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ublic Works (1896) Department.

G.O., No. 2445 W.

DATED 24 August 1896.

[Despatch Abstract.]

Port of Cocanada: Orders adopting the recommendations of the Chief Engineer in the matter of the improvement of the —.

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G.O., No. 2445 W., 24th August 1896.

AUGUST.

Port of Cocanada

Orders adopting the recommendations of the Chief Engineer in the matter of the improvement of the —.

No. 2445 W., 24th August 1896.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following papers :—

From J. C. LARMINIE, Esq., M. Inst. C.E., Superintending Engineer, Public Works Department, to the Chief Engineer, Public Works Department, dated 10th April 1896.

In accordance with the instructions conveyed in Proceedings of Madras Government, No. 1039 of 21st March 1896, I have the honour to submit the following report.

I landed at Cocanada on the morning of 31st March and left in the night of 2nd April. During my stay there, accompanied by the Port officer, I carefully examined the mouth of the river and the part of the bay surrounding it. I also inspected the coast line between Cocanada and the Vakalapudi lighthouse and rode over the line, which a new canal to that point, if excavated, would follow.

2. Questions connected with the port of Cocanada have, from time to time, occupied the attention of Government for many years past, the present instance arising from a proposal made by the Cocanada Port officer to still further lengthen the northern training groyne of the river by 1,000 feet (*vide* papers * accompanying the Presidency Port Officer's letter No. 695/73 G. of 28th February 1896).

* Herewith returned.

3. Off and on during the period 1870 to 1882, I had many opportunities of becoming familiar with Cocanada and its bay and I have been in charge—as an Assistant Engineer—of the dredging work, which it has always been necessary to carry on and at no time during the above period, can I remember so serious a block across the river opening, as now exists, involving a considerable detour of the navigable channel to the southwards (see tracing accompanying the Presidency Port Officer's letter).

4. I have no doubt whatever that the present state of affairs is, in a great measure, if not altogether, due to the extension of the northern training groyne, without a corresponding advance of the southern.

5. So long as the ends of the two walls remained nearly in line, the scour of the ebb tide kept a fairly direct channel open, *aided* by dredging.

6. Now, the northern training groyne being some 1,800 feet in advance of the southern, the scouring effect of the ebb tide on where the bar invariably forms is completely lost and consequently there is no opposing force to the advance of sand round the end of the north wall, while at the same time mud is constantly washed in from the south along the line which the south extension would close.

7. That the ebb tide scour is a force at our disposal, by no means to be despised, is proved by the fact that all the way down the river and to a short distance below the termination of the south wall, a deep channel is maintained, and doubtless could the same volume of water be concentrated in an opening about half the present width of the river, it would be sufficient to check the formation of a bar. But to narrow the opening would probably reduce the tidal volume too much.

8. I am most decidedly of opinion that on no account should the northern wall be prolonged, until the southern has been extended to an equal length, a work which should be at once put in hand, but it will have to be carried out under difficulties which would have been avoided had both walls been carried on simultaneously, *e.g.*, the direct mouth of the river being now completely closed by a hard sand shoal, which extends inwards for some distance, it will be necessary, when constructing the southern wall, to leave an opening at point A * (see tracing) for boats to pass through. And this opening cannot be closed until a passage has been excavated by manual labour and dredging through the sand bar at B.*

* Marked in blue pencil.

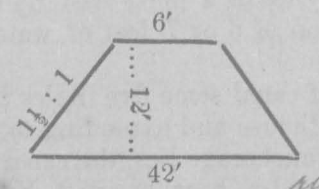
9. Once this cut has been sufficiently deepened to admit of the closing of gap A, its gradual improvement will no doubt be aided by the ebb scour and here I would bring to notice the urgent necessity there exists for a new and improved dredging plant for Cocanada. The present plant consists of two of Priestman's grab dredges, capable of lifting 1½ cubic yard of mud respectively (at each lift), a steam tug and a number of wooden punts.

10. The Priestman's grabs are best adapted for working in canals—locks and along wharf walls, &c., &c., they are (as stated by the Port officer) quite incapable of excavating sand, so their utility for work on the Cocanada bar calls for no further comment. In this connection see Cocanada Port officer's letter No. 972 of 2nd December 1895 to the Chairman, Conservancy Board.

11. They are now employed in keeping a passage open through the mud shoals, which, had the southern training wall been extended *pari passu* with the northern, would most probably have been altogether excluded from the river mouth.

12. It is nearly 14 years since last I was in Cocanada and during that period the advance of commercial activity is most striking,† aided as it is, no doubt, by the construction of the railway, what was formerly a clear open space along by the north wall between the B.I.S.N. office and the Old Lighthouse is now crowded to an inconvenient extent by bags of all kinds of produce, which owing to the delay caused to shipment, by the present state of the river mouth, is often detained *in situ* much longer than is desirable, in trade interests.

† On the morning of my arrival, there were seven steamers in.



32 cubic yards per yard ~~rua.~~ run.

13. So much for the present state of affairs: the immediate relief of which is indicated in paragraphs 8 and 9 and the probable cost, allowing for the section of wall as sketched, will be fully Rs. 30,000. The top of the wall may be placed at high tide level and a rate of Rs. 1-10-0 as allowed by the Port officer has been taken.

14. Rupees 14,000 have already been sanctioned for the extension, by 1,000 feet, of the southern wall (G.O., Financial, No. 568 of 2nd August 1895), leaving a balance of Rs. 16,000 still required.

Funds 15. ~~u nds~~ for the provision of one of the newest patterns of sand pump dredgers are also urgently required.

16. There now remains for consideration some scheme for the ultimate improvement of the port, to place it on a footing more commensurate with its commercial importance, and in this connection any idea that Cocanada bay generally is deteriorating, or is nearly played out, should be dismissed.

17. A comparison of the charts of 1875, 1882 and 1891 clearly shows that, considered in the light of communication with the anchorage from the town, the bay has steadily improved, the mere fact of more modern steamers being obliged to anchor a mile or two further to the north is quite immaterial.

18. This improvement of the bay is noticed in a memorandum of the Superintendent of Marine Surveys printed with G.O., Marine, No. 426 of 26th August 1880. But glancing at the charts, it had struck me forcibly, before ever seeing the memorandum referred to, and its importance in deciding between alternative schemes for improvement cannot be overrated.

19. The charts show that as Point Gódávari has extended northwards, so the bay to west and south-west of it scours out. From 1875 to 1882 the change is marked, and from 1882 to 1891 there is further improvement and particularly in the direction which affects the mouth of the Cocanada river, *i.e.*, the advance towards it of the one fathom contour.

20. In 1875 the nearest point of this contour was fully 2 miles from the river mouth. In 1891, the distance had decreased to something over a mile, and at present, as far as I could ascertain by rough soundings, it is well within the mile. The southern part of the bay, which in 1875 exposed extensive mudflats at low tide, is now a sheet of water of from 1 to 2 feet in depth.

21. One of the alternative schemes for the improvement of the port being the extension of the training walls in a north-easterly direction to the one fathom contour, is sufficient apology to this somewhat lengthy allusion to the subject.

22. The explanation of the improvement is simple. As Point Gódávari extends northward and consolidates, it acts on the bay within, exactly as may often be seen in rear of groynes along a river. The tides flowing from the east combining with the long shore currents from the south, impinge along the point producing a circular current around the bay, and it is this very current, which, while generally beneficial, has no doubt aided the accumulation of sand which now overlaps the end of the northern training wall.

23. From 1882 to 1891 Point Gódávari has not extended much to the north, but it appears to have consolidated and increased in height and from what Captain Wicks tells me, I should imagine that it is now near its northern limit, so much will depend on the behaviour of the Gódávari further south, in forming new escapes to the sea, to the eastward.

Alternative schemes.

24. The following three proposals have, from time to time, been made for the improvement of the port, or more correctly speaking to improve the means of communication with the shipping:—

First.—By the extension of the training groynes in a north-easterly direction sufficiently far, to secure a depth at their termination of 6 or 7 feet of water at low tide.

Second.—By the excavation of a new line of canal some five miles in length taking off from the river a little west of the old lighthouse and extending to near the Vakalapudi lighthouse, opposite to which the present anchorage lies, the canal opening should be carried by groynes into 7 feet of water and a boat basin at Vakalapudi would, it is stated, be absolutely indispensable.

Third.—By the construction of a screw pile pier at Vakalapudi, connected with the town by a line of rail.

25. I have forwarded a memorandum regarding these three alternatives to the Chairman of the Gódávari Ports Conservancy Board, with a view to the opinions of members being ascertained. But I understand that there are insuperable objections to the alternative of a pier, *e.g.*, that no ordinary pier would suffice for the trade of the port, that all the storage godowns are in Cocanada and that additional transhipment charges would result.

26. In regard to the second alternative the cost of excavating a canal to a depth of even 6 feet below low tide level and large enough to accommodate the boats in use, through the soil prevailing, would be excessive and further that the difficulties to be expected in keeping the canal mouth open, in a situation so exposed to the north-east monsoon, would be very great.

27. Quite apart even from monsoon considerations, groynes constructed at this point would inevitably cause an advance of the coast line, so there would certainly be as much trouble and expense in keeping the mouth open as is now incurred at the present mouth.

28. So from these considerations and keeping well in view the improved condition of the bay (paragraphs 16 to 20), I am strongly disposed to advocate the first alternative (extension of the training walls to deeper water). This would probably reduce the amount of dredging required, but it should be borne in mind that this can never be entirely dispensed with and the early provision of an efficient dredger is of much importance.

