

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

30th May 1881, No. 1,356 W.

Buildings and Roads.
Civil Works.

Read the following paper :—

No. 66. Report by the Chief Engineer and Master Attendant on the Port of Negapatam.

COLONEL BEATTY, Superintending Engineer, Third Circle, brought to notice in his letter, No. 1,708 T.J., of 6th November 1880, that, owing to the neglect of the planting along the inner side of the sand-spit separating the backwater from the sea, &c., at Negapatam, there was a risk of the Kodamurti river finding a new mouth for itself to the south at the narrow portion of the spit nearly opposite the Taluk Cutcherry, and subsequently with reference to G.O., No. 2,843 W., of 9th December 1880, submitted with his No. 2,202 T.J. of 5th February 1881, two estimates aggregating Rs. 1,030 for execution of the needful work.

2. Further correspondence with the Master Attendant led to the conclusion that it would be desirable, before taking action on these proposals, to have the port inspected and reported by the undersigned.

3. On the 10th instant we were enabled to visit the place, and found, as stated by Colonel Beatty, that the injury to the plantation along the inner side of the sand-spit, as also the neglected condition of the groynes upon the maintenance of which the retention of the mouth in its present position chiefly depends, was mainly, if not entirely, due to the fact that there is at present no convenient place for the boats engaged in the trade to haul up within the limits of the port.

4. It would appear that, owing to the unusual demands during the famine, a great impetus was given to boat building, and at present there are no less than 140 of these, a number greatly in excess of the present demands of the port.

5. They are for the most part crowded on a spot of ground immediately opposite the salt depôt, and others bring up along the east shore of the backwater north of this. From the boats being thus pulled up on the shore and from no doubt the pilferings of the boatmen, the brushwood and other vegetation, which previously had been so sedulously cultivated and upon the maintenance of which so much depends, has suffered seriously, and, if the present condition of matters is allowed to continue, there can be little doubt that the result feared by Colonel Beatty will be brought about.

6. To secure the sand-spit from dangerous erosion we have arrived at the following conclusions :—

- (1.) Another place must be found for hauling up the boats engaged in the trade.
- (2.) No boat should be allowed to take the shore on the east side of the backwater between the end of the Vedarniem canal and the mouth of the harbour without the permission of the Port Officer.

- (3.) The work of planting, &c., as provided for under the estimate sent up by Colonel Beatty should be carried out as expeditiously as possible. We would recommend that the three departments whose interests are concerned—Salt, Custom, and Marine—should jointly entertain two gardeners and a peon under orders of the Port Officer to preserve and improve the plantations and prevent injury to groynes and banks.
- (4.) An estimate should be framed for establishing two new groynes about 50 feet long each between the end of the Vedarniem canal and the existing groyne opposite the salt depôt, and this latter, as also the four more existing groynes on the east side of the backwater as far up as a point immediately opposite the bastion, should be thoroughly repaired.
- (5.) Projecting portions of the west shore at the salt depôt should be removed and the channel here deepened.
7. The combined action of these works would be to send such freshets as may come down the Kodamurti river and all ebb water more directly towards the present mouth and prevent dangerous encroachment on the sand-spit east.
8. To provide a proper basin for the boats is the next point. This can be accomplished either by forming a basin of sufficient size on the west shore immediately south of the basin, or again south of the lighthouse and close to the custom house. The latter we would recommend as being in every way convenient and there is ample space available for the work.
9. There would be no need to excavate the bottom to a greater depth than two feet below the level of low water spring tides, and the *déblais* would turn to most profitable use in filling up much uneven and low ground in the immediate neighbourhood of the lighthouse and otherwise in improving the locality.
10. The basin must be made rectangular in form immediately behind the revetment wall which should be preserved, and if there be funds forthcoming might have a low revetment all round in steps.
11. It will be important in connection with this work to divert the sewage which at present discharges here and send it well into the stream.
12. We take this opportunity to observe that the pavement constructed by the South Indian Railway for receiving and stacking coal immediately to the south should be dismantled for at least 15 feet from the face, as the latter projects too far into the stream and practically acts as a groyne diverting the current to the east side.
13. As regards the present mouth of the port it appears to us that, if the measures previously recommended be carried out, it will not be necessary to extend the existing revetment on the north further seaward; a wing revetment of much the same character as the present one should however be thrown back for about 80 feet in length in a north direction so as to counteract the effects of the set of the sea during the north-east monsoon and by which there is a tendency to take the existing revetment in rear and undermine it.
14. A small groyne was placed on the opposite side of the mouth on the sand-spit, but as it is in disrepair and quite useless it should be removed.
15. We have little doubt that the measures now recommended and which are comparatively inexpensive will meet all the requirements of the port and sufficiently fix the mouth for the future; but if in spite of these the sand-spit continues to be encroached on and threatens to become dangerously eroded, it will be necessary to throw out a long groyne (say 100 feet in length perpendicular to the coast line) about 300 feet south of the present mouth and establish several short groynes of rough stone at intervals along the seashore so as to accumulate and retain the sand travelling from the south. No groyne should in any case in our opinion be thrown at to the north of the existing mouth.
16. In reference to these concluding observations and as an inexpensive measure calculated to show the beneficial effect of groynes so placed, we would recommend that a short solidly constructed groyne (say 60 feet in length) run out perpendicularly on the sea face of the sand-spit at 150 feet south of the present mouth be

