

- (1) பக்கங்களின் எண்ணிக்கை 22
 (2) புதுக்கித் திருப்பிய நாள் 8/90
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் long

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

(7)

P. W. D. துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	2787	அச்சகம் பலவகை
நாள் :	23 - 10 - 1891	108

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

11. Sheets

1. M. இயங்குதல்

ஆவண. கா- 1006-15-6-87.

$$\frac{2787}{1}$$

Buildings and Roads.
Civil Works.

From the Officiating Under-Secretary to the Government of India, Public Works Department (Civil Works—Miscellaneous), dated Simla, 31st August 1891, No. 329 M.

ENCLOSURES.

With reference to the telegrams* which have passed with your Government regarding the deputation of a Marine Engineer to examine and report upon the port of Vizagapatam, I have to inform your Excellency that, notwithstanding your doubts as to the utility of now

2. I therefore thought it desirable to obtain the opinion of Sir A. Rendel, the Consulting Engineer to this office, on the proposal, and took advantage of the presence in this country of Mr. Willock, the Collector of the district, to place them in communication with each other. The result has been the accompanying report.

† Dated 8th July 1891.

The result has been the accompanying report + by Sir A. Rendel, to which I request your

particular and early attention, and I shall be glad to receive your views on the subject by telegraph in order that if the mission of an Engineer to the spot is decided on it may be arranged that he shall go there during the ensuing cold season.

From Sir A. M. RENDEL, to Sir JULAND DANVERS, K.C.S.I., dated 8, Great George Street, Westminster, S.W., 8th July 1891.

I have read the papers sent to me on the subject of Vizagapatam Harbour, including Mr. Parke's report of the 5th April 1882 and Mr. Taylor's and Colonel Sankey's notes thereon, and I have examined and discussed with Mr. Willock the plans and charts of the harbour in his possession.

2 The case appears to be one of which there are numerous examples, a river forcing its way to sea through the sands which the sea is constantly throwing across its mouth, the result of the contest being that compromise in respect to depth which is called a bar.

In this case, owing probably to strong currents at sea parallel with the shore, the power which encumber it are not extensive, the bar varies but little in position, and the three-fathom line at sea is not more than 300 yards distant from it. On the other hand, the forces of the river are small also, for the tidal range is only 5 feet even at springs, the estuary, or backwater, covered by the tide is less even at springs than 1,000 acres, and the rain-water catchment basin of the river is only about 160 square miles. Small, however, as its forces are, the river seems even now to be only just unable to cope with those of the sea, for the depth on the bar diminishes from its deepest to its shallowest limit but slowly. There seems, therefore, no reason why, if aided by artificial works of the usual kind, the river should not be made equal to maintaining permanently that depth on the bar which is now found on it on a few occasions only.

The occasions to which I refer are cyclonic rains, when the volume of land water passing from the river into the sea is so great as to scour out the mouth of the river, including the bar, to a depth usually of 12 feet, but sometimes as much as 15 feet at low water, giving a depth of from 17 to 20 feet at high water of spring tides. In the interval between these cyclonic rains, which take place once in two or three years only, the depth gradually diminishes. During the north-east monsoon, *i.e.*, the months of October and November, a depth of 6 feet is usually maintained. After that the depth gradually diminishes to as little as about 2 feet at low water of springs. When the harbour is only accessible to masowlah boats drawing from 2 to 3 feet of water.

The artificial aid necessary in such cases consists of piers running out from one or both sides of the river mouth towards the bar, and compelling all waters passing from the sea into the river, or from the river into the sea, to follow one and the same course, and I see no reason why such aid should not be as successful here as it is elsewhere.

It must not be forgotten that a bar is also a breakerwater, protecting the water area within it from the sea. If the bar in this case be removed, vessels would probably prefer to lie in the upper reaches of the river. The water there is already of some depth, but it could be increased by dredging, assuming, of course, that rock is not met with, which is possible, but not in Mr. Willock's opinion probable.

ENCLOSURES.

Telegram from the Secretary of State for India, to the Viceroy, dated 23rd May 1891.

ORDER—dated 23rd October 1891, No. 2787 W., Public Works.

Recorded with remark that extract of the first portion of the last paragraph of Sir A. Rendel's letter was duly communicated to the Engineer-in-Chief, East Coast Railway, on the 9th September 1891.

