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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No.	2927	Press
B.P. No.		Mis. ✓
Dated	5. 12.	1976.

Not to be folded or roughly handled

Read the following papers:—

241 W.

No. 426.

Note by Chief Engineer for Irrigation.

THE letter No. 45 of the 23rd ultimo, from the District Engineer, Kurnool, with the enclosures, afford full information as to the circumstances connected with the repair of the Owk tank sluices and with the Pattikonda tank sluice; explanations regarding which were called for in G.O., No. 1,963, 2nd August 1876.

2. In the opinion of the undersigned, though a ring-bund round the heads of the Owk tank sluices might have sufficed for their examination and for a determination of the preparations to be made for repairs, it was very improbable that the repairs themselves could be effectively executed with any head of water above the sill of the sluices. The ryots made a ring-bund with 7 feet of water in the tank, not of course a difficult thing to do, and there would have been no difficulty, but perhaps the waste of a good deal of money, had a ring-bund been formed as suggested by the Collector with 18 feet

Letter No. 105, to Collector, paragraph 5.

of water in the tank; but to make a bund which would enable low level masonry work to be executed would be a very different matter. Even when there was no water above the surface of the tank bed the springs were found to be troublesome.

3. With regard to the Pattikonda tank sluice, it appears to have been built at the level of the tank bed at the place selected, for a definite object, which object it has secured. A low level sluice existed, and another was it would seem not necessary. The high level sluice was built to supply water when the water surface in the tank was high, and, as it can supply water for five months, for a high level sluice, its level is, it is considered, unobjectionable. The choice lay between altering the low level sluice to facilitate its regulation with a considerable head of water, and building a high level sluice to take its place during a certain state of the tank. Probably the latter alternative was cheaper, and no doubt it was much easier to carry out.

4. It is observed that the Collector's remarks were written on imperfect information and, as necessarily followed, they were not very accurate, but showed nevertheless that further inquiry was being made.

Letter No. 248, 6th June 1876, paragraphs 10 and 11.

The Board of Revenue go a little beyond the Collector in their remarks and inferences, perhaps because they were less well informed. As it turns out, there was, the undersigned thinks, no need for dissatisfaction, and had the facts of the case been awaited a good deal of unnecessary reference to the several authorities from Government downwards would have been avoided.

5. Some of the rates in the estimates, and especially in the repair estimate of Rupees 2,000, are much too high. One rupee a cubic yard for gravel backing to revetment is a very unusual rate, and material suitable for backing would seem from the nature of the country to be not distant. The sanction of Government to the estimates is not required.

Ootacamund,
4th November 1876.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

No. 426-A. From W. A. GOODCHAP, Esq., District Engineer, Kurnool, to Lieut.-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated 23rd October 1876, No. 45.

ADVERTING to the Acting Collector of Kurnool's remarks in his letter, dated 6th June, No. 248, embodied in G.O., No. 1,963, dated 2nd August, paragraphs 10 and 11, I have the honor to report that when I assumed charge of the district in August 1874, the Owk tank sluices were in a leaky state. As there was great opposition both on the part of ryots and the Revenue authorities to allow water to be drained from the tank to admit of the sluices being examined, and as there was never less than 10 feet on their sills, until April of the present year (7 feet), the repairs were put off until the state of the sluices became so bad that the tank bund was in danger of breaching.

2. It will be seen from the plans designed, A and B, for new heads, that this department was prepared to commence either new work or repairs after an examination of the sluices.

3. On a reference to a copy of my letter, No. 105, dated 29th August 1876, (herewith enclosed,) it will be observed that the sluices are being repaired at an estimate cost of Rupees 5,390 on emergency, the plans and estimate in connection with the repair are herewith forwarded for information.

4. It was thought expedient to collect stones on the tank bund for new work or repairs, as might be found necessary, and the result is that stones, &c., to the value of Rupees 705 have been supplied which are not now required; I have however transferred them to "Stock Service," as the stones may be used when the estimate for a Sub-Magistrate's Cutcherry at Owk is sanctioned.