included in the programme of works which we have above suggested for early execution at this port.

(Signed) J. H. TAYLOR, Captain, R.N.R.,
Master Attendant, Administrative Department.

9th May 1881.

(Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

No. 67.

ORDER THEREON, 30th May 1881, No. 1,356 W.

THE Government accept the several recommendations made by the Chief Engineer and Master Attendant for the improvement of the port of Negapatam, and direct that the Superintending Engineer sees without delay to the preparation of the estimates required in communication with the several interested departments.

2. The Consulting Engineer for Railways will, at early convenience, report on the suggestion made in paragraph 12 for retiring slightly the outer portion of the pavement used as a coal platform by the South Indian Railway which now interferes with the waterway.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, Third Circle.
" Consulting Engineer for Railways.
" Revenue Department.
" Marine Department.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1881) Madras.
PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER,
THIRD CIRCLE,
&c., &c., &c.

Dated May, 30th.

Issued

Recd.

Encl.

G. O., 30th May 1881, No. 1,356 W.

MAY.
Nos. 66-67.

Port of Negapatam.—Accepts the several recommendations made by the Chief Engineer and Master Attendant for the improvement of the —.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

15th June 1881, No. 274.

Ports.

Read the following paper :—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Chief Secretary to Government, dated Madras, 9th May 1881, No. 4039 [Current No. 282].

Administrative Department.

I have the honor to report that, on the 3rd April last, I inspected the port of Tuticorin. Of this port itself it is only necessary to say that nothing can be done towards its improvement on any large scale, and minor matters of detail need only be considered. The lighthouse is in a satisfactory condition, the beacons here and there require some attention and alteration, all of local execution. But a considerable measure of increased comfort and facility of landing and shipping may be conferred by an extension of the pier, which does not at present accommodate boats at all periods of tide. The pier was constructed from Port Funds in 1875 at an expense of Rs. (9,446-9-2) nine thousand four hundred and forty-six, Annas nine, and Pies two, and a scale of fees and tolls established. Since that time it has been thoroughly self-supporting, and has now, after deducting original cost, upkeep and establishment, a sum to its credit of Rs. (14,289-1-2) fourteen thousand two hundred and eighty-nine, Anna one, and Pies two. This extension may, therefore, be almost claimed as a right, and I beg respectfully to recommend to His Excellency in Council that it be sanctioned at an early date; the work to be carried out by the Master Attendant of Tuticorin who superintended the original work. It is very desirable to foster all self-supporting institutions in the Presidency ports, and this pier is a direct proof that they can be made efficient with care and a fair measure of support from the mercantile community.

