Government of Madras.

Revenue DEPARTMENT.

G.O. No. 1005 Press ~~Mis~~

284-285.

Dated 13th April 1869

Not to be folded or roughly handled

Re
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Proceedings of the Madras Government, Revenue Department, 13th April 1869.

No. 284. Read the following Proceedings of the Board of Revenue, dated 12th April 1869 :—

Read the following letter from the Collector of Madras, to the Acting Secretary to the Board of Revenue, dated Sydapett, 2nd April 1869, No. 86.

I HAVE the honor to forward, for the information of the Board, copy of a letter from Mr. Fraser, reporting that the Ennore Bar has closed, and to request that you will obtain early orders on the subject of my letter of the 22nd ultimo, No. 79.

From W. FRASER, Esq. C. E., Executive Engineer, East Coast Canal, to the Collector of Madras, dated Ennore, 27th March 1869, No. 226.

I HAD the honor of addressing you a fortnight ago on the subject of the Ennore Bar. The Bar is almost closed, a little water is only passing over into the lake at high water.

2. I inspected the canal to Vollur yesterday and to-day, and have put coolies to deepen the shallow parts of the main navigation.

3. The water is very low, and, if the strong south winds continue, it must go down rapidly, as they blow the water to Pulicat Lake, from which it never returns.

4. I would again solicit immediate instructions about opening a new Bar at Ennore. We shall have full moon to-morrow, and nothing can be done, except the preliminary excavation, until the 12th or 13th proximo, when I expect the water will be very low in the lake. That is the earliest time at which we can try to open the Bar ; but the main excavation should be completed before then, so that everything should be ready ; and if it be intended that the trial should be made, this excavation should be commenced at once, as it is very difficult to get coolies now.

5. I forwarded a copy of my letter, alluded to above, to Colonel Bean, and requested that some other Engineers should be consulted ; but he cannot come out until some time after the holidays, and there is not a moment to lose.

6. If I am delayed commencing operations until the west winds set in, the chances of success will be much diminished.

THE Board resolve to submit this letter to Government, and to request that Mr. Fraser may be authorised to commence the necessary works for opening the Ennore Bar at once. The estimate should be submitted as soon as possible. Rupees 5,000 will be provided in the Budget for Petty Construction and Repairs.

Proceedings of the Board of Revenue, dated 9th April 1869.

Read the following letter from the Collector of Madras, to the Acting Secretary to the Board of Revenue, dated Sydapett, 22nd March 1869, No. 79.

Vide Proceedings of the Board of Revenue, dated 2nd February 1869, No. 716 A.

I HAVE the honor to forward copy of a letter received lately from Mr. Fraser, C. E.

2. From it the Board will perceive that Mr. Fraser despairs of being able to keep open the Ennore Bar at the place it now exists, and recommends the making an opening hereafter at a spot farther to the south, and where it will be less likely to close up again than at the present spot. Mr. Fraser cannot now exactly estimate the cost of making this opening, but asks for a lump sum of 5,000 Rupees to be specially placed at his disposal, to be accounted for when the work is concluded. I beg the Board will obtain such a special grant as although the admittance of the water through the Bar will not much affect the actual manufacture of salt ; its non-admittance will very materially affect the carriage of the salt, as the canal navigation is sure to become impeded.

From the Executive Engineer, East Coast Canal, to the Collector of Madras, dated Mount Road, 16th March 1869, No. 208.

With reference to Mr. Smith's letter, No. 56, dated the 3rd instant, and which I received on Saturday last, the 13th instant, on my way from Druvarajapatam to Ennore Bar, I have the honor to make the following remarks :—

2. During every springtide since the south winds set in, the sand banks thrown up by the surf have been removed from the channel; but this has not prevented the Bar from travelling northwards, nor the channel from gradually silting up.

As new moon occurred on Saturday last, I hastened to Ennore for the purpose of watching the effect of the springtides; and on Sunday I had over 100 coolies employed under my own immediate superintendence, in widening and deepening the channel, and on Monday (yesterday) 170 coolies were employed on the same work, and a large quantity of sand was removed. There will be 30 or 40 coolies employed at the same place to-day, and the same number for two or three days more.

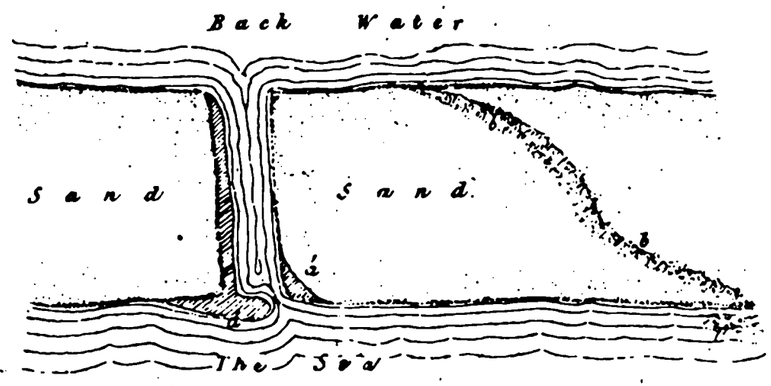
3. On Monday morning I had an opportunity of examining the effect of the labor of the previous day, and of making a more detailed examination of the backwater and the sea at the Bar; and the result has been to modify the opinion I expressed to you orally on Sunday afternoon, when I thought we might be able to keep the channel open for two or three months. I am of opinion that it is next to impossible to keep it open for more than one month if the present strong south-east winds continue.