5. I have objected to the rates for concrete, masonry, and earthwork, as very high; but the Range Officer in his letter No. 814, dated 2nd October, (copy enclosed,) has offered some explanation on that point, and has submitted a statement of actuals (enclosed) for the head only.

6. An ordinary estimate, amounting to Rupees 2,000, has been prepared for stopping a leak in the tank bund near the old escape weir, (which is to be closed as ordered in your Proceedings recorded in G.O., No. 1,044, dated 23rd April 1874, as soon as the new escape built last official year has been properly tested,) repairing supply channel and

improving the dry stone masonry weir, or "Verasawmy" Cathwa," built across that channel to feed the Owk tank.

7. With reference to the Collector's remark on the Pattikonda tank* sluice, I beg to report that the sluice was designed and partly built by Captain R. F. Taylor

* Estimate Rupees 425.

in 1874. The complaint is that the sluice is placed on too high a level and does not drain off a sufficient supply. If Captain Taylor intended that the sluice was designed and built in the position it is to irrigate land on a high level on the other side of the hill, and to prevent a channel being cut at the foot of the outside slope of the tank bund, which had a tendency to displace revetment, it consequently follows that he did not intend that the old level sluice should be again used to irrigate the high lands, and that the new sluice was expected to answer its intended purpose during the full period of sowing and reaping. But as the new sluice does not drain off more than five months' supply, it is no doubt placed on a higher level than it should be. The question now arises,

could this have been avoided? With respect to the bed of the tank at the site of the new sluice, the sill is placed correctly. If placed any lower a channel will have to be cut to it from the low bed of the tank. Such a channel, the villagers say, they will cut and always keep open. In my opinion if the sluice be lowered 3 feet and a channel cut to it and always attended to, the purpose in view will be realized. I am strongly of opinion that Captain Taylor was misled by the dead karnam and ryots, and that he naturally relied on their representations and statements. Again, I am of opinion that the wastage of water at the low level sluice is very great; that if a better system of distribution and regulation of the low level sluice supply was adopted, a greater amount of water would be stored in the tank, and perhaps the full supply discharged through the new sluice complained of, since there is only one month's supply that is wanted. I do not see why it cannot be taken as before from the low level sluice, when the plugs, &c., can be more easily worked. I cannot understand how a sluice channel carried at the toe of the bund will injure and destroy the bund and stone revetment; such channels are very common in this district, and from what I saw of the Pattikonda tank bund I am certain that the small channel at its toe would not in any way seriously injure it. A longitudinal section of the Pattikonda tank bund is herewith submitted, from which you will find that if the present weirs be raised, as proposed by the Revenue authorities, 1 foot, it would be necessary, allowing 2 feet above crest for maximum water level, to have the bund at least 4 feet above the crest of the escape; the bund will have to be raised in the spots marked A and C. If the tank bund is raised, one of the calingulahs will have to be extended, so as to give the necessary length for a drainage due to 7 square miles.

From W. A. GOODCHAP, Esq., District Engineer, Kurnool, to the Collector of Kurnool, dated Camp at Dhone, 29th August 1876, No. 105.

With reference to your letter of the 10th May last, No. 382, I have the honor to report that as I did not return from leave until the 15th June, and was then obliged to visit Cumbum, I was unable to inspect the Owk tank sluices until the 22nd and 23rd instant. The Officiating District Engineer, however, paid his particular attention to this work, and gave personally instructions to the Range Officer at Owk on the 27th April with reference to certain repairs to the sluices, which have since been fully carried out.

2. The Range Officer's first letter on the subject of the Owk tank sluices was written on the 27th December 1875, in which he proposed that the heads of the two sluices should be rebuilt, and the tunnels repaired, and at the same time asked for authority to drain the tank, after the first crop had been harvested, to enable him to examine the sluices thoroughly, and to prepare correct estimates for their restoration. In the meantime a design for a new head was made and an approximate estimate prepared, pending an opportunity to examine what depth of foundation would be necessary; an assumed depth of 6 feet however was allowed, and an estimate framed which amounted to Rupees 5,000 for one head alone.

