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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W.

DEPARTMENT

G.O. No.		Press.
B.P. No:	75 W	Mis.
Dated	8. 1. 1887	198 .

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following Despatch from the Right Honorable the Secretary of State for India, to His Excellency the Right Honorable the Governor in Council, Fort St. George, dated India Office, London, 2nd December 1886, No. 6 (Public Works):—

I forward herewith, for your Excellency's information, copy of a report submitted by Mr. Parkes on the progress made in the restoration of the Madras Harbour, for the quarter ending 30th September 1886.

ENCLOSURE.

MADRAS HARBOUR.

REPORT of progress for the quarter ending 30th September 1886.

Appended to this report are two plans, one showing the present state of the works and the other the state of the coast north of the harbour, where a process of erosion is going on.

2. The quarter under review is generally a favorable one for work, but the progress on this occasion has been rather disappointing, owing partly to the seas having been unusually troublesome for the season, and partly to the work having been of a character and in a position specially liable to be interrupted by the action of the sea. Southerly seas have, as usual, been prevalent, and these striking against the face of the old work and running up into the acute angle between the old work and the new, create a disturbance, which materially interferes with the operations of the divers at the north pier. In addition to this, the Titan working transversely requires a management which to a certain extent is new to the staff. Latterly, however, it has been working forward, the distance from the old work has increased, and better progress has been made in the last few weeks. I think there is every hope that the next favorable season—January to March, will show a better rate of progress, and in the meantime Mr. Thorowgood reports very satisfactorily of the quality of the work and of the action of the machinery.

3. The length of wall built in the quarter is 104 feet, and 19 feet were added in the first few days of October, after which the Titan was turned round to deposit wave-breaker blocks up to the end of the built work, and then run in shore for the coming stormy season.

4. At the same time the wave-breaker crane has been at work dropping blocks on the sea side working from seaward towards the shore, and a length of about 330 feet of the random work has been completed in the quarter, in addition to about 950 feet previously formed.

5. The work done in the quarter is shown in red.

6. Twenty-one thousand eight hundred and fifty tons of rubble stone have been deposited for the base, which has now been extended to within about 400 feet of the pier head.

7. At the south pier the work has been carried on under less unfavorable circumstances, the new work being under the shelter of the old pier. Block setting was begun on the 10th July and 166 feet were completed by the end of September. A single row of blocks of the full width of 24 feet was set in the early part of October and the Titan was then turned round to extend the wave-breaker to the end of the new built work, after which it was run in shore.

8. Four thousand three hundred and fifteen tons of rubble stone were deposited outside the old wall to form a base for the wave breaker, and 28,254 tons were deposited as base for the new line of pier, which now extends to within 170 feet of the pier head.

9. Six hundred and ninety-six blocks were made during the quarter, being 134 more than the number used in the work, thus adding this number to the stock on hand.

10. Mr. Thorowgood has now received permission to keep the accounts of the work in a form that the expenditure can be compared with the estimate, and I hope shortly to receive a statement of the result up to the present time, on which I will report at an early date.

Changes of Coast Line.

11. The changes of the coast line are of more than usual interest, owing to the effects of the heavy sea in May already reported on. It will be seen from the plan that to the south of the harbour the sea encroached in May to a line 100 feet inside of the line of the previous March, although during the interval the sand must have been accumulating. By the end of September, however, which is the period at which the line is at its most seaward position, it had completely recovered the encroachment caused in May, and was slightly in advance of its position in September 1885, showing that the erosive effect of a cyclonic sea is only temporary.

12. Within the harbour the effect was similar, though less in degree. There was an erosion to the extent of about 30 feet, but this was recovered by September, where the line was even a little in advance of its position in September 1885, especially the northern part, but the difference is not greater than may be expected to be due to variations in the slope of the beach below water.

13. The second plan appended to this report shows the progressive annual encroachment of the sea for several years past. I may remind that in anticipation of this encroachment the land colored green was purchased by the Government in 1882, after a careful investigation as to the comparative cost of acquiring the property, which was likely to be encroached upon, and that of protecting it from encroachment by a stone revetment.

14. Here, as to the south of the harbour, the heavy sea of May caused an exceptional amount of encroachment; but unlike that portion, this exceptional encroachment has not been followed by the season of normal recuperative action, but by the season of normal erosive action. The recuperative season is now commencing, but it remains to be seen whether it will effect a complete recovery of the exceptional loss.

