

15TH NOVEMBER 1894, No. 447, MARINE.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers :—

From Commander W. J. POWELL, R.I.M., Presidency Port Officer, to the Chief Secretary to Government, dated Madras, 22nd September 1894, No. 500-355-G.

I have the honour to reply to G.O., Marine No. 31, dated 22nd January 1894.

2. The Chief Engineer's note of 29th November 1893 was duly communicated to the Landing and Shipping Dues Committee and their particular attention drawn to the remark in the note that "it seems open to doubt whether a dredger is required at all, especially if the proposed new groyne is successful, and natural forces may do the work."

3. With reference to this remark the Committee state as follows :—

"The large groyne at the mouth of the river is of absolutely no use whatever; in fact, it has had rather the opposite effect as it is standing high and dry like a fence 125 feet from the river on the west side, 260 feet from the river on the north, 400 feet from the sea on the east."

4. The Committee are strongly in favour of a bucket dredger in accordance with the drawing and specification herewith sent, and they request that the construction of such a dredger may be sanctioned without delay, pointing out that "dredging is absolutely necessary, the river being in a deplorable condition."

5. It is proposed by the Committee to have this dredger built entirely at Negapatam under the personal supervision of Mr. Crighton, Locomotive and Carriage Superintendent of the South Indian Railway. Mr. Crighton, in furnishing the drawing and specification above referred to, remarks that "this dredger if constructed would be of immense service to this (Negapatam) backwater for the removal of silt and keeping the harbour open for the passage of boats and it can also be used with advantage for deepening the upper reaches of the backwater in order to increase the flow of water at the mouth of the harbour."

6. The cost of construction, upkeep, labour, &c., is estimated by the Committee as follows :—

	RS.	RS.
Construction (not to exceed)		30,000
Establishment per month—		
One engine-driver	25	
Two firemen (from Rs. 8 to 10)	20	
One serang (" ")	15	
Three lascars (" ")	24	
	—	84
Other working charges per month—		
Coal, $\frac{1}{2}$ ton per day for a month of 24 working days = 12 tons which at Rs. 18 per ton = ...	216	
Oil, waste and other stores	15	
Cooly labour approximately for removing spoil to shore including hire of lighters..	250	
	—	481
Total		30,565

The Committee have rather under-estimated the cost of establishment. For the small dredger at Cuddalore a competent driver could not be got for less than Rs. 75. The establishment charges may therefore be put down at Rs. 135, and the other working charges at Rs. 500 per mensem in round numbers. The total cost including construction may thus be put down at Rs. 30,635.

7. The Landing and Shipping Dues fund at Negapatam had a balance of Rupees 40,667-13-9 to its credit on 31st March 1894, and is thus in a position to meet the proposed expenditure if sanctioned by Government. The monthly collections under this head average Rs. 900.

No. 1960, Marine.

Referred to the Chief Engineer, Public Works Department, for favour of early remarks, and with the request that the result of the visit paid to Negapatam in accordance with G.O., dated 21st March 1894, No. 105, may be communicated.

Ootacamund,
27th September 1894.

(Signed) J. F. PRICE,
Chief Secretary.

Note by the Chief Engineer, Public Works Department.

I regret exceedingly that by an oversight on my part the result of my visit to Negapatam in April last was not submitted to Government at the time.

It was found on that visit that there was a considerable accumulation of sand in the interior of the harbour, the condition of which was strikingly worse than on my former visit two years ago.

I have little doubt that this accumulation is due to a diminution in the quantity of land drainage brought down by the Odembogiyar, this diminution being caused partly by deficient rainfall and partly by the measures adopted for the distribution of water in the delta; the Irrigation Branch should consider whether means cannot be adopted for passing a larger supply of water and especially of flood water down this branch of the river. At present an undue proportion of flood water appears to go down the Vettar to Nagore as evidenced by the state of the bar at the latter port.

The groyne at the mouth of the harbour is at present quite useless; it should be extended another hundred feet and turned round to the east, but I question whether it is ever likely to be, even with the increased supply of land water suggested in the last paragraph, able by itself to keep open a sufficient passage through the bar; its chief value will be in protecting the interior of the harbour against the influx of sand from the sea. Its efficiency would be improved by filling with stone instead of sand bags, but I doubt whether the increased efficiency would be worth the extra cost.

Dredging in the interior of the harbour is, I think, absolutely necessary. Mr. Crighton has shown me the plan of a bucket dredger, the cost of which is estimated at Rs. 24,000, which appears suitable for the purpose; in my note* submitted with reference to G.O. (Marine Department),

*P.W. No. 4088-C., dated 1st December 1893. N. 401, dated 16th November 1893, it was stated that a dredger of this type would not be suitable for work on the bar, and that a machine of the sand pump type would probably be preferable; but the further examination and enquiry now made has caused me to modify this opinion. The greater part of the dredging wanted is not on the bar but inside it and for this work a machine of the type proposed would be suitable, and even for work on the bar, if it was only carried on in fine weather and from the inside outwards, there would be no serious objection to the use of the bucket dredger.

Machines of the sand pump type, though very economical and efficient when they work properly, are capricious in their action and apt to break down without any apparent reason; on the whole, therefore, I agree with the Landing and Shipping Dues Committee that the superior simplicity and directness of action of the bucket dredger outweigh its disadvantages.

The available balance to the credit of the port for Landing and Shipping Dues is stated to be upwards of Rs. 40,000 and there is therefore no reason why the dredger should not be constructed at once, the annual surplus from these dues is apparently not less than Rs. 9,000, the actual cost of working and repairing would probably not exceed Rs. 6,000 per annum.

