G. O. No 722 W. 23. 3. 85 Orig
No 113 E. 13—5. 85.

(12)

Inch 4720

Govt. of (1885) Madras.

MARINE.

B

No 1330 W of 8th June/85

Recorded.

Recorded.

S.I.C.

C. I.
27. 5. 85

29. 5. 85

Issued

Recd. 27/5/85 *Encl.*

G.O., 13th May 1885, No. 200.

No 1330 W of 8. 6. 85

S. E. I C.

S. E. I. C. I.

C. E. for I.

C. E. for I.

8/6/85

MAY.

Cocanada.

Passing orders on certain points noticed by the Chief Engineer, Public Works department, in a report of his inspection of this port connected with the native community there being represented on the Groynes Committee, and regarding the maintenance of order among the boats anchored in the river.

11/6

14/6

O. 28. 5. 85. R. 1. 6. 85.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers :—

G.O., dated 23rd March 1885, No. 722 W., Public Works.

Read—the following Notes of Inspection by the Chief Engineer, Public Works department, I Circle, February-March 1885 :—

COCANADA—*Extension of Harbour groynes.*—This work is making slow progress. Out of a projected additional length of 1,900 feet, the north groyne has advanced about 60 feet and the south groyne about 140 feet. I am aware that difficulty has been experienced in the supply of stone, and the Port officer has been obliged to build boats suitable for the rough work. It may be hoped that progress will be more rapid in future.

The section adopted by Captain Baker for these groynes is a good one ; but the stones which I saw being placed in position seemed far too small to withstand the force of the sea during a monsoon gale from the north-east ; and there seemed reason to anticipate some considerable subsidence through the soft yielding bottom on which the groynes are built.

It seems by no means certain that the extension of the groynes will exercise any permanent effect upon 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.

2. *Groynes Committee.*—The native merchants of Cocanada are anxious to be represented upon the groynes committee. When that body was first formed, Mr. Ramakristna, one of the principal merchants, was appointed as one of the three members ; but it is understood that he was obliged to resign through ill-health, and his place was taken by a European merchant. Considering how largely they are interested in the welfare of the port, it seems not unreasonable that the native merchants should be represented on the committee.

3. *Boat traffic in river.*—Some effectual mode of maintaining order among the boats anchored in the river is greatly needed. At present they seem to be moored wherever their owners choose, and at some points almost the whole of the available waterway is blocked.

4. *Iron lattice bridge over river.*—The iron work of this bridge is in great need of careful overhauling. The bracing between the piles is broken in many places, owing probably to corrosion and other causes. The piles also appear to be in need of strengthening. It is understood that the bridge is entirely in the hands of the municipality, and no time should be lost in having it carefully inspected and in carrying out all needful repairs.

5. *Cocanada Water-supply.*—I understand that this is led off from the Sámalkót canal, above the tidal lock, and carried in an open channel into the town. At a point where I saw this channel, it was taken close alongside of a public highway, without any attempt to secure it from pollution by fence or otherwise. The arrangement appeared objectionable in many ways.

6. *Additions to Collector's Cutcherry.*—The work is well advanced, and appears to be making fair progress ; but the quality of the masonry is not so good as it might be. The walls are constructed of rubble stone, at a rate of about Rs. 3-8-0 per cubic yard. The work is certainly not dear, but it is very rough and lacking in bond.

7. *Quarters for Telegraph Signallers.*—The work is well advanced, and should be finished before long. The quality of the masonry is better than at the cutcherry, but cannot be termed good.

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9. *New Church.*—This work is in progress under the Local Fund engineer, and the quality of the masonry seems above the average. I was informed that the sanctioned estimate has been exceeded, and that work had therefore come to a stand for the present.

10. DOWLAISHWERAM—*Houses for Superintending and Executive Engineers.*—These buildings are urgently required, as the only ones at present available are in every way unsuitable, being low and damp, and the walls riddled with white-ants. The new house for the Superintending Engineer is in progress, and had risen to basement level at the time of inspection; the work appeared sound and good. The proposal to build the Executive Engineer's house is now before the Government of India.