29. Every Engineer who has considered the subject from Mr. Robertson in 1871 followed by General Sankey and Mr. Walch have advocated this course (*i.e.*, the extension of the groynes to north-east). See paragraph 35 of General Sankey's note printed with G.O. (Marine), No. 426 of 28th August 1880, also Mr. Walch's note printed with G.O. (Marine), No. 96 of 23rd March 1892—the latter is still very pertinent, only the distance now to which groynes need be extended is much less than he supposed.

30. When the southern training groyne has been extended 1,800 feet (as indicated in paragraphs 8 and 13), an opportunity will again be afforded of observing the capabilities of the ebb tide scour in keeping the bar clear, in a direct line to the eastward. From that termination any further extension of the groynes should be in about a north-easterly direction; probably an alignment between north 50° and north 70° east will be found most suitable.

31. In regard to the provision of a suitable dredger for Cocanada, I would invite a re-perusal of letter No. 30 of February 22nd, 1892, from the Vice-Chairman, Gódávari Ports Conservancy Board, to the Chief Secretary to Government—printed with G.O. (Marine), No. 96 of March 23rd, 1892. I agree, generally, with Mr. MacNab, but do not consider a *Hopper* dredger the most suitable and, as already stated, I quite dissent from any proposal to extend one groyne without the other.

32. All the papers forwarded with Proceedings of Madras Government, No. 1039 W. of March 2nd, 1896, are herewith returned, only the charts of 1875 and 1892 were received, those now herewith of 1857 and 1882 have been lent to me by the Port officer of Cocanada, that of 1857 is interesting, as showing the striking changes that have taken place since then.

No. 426.

True extract forwarded to Mr. J. C. Larminie, Superintending Engineer, Coimbatore Circle, on special duty, for information, with reference to his memorandum, dated 1st April 1896.

COCANADA,
10th April 1896.

(Signed) G. WICKS,
Deputy Conservator of the Port.

ENCLOSURE.

EXTRACT from the minutes of a special meeting of the Gódávari District Ports Conservancy Board, Cocanada, held on the 9th April 1896.

* * *

Read memorandum received from Mr. J. C. Larminie, Superintending Engineer, Public Works Department, regarding the three alternatives feasible as a remedy to the existing block at the mouth of the Cocanada river. Also Mr. Robertson's report and Mr. Walch's note on the subject.

The Board would prefer to postpone coming to a decision as to which alternative should be adopted until it has Mr. Larminie's detailed report before it and it has had an opportunity of consulting several gentlemen with long experience of the port, who are at the present moment absent at home. The question is one of such vital importance that the Board is most averse to deciding it in anything like haste.

* * * * *

(Signed) V. A. BRODIE,
Chairman, Gódávari Dist. P.C. Bd.

Forwarded to the Chief Engineer, with reference to paragraph 25 of report on the Cocanada river.

This conclusion of the Board need not, in any way, delay the measures which should be at once adopted to lengthen the southern training groyne. Future alternatives will be decided practically, to a great extent, by the results achieved thereby.

21st April 1896.

(Signed) J. C. LARMINIE,
Superintending Engineer, IV Circle.

Note by the Chief Engineer, Public Works Department.

It is evident that the condition of the Cocanada port is so serious as to require immediate attention.

2. The tracing herewith shows the state of affairs, and it is proposed by the Port officer to extend the northern groyne, and if the sand banks at B were removed by dredging or otherwise, this would probably be the quickest way of opening out the channel to the sea, but the effect would only be very temporary and I agree with Mr. Larminie that both groynes should be extended the same distance, as the freshes in the river and the tidal action will then have more effect.

3. In my opinion the work to be done consists in extending the north groyne by 1,000 feet and the south by about 2,800 feet, which will bring it out the same distance as the northern one, and removing the sand bank at B.

4. The cost of extending the northern groyne will be about Rs. 23,000.* The cost of extending the southern groyne is given by Mr. Larminie at Rs. 30,000, which I think is too low an estimate; and Rs. 50,000 is more like the figure. The cost of removing the bank at B cannot be accurately estimated, but I believe the total cost of the proposed works will not be less than one lakh, out of which Rs. 14,000 have already been sanctioned for the extension of the south groyne.

5. Though I strongly advocate the carrying out of these works at once to prevent the port being altogether closed, I do not, for a moment, anticipate that the remedy will be permanent. I believe it will be found necessary to periodically extend the groynes, and even then it will be difficult to keep the passage open; for, owing to the exposed situation, dredging cannot be constantly carried on.

6. Even if the groynes were carried into deep water, which would be very expensive, as they would have to be made very strong to resist the action of the waves, I still believe a bar would form eventually at the entrance: the Madras harbour is an example of this.

7. The state of the Cocanada port has occupied the attention of Government for many years past, and the correspondence on the subject is very voluminous. In 1871 the port was inspected by a Harbour specialist, Mr. Robertson, who stated that if the groynes had ever to be lengthened, they should be carried a little seaward, by which he meant north-east; this would no doubt be an improvement and can be done when the proposed extensions are carried out, but I do not think it will prevent the formation of a bar or obviate the still further extension of the groynes.

8. In 1880 Colonel Sankey, the then Chief Engineer, inspected the port and suggested the further extension of the groynes and he estimated that the cost would be about $3\frac{1}{2}$ lakhs, but he stated that this sum would not be required all at once as the work of extension might go on gradually; he therefore evidently anticipated a constant expenditure, but I see no reason why he should have assumed $3\frac{1}{2}$ lakhs to be the limit.

9. In 1885 the port was inspected by Colonel Shaw-Stewart, then Chief Engineer, and he expressed his opinion that "it is by no means certain that the extension of the groyne will exercise any permanent effect on the depth of water over the bar,

---

* Port officer's estimate.

The bar will, of course, be forced further into the bay, but whether a better depth of water will be secured is far from certain." In these remarks I quite concur.

10. In 1891 Mr. Walch, Chief Engineer for Irrigation, wrote as follows :—

"The result of the work hitherto done has been, as anticipated, that the pushing of the bar" by so much further out has not given any relief, and, indeed, judging from the survey of the "approaches to Cocanada" which accompany this file, matters have been made worse by the rapid growth of the sand deposit at the back of the north wall, which has now overlapped that wall and is shoaling the entrance; "and in a letter printed with the same Proceedings,* the acting Presidency Port Officer states that to extend the groynes to the one fathom line would cost Rs. 4,82,500 and there would, besides, be the cost of dredging; while to dredge a channel (without groynes) 100 feet wide and 2 feet deep would cost Rs. 41,800 in the first instance and an additional outlay of Rs. 20,000 every second year to keep the channel clear; personally, I doubt whether the latter figure is anything near what would be required as any unusually rough weather might fill up the dredged channel completely.

* G.O., No. 96, Marine, dated 23rd March 1892.

11. I have quoted all these opinions to show that all good authorities were aware that the continued extension of the groynes, together with dredging, would be necessary, though some seemed to think that there would be a limit to the extension required; but in my opinion there is none, and the experience of the Madras harbour groynes confirms this opinion. I therefore wish to point out that though I advocate that the extension I have proposed in the beginning of this note should be carried out at once, I only do so on the understanding that it is urgently required for the purpose of keeping the channel open for the next three or four years till other arrangements can be made.

12. The other arrangements proposed are—

First.—A canal to Vakalapudi mentioned in clause 2, paragraph 24, of Mr. Larminie's report.

Second.—The construction of a pier at Vakalapudi and a line of rail from thence to the town.

The first of these proposals may, I think, be for ever abandoned as the difficulty and expense of keeping the entrance of the canal into the sea open would be as great, if not greater than keeping the present channel open.

In Colonel Sankey's report, dated 9th August 1880, No. 295, paragraphs 13 to 16, the objections to such a canal are fully expressed.

13. The second proposal is the one I advocate. I do not believe in the insuperable objections mentioned in paragraph 25 of Mr. Larminie's report, and I see no reason why a pier suitable for Cocanada could not be erected; from the pier, goods could be taken direct to all parts of the country and *vice versâ*, and with the money that will still have to be expended on groynes and dredging any number of storage godowns, &c., could be built; moreover, the railway line from the pier could be taken along the front of the existing godowns, so that, probably, only some covered sheds would be required near the pier.

The cost of the Tuticorin pier was Rs. 1,70,057 † and the one at Cocanada may be taken to be about the same, while it will have been seen that the cost of extending the groynes is estimated by Colonel Sankey at 3½ lakhs, and by the Presidency Port Officer at Rs. 4,82,500, besides the constant expense of dredging.

† Includes 5 per cent. on account of establishment.

There is only one objection that I can see to the proposal to have a pier and line of rail, and that is, if it is considered necessary to have a boat basin, I should say that in such a sheltered position it is not essential, but I can give no definite opinion on the subject, and should those who are best competent to judge say that a boat basin must be constructed, then I am afraid the scheme must fall through as the keeping open the entrance would be an expensive and difficult matter.

14. Mr. Larminie states that he has forwarded a memorandum regarding the three alternatives to the Chairman of the Gódavari Ports Conservancy Board with a view to the opinions of the members being ascertained. When these opinions are received they will have to be carefully considered from all sides of the question, as it is very probable there will be considerable opposition from some quarters to moving the port to Vakalapudi, 5 miles distant.

15. I have called for a statement showing the expenditure on groynes and dredging for the last twenty years, and then it can be decided whether it is advisable to go on expending large sums on works the result of which is uncertain, and when, after all, it may be found necessary to abandon the port or whether it would not be better to do so at once.

16. It is satisfactory to learn that the Cocanada bay generally has improved as shown in paragraphs 17 to 23 of Mr. Larminie's report.