3. As it was doubtful whether it would not be necessary to rebuild the tunnels as well as the heads, I decided that materials should be collected on the work, with the exception of lime, so that no time should be lost (as soon as the water in the tank would admit of an examination of the sluices) in commencing new work or repairs as might be found necessary.

4. In your letter No. 32 of the 14th January, and in reply to mine of the 7th January, you thought that the sluices might be repaired without allowing so much water to go to waste, by constructing ring-bunds; on the receipt of this letter I addressed the Range Officer requesting to be informed if it was practicable to carry out the repairs in May by constructing ring-bunds on the

inner side of the tank opposite to the sluices, his reply was that "he thought May too late in the year to put up ring-bunds and commence reconstructing large sluices; and that operations should be commenced in February, so that the sluices will be reconstructed carefully and satisfactorily."

5. As I was under the impression that the sluices were repairable, and wishing to meet your views with regard to retaining water in the tank, I arranged personally with the Tahsildar of Kovilaguntla that no water should be drained

* Kovilaguntla, 9th February 1876.

till after the 1st of April, about which date it was understood the second crop would be harvested; unfortunately, on the 4th March, it was reported that there was a considerable leak in one of the sluices, (which was temporarily stopped by the ryots under the superintendence of the Deputy Tahsildar,) and that it was necessary to drain the tank at once. You, on the receipt of this information, granted on the 11th March authority to do so, but the ryots prevented this being done; they however agreed to put up a ring-bund; this was about the 26th March, and the head of water above the sill of sluices, at that time, was about 7 feet, and falling fast; but when ring-bunds were originally proposed by you on the 14th January it was 18 feet, and although not impossible to construct a ring-bund even then, it would have taken much time and labor, and also very costly.

6. Your estimate of the time, i.e., one week for removing the bund above the sluices down to about the level of the water, was under-estimated, inasmuch as the uncovering of the bund over the western sluice took twenty-two days, as the cut was too confined to put a larger number than ninety-five coolies on it at one time. The Range Officer personally superintended this work for twelve days and then left it in charge of the Overseer.

7. Actual work could not be commenced to the western sluice till the 20th May, as there were 7 feet of water on its sill, when the ring-bund was commenced by the ryots on the 3rd April, and the Overseer when he took charge, on the 15th April, had to alter, raise, and strengthen it; and although the tank was reported dry by the Deputy Tahsildar of Owk on the 4th May, the springs near the side walls of the tunnel and pials were too powerful to admit of masonry repairs being done on that date, as it was necessary to excavate 7 feet below bed of tank to lay down the concrete to side walls of tunnel and pials, so that it was imperative to wait until the springs became less in power.

8. As you state that the work of opening the sluices was going on when you saw the tank "without any water having been let off," it is to be understood, I suppose, that there has been no waste of water from the tank on account of the sluice repairs.

9. I do not know who spread the report that the water is to be let off the tank after the next year's first crop has been reaped, as it is not the intention of this department to propose anything of the sort.

10. Adverting to your remark that the second or eastern sluice is not in very urgent need of repair this year, I have to observe that it was reported by the Revenue Officers that it was in very bad order and leaked much, and a large quantity of water was lost yearly.

11. I beg to remark that the object of putting up the small ring-bund, referred to in your letter, was not to retain water in the tank, but merely for the safety of the work in progress and work-people, in case 2 or 3 feet of water entered the tank, after it became dry from local rain, before the setting in of the regular south-west monsoon, which arrangement is always carried out by this department, whether there is water in a tank or not, when a sluice is about to be repaired or newly constructed.

