial project, but it may also claim to be treated as a portion of the empire; entitled to its share of imperial revenues and of public benefits.

8. On such grounds as these the

the Commissioners venture to dispute the presumption of the District Engineer that the town must pay about Rupees 3,000 a year for the supply of the Tambera-poornee river water. They do not consider that they are liable to payment of any charge whatever; and it is only after entering this protest that they proceed to discuss the details of the District Engineer's proposal: and to express their opinion that even on his grounds the charge proposed is excessive. The reasons upon which they base this conclusion are the following.

9. The discharge from the sluice of the Korampallam Tank bears no reasonable proportion to the supply received in the town and the charge ought therefore to be calculated, not on the amount of water discharged from the tank but on the quantity actually received in the channel at Melur.

10. This, they think, is undeniable, because peculiar nature of the supply channel renders the waste of water between the tank sluice and the

819
the Melur Reservoir enormous. In the words of the District Engineer in a recent letter, the land adjoining the channel on each side is "an immense sponge," and the Commissioners see nothing reasonable in the proposal to saddle this town with the cost of the consumption of this immense sponge, which the townspeople have no opportunity of using.

11. Again the land through which the channel passes and that which adjoins the channel on either side should, the Commissioners think bear the cost of the water which it actually consumes. Hereafter much of this land may be brought under cultivation, much is being utilized now by Government for the growth of trees and reserve jungle and the water drunk up by that land should be paid for by those who occupy that land and not as the District Engineer proposes by the town.

12. To say that 500 cubic yards per hour pass from the sluice of the Korampallam tank, is one thing; and to show that this town receives any thing

thing like that quantity, a very different thing. A reasonable charge would be the ordinary rate on the amount of water received in our channel at Melior, plus a reasonable allowance, say 10 per cent for leakage & evaporation.

13 The District Engineer proposes to make us pay for 500 Cubic yards per hour, whether we receive it or not. It can hardly be said that we must receive the water eventually, after it has percolated through the sponge 4 miles long for the waste and evaporation over that large area must be enormous. If the water came to the town down a channel and not through a sponge, we might fairly take the discharge from the tank to represent our receipt at Melior, but no one can seriously contend that the latter is anything like equal to the former.

14 Nor is the suggested estimate of discharge from the tank an accurate basis of calculation for our payment due for the last two months. The District Engineer is correct in his date of the first supply to the town; but from November 16th the sluice has not been

\$ 80 10

been running at the rate of 500 Cysds per hour, nor anything at all approaching that rate.

15 For some days the sluice has been closed altogether, for many days it has had only one shutter open out of four; and the time for which the sluice has been in full discharge must therefore be reduced considerably from the District Engineer's statement.

16 The Commissioners do not wish to dispute the estimate quoted, but they presume that the discharge of 500 Cysds per hour refers to the rate of discharge of a full tank, and they would remark that this rate of discharge must have been considerably varied during the last two months, as the head water in the tank rose or fell and the depth of water through the sluice varied accordingly.

17 If the Commissioners hesitate to accept the proposed charge, it is not because they undervalue the life of this water supply; but simply because they do not care to saddle the town with a burden

burden that is sure to be heavy and may become insupportable. The proposal to defray this charge by a rate payable by those who take the water for cultivation, or for steam engines within the town, seems to the commissioners more ingenious than practical. The area under cultivation or for land that will be within reach of the water, and vacant for cultivation will be so small that it is doubtful whether on Rs 8 water rate would produce Rs 200 a year; especially as the cultivation supply would always have to be made secondary to the drinking supply; and might therefore be cut off at a critical moment. In any case this assessment would be collected by Revenue, and not by the Municipal authorities.

18. As for the steam engines, it is extremely doubtful whether we have any power to charge any such rate at all. The merchants are taxpayers, who have as much right to be supplied with water free of payment as any body else; and if we omit to give them supply channels, unless they submit to

58 11
to such a charge they will simply, as they now do, send their carts to our public wells and take the required quantity free of charge. As for applying to Government for special legislation on the subject the refusal seems so certain that the request had better not be made.