17. As regards the provision of suitable dredgers for Cocanada, I would remark that if my proposals for the temporary improvement of the port only are to be carried out, it is possible that new dredgers and plant may not be required, as perhaps the sand accumulation can be removed by manual labour assisted by the two Priestman's dredgers now available, and perhaps also by the *Wenlock*, but if it is proposed to keep on extending the groynes and dredging out a channel, it will be necessary to obtain more suitable and powerful dredgers.

18. As regards the *Wenlock*, she has already been tried at Cocanada with very unsatisfactory results, and if it is decided not to abandon the port, new plant must be got, the cost of which will probably be over two lakhs.

19. What I suggest therefore is—

First—That the Superintending Engineer, I Circle, be ordered to put the work of extending the south groynes—estimate Rs. 14,000 already sanctioned—in hand at once, leaving gap at A open.

Second—That he be directed to at once prepare and submit for sanction an estimate for extending the northern groyne by 1,000 feet and the southern groyne by such a length (about 1,800 feet) as will take it the same distance out the sea as the north groyne.

Third—That the estimate should include the excavation of sand and mud in the line between the two proposed groynes.

Fourth—That he should report if this sand can be removed by manual labour assisted by the two dredgers now in use, and that if not, he will submit an estimate for the plant required.

Fifth—That the Port Conservancy Board should be again called on to give a very early opinion on the alternative plan of a pier at Vakalapudi and a line of rail from thence to Cocanada.

P.S.—Since writing the above an answer to Mr. Larminie's letter to the Conservancy Board referred to in paragraph 14 has been received to the effect that the Board desires to postpone giving an opinion till it has had an opportunity of consulting several gentlemen of long experience of the port who are now in England.

From Mr. Larminie, Superintending Engineer, IV Circle, dated 21st April 1896.

Ootacamund,
28th April 1896.

(Signed) D. McNEIL CAMPBELL, Col., R.E.,
Chief Engineer.

From the Examiner, Public Works Accounts, dated 1st May 1896, No. 1222 D./A.

From Commander H. A. STREET, R.I.M., Presidency Port Officer, Madras, to the Secretary to Government, Marine Department, dated 15th May 1896, No. 166 G.

With reference to memorandum of Government, No. 209 E., dated 20th April 1896, I have the honour to forward, herewith, a statement showing expenditure incurred during the last twenty years in connection with the Cocanada harbour.

Enclosure.

Statement showing the expenditure incurred in the Marine Department during the last 20 years in connection with Cocanada Harbour.

Years.	Groynes.			Dredging.			Grand Total.
	New works.	Repairs.	Total.	Plant.	Working.	Total.	
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
1876–77 ..	3,000 0 0	..	3,000 0 0	..	7,893 8 7	7,893 8 7	10,893 8 7
1877–78 ..	..	..	..	..	4,673 15 0	4,673 15 0	4,673 15 0
1878–79 ..	..	..	..	..	5,467 6 9	5,467 6 9	5,467 6 9
1879–80 ..	..	..	..	..	4,568 13 0	4,568 13 0	4,568 13 0
1880–81 ..	..	..	..	..	5,689 12 6	5,689 12 6	5,689 12 6
1881–82 ..	..	..	..	..	6,433 7 4	6,433 7 4	6,433 7 4
1882–83 ..	..	..	..	..	6,099 2 5	6,099 2 5	6,099 2 5
1883–84 ..	..	3,333 0 0	3,333 0 0	..	5,332 8 2	5,332 8 2	8,665 8 2
1884–85 ..	12,776 15 2	..	12,776 15 2	1,673 0 0	3,738 0 1	5,411 0 1	18,187 15 3
1885–86 ..	11,962 13 2	1,094 14 2	13,057 11 4	3,589 10 5	4,761 4 0	8,350 14 5	21,408 9 9
1886–87 ..	5,052 7 5	..	5,052 7 5	..	4,487 0 8	4,487 0 8	9,539 8 1
1887–88 ..	8,703 0 3	..	8,703 0 3	..	3,911 1 3	3,911 1 3	12,614 1 6
1888–89 ..	..	687 2 6	687 2 6	5,148 4 0	5,002 11 7	10,150 15 7	10,838 2 1
1889–90 ..	* 22,032 0 0	..	22,032 0 0	284 0 0	4,836 0 0	5,120 0 0	27,152 0 0
1890–91 ..	..	773 0 0	773 0 0	1,829 0 0	4,858 0 0	6,687 0 0	7,460 0 0
1891–92 ..	..	1,044 9 1	1,044 9 1	1,875 15 4	7,518 15 11	9,394 15 3	10,439 8 4
1892–93 ..	..	875 1 4	875 1 4	1,158 6 3	† 25,016 8 6	26,174 14 9	27,050 0 1
1893–94 ..	..	957 6 6	957 6 6	1,331 12 0	‡ 11,981 4 9	13,313 0 9	14,270 7 3
1894–95 ..	14,904 8 0	866 3 8	15,770 11 8	3,669 7 8	7,901 12 10	11,571 4 6	27,342 0 2
1895–96 ..	28,276 13 0	952 4 11	29,229 1 11	4,945 9 8	10,278 6 2	15,223 15 10	44,453 1 9
Total ..	1,06,708 9 0	10,583 10 2	1,17,292 3 2	25,505 1 4	1,40,449 11 6	1,65,954 12 10	2,83,247 0 0

* Includes Rs. 18,787–15–8 being cost of machinery of the dredger "Connemara" and building a wooden barge for the reception of the same.

† Includes expenses of the "Dredger Wenlock," viz., Rs. 18,592–2–2.

‡ Do. do. do. Rs. 2,617–12–6.

Order—No. 2445 W., dated 24th August 1896.

The papers recorded above relate to the port of Cocanada, the deterioration of which is giving cause for anxiety. After careful consideration of the matter, His Excellency the Governor in Council resolves to adopt the recommendations of the Chief Engineer, which are summarised in paragraph 19 of his note, dated 28th April 1896.

2. The Superintending Engineer, I Circle, will accordingly proceed at once to extend the south groyne in accordance with the estimate of Rs. 14,000, already sanctioned, leaving oper the gap at the position marked A on the plan.* He will also submit, as soon as practicable, the estimates and report indicated in clauses 2 to 4 of this paragraph of the Chief Engineer's note.

* Tracing accompanies.

3. The Port Conservancy Board will be called on in the Marine Department for the required expression of opinion, to be submitted as early as practicable, on the alternative plan of a pier at Vakalapudi and a line of rail thence to Cocanada.

4. The measures proposed by the Chief Engineer will, it is calculated, cost about Rs. 1,00,000, and the question of providing this amount must be considered. It is observed that the port had on the 1st April 1896 an opening balance of Rs. 44,000 at its credit, so that even supposing the whole of this sum to be appropriated, there will still remain about Rs. 60,000 to be provided from other sources. Looking to the fact that Cocanada is one of the most important ports in the Presidency, judged by the value of its imports and exports, which for the year 1894–95 amounted to Rupees 44,76,534 and Rs. 1,59,17,689, respectively, it is a question whether it would not be advisable to make a contribution for the proposed works from Provincial funds. The matter will, however, be deferred pending the receipt of the plans and estimates now called for, and the decision of the general question of the enhancement of port dues and the amalgamation of Port funds, now under consideration in the Marine Department.

(True Extract.)

(Signed) D. McNEIL CAMPBELL, Colonel, R.E.,
Joint Secretary to Government.

To the Superintending Engineer, I Circle, with enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.
" Marine Department.
" Financial Department.

Exd. T. K. Narayana Aiyangar.

List of Enclosures to accompany the Report on the Cocanada Port.

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1 Plan of Survey of Corringa or Cocanada Bay.

1 Tracing shewing the Bar + Sandbank.

1 Ordnance Sheet No. 94.

1 Map of Coromandel Coast (Chart of 1882)

1 Plan of Cocanada anchorage

1 Plan shewing the Northern Godavery mouth.

1 Report.

Returned to the Presidency Port Offices direct.

1 Survey of Cocanada River

1 Corringa Bay (by Lieutt. Warren 1806)

1 Corringa or Cocanada Bay (by Lt. Taylor)

1 Bundle of Papers — the remainder sent as per list were returned to the Chief Engineer's office.

+ Separately sent per parcel Post.

Supg. Engineer, 4 Circle.

From
J. C. LARMINIE, Esq., M., Inst., C. E.,
Superintending Engineer, P.W.D.
To
THE CHIEF ENGINEER,
Public Works Department.

Sir,

In accordance with the instructions conveyed in P. M. G. No. 1,039 of 21st March 1896, I have the honor, to submit the following report :—

I landed at Cocanada, on the morning of 31st March and left in the night of 2nd April. During my stay there, accompanied by the Port Officer, I carefully examined the mouth of the river and the part of the Bay surrounding it. I also inspected the coast line between Cocanada and the Vakelpaddi Lighthouse and rode over the line, which a new canal to that point, if excavated, would follow.

2. Questions connected with the Port of Cocanada have from time to time occupied the attention of Government for many years past, the present instance arising from a proposal made by the Cocanada Port Officer to still further lengthen the Northern training groyne of the river by 1,000 feet. (Vide * papers accompanying the Presidency Port Officers letter No. $\frac{695}{73}$ G of 28-2-96).

3. Off and on during the period 1870 to 1882 I had many oppertunities of becoming familiar with Cocanada and its Bay and I have been in charge—as an Assistant Engineer—of the dredging work, which it has always been necessary to carry on and at no time during the above period, can I remember so serious a block across the river opening, as now exists, involving a considerable detour of the Navigable Channel to the Southwards. (See tracing accompanying the Presidency Port Officer's letter).