11. *Telegraph Office.*—Considerable inconvenience arises from there being no telegraph office nearer to Dowlaishweram than Rajahmundry, a distance of more than three miles, and it seems in every way desirable that an office should be established at a station of such importance as Dowlaishweram.

12. VIZAGAPATAM—*Old military buildings, &c.*—The removal of the native infantry regiment from Vizagapatam has set free a considerable number of military buildings, and these have been, for the most part, handed over to the police and other civil departments.

The land occupied by the native infantry lines was ordered to be cleared and handed to the Revenue authorities. The clearance has not been done properly, and should be carried out thoroughly without delay, as the huts, in their half-destroyed state, are certain to be used as latrines.

The main road is being thoroughly repaired before being handed over to the municipality.

13. *Proposed Pier.*—Nothing has been done towards the construction of this pier beyond ascertaining, by boring, that there is sufficient depth of sand to allow screw piles being fixed along the proposed line. It appears probable that the project for a pier must be shelved until the construction of the railway to Raipur is undertaken.

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16. BIMLIPATAM—*Stone groyne in Harbour.*—This groyne has been completed according to estimate at a cost of Rs. 8,207. The quality of the work shows a decided improvement since I inspected it a year ago. The entire length of the groyne is 300 feet; but the result has not been to open a passage into the boat harbour at the point expected, the failure being attributed to the unusually low freshes in the river during 1884.

It was suggested by the Master Attendant that the action of the river freshes should be assisted by cutting an opening through the sand ridge at a point near the groyne, and a sum of Rs. 200 has been sanctioned for the purpose from Port funds, the work to be carried out by the Port officer.

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was sanctioned in November 1883; but the present Collector of Ganjam took exception to the proposal, and recommended the erection of a new and much larger building, for which estimates are now being prepared. If Mr. Horsfall's recommendation is accepted, the existing buildings must be removed to make way for the new ones. The old buildings are inconveniently designed for the addition of an upper story; and, so far as I am able to judge, looking to the prospects of the port, the course recommended by Mr. Horsfall is the correct one. The site is suitable to the purpose, and convenient in all respects. The line of the proposed pier will start from the centre of the new buildings.

18. *Proposed Pier.*—Messrs. Massey and Company's tender for the construction of this pier has been accepted, and it is hoped that the deed of contract will shortly be signed, in which case the completion of the work may be looked for within 18 months or two years.

19. CHATRAPUR—*New residence for Collector of Ganjam.*—The construction of a new residence for the Collector has been ordered, and the plans and estimates are now under preparation by the Consulting Architect. The circumstances connected with the purchase of Onslow Court, and the condemnation of the old building, are briefly stated in an attached *précis*.

In connection with this, the question arises whether the new house should be built at Chatrapur, which is some 10 miles from everywhere. It is situated at a very inconvenient distance from each of the important towns, Berhampore and Gopálpur; and is near to no place of importance.

Before final action is taken towards building a new house, it seems right to suggest for consideration whether the site should not be changed to Berhampore, where there is a large native town, a regiment, a Judge's court, a bank, &c., whereas at Chatrapur there is nothing of the kind, only the Collector and the Superintendent of Police living in the country.

The cost of building a residence for the Collector would probably be the same, whether at Chatrapur or at Berhampore; but, of course, if built at Berhampore, there would be the additional cost of a new cutcherry.

One point which deserves consideration in dealing with the question is that any railway made in Ganjam would certainly run from Gopálpur, through Berhampore and Aska, to the valley of the Mahánadi, and by Sonepur to join the new lines under construction and proposed in the Central Provinces. For that reason, as well as for other important reasons connected with administrative convenience, it may be thought worth while to incur some present additional outlay, and to take advantage of this opportunity to locate the chief civil officer of the district at a large centre of population and trade.