19 The commissioners must therefore treat this matter from a purely business point of view, and make the best bargain for the town that they can in supplying it with water and they think it is obvious that they cannot fairly be asked to pay for more water than they actually receive, and would therefore propose that the simplest test be adopted of a gauge fixed at the McIlur Reservoir to register the depth of water received there.

20 If the District Engineer will correct his estimate of the amount received during the last two months the commissioners will be happy to accept it as a demand against

I have you
(Signed) J. A. Boyle
Vice President

(True Copies)

J. W. Shindall
District Engineer
Dumreilly

against the town; but they can not accept as a reasonable basis of calculation for the future (1st) an estimate of quantity, which would make the town liable to pay for water which it never received; (2nd) an estimate of duration of supply, which may or may not be realized.

21 It is true that a town of 10,000 souls should not grudge Rs 10 for their daily supply of water, but when the whole income of that town only amounts to Rs 16 a day a new burden of 22 per cent of that income should not lightly be imposed.

22 The Commissioners anticipate no difficulty in correctly registering the inflow of water to their Channel at Melior. Daily record can be kept of readings on a fixed gauge and the D. P. & W. will not be without a check on our returns as their resident Overseer can scrutinise them whenever he wishes, and may note the readings himself from time to time.

No. 193 C

17

Submitted for the consideration of Government

I am aware of no reason why the Municipality of Tuticorin should not pay a reasonable amount for the water supply of the Town, which has been provided at considerable expense, and by an outlay of Loan Funds, through the Striviguntam Ancient works.

From Dist.
Eng. Tinnivelly
No. 191 of
21.2.74.

2 A charge of 1 Rupee per thousand cubic yards of water, or a penny for 6750 gallons is the low rate which has under similar circumstances been considered appropriate, and I would suggest that this should be imposed. The charge might be made from the 1st April 1874.

3 It should, I think, be ascertained by the District Engineer whether the channel from the Horumpollam tank

Dec 1/4/74

Madras via letter from

the District Engineer

Tinnivelly dated 21.2.74

February 1874 No. 191.

To

The Chief Engineer
for Bangalore

P. M. 1402/74
27

Office of Commr.

Madras.

27. 2/15 June/74

No. 18 No. 296.

tank to Melur, 4 miles in length, cannot be made fairly water-tight by lining it with clay. If no remedy for the loss of water by absorption can be applied however, it seems clear that as this channel was constructed for the supply of the Town and is not, and will not be, used for any other purpose, the Town supply must be measured at the Horumpollam Sluice, and not at Melur. Were the reduced volume at the latter point to be measured it would be necessary to raise the charge proportionately. The water discharged at the Horumpollam Sluice is that which the Striviguntum works will have to provide for the Town; and, if its position and circumstances unfortunately lead to waste, the result

14
result must be increased expense. A Town population can afford to pay much more for water for domestic and other purposes than a rural population for its agricultural operations, but hitherto there has been every desire to afford a supply to the former at as low a rate as would suffice to prevent the cost of benefits secured specially to towns from being a burden on those who in no way share those benefits.

Camp at
Pelandore
4th March 1874

Whitcomb

Leath Col.

Chief Engineer for Irrigation

To
The Secretary to Government
Pub. Works Dept.

P. J. 1874 Department
Memorandum for Mr. J. H. 1402.

From
The Chief Supt.
for Irrigation
To the Secretary
D. G. on 10th Mar.

- 1-1930

Dated 4th March 1874
Recd. 10th March 1874
Encl. 2

G. O. No: 1590. 15-6-74.

Submits with re-
marks letter from the
R. S. Dunsell regarding
the charge he made
to the Tuticorin Mu-
nicipality for water
from the Strivigun-
tum ancient works.