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Northern training groyne, without a corresponding advance of the Southern.

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6. Now, the Northern training groyne being some 1,800 feet in advance of the Southern, the scouring effect of the ebb tide on where, the bar invariably forms, is completely lost and consequently there is no opposing force to the advance of sand round the end of the North wall, while at the same time mud is constantly washed in from the South along the line which the South extension would close.

7. That the ebb tide scour is a force at our disposal, by no means to be despised, is proved by the fact, that all the way down the river and to a short distance below the termination of the South wall, a deep channel is maintained, and doubtless, could the same volume of water, be concentrated in an opening about half the present width of the river, it would be sufficient to check the formation of a bar. But to narrow the opening would probably reduce the tidal volume too much.

8. I am most decidedly of opinion that on no account should the Northern wall be prolonged, until the Southern has been extended to an equal length, a work which should be at once put in hand, but, it will have to be carried out under difficulties which would have been avoided had both walls been carried on simultaneously, *e.g.*, the direct mouth of the river being now completely closed by a hard sand shoal, which extends inwards for some distance, it will be necessary, when constructing the Southern wall, to leave an opening at point *A (see tracing) for boats to pass through. And this opening cannot be closed until a passage has been excavated by manual labour and dredging through the sand bar at *B.

* Marked in blue pencil.

9. Once this cut has been sufficiently deepened to admit of the closing of gap A, its gradual improvement will no doubt be aided by the ebb scour and here I would bring to notice the urgent necessity there exists for a new and improved dredging plant for Cocanada. The present plant, consists of two of Priestman's grab dredges; capable of lifting one-and-half-a cubic yard of mud respectively, (at each lift) a steam tug and a number of wooden punts.

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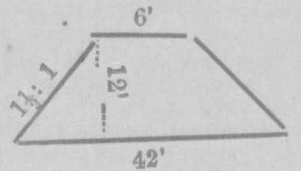

32 C. yards per yard run,

Financial

14. Rs. 14,000 have already been sanctioned for the extension, by 1000 feet, of the Southern wall, (G. O. Marine No. 563 of 2-8-95) leaving a balance of Rs. 16,000 still required.

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2nd.—By the excavation of a new line of canal some five miles in length taking off from the river a little West of the Old Light-house and extending to near the Vakelpudi Light-house, opposite to which the present anchorage lies, the canal opening should be carried by groynes into 7 feet of water

and a boat basin at Vakelpudi would, it is stated, be absolutely indispensable.

3rd.—By the construction of a screw pile pier at Vakelpadi, connected with the Town by a line of Rail.

25. I have forwarded a Memo. regarding these three alternatives to the Chairman of the Godavery Ports Conservancy Board, with a view to the opinions of members being ascertained. But I understand that there are insuperable objections to the alternative of a pier, *e.g.*, that no ordinary pier, would suffice for the trade of the Port, that all the Storage Godowns are in Coconada and that additional transhipment charges would result.

26. In regard to the 2nd alternative the cost of excavating a canal to a depth of even 6 feet below low tide level and large enough to accomodate the boats in use, through the soil prevailing, would be excessive and further that the difficulties to be expected in keeping the canal mouth open, in a situation so exposed to the North-East monsoon would be very great.

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28. So from these considerations and keeping well in view the improved condition of the Bay (paras. 16 to 20), I am strongly disposed to advocate the 1st alternative (extension of the training walls to deeper water). This would probably reduce the amount of dredging required, but it should be borne in mind, that this can never be entirely dispensed with and the early provision of an efficient dredger is of much importance.

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32. All the papers forwarded with P. M. G., No. 1,039 W of March 2nd 1896 are herewith returned, only the charts of 1875 & 1892 were received, those now herewith of 1857 and 1862 have been lent to me by the Port Officer of Coconada, that of 1857 is interesting, as showing the striking changes that have taken place since then.

Also Atlas sheet No 94 all enclosed in a tin box belonging to the 5th Circle office.

I have the honour to be,
Sir,
Your most Obedt. Servt.

10th April 1896 SUPG. ENGINEER, P.W.D

11/4

P. W. CURRENT No. 3615

From

J. C. Larminie Esq. M. Inst. C.E.
Supg. Engineer P.W.D.

To The Chief Engineer,
P. W. Department.

Dated 10th }
Despd 11th } April 1896.

Cocanada Port.

Report on ——

Enclo: 1

Recd: 13.4.96

392.	20-12-95
1532.	31-7-94
342.	20.9.90
100.	18-2-96
96.	23-3.92
1728C	27-3-96
1039W.	21-3-96
166E	21-3-96
147	17-4-91
200. of	13-5-85
135.	2-5-92
150.	11-5-92
189.	3-6-92
215.	17-6-92
304	23-8-92
24	18-1-94
282	11-8-92
374	18-10-93
370.	14-10-93
357.	5-10-93
305.	21-8-93
300.	21-8-93
88.	22-3-93
24.	24-1-93
22.	21-1-93
468	19-12-92
260.	7-7-92
98.	13-8-95
452	20-9-88
469.	24-8-86
162	6-4-86
143.	5-5-92
1929.	24-9-94
137.	16-5-95
166	8-6-95

280 W 23-1-96
~~147 maine 17-4-91~~

W

For orders

15/4/96

1 box of papers & 1 case of plans ending Railway

O.L.S.
7

P. W. CURRENT No. 3870

Government of Madras.
1896.

P. W. DEPARTMENT.

~~CURRENT No.~~

DISPOSAL.

No. dated

Enclo: I (15 C)

Recd: 23.4.96

From

The Superintending Engineer
IV circle.

~~Enclos.~~

~~No.~~

Dated 21.4.96

~~Received~~

SUBJECT.

Cocanada Pier: Forwarding Extract from the minutes of a special meeting of the Godavary District Ports Conservancy Board Cocanada held on 9th April 1896 on Mr. Larminie's report on the —

C. No. 3615
1039 W of 21-3-96
280 W of 23-1-96
98 marine of 13-8-95
96 marine of 23-3-92
147 marine of 17-4-91
200 marine of 13-5-85
426 marine of 26-8-80.

29—2,000—23-9-95.

O.L.S. 27

G. O. No. 2445 P.W., 24 Aug 1896

1P Spare Copy

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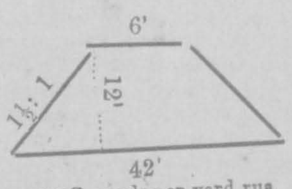

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J Clarence

10th April 1896 — Supg. Engineer, P.W.D

11/4

OWC1
3870/96

S.P.

Extract from the Minutes of a Special meeting of the Godavary District Port Conservancy Board Coconada held on the 9th April 1896.

× × ×

1 Read. Memorandum received from Mr. J.C. Larminie, Superintending Engineer P.W.D regarding the three alternatives feasible as a remedy to the existing block at the mouth of the Coconada river. Also Mr. Robertson's report and Mr. Walche's note on the subject.

The Board would prefer to postpone coming to a decision as to which alternative should be adopted until it has Mr. Larminie's detailed report before it and it has had an opportunity of consulting several gentlemen with long experience of the Port who are at the present moment absent at home. The question is one of such vital importance that the Board is most averse to deciding it in anything like haste.

× × ×

(Sd) V. A Brodie.
Chairman G. Dt. P.C.B.

No 426

5P

True Extract forwarded to Mr. J. C. Larminie Superintending Engineer Coimbatore Circle on special duty for information with reference to his memorandum dated 1st April 1896.

G. Clements

Cocanada
10th April 1896.

Dy Conservator
of the Port.

Forwarded to
the Chief Engineer
with reference to para 25
of report on the Cocanada
River.

J. C. Larminie
SE 4th Circle — 21/4

This conclusion of the Board need not in any way delay the measures which should be at once adopted to lengthen the Southern training groyne. Future alterations will be decided practically, to a great extent, by the results achieved thereby.

Letter from J. C. Larminie Esqre., Supdg. Engr., d/10 April/96.

8P

Note by the Chief Engr. P.W.D.

It is evident that the condition of the Cocanada port is so serious as to require immediate attention.

2. The tracing herewith shews the state of affairs, and it is proposed by the Port Officer to extend the Northern Groyne, and if the sand banks at B were removed by dredging or otherwise this would probably be the quickest way of ~~remedying the evil~~ the channel to the sea but the effect would only be very temporary and I agree with Mr. Larminie that both groynes should be extended the same distance, as the freshes in the river and the tidal

1. I have to-day carefully gone into this matter with Colonel Campbell. No reliance is to be placed on there being any finality ~~[illegible]~~ of a scheme of keeping a channel open into deep water by means of groynes. But, I understand that the present condition of things which necessitates a long and circuitous communication between the shipping anchored in the Bay and the landing place, causes grave inconvenience to the trade of the port. I therefore sanction the proposals made in para. 19 of this note.

2. I should like to see the statement of money out mentioned in para. 15 of the note.

3. The Conservancy Board should be pressed to make the Report ~~[illegible]~~ promised by them, as soon as possible.

A.G.H.
18.5.96

The connected statet. put up shews that during the last 20 years no less than Rs 283,247 have been spent on groins & dredging, with the object of keeping the entrance action will then have ~~some~~ more effect.

3. In my opinion the work to be done consists in extending the North groyne by 1000' and the South by about 2800' which will bring it out the same distance as the Northern one, and removing the sand bank at B.