4. As the matter is of some importance, I will give you my reasons for arriving at this conclusion.

Like every other Bar on this Coast, this one has travelled northwards, and will continue to do so in spite of every effort we may make to prevent it, so long as the mouth of the channel is unprotected or rather unfortified. Why the Bars should have this northward progression is easily understood. Under ordinary circumstances they are opened during the north-east monsoon, and their position, up to December or January, depends on the action of the effluent fresh water, which has ordinarily sufficient force to keep the channels open at or near the place where they were formed.

The south winds set in soon after the action of the fresh water ceases; and the dry drift sand is blown northwards, filling in the channel from the south side. The littoral current then runs due north, and the surf rolls in from the south-east.

The result of these three forces is as sketched below ;—



Suppose the channel was oponed as sketched in blue, then, so soon as the force of the effluent water is diminished, a spit of sand is formed at *a*, large or small in proportion to the strength of the forces at work; sand accumulates along the southern edge of the channel, and the bank at *a* is washed away. This action goes on until the channel assumes the position marked *bb*; at which time it will generally have travelled to a point where the backwater is very shallow, and where the sea is also shallow for a considerable distance from the shore line. Under such circumstances very little water can get in, even at the highest springtides, and only a small proportion of what does get in can ever flow out. When this condition of things obtains, the channel closes generally at the sea mouth, but sometimes at the backwater end.

5. The Ennore Bar is now fast approaching the condition sketched above; the backwater opposite to the channel is silted up with numerous sand banks, and the sea is so shallow there, that at low water on Monday I was able to walk nearly half way across the surf. I had observations made on the rise and fall of the tides just inside the backwater, and at Vollur on the west side of the backwater, from Sunday morning until Monday night. The range of tide in the sea must have been about three feet; but the maximum range in the backwater was only four inches. This small range is caused by the backwater being so silted that the water cannot get out; so that although the fall in the channel at the time of low water in the sea is considerable, the quantity of water is so small that the current has not sufficient force to carry the sand across the surf.

I did intend to open a new channel into the backwater in the line I pointed out to you on Sunday; but the observations I made on Monday convinced me that the effect would be only temporary, and that, do what we may, the Bar will close in a short time.

6. Under these circumstances, I would recommend that no *considerable amount* should be expended in trying to keep the present channel open; but that if it be considered necessary, a new one should be opened some time after the present one has closed. With this view I selected what appears to be the most favorable site for a new channel, and prepared a longitudinal and cross sections in the line. When making the selection I consulted the most intelligent fishermen about the place, and they were unanimous in recommending the abandonment of the present Bar, and opening a new channel in the line I selected. They say that if opened there, it will probably remain open for two or three years. I have estimated the probable cost, and find it will not exceed that of opening the Bar last year, (namely, 3,480 Rupees;) but, as then, I would now ask for a sum of 5,000 Rupees being allotted for the purpose.

As this question of opening a new channel is an important one, and one about which there is a degree of uncertainty, I am desirous that some other Engineer or Engineers should be consulted. I shall, therefore, send a copy of this letter to the Superintending Engineer, with a request that some other opinion besides mine may be obtained.

7. The effect, on the manufacture of salt, of letting the Bar close would be that which I formerly stated—namely the concentration of the water, and, as a natural result, the increased production of salt. But the lowering of the surface would increase the height to which it should be raised to the pans, and thus the cost of manufacture would be very slightly increased; practically, however, the increase would be inappreciable.

Of course, the surface of the water would fall at Ennore and all through the canal from the causes before described; but when it had fallen to a certain extent, would be the proper time to re-open the Bar. If we were successful at Ennore, I would be disposed to recommend the opening of Pulicat Bar.

8. It is unnecessary for me to notice Mr. Smith's remarks except the one about the employment of the Ennore fishermen. I recommended that the Moonsiff should be authorised to call on the fishermen to assist, because it would reduce the cost of the work. They are deeply interested in the opening of the Bar, as they live by catching fish; they pay nothing for the right of fishing; they are lounging about the shore idle for the greater part of the day, and I do not think there would be any particular hardship in calling on them to spend two or three hours in aiding the accomplishment of that by which they and their families subsist.

9. I trust that a decision will be come to on the subject of this letter without delay; for should my proposition be approved, we should set about the preliminary excavation immediately, s as to be ready to open the Bar when a favorable opportunity occurred.

There is one point which it would be well to consider—namely, if keeping the Bar open b necessary for the manufacture of salt, whether it would not be right to endeavour to make th opening permanent by the construction of one or more large groynes at the entrance.

The Collector is informed that a sum of Rupees 5,000 will be provided in the revised list o Petty Construction and Repairs for 1869-70 about to be submitted to Government for the opening o the Ennore Bar, in lieu of certain roads struck out from the Collector's list, because they are provided for in the Public Works Budget. The Collector is requested to submit the necessary estimates for sanction as early as possible.

No. 285.

ORDER THEREON, 13th April 1869, No. 1,005.

Miscellaneous.

SANCTIONED.

(True Extract.)

(Signed) R. A. DALYELL,
Acting Secretary to Government.

To the Board of Revenue.
,, the Public Works Departmen
,, the Accountant General.

Exd. F. R. Bantleman.

Govt. of {1869} Madras.

REVENUE.

To

THE BOARD OF REVENUE,

&c., &c., &c.

Dated April, 13th.

Recd. Read.

G. O., 13th April 1869, No. 1,005.

APRIL.

Nos. 281-285.

Ennore Ear.—Commencement of the necessary works for opening it, sanctioned.

Rw no. 309-310 d 15.2.68
~ 1-2 d 1.5.68