12. The western and eastern sluices have been repaired as detailed in the specification noted below.

WESTERN SLUICE.—Concrete 27 inches thick was laid down to the backs of the dry stone walls of tunnels to a length of 54 feet from head, the dry stone walls of tunnel, 15 inches wide, were rebuilt with mortar, and pointed inside with fine ground mortar; the covering stones over them were relaid and covered with 24 inches of concrete; around the faces of the walls of pial or

platform at the head a masonry wall 15 inches wide was built, and between it and the dry stone walls of pial concrete 21 inches thick was laid, to make the dry stone walls watertight; new concrete was laid over the pial as the old concrete was cracked and useless. It was thought necessary to put 27 inches width of concrete to the backs of dry stone walls of tunnel because that width was considered proper to strengthen the weak dry stone walls 15 inches wide and 6 feet high, and to prevent large crabs and other vermin burrowing holes through the concrete, as they had done with the old brick wall 2 feet thick, which stood behind the dry stone walls of tunnel, and which made the sluice leak so much before it was repaired. The same remarks apply to the sluice noted below.

EASTERN SLUICE.—Concrete 24 inches wide has been laid down to the backs of side walls of tunnel, to a length of 45 feet, and the inside, of side walls of tunnel, has been carefully pointed with fine mortar; the faces of the dry stone walls of platform at head have been pointed with fine mortar; the concrete to top of pial has been removed, and new concrete put down 15 inches thick; the covering stones were replaced and concrete 24 inches thick was put over them. The bund was reformed and pitched with stone; the ring-bund partly put up by the ryots, and subsequently altered, raised and strengthened by this department, was paid for from public funds at the request of the Collector. The remaining portions of the two tunnels under the bund appear to be in good order from an examination of the inner faces of the side walls of tunnels, and under surface of covering stones.

13. From my examination of the sluices on the 22nd and 23rd instant, I consider that the heads and tunnels, 54 and 45 feet respectively from the heads of the western and eastern sluices, have been thoroughly repaired; at the same time I am of an opinion that the quantity of concrete used was unnecessary, but as the Officiating District Engineer approved of the thickness of the concrete to side walls and covering over tunnels and the work is now finished, I have nothing further to say on the subject.

14. The rear cisterns of the sluices I found were cracked, and very much out of repair, and the ryots reported that much water goes to waste, I therefore made arrangements at once, as reported in my letter No. 100, dated 23rd instant, to rebuild the cisterns, and further examine the tunnels 20 feet in length from the cisterns, and, if found necessary, to repair and strengthen the side walls to tunnels. I also arranged for some minor repairs and improvements to be made to the tank bund and stone revetment to the water face of the bund.

15. When the repairs and improvements referred to in this letter have been fully executed to the sluices, there is every reason to believe that they will be in perfect working order, and will stand for years.

16. It may appear to you, from the explanation now afforded, that the correspondence on the subject of draining the tank was unnecessary, and that you were put to some trouble in reading sensational reports on the subject. I beg, however, to submit that some consideration must be allowed for the Range Officer's anxiety with regard to the safety of the Owk tank; when he found the sluices leaking with a head of water of about 30 feet, and again when it was reported that one of the tunnels had given way near the head of the western sluice. Fortunately the sluices were secured before the end of June, as in an ordinary season the tank would have received a partial supply by the 1st July. The present season however has turned out very unfavorable, and the unhappy result is that at the present time the tank is dry, or nearly so, which has not been the case for the last seven years, and although it will enable this department to make a thorough examination of, and repairs to, the sluices, the ryots and others are suffering much for the want of rain as reported in my letter of the 24th instant, No. 100.

The cost I anticipate for the repairs, &c., to the Owk tank sluices will amount to Rupees 5,000; in fact, the estimates have been prepared, but some delay has taken place in forwarding them for sanction on account of my having called for a statement of actuals and other information in connection with the work.

*Proceedings of the Madras Government, Public Works Department,
22nd November 1876. No. 3,146.*

*District Engineer's letter No. 206, dated 6th
September 1876.*

I HAVE the honor to request that you will be good enough to expedite the despatch of the information called for in this office No. 164, dated 6th August 1876, regarding the Pattikonda tank sluice.

The following are the points to be attended to:—

Was the sluice built in accordance with the request of the Tahsildar and ryots. Was it not understood that when the sluice was built it could only supply water for a limited time?