4. The cost of extending the Northern groyne will be about Rs 23,000. The cost of extending the Southern groyne is given by Mr Larminie at Rs 30,000, which I think is too low an estimate; and Rs 50,000 is more like the figure. The cost of removing the bank at B cannot be accurately estimated but I believe the total cost of the proposed works will not be less

to keep the river open, with any result whatever, the existing state of things being rather worse than better than the state of things 20 years or more ago. I think, therefore, before we sanction any further expenditure, we should consider carefully where the money is to come from. ~~[illegible]~~, ~~as~~ Act III of 1885 is, I believe, in force at Coconada, and funds are there raised which are available for the improvement of the port. If it is possible, by the use only of those funds or of other funds which specially appertain to the port of Coconada, to carry out the proposed works, I have no objection. But if other & further funds are needed,

& Port Officer's estimate

whether Provl. or Port funds, I would not sanction this expenditure, for I think Coconada looks like a doomed port, and I would not spend any money on it that does not actually belong to it. To my mind, the policy of Govt. should be to concentrate its efforts on the improvement of Vizagm., where people are already ready, I understand, to come forward & risk their own money on the construction of a boat harbour.

As to the scheme of a pier at Vakalapudi, I don't [illegible] how a pier can be used without [illegible] boat harbour [illegible] the bo[illegible] which must be used in connection [illegible] the pier, & the sea. Now that a b[illegible] harbour is unlikely to be successfully constructed & maintained — we must wait to see what the Conservancy Board says, but it occurs to me to ask If we are to have a pier, why go to Vakalapudi to construct it? Why not run it out from the root of the existing N. groin, lengthened, if necessary, up to the end of the existing sand bank?

28/5/96

The question what funds are available is essential. ~~This~~

30/5/96

Note

The port of Coconada had on the 1st April 95 an opening balance of Rs 43121 only at its credit from funds collected under Act III of 1885. It may thus be assumed that not more than Rs 40000 in round numbers can be calculated on from this source.

2 June 96

than one lakh, out of which Rs 14,000 have already been sanctioned for the extension of the south groyne.

5. Though I strongly advocate the carrying out of these works at once to prevent the Port being altogether closed, I do not for a moment anticipate that the remedy will be permanent. I believe it will be found necessary to periodically extend the groynes, and even then it will be ~~[illegible]~~ difficult to keep the passage open, for, owing to the exposed situation, dredging cannot be constantly carried on.

6. Even if the groynes were carried into deep water, which would be very expensive, as they

would have to be made very strong to resist the action of the waves, I still believe a bar would form eventually at the entrance: the Madras Harbour is an example of this. ?

7. The state of the Coconada Port has occupied the attention of Govt for many years past, and the correspondence on the subject is very voluminous. In 1871 the port was inspected by a Harbour specialist, Mr Robertson, who stated that if the groynes had ever to be lengthened, they should be carried a little seaward, by which he meant North East; this would no doubt be an

improvement and can be done when the proposed extensions are carried out, but I do not think it will prevent the formation of a bar ~~and~~ or obviate the still further extension of the groynes.

8. In 1880 Col Sankey, the then Chief Engineer, inspected the Port and suggested the further extension of the groynes and he estimated that the cost would be about 3½ lakhs, but he stated that this sum would not be required all at once as the work of extension might go on gradually, he therefore evidently anticipated a constant expenditure, ~~and~~ but I see no reason why he should have assumed 3½ lakhs to be

the limit.

9. In 1885 the Port was inspected by Colonel Shaw Stewart, then Chief Engineer, and he expressed his opinion that "it is by no means certain that the extension of the groyne will exercise any permanent effect on the depth of water over the bar. The bar will, of course be forced further into the bay but whether a better depth of water will be secured is far from certain." In these remarks I quite concur.

10. In 1891 Mr. Walsh, Chief Engineer for Irrigation, wrote as follows:—

"The result of the work hitherto done has been, as anticipated, that the pushing of the "bar" by so much further out has not given

& G.O. 96 Marine d/ 23/3/92

Went

any relief, and, indeed, judging from the survey of the "approaches to Cocanada" which ~~accompanies~~ accompany this file matters have been made worse by the rapid growth of the sand deposit at the back of the North wall which has now overlapped that wall and is shoaling the entrance;" and in a letter printed with the same Proceedings the Acting Presidency Port Officer states that to extend the groynes to the one fathom line would cost Rs. 4,82,500 and there would besides be the cost of dredging, while to dredge a channel (without groynes) 100' wide & 2' deep would cost Rs. 41,800 in the first instance and an additional outlay of Rs. 20,000 every second year to keep the channel clear; personally I doubt whether the latter figure is anything near what would be required as any unusually rough weather might fill up the dredged channel completely."

11. I have quoted all these opinions to shew that all good authorities were aware that the continued extension of the groynes together with dredging would be necessary though ~~as~~ some seemed to think that there would be a limit to the extension required, but in my opinion there is none, and the experience of the Madras Harbour groynes confirms this opinion. I therefore wish to point out that though I advocate that the extension I have proposed

in the beginning of this Note should be carried out at once, I only do so on the understanding that it is urgently required for the purpose of keeping the channel open for the next 3 or 4 years till other arrangements can be made.

12. The other arrangements proposed are

1st A canal to Vakalapudi mentioned in clause 2 para 24 of Mr. Larminie's report

2nd The construction of a pier at Vakalapudi and a line of rail from thence to the town.

The first of these proposals may, I think, be for ever abandoned as the difficulty and expense of keeping the entrance of the Canal

~~cost~~ ity the canal open would be as great, if not, greater than keeping the present channel open.

In Col. Sankey's report dated 9th August 1880 No. 295, paras 13 to 16, the objections to such a ~~[illegible]~~ canal are fully expressed.

13. The second proposal is the one I advocate. I do not believe in the insuperable objections mentioned in para 25 of Mr. Lamunie's report, and I see no reason why a pier suitable for Cocanada could not be erected; from the pier goods ~~would~~ could be taken direct to all parts of the country and ~~and~~ vice versa and with the money that ~~has already~~ was ~~been expended on groynes and dredging, and that~~

13 P

~~has~~ have still to be expended on groynes & dredging any number of storage godowns, &c., could be built; moreover the railway line from the pier could be taken ~~straight~~ along the front of the existing godowns, so that probably only some covered sheds would be required near the pier.

The cost of the Tuticorin pier was Rs. *1,70,057 and the one at Cocanada may be taken to be about the same, while it will have been seen that the cost of extending the groynes is estimated by Col. Sankey at 3½ lakhs and by the Presidency Port Officer at Rs. 4,82,500, besides the constant expense of dredging.

There is only one objection that I can see to the proposal

---

* includes 5% on a/c of Establt.

Print

into

to have a pier and line of rail, and that is if it is considered necessary to have a boat basin I should say that in such a sheltered position it is not essential, but I can give no definite opinion on the subject, and should those who are best competent to judge say that a boat basin must be constructed, then I am afraid the scheme must fall through as the keeping open the entrance would be an expensive and difficult matter.

14. Mr Larminie states that he has forwarded a Memo: regarding the three alternatives to the Chairman of the Godavari

Ports Conservancy Board with a view to the opinions of the members being ascertained. When these opinions are received they will have to be carefully considered from all sides of the question, as it is very probable there will be considerable opposition from some quarters to moving the port to Vakalapudi 5 miles distant.

15. I have called for a statement shewing the expenditure on groynes and dredging for the last 20 years, and then it can be decided whether it is advisable to go on expending large sums on works the result of which is uncertain, and ~~then~~ when after all it may

be found necessary to abandon the port: or whether it would not be better to do so at once.

16. It is satisfactory to learn that the Cocanada bay generally has improved as shewn in paras 17 to 23 of Mr Larminie's report.

17. As regards the provision of suitable dredgers for Cocanada I would remark that if my proposals for the temporary improvement of the Port only are to be carried out it is possible that new dredgers and plant may not be required, as perhaps the sand accumulation can be removed by manual labour assisted by the two Priestman's dredger now ~~in use~~ available, and perhaps, also by the "Wenlock," but if it is proposed to keep on extending the groynes and dredging out a channel it will be necessary to obtain more suitable and powerful dredgers.

18. As regards the "Wenlock," she has already been tried at Cocanada with very unsatisfactory results, and if it is decided not to abandon the port, new plant must be got, the cost of which will probably be over 2 lakhs

19. What I suggest therefore is

1st that the Supdg Engr I Circle be ordered to put the work of extending the South groynes, estimate

Rs 14,000 already sanctioned in hand at once, leaving gap at A open,

2nd that he be directed to at once prepare and submit for sanction an estimate for extending the northern groyne by 1000' and the southern groyne by such a length (about 1800') as will take it the same distance out to sea as the north groyne.

3rd that the estimate should include the excavation of sand and mud in the line between the two proposed groynes.

4th that he should report if this sand can be removed by manual labour assisted by the two dredgers now in use, and that if not, he will submit an estimate for the plant required.

5th that the Port Conservancy Board should be again called on to give a very early opinion on the alternative plan of a pier at Vakalapudi and a line of rail from thence to Cocanada.

28/4/96
E.W.

Ootacamund
28th April 96

P.S. Since writing the above an answer to Mr Larminie's letter to the Conservancy Board referred to in para 14 has been received to the effect that the Board desires to postpone giving an opinion till it has had an opportunity of consulting several gentlemen of long experience of the Port who are now in England.

From Mr Larminie, S.E. IV Circle Dy 21/4/96

28/4/96
E.W.