No 296

Recd. 27.3.74
Civil. Mar 74

Memorandum

The following information is sub-
mitted with reference to the Honorable
Mr. Robinson's remarks on the subject
of the water supply of Tuticorin from
the Striviguntam Ancient Channels.

The rate for the supply of Madras
from the Red Hills Tank was fixed
at a time when it was thought
that the cost of the supply would
not be much more than one half
what this has amounted to, and it
is for a Town supply an extremely
low rate.

The Striviguntam Ancient project
revised Estimates amount to Rupees
9,74,470, exclusive of Engineering
Establishment, and their total cost
may perhaps be estimated at 12 lacs.
The annual charges may thus be
estimated.

Interest on 12 lacs at 5 per cent	60000
Depreciation of works at 2 per cent on 10 lacs	20000
Establishment chargeable to Revenue	5000
	85000

Taking

Taking into consideration also the interest on outlay during a considerable period which has to be recouped, it will probably not be wrong to estimate that the annual Revenue to be derived therefrom should amount to Rupees 1 lakh.

The area of irrigation is expected to be 33,500 acres and of this 20,500 acres will be new irrigation consequent upon the outlay on the project.

The annual revenue to be derived is, if divided over the acreage, 5 Rupees an acre nearly.

The quantity of water required per acre may be taken as about 5000 Cubic Yards viz: 2 Cubic Yards per acre per hour for 105 days. The District Engineer estimates the quantity as greater, but experiments show that this is about that required, and if the average for the Khar and Peshamum crops be taken, it may be considered certain that the actual supply provided.

provided by the works from the river, independently of rain fall, will be less than the quantity suggested.

The charge therefore required to pay a bare 5 per cent on the outlay is as nearly as possible 1 Rupee a thousand Cubic Yards.

It does not seem probable that the project generally will yield such a return as to make it able to afford to supply water to Tuticorin at less than cost price, which a rate of 8 Annas a thousand Cubic Yards would be.

With reference to the remarks of the Honorable J. D. Sim regarding reservoirs, and securing permanency of supply, it is proposed to make the following addition to the draft order.

"As the duration and recurrence of freshes in the Tambrapourney are uncertain, owing to the character of

of the river, and to the circumstance that the Striviguntum is the lowest of 7 Anicuts, it will be necessary for the Municipality to make arrangements for storing a reserve supply, at least to the extent which may be needed to provide good drinking water at all times. The cost of these reservoirs may, if necessary, properly be met by a loan.

It is hoped, though on this point it seems somewhat uncertain whether any absolute security is attainable, that it will be practicable to set aside always enough water for the Town. The channels are to supply a series of tanks and these will require to be filled 3 or 4 times annually for the irrigation, and it follows that at times the water in them may get very low. The principal part of the river supply is obtained from the South West Monsoon, and in the North East Monsoon

a good deal of rain-fall water is received by the tanks. In the interval between the two, water may, and probably will, run short. Were it not that the supply to the town channel may be intermitted, reservoirs in or near the Town would not be required.—

Aug. 1874/75

1402

I now think it will
be better to charge
1 Rupee.

[Signature]

Aug 8/94

I would stick
to 8 annas. If the
Sub: gov. must
be must the
charge
1 R. - But I do
not regard water
supply to a town
as entirely a matter
of L. S. D.

[Signature]

Note

I think that it
must be conceded
that the Town of
Lutincorin ought to pay
for their water-supply.
- likewise that the
proper site for the
gauge is at the head
of the Town. Since in the
Korumpallam Tank.
and that the right
principle is to charge
for the actual supply
at so much per 100
cubic yards and not
at a certain rate per
diem - a condition out
of which many complications
would undoubtedly arise.
The

The only point for discussion seems to be - what rate is to be charged.