15. I do not see anything in the amount of erosion here shown, which would suggest to me any departure from the principle of allowing the sea to have free action at any rate for some years to come, during which the result of that action will furnish materials for deciding whether any further attempt at controlling it is desirable. I have been informed by telegraph, however, that a suggestion has been made at Madras for some immediate protective works, the particulars of which may be expected shortly. On their arrival I will, if necessary, report further.

23, ADELPHI STREET,
6th November 1886.

(Signed) W. PARKES.

The Under Secretary of State for India.

ORDER—dated 8th January 1887, No. 75 W., Public Works.

Communicated to the Chairman, Madras Harbour Trust Board, in continuation of G.O., No. 3099 W., dated 23rd November 1886.

(True Extract.)

Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Chairman, Madras Harbour Trust Board.
" Marine Department.

Encl. P. L. Pereira
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of 1887 Madras.
PUBLIC WORKS.

Dated January, 8th.

Recd.

Encl.

G.O., 8th Jan. 1887, No. 75 W.

JANUARY.

Madras Harbour

Despatch from the Secretary of State forwarding a report by Mr. Parkes on the progress in the restoration of the — for the 3rd quarter of 1886, communicated to the Chairman, Harbour Trust Board.

23RD NOVEMBER 1886, No. 3099 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following despatch from the Right Honorable the Secretary of State for India, to His Excellency the Right Honorable the Governor in Council, Fort St. George, dated India Office, London, 14th October 1886, No. 5, Public Works :—

I forward, herewith, for your Excellency's information, copy of a report * by Mr. Parkes on the progress made in the restoration of the Madras Harbour during the second quarter of 1886, and I take

* Dated 7th August 1886.

this opportunity of inquiring what is the position of the officers connected with the Harbour Works who have been or will be transferred from the service of Government to that of the Trust Board under the provisions of the Madras Harbour Trust Act of 1886.

2. Engagements were made by the Secretary of State in Council with the Chief Engineer, Mr. Thorowgood and others, and if these officers and servants have, under clauses 21 and 22 of the Act, been continued in the positions which they held when the Act was passed, they should be made to understand that, subject to the terms of the formal engagements entered into between themselves and Government, the Port Trust Board will, in future, deal directly with them as forming a part of the staff of that Board.

3. Mr. Parkes is in a somewhat different position, as his duties are performed in this country ; but I should be glad to receive your views as to the mode in which his services should, in future, be made use of, and as to whether he should be retained in his appointment under existing procedure, or should receive instructions direct from the Port Trust Board.

ENCLOSURE.

REPORT by W. PARKES, Esq., on the progress made in the restoration of the Madras Harbour, for the quarter ending 30th June 1886 ; dated 23, Abingdon Street, 7th August 1886.

I have the honor to append hereto a plan showing the state of the harbour works on the 30th June, and the progress made in the preceding quarter.

2. For eight weeks during the months of May and June, Mr. Thorowgood, the Superintendent, was absent from Madras, having for some time previously suffered rather severely in health from an unusual amount of exertion and exposure in the exercise of his duties. The works were left in charge of Mr. A. Lee Pogson, the Assistant Superintendent, who, however, was in frequent communication with Mr. Thorowgood at Coonoor, by letter and telegram. Mr. Thorowgood resumed charge on the 1st July. He reports his health as completely reestablished, and also that he was entirely satisfied with Mr. Pogson's conduct of the work during his absence.

3. The quarter ending 30th June has always been an unfavorable one for progress. The sea is almost constantly in a disturbed state during the months of May and June, and this year for the first time the precautionary measure of bringing the cranes in shore was adopted. The two Titans and the wave-breaker crane were hauled in in the last days of April, and the Titans were hauled out in the last days of May, and did as much work in the month of June at both piers as the state of the sea permitted. The wave-breaker crane had not been moved out on the 30th of June.