Ootacamund
28th April 96

W
23 June 96

P. W. DEPARTMENT.

READ the following :—

Letter from J. C. Larminie Esqre., Supdg. Engr., d/ 10 Apl. 96

Note by the Chief Engineer P. W. D. d/ 28th ..

Letter from J. C. Larminie Esqre., Supdg. Engr. d/ 21 ..

FOR ORDERS.

with reference to Lord Wenlock's remarks on the note for orders attached to G.O. No. 1039 W dated 21 March 1896.

L
29/4/96

W

CWBS
29.4.96.

Cw

~~Mr Cotton~~

Coconada Port Improvements -

~~The Hon. M. Bliss C.I.E~~

~~The Hon. M. Grose C.I.E~~

Cw 30/4.

Ob.

D

A/1

EXAMINER
22 APR 1896
P. W. ACCOUNTS

No. 12 D.

Government of Madras.

PUBLIC WORKS DEPARTMENT.

Ootacamund, 20th April 1896.

OFFICE NOTE.

From W

To C.

Please forward a statement showing how much has been spent in the last 20 years on groynes at Cocanada both under "new works" and "repairs".

2. An early reply is requested.

20/4/96

W

22/4

P. W. CURRENT No. 41[illegible]7

Urgent

No. 1222 D/A d/ 1. May '96

To W.

No outlay traceable for the last 20 years; some work appears to have been carried out by the Marine department - please see G.O.No.3594 W. dated 17th.December 1883.

C.

[illegible] 30/4

Papers called for from Genl. [illegible] 2-5-96
Recd. 5-5-96

Recd: 2.5.96

Previous papers in Circ: 7 May 96

No. 3594 W d/ 17-12-1883
2977 W d/ 20-10-83
576 m. d/ 30-11-83

CA [illegible]
5.5.96
Papers

o.L.S.62

Urgent

MARINE C. No. 564
Recd 18-5-96
Circ 1

Marine (1896) DEPARTMENT.

From

THE PRESIDENCY PORT OFFICER,
Madras,

To

THE SECRETARY TO GOVERNMENT,
PUBLIC WORKS (MARINE) DEPARTMENT,
Madras.

No. 166 G

Dated 15th } May 1896.
Received }

No.

Subject.

Forwarding a statement shewing expenditure incurred during the last 20 years in connection with the Cocanada Harbour.

209 E d/ 20-4-96
3594 W d/ 17-12-83
2977 W d/ 20-10-83
2576 W d/ 14-9-83
3275 W d/ 12-12-82
2582 W d/ 31-10-82
2392 W d/ 15-9-82

2977 W d/ 20-10-83
576 Mar d/ 30-11-83

Statement shewing the expenditure incurred in th Marine Department during last 20 years in connection with Coconad Harbour.

Years	Groynes									Dredgin									Grand Total.		
	New works			Repairs			Total.			Plant			Workin			Total.					
1876-77	3000	"	"	"	"	"	3000	"	"	"	"	"	7893	8	7	7893	8	7	10893	8	7
1877-78	"	"	"	"	"	"	"	"	"	"	"	"	4673	15	"	4673	15	"	4673	15	"
1878-79	"	"	"	"	"	"	"	"	"	"	"	"	5467	6	9	5467	6	9	5467	6	9
1879-80	"	"	"	"	"	"	"	"	"	"	"	"	4568	13	"	4568	13	"	4568	13	"
1880-81	"	"	"	"	"	"	"	"	"	"	"	"	5689	12	6	5689	12	6	5689	12	6
1881-82	"	"	"	"	"	"	"	"	"	"	"	"	6433	7	4	6433	7	4	6433	7	4
1882-83	"	"	"	"	"	"	"	"	"	"	"	"	6099	2	5	6099	2	5	6099	2	5
1883-84	"	"	"	3333	"	"	3333	"	"	"	"	"	5332	8	2	5332	8	2	8665	8	2
1884-85	12776	15	2	"	"	"	12776	15	2	1673	"	"	3738	"	1	5411	"	1	18187	15	3
1885-86	11962	13	2	1094	14	2	13057	11	4	3589	10	5	4761	4	"	8350	14	5	21408	9	9
1886-87	5052	7	5	"	"	"	5052	7	5	"	"	"	4487	"	8	4487	"	8	9539	8	1
1887-88	8703	"	3	"	"	"	8703	"	3	"	"	"	3911	1	3	3911	1	3	12614	1	6
1888-89	"	"	"	687	2	6	687	2	6	5148	4	"	5002	11	7	10150	15	7	10838	2	1
1889-90	* 22032	"	"	"	"	"	22032	"	"	284	"	"	4836	"	"	5120	"	"	27152	"	"
1890-91	"	"	"	773	"	"	773	"	"	1829	"	"	4858	"	"	6687	"	"	7460	"	"
1891-92	"	"	"	1044	9	1	1044	9	1	1875	15	4	7518	15	11	9394	15	3	10439	8	4
1892-93	"	"	"	875	1	4	875	1	4	1158	6	3	+ 25016	8	6	26174	14	9	27050	"	1
1893-94	"	"	"	957	6	6	957	6	6	1331	12	"	⊗ 11981	4	9	13313	"	9	14270	7	3
1894-95	14904	8	"	866	3	8	15770	11	8	3669	7	8	7901	12	10	11571	4	6	27342	"	2
1895-96	28276	13	"	952	4	11	29229	1	11	4945	9	8	10278	6	2	15223	15	10	44453	1	9
Total	106708	9	"	10583	10	2	117292	3	2	25505	1	4	140449	11	6	165954	12	10	283247	"	"

* Includes Rs 18787-15-8 being cost of Machinery of the Dredger "Connemara" and building a wooden barge for the reception of the same.

+ Includes expenses of the "Dredger Wenlock", viz. Rs 18592-2-2

⊗ — Do — Do — Rs 2617-12-6

64

Presidency Port Office
Madras, 15th May 1896

H. A. Street
Commander R. I. M.
Presidency Port Officer.

Urgent

18P

No. 166 G.

Presidency Port Office,
Madras, 15th May, 1896.

From

Commander. H. A. Street, R.I.M.,
Presidency Port Officer,
Madras.

To

The Secretary to Government,
Marine Department,
Chepak.

Sir,

With reference to Memorandum of Government No. 209.E.dated 20th April 1896, I have the honor to forward herewith a statement shewing expenditure incurred during the last 20 years in connection with the Coconada Harbour.

I have the honor to be,
Sir,
Your Obedient Servant,

H A Street
Commander, R.I.M.,
Presidency Port Officer.

P. W. D.

Letter from the Presy Pat Officer No. 166 dd/15/5/

Submitted for informa-
tion in continuation of th
Chief Engineer's Note
dated 28th April 1896 and
with reference to His Excy's
remarks thereon dated
18th May 1896.

19/5/96

W

Seen.
A.SK
26.5.96

CWM
19.5.96

C.P.

#6

Expenditure on the Port of Cocanada during a series of years

Cocanada Port Improvements.

Note with reference to the remarks of the Hon. Mr. Bliss dated 28th May 1896.

The works I proposed and which will cost about Rs. 1,00,000 are I believe absolutely necessary to -- keep the port of Cocanada open.

2. The port had on 1st April 1895 6 an opening balance of Rs. 43,121 at its credit, so that at least Rs. 60,000 will have to be provided -- from other sources, and taking into consideration that Cocanada is one of the most important Ports in the Presidency, the value of imports and exports for 1894-95 being Rs. 44,76,534 and Rs. 1,59,17,689 respectively it is a question whether it would not be advisable for Provincial to advance the money. It will be many -- years before Vizagapatam can take the place of Cocanada as a port, and it will also be some years before a pier can be constructed, and till - such time it seems essential that something should be done to improve the condition of the Port.

3. The advantage of having the -- pier at Vakalapudi is that large steamers could lie within ½ to ¾ mile from the end of it, while they cannot

JG
6/6/96

I should strongly object to any grant of Provl. funds, especially in our present state of uncertainty as to our final position after April, 1897 – What port funds are at the credit of Cocanada? ×

But let us discuss the whole question in Council

WB
6/6/96

6 Rs 44122 on the 1st April 1896

× The District Port Fund opened with a balance of Rs 26147 on the 1st April 1896, but the Port of Cocanada has no exclusive claim to this amount.

JG

cannot get within 5 miles or more of the end of North groyne; a pier at the latter place would also require to be much longer than one at the former.

4. As regards the necessity of a boat basin, a pier was constructed at Gopalpore with no basin; before the construction of the Madras Harbour there was a pier and no basin; at Pondicherry there is, I believe, no basin; and at many places such as Bimilipatam, Calingapatam &c there is neither a pier nor a basin; but I cannot say whether the circumstances of Cocanada are such as to render the construction of a boat basin necessary.

4/6/96

W.

Cocanada Port Improvements.

~~The Hon. Mr. H. W. Bliss, C.I.E.~~

~~The Hon. Mr. J. Grose, C.I.E.~~

But at these places they use masulah boats – At Cocanada they do not. At least I can't remember ever having seen any there

BS

Papers sent separately in Tin Case

4/6

To be recirculated to H.E. with the papers about Vizagapatam Harbour

---

A.14
1.7.96

Note

With reference to the discussion in Council on the subject of the improvements to the Port of Cocanada, the papers are herewith recirculated together with a file on the improvements of the Port of Vizagapatam. From this file it will be seen that it is by no means likely that the works proposed will be carried out for many years, and it is doubtful if they will ever be carried out at all; in the meantime the condition of the Port of Cocanada requires immediate attention.

I cannot see why Provincial funds should not be lent to prevent the closing of an important port like

JKE
Circ.