As regards the purposes for which existing public buildings at Chatrapur might be utilized, in the event of the Collector being moved to Berhampore, it may be thought desirable to transfer to Chatrapur the Senior Assistant now located at Berhampore; and I learn from the Commissioner of Salt and Abkári Revenue that part of the Chatrapur buildings might possibly be utilized in his department. A demi-official letter on the subject from Mr. Bliss is appended.

20. BERHAMPORE—*New Cutcherry for Senior Assistant Collector.*—This building is in progress, and is capable of enlargement, if thought desirable, with advertence to the previous remarks.

21. *Site for new buildings.*—For any new civil buildings that may be required at Berhampore, an excellent site is available on the high land to the east of the town, near the jail. It is understood that good water is to be had on that site.

22. *Chilka Canal.*—This most useful short line of water communication was first suggested by Lieutenant-Colonel (now Major-General) F. C. Cotton, in his interesting report on the capabilities of the Ganjam district, dated 12th July 1856 (*vide* Proceedings of Government, dated 24th November 1857, No. 2167). It connects the Ganjam backwater with the Chilka lake, and through it with the Mahánadi and its system of navigable canals.

The work was executed in 1866-1868 by the Public Works department, and has proved of great assistance to traffic.

Unfortunately, the canal appears not to have been excavated to a sufficient depth, and heavily laden boats have, consequently, great difficulty in navigating it. During 1884 it was decided to deepen the canal to a uniform depth of 6·5 feet below M.S.L.; and an estimate was prepared amounting to Rs. 74,600, which sum was allotted in G.O., dated 20th August 1884, No. 2040 W. It was subsequently discovered that this estimate was grossly incorrect, and a revised estimate is now under preparation. It is hoped that this very important work will be carried out early during the year 1885-86.

23. *Extension of Canal to Gopálpur.*—As stated above, the object of the Chilka canal was to connect the Ganjam backwater and port with the large system of inland water communication which lies to the north; but the trade of the town of Ganjam seems to have entirely disappeared, and all goods which came down the Chilka canal for export are transferred to carts when they reach the south of the Ganjam backwater and carried by road to Gopálpur.

What has caused the complete disappearance of Ganjam as a trading port is by no means clear; but even 29 years ago General Cotton mentioned the growing preference for Gopálpur, though he was unable to account for it.

In consequence of that tendency shown by goods to seek shipment at Gopálpur, General Cotton suggested, in the report already alluded to, the construction of a second section of canal, to connect the Ganjam and the Gopálpur (or Munsurcotta) backwaters. He observed that such a canal would pass through a singularly favorable natural hollow, occupied then (and now) by a chain of small freshwater lakes; and he raised the question whether the canal should be a tidal one, or a freshwater one with locks.

Up to the present time, nothing has been done towards the construction of this canal; but in 1882-83 the country was carefully surveyed and examined, and a decision arrived at in favor of a tidal canal uniting the two backwaters.

In 1884 an estimate, amounting to Rs. 4,44,335, was submitted to the Government of India for sanction; but, in consequence of slight omissions, a revised estimate, amounting to Rs. 4,51,145, has recently been submitted, and is now awaiting sanction.

It would be difficult to exaggerate the importance to the Ganjam district of this short section of canal. Its construction will complete the last link in the long chain of inland water communication to the north of Gopálpur, and will allow goods to be brought from great distances, without break of bulk, right up to that port, in which, when the pier is completed, the trade of the surrounding country will become more than ever concentrated.

24. VIZIANAGRUM—*Experimental Artesian Well.*—At the request of His Highness the Maharaja of Vizianagrum, I inspected a boring which is being made near the fort of Vizianagrum, in the hope of striking a water-bearing stratum from which a supply may be obtained by an Artesian well.

Mr. Fraser, the engineer in charge, was good enough to show the boring apparatus at work, and to give full information on the subject.

The apparatus and plant seem excellent and suitable in every way. The cost is understood to have been about Rs. 12,000, which did not seem excessive.

At the date of inspection, the depth reached was stated to be 192 feet; and the rock which was being bored through was said by Mr. Fraser to be "intensely hard." On that point, the stuff brought up from the boring left no room for doubt. So far as could be judged, the boring was being made through a very close-grained and hard granitic rock; and it was understood that the greater part of the depth reached had been through rock of a similar character.