4. In my last quarterly report, dated 8th May, I was unable to give the exact quantities of rubble base deposited in the preceding quarter ending 31st March. I can now supply the omission—

	TONS.
At the north pier there were deposited on the foreshore to receive the wave-breaker	10,234
Deposited as foundation for the new line of pier, stone from quarries	14,072
183 fallen blocks blown up	4,941
Making a total of	29,247

	TONS.
At the south pier there were deposited on the foreshore to receive the wave-breaker	4,248
Deposited as foundation for the new line of pier, stone from quarries	17,299
66 fallen blocks blown up	1,782
Making a total of	23,329

5. In the last quarter ending 30th June, the quantities were—

	TONS.
At the north pier—	
On the foreshore large lumps or boulders to form the core of the wave-breaker	158
Foundation for new line of pier	394
Making a total of	522

	TONS.
At the south pier—	
Foreshore to receive the wave-breaker	9,467
Boulders for core of do.	132
Foundations for new line of pier, stone from quarries	35,514
97½ fallen blocks blown up	2,633
Making a total of	47,746

6. The above represents a fair amount of work for the quarter, especially when it is considered that during rough weather, which was frequent, the carriage of stone had to be suspended. The above quantity is in addition to upwards of 8,000 tons used in making concrete blocks. Thus the railway arrangements for the transport of stone appear now to be in a fairly satisfactory state.

7. It will be seen from the plan that at both piers the rubble base is now well advanced. About five-eighths of the whole quantity required has now been deposited.

8. The work of building has been more delayed by the rough seas than the deposit of stone. The operation is now going on at a spot where any movement in the water renders diving work peculiarly difficult from the rush of the waves against the old walls and into and out of the space between the old and the new work. It is unfortunate that this difficult spot is the scene of operations during the bad season. In a short period of calm weather, such as we may now expect, this special difficulty will be left behind, and it will not re-appear as the work advances, at least to anything like the same extent, though I anticipate that the neighbourhood of the overthrown blocks will continue to cause some inconvenience throughout the work. The length built in the quarter is 84 feet, and of these 64 were completed in the more favorable month of April.

9. The progress made in the wave-breaker is shown on the plan. It has been formed by the deposit of 192 blocks by the wave-breaker crane in the month of April, after which the crane was run in shore, and it had not been taken out again by the end of June. No reason has been given me for this delay, but I think it likely Mr. Thorowgood is keeping a reserve of well-matured blocks for forming the wave-breaker outside the new work, where it will be more urgently required.

10. At the south pier no building work had been commenced by the 30th June. The Titan had been employed in extending the wave-breaker, and 201 blocks had been deposited at the position shown in red. It was, however, shortly to be turned round to commence the new building, for which a portion of the rubble foundation has been levelled by divers.

11. The portion of the old wall which was thrown down in the cyclone of the 23rd May is shown upon the plan. It will be seen that it formed no part of the work as now intended to be completed. It would have been taken down as the Titan advanced to it on the new line of pier and the blocks used for the wave-breaker. These blocks now lie on the rubble base on which the new wall is to be built, and they will have to be lifted from there by the Titan, but Mr. Thorowgood anticipates no difficulty in doing this, and they will be transferred to the wave-breaker.

12. Mr. Pogson, senior, the Government Astronomer, has kindly sent me the meteorological records of this storm. So far as atmospheric disturbance is concerned it was not a severe one, but it is certain that, like the destructive storm of November 1881, the sea disturbance must have been greater than that due to the local wind, having been probably propagated from some more severe atmospheric disturbance at a distance, which did not reach Madras.

13. The changes of wind followed the regular course caused by a cyclone passing south of Madras, being strongest from N.E. by E. between 4 p.m. and 5 p.m., with a velocity of 24 miles per hour. The greatest force of sea, when the greater part of the wall was overthrown, appears to have been some hours later during the night. In November 1881, the changes of wind followed nearly the same course, being strongest from E.N.E. between 1 a.m. and 2 a.m., with a velocity of 33 miles, but the heaviest sea was some 12 hours previous to this. This shows that there must have been some material difference in the sequence of the phenomena in the two cases. In the more severe atmospheric disturbances experienced in recent years at Madras, the velocity of the wind has been 53 miles in 1872, 49 miles in 1874, and 49 miles in 1884, but this last was from south-west, an off shore wind.

14. It appears, then, that as an atmospheric storm this was a trifling affair, but the fact that a wall was overthrown which had stood in exactly the same state since 1881, is a proof that it was the heaviest sea which had occurred for 4½ years. The storm of November 1881 had left this wall, which formed one-half of the original breakwater, standing, but it had overthrown the sea-wall which formed the other half by undermining its foundation, and then probably its force abated, leaving the harbour wall in its unprotected state to be dealt with by the next heavy sea.