I see no occasion to modify the opinion expressed in the report of the Committee of 1891 (G.O. No. 1295 W., dated 11th May 1891), that what the port really wants is a pier, but this is for carrying traffic across the bar, dredging is now an absolute necessity for the interior of the harbour whether the pier be constructed or not.

A proposal has been made to extend the South Indian Railway to the existing jetty, and this, which seems a desirable proposal, should receive consideration in the Railway Branch.

The groynes on the west side of the island ordered to be constructed in accordance with the report of the Committee of 1891 have been completed and their effect has been decidedly good, but there is still a tendency to erosion, and two more groynes, the positions of which have been marked on the plan, are required to check this.

The above remarks deal with the points raised in the Presidency Port Officer's letter No. 500-355 G., dated 22nd September 1894, transferred with endorsement under reply; in this letter the cost of the dredger is put down at a maximum of Rs. 30,000 instead of the former estimate of Rs. 24,000 and the "total cost" is estimated at Rs. 30,635, which sum is arrived at by the somewhat unusual process of adding together the capital cost and one month's working expenses. The real annual cost will be about Rs. 650 for nine months or, as stated above, about Rs. 6,000 per annum. It will possibly be less, as when once the harbour is clear, it will very likely be enough if the dredger be worked for six months in the year.

(Signed) J. PENNYCUICK, Col., R.E.,
Chief Engineer, Public Works Department.

16th October 1894.

3156 C.

Transferred to the Marine Department with reference to its endorsement No. 1960, dated 27th September 1894.

(Signed) J. PENNYCUICK, Col., R.E.,
Secy. to Government, P.W.D.

17th October 1894.

To the Marine Department with the referred papers returned.

ORDER—dated 15th November 1894, No. 447, Marine.

It is clear from the foregoing papers that the groynes constructed at Negapatam have failed to accomplish the improvement it was anticipated they would effect. The port, as such, is rapidly deteriorating and it is evident that dredging must be resorted to.

2. The Government agrees that a bucket dredger will be the most suitable for the work, and that designed by Mr. Crighton seems well adapted to what is required. But before any definite orders in regard to its construction can be passed the Government must be fully convinced that it is impossible for the *Wenlock* to do what is necessary. The Presidency Port Officer will be requested to report what is her maximum draught with empty hoppers and what are the maximum and minimum depths of water on the bar and in the backwater. He will also express his opinion after careful consideration whether the *Wenlock* can do the work and state fully the reasons which have influenced him in arriving at it.

3. In accordance with the resolution of the Government of India recorded in G.O., dated 23rd January 1891, No. 209 W., all work connected with the construction of Government vessels must be carried out by Government workshops or dockyards unless press of work prevents or economy and other considerations render it desirable that it should be entrusted to a private firm. The Government is not in possession of an estimate from the dockyard for a dredger such as that designed by Mr. Crichton, but it seems improbable that one could be constructed and delivered at Negapatam for the figure named by him. In order to prevent unnecessary delay in the event of its being satisfactorily demonstrated that the *Wenlock* cannot do the work, the sanction of the Government of India to the construction of a dredger at Negapatam will now be sought.

4. These Proceedings will be communicated to the Irrigation and Railway Branches of the Public Works Department with reference to the remarks concerning them in the Chief Engineer's note. The Public Works Department will be requested to furnish an estimate for the extension of the groyne recommended by Colonel Pennyquick.

5. The Government cannot too strongly impress on the Presidency Port Officer the necessity for keeping the *Wenlock* continuously employed. She must not again be laid up for several months if her services can by any possibility be utilised. The Government would rather reduce the charges for her services fixed in G.O., dated 17th June 1892, No. 215, than that she should remain idle. In the event of her being incapable of performing the work at Negapatam the Presidency Port Officer will submit proposals for her further services on completion of the work at Mangalore.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Presidency Port Officer.

- „ Public Works Department.
- „ Public Works Department (Irrigation Branch).
- „ Public Works Department (Railway Branch).

Gobt. of {1894} Madras.

MARINE.

Issued

Recd.

Encl.

G.O., 15th November 1894, No. 447.

NOVEMBER.

Dredger for Negapatam.

Directing that the sanction of the Government of India be sought for the construction of a small dredger at Negapatam for the improvement of that port.

No 30486 d 27 Novr 1894

*Communicated to the
Suptg. Engineer V circle
who will submit the estimate
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the groyne at the mouth of the
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(Sd) J. P. W.

S. E. V circle

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(Signed) J. PENNYCUICK, Col., R.E.,
16th October 1894. Chief Engineer, Public Works Department.

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(True Extract.)

Hedrick Rice
Chief Secretary.

To the Presidency Port Officer.

- " Public Works Department.
- " Public Works Department (Irrigation Branch).
- " Public Works Department (Railway Branch).

8946

Sob. of {1894} Madras.

MARINE.

press

Issued

10.50

Recd. 22.11.94

Encl.

G.O., 15th November 1894, No. 447.

NOVEMBER.

Dredger for Negapatam.

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With order

N^o 3048 W. d. 27. Nov. 94

Communicated to the
Suptg Engineer in V. Arich
who will submit the
estimate called for in para
4 for extending the groyne
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C. M.

23.54

DESPATCHED
29 NOV. 94

S. M.

S. G. V. Arich ✓

S. S.

29.11.94

DESPATCHED
29 NOV. 94

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2.11.94

With order