The opinion I formed was that there is not much prospect of obtaining water in that locality from an Artesian well, and I have informed His Highness the Maharaja accordingly, advising him to discontinue all expenditure there. I was not, however, in a position to say whether there are better prospects of success in other parts of the territory belonging to him.

Order—dated 23rd March 1885, No. 722 W., Public Works.

The above notes of inspection by the Chief Engineer, Public Works department, are recorded, with the following observations.

Paragraph 1.—The action of the Cocanada harbour groynes on the depth of water over the bar should be carefully watched, and the result reported after sufficient time has elapsed for a decided opinion being formed.

Paragraphs 2, 3, *and* 15.—Orders on the questions herein raised will issue in the Marine department.

Paragraphs 4 *and* 5.—Referred to the Financial department.

Paragraphs 6, 7, 8, *and* 12.—The special attention of the Superintending Engineer, I Circle, is drawn to these remarks.

Paragraph 11.—The Director-General of Telegraphs will be requested to favor Government with his views on the subject of a telegraph office at Dowlaishweram.

Paragraphs 19, 20, *and* 21.—The suggestions in these paragraphs as to the selection of Berhampore for the site of the Collector's new residence and head-quarter offices, and the utilization of existing buildings at Chatrapur will be considered in the Revenue department.

(True Extract.)

(Signed) J. SHAW-STEWART, Col., R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, I Circle.
" Chief Engineer for Irrigation.
" Director-General of Telegraphs.
" Marine department.
" Financial "
" Revenue department, with two enclosures.

From J. H. TAYLOR, Esq., Lieutenant, R.N.R., Master Attendant, Madras, to the Chief Secretary to Government, dated Madras, 28th April 1885, No. 3493.

Administrative department.

In returning the letter of Government, Public Works department, dated 23rd March 1885, No. 722 W., I have the honor to remark upon the subject of the Cocanada groynes that, in paragraphs 1 and 2, I have made in my letter of the 23rd ultimo, No. 2577, reference to this very subject, and suggested certain measures of improvement.

2. Of paragraph 3 I can only say that all the powers the Port officer possesses are exercised towards the control of the boat traffic, but the difficulties in the way of maintaining order in such a crowded port are very great; the only parallel I know of is to be found in the streets and bridges of London, where all the efforts of the police fail to prevent blocks and abuses. The river at Cocanada is crowded with large boats, and each is bent on securing its own interest, while every change of tide adds to the element of confusion. The owners would at any time rather pay the fine than weaken their chances of employment.

3. *Paragraph* 8.—The Marine Villa has proved an expensive purchase. I hope, however, that the repairs will be pushed on, and, when completed, the building, from its position and convenience, will be all that can be required; the rooms, though large, are not numerous.

4. VIZAGAPATAM—*Paragraph* 13.—I have endeavoured to enlist the feelings of the mercantile community in favor of a pier from their own point of view that losses to cargo and danger to life are experienced in the passage of the bar, but the vision of a railway and a harbour (in the pool which, except in two small holes, has no depth of water over a fisherman's knees and has besides an impassable bar between it and the sea) is not yet completely dispelled, while in real mercantile advantages they are even now equal, if not, superior to their neighbour.

5. *Paragraph* 15.—The Signal tower on Dolphin's Nose is private property. It is an old observatory belonging to the Nursing Row family; it was put at our disposal for the exhibition of a lanthorn for the benefit of the shipping, but on the occasion of a cyclone in October 1876 the light and portion of the house was destroyed, but the injury to the direct property was not in any way caused by the lanthorn or any marine interference.

6. *Paragraph* 16.—The work at Bimlipatam, I hope, will yet prove a success. But the assistance from freshes and scour, which was always an important factor in dealing with marine operations in places like Bimlipatam, Cuddalore, &c., can no longer be relied on, as the streams are kept back for purposes of irrigation, and the sea current and sand in motion are formidable and ever active foes to improvement.