15. It must, however, have been a sea of very considerable force to produce such a result, and that such a sea should be accompanied by so moderate a wind is an additional proof that the relative force of wind is not any measure of the relative force of sea. The two may be contemporaneous results of a common, but more or less remote, original disturbance, but they are acted on by different laws of propagation from their common centre, and have no immediate connection with each other at a distance from that centre.

16. I would now beg to call attention to the effect of the storm on the coast line. It will be seen that, both to the south of the harbour and within the harbour, the sea has encroached on the land. The same has occurred along the line of coast north of the harbour where periodical surveys are made. It may, therefore, be inferred that the storm has had a general erosive effect all along the shore. It may be anticipated that this will be made up by the ordinary action of the surf in fine and moderate weather, and it will be interesting to watch the progress.

17. It appears from the record which we have now for ten years of the annual advance of the coast line south of the harbour, and which is shown on the plan accompanying my last quarterly report, that the annual advance has not been affected to any important extent by such exceptional seas as have occurred in that period. The annual advance has been fairly regular. But this is the first occasion on which we have a good record of the immediate effect of a heavy sea in producing erosion. It is of interest as showing what margin must be allowed for such sea in producing erosion. It is of interest as showing what margin must be allowed for such sea in producing erosion. It is of interest as showing what margin must be allowed for such sea in producing erosion. It is of interest as showing what margin must be allowed for such sea in producing erosion.

18. I must again ask to be allowed to defer any statement of the cost of the works until the account of expenditure is made out in a form comparable with the estimate.

ORDER—dated 23rd November 1886, No. 3099 W., Public Works.

Communicated to the Chairman, Madras Harbour Trust Board.

2. The Secretary of State will be informed that it has already been declared* that the control of the staff of the Madras

* G.O., No. 378, dated 12th July 1886, Marine. Harbour Works vests in the Trust Board under Chapter III of Madras Act No. II of 1886. Paragraph 2 of the Secretary of State's despatch should now be communicated by the Board to those concerned.

3. The views of the Harbour Trust Board on the subject of paragraph 3 of the despatch are invited.

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Chairman, Madras Harbour Trust Board.
„ Marine Department.

Exd. E. Fernandez.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1886) Madras.

PUBLIC WORKS.

Dated November, 23rd.

Recd.

Encl.

G.O., 23rd Nov. 1886, No. 3099 W.

75. W
NOVEMBER.

Madras Harbour

Despatch from the Secretary of State forwarding copy of a report by Mr. Parkes on the progress in the restoration of the —, during the second quarter of 1886, with remarks as to the present position of Mr. Parkes and other members of the staff of the Works, communicated to the Chairman, Harbour Trust Board, with remarks.

2089

Public Works

N^o. 6.

India Office,
London, 2nd December 1886.

Sir,

I forward herewith for your Excellency's information copy of a report submitted by Mr. Parkes on the progress made in the restoration of the Madras Harbour for the quarter ending 30th September 1886.

I have the honor to be,

Sir,

Yours most obedient,
humble servant,

Cross.

His Excellency,

The Right Honorable,

The Governor in Council,
Fort St. George.

1412089

Madras Harbour.

Report of Progress for the Quarter ending 30th
September 1886.

23 Abingdon Street
6th November 1886.

Sir,

Appended to this Report are two plans, one shewing the present state of the works and the other the state of the coast north of the Harbour, where a process of erosion is going on.

2. The quarter under review is generally a favorable one for work, but the progress on this occasion has been rather disappointing, owing partly to the seas having been unusually troublesome for the season, and partly to the work having been of a character and in a position, specially liable to be interrupted by the action of the sea. Southerly seas have, as usual, been prevalent, and these striking against the face of the old work and running up into the acute angle between the old work and the new, create a disturbance, which materially interferes with the operations of the divers at the North Pier. In addition to this the Titan working transversely requires a management which to a certain

The Under Secretary of State.
for India.

123
certain extent is new to the staff. Latterly however it has been working forward, the distance from the old work has increased and better progress has been made in the last few weeks. I think there is every hope that the next favorable season January to March, will shew a better rate of progress, and in the meantime Mr. Thoroughgood reports very satisfactorily of the quality of the work and of the action of the machinery.