Cocanada, the existance of
which benefits the whole
Presidency, and I still
strongly advocate that the
works I propose, and which
will cost about R^s. 1,00,000,
should be carried out.

18/6/96

W

Cocanada Port Improvements.

Plans sent separately in Tin case

Marine Dept.

Note for His Excellency the
Governor.

Cocanada port had
on 1st April 1896 an opening
balance of R^s. 44,122 which
sum can be spent entirely
on that port.

2. The District Port Fund
opened with a balance of
R^s ~~20,147~~ 31,643 on 1st April 1896,
this sum can be spent on any
port in the District (Godavary)
at the discretion of Govt.
acting usually according
to the advice of the
Presidency Port Officer.

3. The following are the
ports constituting the
Godavari District group:—

1. Uppada.
2. Cocanada.
3. Coringa.
4. Bendamurulanka.
5. Narsapur
6. Parapalem

I. Since Hon. Members have seen these papers, and discussed them in Council, Col. Campbell has drawn up two additional notes in support of his application for sanction to an estimate of Rs. 100,000 for the improvement of Cocanada Harbour.

The case for Cocanada is as follows:

(1) It is a port doing a large business, perhaps after Madras about the largest in the Presidency.

(2) The approach to the port is silting up to such a degree as to cause serious inconvenience to commerce.

(3) Rs. 60 000 or thereabouts are available from local funds for the work. A grant of about Rs. 40,000 from Provincial funds is therefore needed; of this sum Rs. 14,000 are already provided.

How? I don't follow this
BO

The case against Vizagapatam is:—

1. That the trade of the port is far less than

4. All these, with the exception of Cocanada and Coringa, are very insignificant ports so it is probable that out of the sum of Rs ~~20,149~~ 31,643 at least Rs 20,000 could be spared for Cocanada; adding this to Rs 44,122, the amount available for expenditure on improvements to the Cocanada port, would be in round figures Rs 64,000 so that the required contribution from Provincial funds would be Rs 36,000.

5. It will be seen from G.O. No 341, Marine, dated 15th May 1896, that it is proposed to include all the ports on the East Coast, excepting Madras, in one group and then the Port Funds of the whole group can be spent at the discretion of Government upon any of the ports within the group: but this proposal has not yet advanced beyond the preliminary stage.

6. Regarding the Vizagapatam harbour, please see para 8, page 9, of the Administration report of the Public Works Department for 1892-93 by which it will be ~~seen~~ found that the Government of India refused to make any assignment from Imperial funds for the work, and the whole cost of between 8 & 10 lakhs would have to be met from Provincial funds unless a Company can be formed for the construction of the Boat Harbour.

7. In G.O. No 688W dated 13th March 1893 it is stated "The condition of Provincial finances is at present, and

them the trade of Cocanada.

2. That the cost of the proposed Harbour Improvements is large.

3. That it will take a long time to carry out those improvements.

4. That in the meantime, the export of the Godavari Delta will have no good outlet by sea.

5. That for the trade of the Delta, Cocanada is better placed than Vizagapatam

II. Please circulate to Hon. Members, who, with this fresh information before them, will perhaps re-consider the question of sanctioning the proposals made in para. 19 of Col. Campbell's Note of the 28th April 1896.

A.G.H.
1.7.96

The C.E. entirely ignores my statement, in my note of 28/6/96, as to the people there being ready to come forward with their own money to improve the port of Vizagapatam by constructing a boat harbour there. I had my info from Mr Willock, who knows Vizagapatam better than anyone else. He may, of course, have misunderstood what he told me, or he may have been unduly sanguine. This, however, can be cleared up in 3 or 4 days by the C.E.'s writing him, as do. to enquire whether, ~~as~~ it is a fact, as is believed, that people at Vizagapatam are ready to undertake on their own account the works required there. If so, I think we should try to get that scheme floated & should give it all the aid in our power. But, I will not object to a Prov. grant to Cocanada. But I do object to it until we know what the facts are as to Vizagapatam.

Mr Willock shd be asked accordingly. If money is not soon forthcoming from private sources for improving ~~Viza~~ Vizagapatam harbour I think we shd be justified in granting Prov. funds for Cocanada

JG
5/7/96

is likely to be for some years to come such as to preclude the Government taking up the Scheme".

8. It is also extremely improbable that any Company will be willing to take up such an uncertain work especially in the face of the note by Mr Walch, acting Chief Engineer, dated 27 October 1892, in which he objects to nearly all Mr Thorowgood's proposals, with ~~his~~ which objections I entirely agree.

9. It will therefore be seen that it will be many years before the improvements of the Vizagapatam Harbour can be carried out. The value of imports and exports of Cocanada and Vizagapatam for

1894-1895

It is clear that the G. of I. did not think much of Mr Walch's objections, though they were polite enough not to say so in so many words, vide their letter of 13/2/93 (in G.O. $\frac{688\,W}{13.3.93}$) which was no doubt written by Mr O'Callaghan, a man of great professional eminence who was Sec. to the G. of I. in the P.W.D. at the time. I rather incline to agree with him, for Mr Walch's arguments are to a great extent directed against the danger of the entry of sand from the South. But where is the sand to come from, from the South? So far as I know, there is little or no sand to the South for many a mile. However this may be, it is useless to say offhand that it is extremely improbable that a Company would take up the scheme. The clue I have given should be followed up. If it leads to nothing, we can then consider what next to do; but it should not be neglected as it has been.

No doubt India raised Mr Thorowgood's estimate, but it did not condemn the scheme. That is the important point.

3/7/96

1894-1895 are as follows:—

	Imports Rs	Exports Rs	Total Rs
Cocanada	44,76,534	1,59,17,689	2,03,94,223
Vizagapatam	14,78,782	17,09,445	31,88,227

10. To expend 10 lakhs on the improvement of the latter port and grudge Rs 36,000 to save the life of the former requires no comment.

25/6/96

~~D/o~~

Cocanada Port Improvements

~~The Hon. Mr. Bliss C.I.E.~~
~~The Hon. Mr. Grose C.I.E.~~

~~C.H.W. 6/7~~

2/6/96

W
6th July 96

P.W.D.

D/O

dated 7th July 1896.

Dear Willock,

I have been requested to ask you if it is a fact that the people at Vizagapatam are willing to undertake on their own account and at their own expense the works necessary for the improvement of the Harbour, the small scheme for which is estimated to cost between 8 & 10 lacs. If you will let me have all the information you can on the subject I will be much obliged.

I would like to know who the people are and how they propose to raise the money – Do they intend forming a Company?

(32)

Have they made the proposal to undertake the work verbally or in writing, if the latter is it on record. Do you think any reliance can be placed on their promises, if they made any, and in your opinion is there any chance of the improvements to the Vizag: harbour being carried out by private means within a reasonable time.

Yours sincerely

(S.) D. McN. Campbell

Please let me have an answer very soon.

Await reply to this d/o

[illegible] 7 Aug 96

Marine Dept.

Note.

The Honourable Mr Bliss' marginal remarks on my note dated 29 June 1896.

I forward herewith a d/o dated July 96 from Mr Willock from which it will be seen that he is of opinion that nothing can be done towards constructing the small harbour at Vizagapatam as proposed by Mr Thorowgood

1st until Mr Turner's schemes for a railway to Bimlipatam has been negatived.

2nd until the construction of a line of rail from Parvatipur to Vizianagram has been sanctioned.

Under the circs, I suppose the Coconada improvements had better be put in hand. I don't think any formal grant need be made from Provl. funds yet. We had better wait until we get the whole question of Port funds into shape — In the meantime, funds are available for present needs.

BS
20/7/96

23/7/96

~~The Hon Mr Bliss CIE~~
~~The Hon Mr [illegible] CIE.~~

A later d/o dated 21st July has been received from Mr Willock in which he speaks more hopefully of the prospect of raising the money for the Vizagapatam harbour. It is circulated for information.

24/7/96

W

Even then what he states is only "I think I may say that at least half the capital required for this harbour would be subscribed locally." As the total cost is between 8 & 10 lakhs there would still remain a sum of Rs 4 to 5 lakhs to be provided by Govt.

2. In these circumstances it does not seem likely that the improvements to the Vizagapatam Harbour will be carried out for many years to come.

18/7/96

M

~~The Honorable Mr Bliss C.I.E.~~

~~The Hon Mr Glin C.I.E.~~

Improvements. Vizag^m Harbour

or to be raised by the issue of shares or debentures

BS

It will certainly take some time

BS

23/7/96

CWS

o/o With letter from Mr. Wallich of 21/7

P. W. Dept.

Draft order on the Coconada Harbour Improvements.

Recirculated to the Hon. Mr. Bliss; the order, as drafted, having been approved by the majority.

7/8/96

W

R.S.

Let H.E. see my note of 5/8/96 before the G.O. issues

BS
8/8/96

I have read the Hon. Mr. Bliss's note of 5.8.96. I do not think the order commits us, and I do not think there is harm in throwing out the suggestion, for I am convinced we shall have to contribute from Provincial funds.

A.H.
12.8.96

Seen
BS
15/8/96

~~The Hon Mr Bliss C.I.E.~~

—

Cocanada Harbour Improvements

—

~~H.E. the Governor~~

~~11/8~~

Recirculated to the Honourable Mr Bliss with reference to His Excellency's note dated 12 Aug: 1896.

12/8/96

W

2445W

Note for Press. Please print & send proof. Rvr 21/8

No 2445 W. d. 24th August 1896

PROCEEDINGS OF THE MADRAS GOVERNMENT.