(True Extract.)

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

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

Exd. C. A. Munisawmy.
Spare Copies

2287/3

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1891} Madras.
PUBLIC WORKS.

Dated October, 23rd.

Recd.

Encl.

G.O., 23rd Oct. 1891, No. 2787 W.

OCTOBER.

Vizagapatam Port

Letter from the Government of India regarding the deputation of a Marine Engineer to examine and report on the —, recorded with remarks.

All communications should be addressed to the Secretary.

No. 329 M.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.

Miscellaneous.

Sir, the 31st August 1891

The following, with copy of the Secretary of State's Despatch replied to, and of its enclosure, is forwarded to the Secretary to the Government of Madras, Public Works Department for information with reference to Public Works Department letter No. 301/M, dated the 12th September 1881, and with the request that the first portion of the last paragraph of Sir A. Rendel's letter may be communicated to the Engineer-in-Chief of the East Coast Railway for information and guidance.

By Order,

Encl. 1/10/91

Offg. Under Secy. to the Govt. of India

W.S.O.

Telegram dated 28th August 1891

From: Viceroy to Secy. of State for India
" Sir, the 31st August 1891

Yours

Your Public Works Dispatch No. 38,
23rd July last, Vizagapatam Port +
We adhere to our opinion contained
in our telegram in the Public Works
Department, dated 9th June last, which
was based on reports by officers who
had great local knowledge as well
as technical qualifications. Should
you, however, think it desirable
to obtain further professional
opinion, no objection will be raised
to deputation Engineer during coming
Cold Season for the purpose* +

50-2729 wd/16-10-83
2579 w - 14-9-83
913 R - 25-8-83
B
913 R - 25-8-83
A
2192 w - 9-8-83
1829 w - 2-7-83
1240 w - 25-4-83
353 w - 9-2-84
352 w - 9-2-84
2682 w - 16-10-82
1719 w - 8-7-82
1381 w - 5-6-82
300 w - 3-2-82
299 w - 3-2-82
1939 w - 13-8-80
749 w - 22-3-80

India Office,
London, 23rd July 1891.

Public Works,
No. 38.

To His Excellency The Most Honourable The Governor
General of India in Council.

MY LORD MARQUIS,

Vizagapatam Harbour.

* Telegram to the Viceroy of 23rd May
1891.
Ditto from ditto of 11th June 1891.

With reference to the telegrams* which
have passed with your Government regarding the
deputation of a Marine Engineer to examine and
report upon the port of Vizagapatam, I have to
inform your Excellency that, notwithstanding your
doubts as to the utility of now making such an
investigation, I came to the conclusion, after a
full consideration of the subject, that while some
years ago there might naturally have been hesi-
tation in trying any experiment that would involve
expense, the circumstances of the case have now
been materially changed by the decision to con-
struct the East Coast line which will place Viza-
gapatam in connection with the railway system.

2. I therefore thought it desirable to obtain
the opinion of Sir A. Rendel, the Consulting
Engineer to this Office, on the proposal, and
took advantage of the presence in this country
of Mr. Willock, the Collector of the district, to
place them in communication with each other.
The result has been the accompanying report† by
Sir A. Rendel, to which I request your particular
and early attention; and I shall be glad to receive
your views on the subject by telegraph, in order
that if the mission of an Engineer to the spot is
decided on it may be arranged that he shall go
there during the ensuing cold season.

† Dated 8th July 1891.

I have the honour to be,

My Lord Marquis,

Your Lordship's most obedient humble Servant,

(Signed) Cross.

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ENCLOSURE.

38P

8, Great George Street, Westminster, S.W.,
8th July 1891.

Sir,

Vizagapatam Harbour.

R 601719 w af
8 July 92

I have read the papers sent to me on the subject of Vizagapatam Harbour, including Mr. Parke's report of the 5th April 1882, and Mr. Taylor's and Colonel Sankey's notes thereon, and I have examined and discussed with Mr. Willock the plans and charts of the Harbour in his possession.

The case appears to be one of which there are numerous examples, a river forcing its way to sea through the sands which the sea is constantly throwing across its mouth, the result of the contest being that compromise in respect to depth which is called a bar.