2. The following table will show the exact financial position of the pier, and if Government approve of the extension, a detailed plan and estimate will be at once sent in :—

MEMORANDUM showing the Receipts and Expenditure connected with the Tuticorin Pier.

Calendar Year.	Receipts.	Cost of Construction.	Cost of Cranes.	Cost of laying a Tramway.	Establishment.	Repairs and Oil for Cranes.	Total Expenditure.
	RS. A. P.	RS.	RS.	RS. A. P.	RS.	RS. A. P.	RS. A. P.
1876	1,794 0 8	6,700	2,318	428 9 2	175	29 9 10	9,651 3 0
1877	12,870 1 7	..	..	..	300	88 8 8	388 8 8
1878	4,236 15 7	..	..	..	300	211 5 3	511 5 3
1879	3,120 7 0	..	..	..	300	142 9 6	442 9 6
1880	3,057 8 2	..	..	..	300	82 2 1	382 2 1
1880	635 12 8	..	..	..	50	..	50 0 0
Jan. and Feb. 1881 ..	..	..	..	..	..	..	..
Total ..	25,714 13 8	6,700	2,318	428 9 2	1,425	554 3 4	11,425 12 6

Total receipts ..	..	..	..	..	..	..	RS. A. P.
Total expenditure ..	..	..	..	..	..	..	25,714 13 8
							11,425 12 6
Amount in Credit of the Pier ..							14,289 1 2

3. *Pámban*.—Inspected the port, found hand dredge out of work, an axletree having broken, which is being replaced. The platform at the summit of the lighthouse is being renewed and fast approaching completion. Several buildings and godowns made over to Marine from the Department Public Works are in want of repair, and their restoration might be effected for a small sum, but they are of no use at present, nor can I foresee any chance of their being utilized at a future period, nor could any sale be effected. Such store rooms as are necessary are being repaired. There is great want of a storekeeper here, and annual damage of stores is directly attributable to want of direct care. I respectfully recommend that a storekeeper be appointed on a salary of Rs. (15) fifteen, and one lightkeeper at Rs. (7) seven be reduced. With kerosene lamps and the proximity of the lighthouse to the head office, two keepers are enough; stores like hawsers, sails, &c., if put away damp easily decay and are costly to replace. A small landing place which could be constructed for a sum of Rs. (100) one hundred would be a great comfort and assistance to the port. The joint report of Colonel Sankey and myself will deal with the canal question, about which I will only say that a ship canal, even such a one as would admit small steamers of the British India Steam Navigation Company (Limited), would sweep away the large native trade and effect little or no benefit to the trade of Ceylon or India.

4. Serious injury to the channels connected with the Pámban Pass is being caused by the wholesale removal of coral stone from the reefs and fringes of the islands, the right to quarry which is claimed by the Ramnad Zemindari. Much shelter is being removed by this process, and it is much deprecated by the pilots. A long correspondence on the subject took place in the middle of the year 1880, and the Advocate-General's opinion was sought, which was generally that the Port Officer could probably only deal with such cases as occurred within port limits; but I have now to bring to the notice of Government that the new beacon on Shingle islet, which is the leading mark for entering the pass and imperatively required for the navigation, has been completely undermined and its erection endangered by the removal of the coral rocks between the beacon and the sea. Remedial measures have to be taken, but I would respectfully urge that the Ramnad authorities should be informed through the Collector of Madura that such action must be stopped in future. The beacon is so close to the sea that it is now made the subject of direct attack by the waves, and the south-west monsoon now approaching may very probably destroy it. The beacon is within port limits, but in a position which it is impossible to watch. The Advocate-General, whose opinion I append, speaks as if the Port Officer had only power to deal with the bottom of the sea, but the interests of navigation demand care of all marks connected therewith, and if the law does not now grant it, power should be given him to conserve all the approaches to the pass and marks leading thereto:—