I think that the up-country towns should not - if it can be avoided - be charged at Metropolitan rates - 1 Rupee per 1000 Cubic Yards. But we have not as yet adopted any principle on which to calculate the charge - so far as I know - whether it is to be what the water costs the State plus reasonable profit or whether it is to be at some fixed rate - e.g. 1 Rupee per 1000 Cubic Yards without reference to cost of supply.

I think that this feature should be fully discussed and put on a clear footing and I should suggest that it be brought in before

before Council at an early date with some clear data which would really be a correct judgment. On what data was the Madras Rate Report per 1000 Cubic Yards fixed?

I would observe that this fresh unavoidable prospective charge makes the propriety of abandoning the Artage law in future even more imperative than even the Budget for the year showed it to be.

13/1/1901

I do not see how we can avoid it - giving pay meant for water is a necessary of life - we may fairly take it into account.

sideration the ability
 to pay of those who
 can have it. I think
 be desired to tell
 half the Madras
 rate. Even during
 the difference in
 the wealth of the
 two places. The
 channel must be
 made watertight
 water-tight and
 the Municipality
 must provide a
 service to the
 sufficiency for
 the period during
 which the Town
 cannot supply it.
 For such purposes

a loan may be
 to suggest that. When
 as in Madras
 we must always
 set aside enough
 water for the
 Town.

L.D.S.
 10.3.

1592
 11/11/1874

The meetings of the Madras Government
 Read the following
 From the Chief Engineer
 for Irrigation S.E. No. 1936 of 14th March 1874

His Excellency the
 Governor in Council con-
 sidered that it is necessary
 that the Municipality of
 Tuticorin should pay for
 the water supply of the
 Town, which has recently
 been made available by
 the construction of the Sri-
 vignantham Ament works
 from Loan Funds, and
 His Excellency is of opinion
 that a charge of ^{one} Rupee
 for each 1000 cubic yards
 of water discharged into
 the Town Channel at
 the Florempollam Tank
 since is as low a rate
 as

Passed
 Date 10/3
 21/11
 L.D.S.
 10/3

1 per 1000
 Col. His Excellency (for that of
 marks are due) seems to be con-
 sidering as the date of 10/3 1874

as can be fixed.

2 The difference between the quantity discharged at the above mentioned sluice and that available at the lower end of the Channel, at Melur, has not been reported. The District Engineer Timewelly will however ascertain as soon as possible what the wastage by absorption is, and then see what can be done to reduce it to a minimum.

It is quite possible that some indirect benefits may result from this infiltration, but it appears to be certain that greater advantages would be derived from the direct use of this absorbed water, as, with a limited supply, waste of any kind is to be deprecated.

16
depreciated, the Government will be prepared to sanction any reasonable expenditure which may give good promise of preventing any considerable loss between Korum and Melur.

3 The Government are willing to allow the water supply up to the 31st March 1874 to be given free of charge, which latter will therefore commence from the 1st April.

The Chief Engineer for Irrigation will see that the arrangements for measuring the volume of water are complete and sufficiently accurate, and he will obtain from the District Engineer a monthly return of the quantity supplied.

I would say the thing about securing permanency of supply

L.S.

To the Chief Engineer for Irrigation
District Engineer Timewelly
Municipal Commissioner of Melur
Controller of W. Account

Copies sent to all 24/6/74

L.M.N.

May 5/3/74

1462

Govt. of 1874 Madras.

PUBLIC WORKS.



To

The C. S. R. for
Muzabur

Dated

Recd.

Encl.

2

G. O. 15 June 1874, No. 1590

Nos. 296-297.

Tuticorin Water Supply

Passing orders on the subject of the sale to be made by the Tuticorin Municipality for water from the Obredinquinian Great Tanks, and is giving instructions relative to the measures to be adopted to prevent waste of the water requesting a monthly return of water supplied.

296-297

Recd & Recd - 21/4/74 Rd 8/5/74
Recd - 18/4/74
21.5.74

Recd - 18/4/74