7. *Paragraph* 17.—I should be very glad to see the works at Gopálpur set in course of construction. I believe all preliminaries are settled, a spacious ground-floor custom house into which the pier tramway will run, an upper story for Port officer's residence, and a turret above for the port light.

8. *Paragraph* 18.—Mr. Massey has been very ill, and the arrangements have met with delay in consequence; but he is now restored, and about to visit England to see the materials for the pier shipped and properly arranged.

9. *Paragraph* 23.—I have made every inquiry into the causes that have removed Ganjam from the list of ports and substituted Gopálpur. The proximity of Berhampore, where many of the local native merchants reside is one chief cause, and the utilization of the Ganjam river for irrigation and purposes connected with the great Aska factory is another. The annual bund across the river to store water for factory use was just completed while I was at Aska in February last, and boat traffic from thence to the sea at Ganjam is not possible as in former days, so that the road, which is better and nearer through Berhampore, is now used. What the effect of the proposed canal will be remains to be seen, but the pier at Gopálpur will enable that port to support its pre-eminence.

ORDER—dated 13th May 1885, No. 200, Marine.

The claim of the native community at Cocanada to have a representative on the board has been referred to the local Chamber of Commerce in G.O., No. 162, Marine, April 20th, 1885.

2. The subject of the Chief Engineer's third paragraph is one for the Marine department. The Government do not concur with the Master Attendant in thinking that the disorder on which Colonel Shaw-Stewart comments cannot be checked. The Port officer will consult the District Magistrate and the Police department as to the best means of securing order, and report the arrangements proposed through the Master Attendant.

(True Extract.)

Chief Secretary.

To the Public Works department.
" Master Attendant, Madras.
" Collectors concerned.

Exd. T. O'Connor.

G. O. No 722 W. 23.3.85 Orig
No 113 E. 13-5-85.

(12) Inch 4720

Govt. of {1885} Madras.

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Recorded.

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GOVERNMENT OF MADRAS.

FINANCIAL DEPARTMENT.

READ—the following paper:—

Resolution of the Government of India, Department of Finance and Commerce (Salaries, Establishments, &c.—Rules and General Matters), dated Simla, 8th May 1885, No. 539.

The Governor-General in Council directs the substitution of the following rule for rule III of the rules contained in the resolution of the Department of Finance and Commerce, No. 900, dated the 9th May 1884:—

Temporary appointments on more than Rs. 250 a-month will be reported to the Secretary of State for his sanction, though not necessarily for his previous sanction.

Order—

Ordered that this resolution be communicated to the several departments of the Government of India, the several local Governments, and the Comptroller and Auditor-General, and the several Accountants-General and Comptrollers.

(Signed) J. E. O'CONOR,
Asst. Secy. to the Govt. of India.

ORDER—dated 19th May 1885, No. 870, Financial.

Recorded in continuation of G.O., No. 1196, dated 30th May 1884.

(True Extract.)

M. HAMMICK,
Ag. Under Secy. to Govt.

To the departments of the Secretariat.
Copy to the Accountant-General.

Exd. J. Wright.

No. 1331 W d/ 8 June/85.

Recorded, in continuation of P.G. No. 1590 W d/ 25th June 1884.

(Signed) J.S.

Ex. E. P.W. Accts.

P.W.D.

Gobt. of (1885) Madras.

FINANCIAL.

Issued

Recd. Encl.

G.O., 19th May 1885, No. 870.

No. 1331 W d/ 8 June/85.

MAY.

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was sanctioned in November 1883; but the present Collector of Ganjam took exception to the proposal, and recommended the erection of a new and much larger building, for which estimates are now being prepared. If Mr. Horsfall's recommendation is accepted, the existing buildings must be removed to make way for the new ones. The old buildings are inconveniently designed for the addition of an upper story; and, so far as I am able to judge, looking to the prospects of the port, the course recommended by Mr. Horsfall is the correct one. The site is suitable to the purpose, and convenient in all respects. The line of the proposed pier will start from the centre of the new buildings.