Opinion of the Advocate-General.—"I find it to be difficult to ascertain the facts in this case from the correspondence. The Assistant Collector says in his letter to the Collector, dated the 10th June 1880, No. 92, 'The Master Attendant (at Pámban) is averse from allowing coral to be taken from the bottom of the sea, or from the islands within the channel limits from Pámban to Valinokom Point, i.e., the whole extent of coast line of the Ramnad Zemindari.' I do not know whether the whole of this coast line is within the limits of any port, but I presume it is not. Within the limits of a port the Master Attendant is probably justified in prohibiting the taking of coral from the bottom of the sea. I do not see it stated that any grant was made to the Zemindar of Ramnad of the land under the sea, or of any rights in such land. As regards the islands which belong to the Zemindar and are within the limits of a port, I do not understand that the Master Attendant has interfered with the enjoyment of the soil of the islands, but only with the land covered by the sea surrounding the islands, as to which I am not aware of any title in the Zemindar which would enable him to claim it, or to exercise rights upon it, and no such title is set forth.

MADRAS,
23rd August 1880."

(Signed) P. O'SULLIVAN,
Advocate-General.

5. I take this opportunity of suggesting that, in addition to the reduction of one lightkeeper at Pámban, one lightkeeper may be conveniently dispensed with at Gopálpur, Calingapatam, Masulipatam, Negapatam, Cannanore, Calicut, and Telli-cherry; while at Vakalapudi, Cochin, and Mangalore the establishment may be reduced to two lascars each.

6. *Negapatam*.—The state of the river at this port always causes anxiety, and has been often reported on of late. Much of the inconvenience is caused by undue license having been given the South Indian Railway Company to push out a solid jetty and retain a large space for coal depôt. But the chief obstruction is the boats, which are large and numerous, and for which no room to lay up near the bar can be found. They are now relegated to a position a mile up the river, where they seriously obstruct the course of the stream. There are two sites where boat docks might easily and inexpensively be constructed and the difficulty and hardship now involved be removed. I strongly recommend that this improvement be carried out, but it is obviously like many other improvements. I have drawn the attention of Government to one that only partly assists the shipping, and therefore is only partly debitable to Port Funds. If the measure of taxation I proposed in my letter, No. 5696, 21st July 1879, had been carried out, or the modified one in the recent report, No. 2825, 25th March 1881, and the proceeds carried to Port Funds, the boats would have a better claim on the fund. They have none at present. The Sea Custom interest is also largely concerned. As regards the plantation, the upkeep of which is so strongly insisted upon by Colonel Beatty, I beg to recommend that two gardeners and a peon under the orders of the Conservator of the Port should be entertained by the Marine, the Sea Custom, and Salt Departments, respectively. The water on the bar can only, I believe, be deepened by a short heavy groyne on the south side of the harbour mouth projecting a little beyond the north wall. Negapatam being the head-quarters of the South Indian Railway, I think the railway might be required to defray some portion of the expense of any improvement by which it, as well as the port, will benefit.

7. Owing to the unfortunate position of the Master Attendant's office at this port, he cannot exercise that daily supervision that would prevent much of the irregularity that has prevailed where care is above all things to be desired. Boats attach themselves to trees or beach at inconvenient times of tide, and the shipping even in the roads are out of sight. This difficulty can be overcome by an upper room on a Government building on the beach behind the avenue of trees which now obscure the view. A plan and estimate for this very necessary work was submitted on a former occasion, and the sum of Rs. 1,000 is included in the budget for 1881-82, but I fear my description of the necessity of it was not clear enough, as it did not obtain sanction. I beg, however, now to resubmit it with these remarks. In a climate like Negapatam, where Europeans cannot freely expose themselves during working hours, a complete supervision is a great desideratum. There seems also a good deal of friction between the Municipality and the Marine and Custom authorities. The civic limits I submit might be easily marked out, so that the respective interests be preserved. In every seaport, where the chief prosperity of the town is due to its marine situation and the trade flowing therefrom, all matters and interests connected with it should demand careful municipal consideration.