B. & R. Civil works

READ the following

From J. C. Larminie Esqre, M.I.C.E. Supdg Engineer P.W.D. — dated 10th April 189

Do — do — " 21st " "

Note by the Chief Engineer P.W.D. " 28th " "

From the Examiner P.W. Accounts No 1222 D/A — 1 May —

" " Presidency Post Office — 166 G — 15th —

Print

Do Not

Print

Do Not 17 & P

Print Post statement

20 P

A.S.H. 2.8.96

6/8/96

The papers recorded above relate to the port of Cocanada, the deteriorati of which is giving cause fo anxiety. After careful consideration of the matter, His Excellency the Governor in Council resolves to adopt the recommendations of th

Chief Engineer which are
summarised in para 19
of his note dated 28 April 1896.

. The Deputy Engineer I Circle
ill accordingly proceed at
nce to extend the south
royne in accordance with
e estimate of Rs 14,000
lready sanctioned, leaving
open the gap at the position
marked A on the plan*.
He will also submit, as
soon as practicable, the
estimates and report indicated
in clauses 2 to 4 of this para
of the Chief Engineer's note.

3. The Port Conservancy
Board will be called on
in the Marine Dept. for the
required expression of
pinion, to be submitted as
rly as practicable, on the
alternative plan of a pier
at Vakalapudi and a

* Tracing accompanies —

line of rail thence to
Cocanada.

4. The measures proposed
by the Chief Engineer will,
it is calculated, cost about
Rs 1,00,000, and the question
of providing this amount
must be considered. It is
observed that the port
had on the 1st April 1896
an opening balance of
Rs 44,000 at its credit,
so that even supposing the
whole of this sum to be
appropriated, there will
still remain about Rs 60,000
to be provided from other
sources. Looking to the
fact that Cocanada
is one of the most important
ports in the Presidency, —
judged by the value of
~~the~~ its imports and exports,
which for the year 1894-95

Cir

Port of Coconada.

Improvements of —

amounted to Rs. 44,76,534 and Rs. 1,59,17,689 respectively, it is a question whether it would not be advisable to make a contribution for the proposed works from Provincial funds. The matter will, however * be deferred pending the receipt of the plans and Estimates now called for, and the decision of the general question of the enhancement of port dues and the amalgamation of port funds, now under consideration in the Marine Dept.

19/8/96

24/7/96

R.S.

I would much rather not even so much as throw out this suggestion at present. It may come to this in the long run, & I am afraid it will, but once we have said this we shall in a way be committed – I think it would be far better to deal at one blow with the whole question of port funds – But we may have difficulty in doing so if we first in any way commit ourselves to the grant of assistance to a single port. It will be far better, I think, the assistance we give, which I have no doubt will have to be considerable, should be given to the Eastern Group, when constituted, according to the proposals I have already made – (I think in a note in the Light house file) which were discussed on the day on which Capt: Street attended Council, and simultaneously with the increase of port dues which it was decided should be made –

HS
5/8/96

I don't mind stating but it will be considered commits us

Jy

Supdg Eng. I Circle with Encl. 11 Recd 10/5/
to be returned.

Ex P.W. Accts. /

Revenue Dept.

Marine Dept. Recd 7/5/96

Financial Dept.

To The Chief Secretary
Financial Dept. for favour of [illegible] –

Revenue Board Off
(Separate Revenue),
MADRAS,

12 July 1896

My dear Campbell

I will answer your letter about the Vizag Harbour as soon as the mail is in. I expect important information by it as to how matters stand with regard to Turner projected line to Bimlipatam and as to raising capital at home on a local guarantee.

Vizianagram will guarantee 4% on half the cost of the harbour — or on the whole if necessary. Rajah Jagapati Row and ~~B~~ the Rajah of Bobbily have told me that

ll accept a share in
nsponsibility and I think
t Jeypore will do so also
the total which they would
sk would not be more than
R 30 000 or so ~~at the utmost~~
per annum at the utmost and
they are all keenly alive to
the danger of the trade of the
District being drawn away to
Calcutta by the Bengal Nagpur
~~line~~ Company

Yours truly

Await further information

15/8/86

Revenue Board
(Separate Revenu
MADRAS,
21. July . 1

My dear Campbell

I have heard lately on good authority that proposals for making the Vizag Raipur line are now under consideration at the India Office. I do not know who the parties are but I think that it must be the Bengal Nagpur Company.

If this comes to anything the money for the Vizag Harbour can be got locally without the smallest difficulty

Yours truly

20/23/7

Keep for information return from
Consultation

12/8/86

Madras
July 1896.

My dear Campbell,

With reference to your D.O. dated 7th instant about the Vizagapatam Harbour I think that the Harbour and the Parvatipur Vizianagram Railway are so interdependant that nothing can be done towards constructing the former - by private capital at any rate - until the latter is in a fair way of being constructed. When this Railway is made all the trade of the District must come to Vizagapatam, but until then Bimlipatam may get a large share, as the bandymen wont care to break bulk at Vizianagram until the shipping facilities at Vizagapatam are largely improved. I should not like to advise local capital to take up the harbour while this position

position of affair exists, particularly as I hear that Turner is still pressing for a concession for making a light railway to Bimlipatam and until his application is finally rejected by the Secretary of State no one would care about putting money into a Harbour at Vizagapatam. He has I believe got a provisional concession for a light line from Vizianagram to Parvatipur. To this I have no objection, ~~&~~ though I think a broad gauge feeder line under the Government of India rules preferable by far, but if this line were prolonged to Bimlipatam most of the heavy traffic of the District would go there in the fine weather months of the year.

I do not however think that Turner's railway projects will come to any thing. I do not believe that he will get any local support so long as he adheres to his views about running into

Bimlipatam

Bimlipatam and he is not likely to get money at home for a scheme devoid of local support. I therefore expect to hear that his project has been either negatived by the Secretary of State or dropped before long and I propose to submit the following one for consideration then or possibly sooner. I mention this as it is a necessary preliminary to any move in the direction of constructing the small harbour.

Under the rules published in the Gazette of India dated 18th April 1896 a broad gauge branch railway from Vizianagram to Parvatipur could get a guarantee of 3½%, subject to the grant from Government not exceeding the net earnings of the main line from traffic interchanged with the branch. In the case of a route along which there is such heavy traffic, almost all of which would travel

as

as far at least along the main line as on the branch, there could be no question as to this 3½% being obtained under these rules. My idea is to get the large Estates interested (Vizianagram, Bobbili and Jeypore) to guarantee the difference between this and a sufficient rate to attract outside Capital, say 4%. For convenience it would be best that the District Board should give the guarantee, the Zemindars undertaking to indemnify it. The guarantee would probably have to be for 4% but the guarantors would know that only a small portion of this could ever fall on them. I have discussed the matter with the Maharajahs of Vizianagram and Jeypore and the Rajah of Bobbili and found them all very willing to accept their share of the responsibility. Of course I have nothing in writing to this effect but I do not think

that

that there is any risk of a hitch so far as they are concerned.

The Capital required to make the line to Bobbili with a branch to Saluru would be about Rs 28,00,000 according to the Survey made by the East Coast Railway Officers two years ago. The sum which the Zemindars would risk in guaranteeing 4% on this under the above conditions would be Rs 14,000 if the money could be got for a 4% guarantee.

I have been making enquiries at home as to the possibility of getting the necessary capital on such a guarantee through Mr. MacNab and got a very satisfactory report ~~from home~~ by yesterday's mail. 4¼% is however asked as a guarantee but this can probably be reduced. The direction in which MacNab is making enquiries is one in

which

which ample funds are available.

As soon as something definite is settled (either on these lines or otherwise) with regard to a railway to Parvatipur I propose to deal with the Vizagapatam Harbour in much the same way. The Maharajah of Vizianagram has been pressing me to start this project and has offered to guartee the interest at 4% on half the Capital – or even on the whole if necessary. I have not gone into this question except in a general way with the other land owners but I am satisfied from what has passed on this subject that they will support the project liberally. I cannot lay my hands on the figures but I do not think that the guaranteed interest risked in getting the capital necessary to make the harbour would exceed Rs 30,000 per annum even if the only alteration on the present Harbour dues is the imposition of a special rate of 2 annas per bag on Jaggery as is now paid at Cocanada. The merchants have agreed most willingly to this being done. Of course when I say Rs 30,000 I calculate on the Bimlipatam trade coming to Vizagapatam but am not counting on any considerable expansion of the general trade of the District, though this must follow the extension of Railway communication into the interior. Possibly it may be advisable to postpone the harbour work until the Vizianagram Parvatipur Railway has shown that it will not cost the guarantors more than the $\frac{1}{2}$% if that. I expected to hear what stage Turner's project had reached at the India Office by yesterday's mail

mail but have got no information on this point yet.

If you could get any information for me as to how Government would view a proposal to get a Company to take up the Vizianagram Parvatipur Railway on the above terms it would be a help. The arrangement which I would propose is that the District Board should give the guarantee, as capitalists at home would hardly care to deal with individuals out here and the Zemindars guarantee the District Board against loss.

You ask whether any thing in the way of proposals to undertake the harbour works have been received in writing. The matter has not got into a sufficiently defenite stage for that, but I have discussed it frequently

frequently with the big Zemindars of the District and I think I may say that I have, no doubt but that they will back it up. I have been holding them back in the matter owing to the uncertainty introduced by Turner's projects. I think I may say that at least half the capital required for the harbour would be subscribed locally. The Capital for the Railway had better come from outside. It will be wiser to reserve local resources for other objects, as the total likely to be locally available would be but a small fraction of the whole sum required.

Yours truly