18. *Proposed Pier.*—Messrs. Massey and Company's tender for the construction of this pier has been accepted, and it is hoped that the deed of contract will shortly be signed, in which case the completion of the work may be looked for within 18 months or two years.

19. CHATRAPUR—*New residence for Collector of Ganjam.*—The construction of a new residence for the Collector has been ordered, and the plans and estimates are now under preparation by the Consulting Architect. The circumstances connected with the purchase of Onslow Court, and the condemnation of the old building, are briefly stated in an attached *précis*.

In connection with this, the question arises whether the new house should be built at Chatrapur, which is some 10 miles from everywhere. It is situated at a very inconvenient distance from each of the important towns, Berhampore and Gopálpur; and is near to no place of importance.

Before final action is taken towards building a new house, it seems right to suggest for consideration whether the site should not be changed to Berhampore, where there is a large native town, a regiment, a Judge's court, a bank, &c., whereas at Chatrapur there is nothing of the kind, only the Collector and the Superintendent of Police living in the country.

The cost of building a residence for the Collector would probably be the same, whether at Chatrapur or at Berhampore; but, of course, if built at Berhampore, there would be the additional cost of a new cutcherry.

One point which deserves consideration in dealing with the question is that any railway made in Ganjam would certainly run from Gopálpur, through Berhampore and Aska, to the valley of the Mahánadi, and by Sonepur to join the new lines under construction and proposed in the Central Provinces. For that reason, as well as for other important reasons connected with administrative convenience, it may be thought worth while to incur some present additional outlay, and to take advantage of this opportunity to locate the chief civil officer of the district at a large centre of population and trade.

As regards the purposes for which existing public buildings at Chatrapur might be utilized, in the event of the Collector being moved to Berhampore, it may be thought desirable to transfer to Chatrapur the Senior Assistant now located at Berhampore; and I learn from the Commissioner of Salt and Abkári Revenue that part of the Chatrapur buildings might possibly be utilized in his department. A demi-official letter on the subject from Mr. Bliss is appended.

20. BERHAMPORE—*New Cutcherry for Senior Assistant Collector.*—This building is in progress, and is capable of enlargement, if thought desirable, with advertence to the previous remarks.

21. *Site for new buildings.*—For any new civil buildings that may be required at Berhampore, an excellent site is available on the high land to the east of the town, near the jail. It is understood that good water is to be had on that site.

22. *Chilka Canal.*—This most useful short line of water communication was first suggested by Lieutenant-Colonel (now Major-General) F. C. Cotton, in his interesting report on the capabilities of the Ganjam district, dated 12th July 1856 (*vide* Proceedings of Government, dated 24th November 1857, No. 2167). It connects the Ganjam backwater with the Chilka lake, and through it with the Mahánadi and its system of navigable canals.

The work was executed in 1866-1868 by the Public Works department, and has proved of great assistance to traffic.

Unfortunately, the canal appears not to have been excavated to a sufficient depth, and heavily laden boats have, consequently, great difficulty in navigating it. During 1884 it was decided to deepen the canal to a uniform depth of 6·5 feet below M.S.L.; and an estimate was prepared amounting to Rs. 74,600, which sum was allotted in G.O., dated 20th August 1884, No. 2040 W. It was subsequently discovered that this estimate was grossly incorrect, and a revised estimate is now under preparation. It is hoped that this very important work will be carried out early during the year 1885-86.

23. *Extension of Canal to Gopálpur.*—As stated above, the object of the Chilka canal was to connect the Ganjam backwater and port with the large system of inland water communication which lies to the north; but the trade of the town of Ganjam seems to have entirely disappeared, and all goods which came down the Chilka canal for export are transferred to carts when they reach the south of the Ganjam backwater and carried by road to Gopálpur.

What has caused the complete disappearance of Ganjam as a trading port is by no means clear; but even 29 years ago General Cotton mentioned the growing preference for Gopálpur, though he was unable to account for it.