8. The joint report on Negapatam by Colonel Sankey and myself deals with the improvements that readily suggest themselves, and they need not be recapitulated; but as both Negapatam and Cuddalore have direct railway communication, I would advocate an increased expenditure on a heavy groyne on their respective southern mouths, which, repeating as it certainly would the action observable in Madras Harbour groyne, would cause erosion directly on the mouth of the river and maintain deep water on the bar. I think this would be the complement of all the other improvements and represent everything that could be done for the ports.

9. *Cuddalore*.—This port is fully considered in the joint report of Colonel Sankey and myself, and being one having direct railway communication I trust the improvements will have early sanction. The chief change I notice since my last visit is a

10. *Pondicherry*.—On leaving Cuddalore we touched at Pondicherry and found that an extension of the pier at this port was in operation to nearly double its original length. This measure has probably suggested itself since the railway junction between Pondicherry and South Indian Railway at Villupuram. This pier has hitherto served little more than the purpose of a promenade for the inhabitants. It is very slight compared with the Madras Pier, but it is a well-known fact that the surf here is not so violent, nor the ocean swell so high, as at the English port, the remarkable projection of the land in the neighbourhood of the latter being no doubt the cause.

ORDER THEREON, 15th June 1881, No. 274.

Recorded. The Government will be prepared to consider the various proposals made in the report when submitted separately for their orders.

2. Paragraph 4 will be referred to the Collector of Madura for early report.
3. The suggestion in paragraph 5 will be prepared to consider the various proposals submitted separately for their orders.

3. The suggestion in paragraph 8 will be referred to the Public Works Department.

(True Extract,)

C. E. Smith
for Off. Chief Secretary.

To the Master Attendant, Madras.
 " Public Works Department.
 " Revenue Department.
 " Financial Department.
 " Board of Revenue.
 " Collector of Madura,

Exd. J. W. Fischer.

G.O. 1306 W. of 21st May 1881
" 1356 W. of 30th May 1881

P. W. C. No. 32
Govt. of (1881) Madras.
MARINE.

To
THE MASTER ATTENDANT,
Madras,
&c., &c., &c.

Dated June, 15th.

Issued

Recd.

June 28th

Encl.

G.O., 15th June 1881, No. 274.

JUNE.

Ports.—The Master Attendant's report of his inspection of the ports of Cuddalore, Negapatam, Tuticorin, Pamban, &c., recorded with the intimation that the proposals contained in it will be considered when submitted separately for orders.

No. 1695 W.

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 8th July 1881.

Read the following:—

Proceedings of the Marine Dept (H.C. No. 274 of 15th June 1881)

*Communicated to the
Superintending Engineer Third
Circle with reference to the
mentioned orders:—*

*G.O. No. 1306 W of 21st May 1881
" " 1356 W of 30th "*

*in which the measures consid-
-ed requisite for the improvement
of the Ports of Cuddalore
and Negapatam are directed
to be carried out.*

*2. The Superintending Engineer
will observe that short
groynes are ordered to be
tried experimentally.*

Old 3576 - Cir 2/7

these fail - or the result -
otherwise shows that larger
ones will be required, they
can be resorted to.

3. This point will be kept
in view.

Att

2/7/81

C. N. 1695²⁴ 28 July 1881

Supg Engineer, 3^d Circle
Marine Department

Desd
8-7-81

Issue *Att*

7-81

Att

13-7-81

Issue *Att*

Q. 15.7.81

Ret back 13/7

35/6 - Cir 2/7 Ret 4/7