3. The length of wall built in the quarter is 104 feet, and 19 feet were added in the first few days of October, after which the Titan was turned round ^{opposite} to wavebreakers blocks up to the end of the built work, and then run in shore for the coming stormy season.

4. At the same time the wavebreaker crane has been at work dropping blocks on the sea side working from seaward towards the shore and a length of about 330 feet of the random work has been completed in the quarter in addition to about 950 feet previously formed.

5. The work done in the quarter is shewn in red.

6. 21,500 tons of rubble stone have been deposited for the base, which has now been extended to within about 400 feet of the Pier Head.

7. At the South Pier the work has been carried on under less unfavorable circumstances

circumstances, the new work being under the shelter of the old pier. Blocksetting was begun on the 10th July and 166 feet were completed by the end of September. A single row of blocks of the full width of 24 feet was set in the early part of October and the Titan was then turned round to extend the wavebreaker to the end of the new built work, after which it was run in shore.

(8) 4315 tons of rubble stone were deposited outside the old wall to form a base for the wavebreaker, and 28254 tons were deposited as base for the new line of pier, which now extends to within 140 feet of the Pier Head.

(9) 696 blocks were made during the quarter being 134 more than the number used in the work thus adding this number to the stock on hand.

10. Mr. Thoroughgood has now received permission to keep the accounts of the work in a form that the expenditure can be compared with the estimate, and I hope shortly to receive a statement of the result up to the present time, on which I will report at an early date.

Changes of Coast Line.

11. The changes of the coast line are of more than usual interest owing to the

Apr 5- 1885

the effects of the heavy sea in May already reported on. It will be seen from the plan that to the south of the Harbour the sea encroached in May to a line 100 feet inside of the line of the previous March although during the interval the sand must have been accumulating. By the end of September however which is the period at which the line is at its most seaward position, it had completely recovered the encroachment caused in May, and was slightly in advance of its position in September 1883 showing that the erosive effect of a cyclonic sea is only temporary.

12. Within the Harbour the effect was similar though less in degree. There was an erosion to the extent of about 30 feet, but this was recovered by September, where the line was even a little in advance of its position in September 1883 especially the Northern part, but the difference is not greater than may be expected to be due to variations in the slope of the beach below water.

13. The second plan appended to this report shows the progressive annual encroachment of the sea for several years past. I may remind that in anticipation of this encroachment the land coloured green was purchased by the Government in 1882, after a careful investigation as to the

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the comparative cost of acquiring the property which was likely to be encroached upon and that of protecting it from encroachment by a stone revetment.

14. Here as to the South of the Harbour the heavy sea of May caused an exceptional amount of encroachment; but unlike that portion, this exceptional encroachment has not been followed by the season of normal recuperative action, but by the season of normal erosive action. The recuperative season is now commencing but it remains to be seen whether it will effect a complete recovery of the exceptional loss.

15. I do not see anything in the amount of erosion here shewn which would suggest to me any departure from the principle of allowing the sea to have free action at any rate for some years to come, during which the result of that action will furnish materials for deciding whether any further attempt at controlling it is desirable. I have been informed by telegraph, however, that a suggestion has been made at Madras for some immediate protective works, the particulars of which may be expected shortly. On their arrival I will if necessary, report further.

I have &c

(s'd) W. Parker

No 5.

2009

Copy Report by Mr. Parkes,
dated 6th Nov. 1906

Referred to in Public Works Letter to
Meades, No. 6, dated 2nd Dec. 1906

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M. J. R. Clark
N. 75. W. 8 Jan 1877

Cont. to the
Chairman, Madras
Harbour Trust
Board, in cont.
of G.O. No. 3099. W.
of 23. Nov. 86.

W. J. R.
8.1.57

J. R.
8/1/87

Ch. M. H. J. Bd.
Marine Dept.
17/1/87

P. M. R. 55 ✓
N. 4

Public Works
2^d December 1886
The
Lieut. & Govt St. George
N. 6.

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Recd 23 Dec / 86.

W. J. R.
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Govt. of Madras.

PUBLIC WORKS.

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Recd. Encl.

G.O. D. J. 750

Madras Harbour
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Despatch from the Secy
of State forwarding
a report by Mr
Purkes on the progress
in the restoration
of the — for
the 3rd quarter
of 1886, commd. by
the Chairman, Harbour
Trust Board.

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