In consequence of that tendency shown by goods to seek shipment at Gopálpur, General Cotton suggested, in the report already alluded to, the construction of a second section of canal, to connect the Ganjam and the Gopálpur (or Munsurcotta) backwaters. He observed that such a canal would pass through a singularly favorable natural hollow, occupied then (and now) by a chain of small freshwater lakes; and he raised the question whether the canal should be a tidal one, or a freshwater one with locks.

Up to the present time, nothing has been done towards the construction of this canal; but in 1882-83 the country was carefully surveyed and examined, and a decision arrived at in favor of a tidal canal uniting the two backwaters.

In 1884 an estimate, amounting to Rs. 4,44,335, was submitted to the Government of India for sanction; but, in consequence of slight omissions, a revised estimate, amounting to Rs. 4,51,145, has recently been submitted, and is now awaiting sanction.

It would be difficult to exaggerate the importance to the Ganjam district of this short section of canal. Its construction will complete the last link in the long chain of inland water communication to the north of Gopálpur, and will allow goods to be brought from great distances, without break of bulk, right up to that port, in which, when the pier is completed, the trade of the surrounding country will become more than ever concentrated.

24. VIZIANAGRUM—*Experimental Artesian Well.*—At the request of His Highness the Maharaja of Vizianagrum, I inspected a boring which is being made near the fort of Vizianagrum, in the hope of striking a water-bearing stratum from which a supply may be obtained by an Artesian well.

Mr. Fraser, the engineer in charge, was good enough to show the boring apparatus at work, and to give full information on the subject.

The apparatus and plant seem excellent and suitable in every way. The cost is understood to have been about Rs. 12,000, which did not seem excessive.

At the date of inspection, the depth reached was stated to be 192 feet; and the rock which was being bored through was said by Mr. Fraser to be "intensely hard." On that point, the stuff brought up from the boring left no room for doubt. So far as could be judged, the boring was being made through a very close-grained and hard granitic rock; and it was understood that the greater part of the depth reached had been through rock of a similar character.

The opinion I formed was that there is not much prospect of obtaining water in that locality from an Artesian well, and I have informed His Highness the Maharaja accordingly, advising him to discontinue all expenditure there. I was not, however, in a position to say whether there are better prospects of success in other parts of the territory belonging to him.

Order—dated 23rd March 1885, No. 722 W., Public Works.

The above notes of inspection by the Chief Engineer, Public Works department, are recorded, with the following observations.

Paragraph 1.—The action of the Cocanada harbour groynes on the depth of water over the bar should be carefully watched, and the result reported after sufficient time has elapsed for a decided opinion being formed.

Paragraphs 2, 3, *and* 15.—Orders on the questions herein raised will issue in the Marine department.

Paragraphs 4 *and* 5.—Referred to the Financial department.

Paragraphs 6, 7, 8, *and* 12.—The special attention of the Superintending Engineer, I Circle, is drawn to these remarks.

Paragraph 11.—The Director-General of Telegraphs will be requested to favor Government with his views on the subject of a telegraph office at Dowlaishweram.

Paragraphs 19, 20, *and* 21.—The suggestions in these paragraphs as to the selection of Berhampore for the site of the Collector's new residence and head-quarter offices, and the utilization of existing buildings at Chatrapur will be considered in the Revenue department.

(True Extract.)

(Signed) J. SHAW-STEWART, Col., R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, I Circle.
" Chief Engineer for Irrigation.
" Director-General of Telegraphs.
" Marine department.
" Financial "
" Revenue department, with two enclosures.

From J. H. TAYLOR, Esq., Lieutenant, R.N.R., Master Attendant, Madras, to the Chief Secretary to Government, dated Madras, 28th April 1885, No. 3493.

Administrative department.

In returning the letter of Government, Public Works department, dated 23rd March 1885, No. 722 W., I have the honor to remark upon the subject of the Cocanada groynes that, in paragraphs 1 and 2, I have made in my letter of the 23rd ultimo, No. 2577, reference to this very subject, and suggested certain measures of improvement.