Was not the land irrigated from the new sluice on higher ground than the land immediately under the tank bund?

Was it not stated by the ryots that the low level sluice plugs were difficult to regulate when the tank was full, and that if a high level tunnel was built to draw a certain quantity of water off, that the low level sluice could be worked without difficulty?

Does not the sluice now complained off answer all the purposes it was intended to perform, viz., draw a certain quantity of water off the tank?

To irrigate land on a higher level than that situated immediately under the tank, could the sluice have been built in a better position, considering what it was required to perform?

(Signed) W. A. GOODCHAP,
District Engineer.

Divisional Officer's reply.

The Tahsildar is dead. The Karnam is dead. The Reddy knows nothing of the matter. I cannot gather any information on the subject.

Yes, about 3 feet higher.

Yes, they acknowledge the statement, but now assert that they did not think that the low level sluice was again to be used when a new one was built for the high lands.

The supply ceases to flow after five months, so that one month's supply is lost.

The present position is about the best. The sluice complained of will have to be lowered 3 feet, and a channel cut and always kept open from the lower bed of the tank to the sluice to enable the water to flow through it to the extent required.

(Signed) H. M. BOND,
Divisional Officer.

From G. A. VARDON, Esq., Sub-Engineer, Nandial, to W. A. GOODCHAP, Esq., District Engineer, Kurnool, dated Nandial, 2nd October 1876, No. 814.

With reference to your letter No. 295, dated 12th September 1876, I have the honor to explain that the coolies in the Kovilaguntla taluq villages will not come to work before 8 A.M., as they must first eat before they begin to work. I tried at Owk to stop this practice, but it was useless, as they said that they must have a meal first; so here, out of the nine working hours, we lost two hours of work every day; again, the coolies who came to us had to walk every day two miles to the work, were quite unaccustomed to the work, and had to be taught everything by the Overseer who lived near the bund the whole time the work was in progress; a large gang of coolies were employed to finish the work before the south-west monsoons set in, and we began very late, i.e., the end of April; the bund is 40 feet high and the deepest tank in the whole range; the women found it very difficult to walk up and down such a high bund with baskets on their heads, carrying materials down to the bed of the tank to make the concrete and rebuild the side walls of tunnel; the lime and sand had to be carted first to the foot of rear slope of bund, then conveyed on women's heads to the top of the bund, and when the mortar and concrete had been prepared there, these had to be carried down again to the bed of the tank on women's heads; all these circumstances

*Proceedings of the Madras Government, Public Works Department,
22nd November 1876. No. 3,146.*

tended to make the rates noted in your letter high. I beg therefore, when forwarding these papers to the Chief Engineer for Irrigation, you will kindly send him a copy of this letter, explaining cause for the high rates objected to, and thus remove any unfavorable impression the Chief Engineer may form

No. 427. ORDER THEREON, 22nd November 1876, No. 3,146.

IRRIGATION, No. 37.

ORDERED to be recorded.

(True Extract.)

Comptroller Major-General, R.E.,
Secretary to Government.

To the District Engineer, Kurnool.
„ Chief Engineer for Irrigation.
„ Revenue Department.

Exd. S. T. Austin.

10 Spare Copies

Sp 28 August 1876 to 2004 his

Revenue Dep

No 5380

Gobl. of 1876; Madras

PUBLIC WORKS.

To

THE DISTRICT ENGINEER,
KURNOOL.

&c. &c. &c.

Dated November 22nd.

Issued

Recd. 4 Dec

Encl.

G. O., 22nd November 1876, No. 3,146.

NOVEMBER.

Nos. 426-427.

No 2927

Communicated to the Secy
of Revenue with reference
to Sp. 28 Aug. 1876 to 2004 his.

5 Dec 76.

Onk and Pattikonda Tanks, Kurnool Dis-
trict.—Note by the Chief Engineer for Irri-
gation submitting District Engineer's report
on the — and also plans and estimates for
certain emergent works to the —, recorded.

With notes

14 Fols. Order of Revenue Secy