2. Of paragraph 3 I can only say that all the powers the Port officer possesses are exercised towards the control of the boat traffic, but the difficulties in the way of maintaining order in such a crowded port are very great; the only parallel I know of is to be found in the streets and bridges of London, where all the efforts of the police fail to prevent blocks and abuses. The river at Cocanada is crowded with large boats, and each is bent on securing its own interest, while every change of tide adds to the element of confusion. The owners would at any time rather pay the fine than weaken their chances of employment.

3. *Paragraph* 8.—The Marine Villa has proved an expensive purchase. I hope, however, that the repairs will be pushed on, and, when completed, the building, from its position and convenience, will be all that can be required; the rooms, though large, are not numerous.

4. VIZAGAPATAM—*Paragraph* 13.—I have endeavoured to enlist the feelings of the mercantile community in favor of a pier from their own point of view that losses to cargo and danger to life are experienced in the passage of the bar, but the vision of a railway and a harbour (in the pool which, except in two small holes, has no depth of water over a fisherman's knees and has besides an impassable bar between it and the sea) is not yet completely dispelled, while in real mercantile advantages they are even now equal, if not, superior to their neighbour.

5. *Paragraph* 15.—The Signal tower on Dolphin's Nose is private property. It is an old observatory belonging to the Nursing Row family; it was put at our disposal for the exhibition of a lanthorn for the benefit of the shipping, but on the occasion of a cyclone in October 1876 the light and portion of the house was destroyed, but the injury to the direct property was not in any way caused by the lanthorn or any marine interference.

6. *Paragraph* 16.—The work at Bimlipatam, I hope, will yet prove a success. But the assistance from freshes and scour, which was always an important factor in dealing with marine operations in places like Bimlipatam, Cuddalore, &c., can no longer be relied on, as the streams are kept back for purposes of irrigation, and the sea current and sand in motion are formidable and ever active foes to improvement.

7. *Paragraph* 17.—I should be very glad to see the works at Gopálpur set in course of construction. I believe all preliminaries are settled, a spacious ground-floor custom house into which the pier tramway will run, an upper story for Port officer's residence, and a turret above for the port light.

8. *Paragraph* 18.—Mr. Massey has been very ill, and the arrangements have met with delay in consequence; but he is now restored, and about to visit England to see the materials for the pier shipped and properly arranged.

9. *Paragraph* 23.—I have made every inquiry into the causes that have removed Ganjam from the list of ports and substituted Gopálpur. The proximity of Berhampore, where many of the local native merchants reside is one chief cause, and the utilization of the Ganjam river for irrigation and purposes connected with the great Aska factory is another. The annual bund across the river to store water for factory use was just completed while I was at Aska in February last, and boat traffic from thence to the sea at Ganjam is not possible as in former days, so that the road, which is better and nearer through Berhampore, is now used. What the effect of the proposed canal will be remains to be seen, but the pier at Gopálpur will enable that port to support its pre-eminence.

ORDER—dated 13th May 1885, No. 200, Marine.

The claim of the native community at Cocanada to have a representative on the board has been referred to the local Chamber of Commerce in G.O., No. 162, Marine, April 20th, 1885.

2. The subject of the Chief Engineer's third paragraph is one for the Marine department. The Government do not concur with the Master Attendant in thinking that the disorder on which Colonel Shaw-Stewart comments cannot be checked. The Port officer will consult the District Magistrate and the Police department as to the best means of securing order, and report the arrangements proposed through the Master Attendant.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the Public Works department.
„ Master Attendant, Madras.
„ Collectors concerned.

Exd. T. O'Connor.

P. W. D.

Govt. of {1885} Madras.

MARINE.

Issued

Recd. Encl.

G.O., 13th May 1885, No. 200.

MAY.

Cocanada.

Passing orders on certain points noticed by the Chief Engineer, Public Works department, in a report of his inspection of this port connected with the native community there being represented on the Groynes Committee, and regarding the maintenance of order among the boats anchored in the river.

Recorded.

(Signed)

S. E. I Circle

C. E. for I.

With order