In this case, owing probably to strong currents at sea parallel with the shore, the power of the sea to obliterate the mouth of the river appears to be less than usual; for the sands which encumber it are not extensive, the bar varies but little in position, and the three-fathom line at sea is not more than 300 yards distant from it. On the other hand the forces of the river are small also, for the tidal range is only 5 feet even at springs, the estuary, or backwater, covered by the tide is less even at springs than 1,000 acres, and the rain-water catchment basin of the river is only about 160 square miles. Small, however, as its forces are, the river seems even now to be only just unable to cope with those of the sea, for the depth on the bar diminishes from its deepest to its shallowest limit but slowly. There seems, therefore, no reason why, if aided by artificial works of the usual kind, the river should not be made equal to maintaining permanently that depth on the bar which is now found on it on a few occasions only.

The occasions to which I refer are cyclonic rains, when the volume of land water passing from the river into the sea is so great as to scour out the mouth of the river, including the bar, to a depth usually of 12 feet, but sometimes as much as 15 feet at low water, giving a depth of from 17 to 20 feet at high water of spring tides. In the interval between these cyclonic rains, which take place once in two or three years only, the depth gradually diminishes. During the north-east monsoon, i.e., the months of October and November, a depth of 6 feet is usually maintained. After that the depth gradually diminishes to as little as about 2 feet at low water of springs, when the Harbour is only accessible to masowlah boats drawing from 2 to 3 feet of water.

The artificial aid necessary in such cases consists of piers running out from one or both sides of the river mouth towards the bar, and compelling all waters passing from the sea into the river, or from the river into the sea, to follow one and the same course, and I see no reason why such aid should not be as successful here as it is elsewhere.

In this case, so far as I can judge from the information which Mr. Willock has laid before me, the pier on the north side of the river would be from 700 to 1,000 feet long, whilst the pier on the south side would be a short spur only not exceeding 200 feet in length, its main use being, I think, that of a breakwater to prevent seas from the southward rolling into the river.

It must not be forgotten that a bar is also a breakwater, protecting the water area within it from the sea. If the bar in this case be removed, vessels would probably prefer to lie in the upper reaches of

No. 2

Public Works

23rd July 1891

Copy

Letter to the Gov^t of India

No 38, a Enclosure.

8522 Ca)

All communications
should be addressed to
the Secretary.

No. 363 M.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.

Miscellaneous.

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To

The Secretary to the Government of
Madras, Public Works Department

Simla, the 22nd September 1891.

Sir,

In compliance with the
request contained in your telegram,
dated the 9th September 1891, I am
directed to forward herewith a
copy of the telegraphic correspond-
ence noted below which has passed
between the Secretary of State for
India and the Government of India
relating to the proposed deputation of
a Marine Engineer to India to examine
and report upon the Vizagapatam Port.

I have the honour to be,

Sir,

Your most obedt. Servt.,

Robert English

Offg. Under Secy. to the Govt. of India.

Documents

x 8458
7-9-91

Documents accompanying:

1. Copy of telegram, dated the 23rd May 1891, from the Secy. of State for India.
2. Copy of Govt of India telegram No. 36, dated the 9th June 1891, to the Secretary of State for India.

1. 7400 3.2.80 ✓
 2. 1737 3.2.80 ✓
 3. 299 3.2.82 ✓
 4. 300 3.2.82 ✓
 5. 1381 3.2.82 ✓
 6. 1719 3.2.82 ✓
 7. 2682 3.2.82 ✓
 8. 1240 3.2.83 ✓
 9. 1839 3.2.83 ✓
 10. 2192 3.2.83 ✓
 11. 913 3.2.83 ✓
 12. 913 3.2.83 ✓
 13. 2579 3.2.83 ✓
 14. 2929 3.2.83 ✓
 15. 352 3.2.84 ✓
 16. 353 3.2.84 ✓
 17. Memo 845 3.2.84 ✓
 18. 847 3.2.84 ✓

Am

For orders.

Submitted with reference to the Hon Member's note of 9th September.

S

5.10.91

9.10.91

There is nothing else but record the papers as per list.

15 Oct.

24.10.91

P 6/10
2.10.91
22.10.91

Am. 14-10-91

27/9

SP

Dated 23rd May 1891 -

Telegram from - Secretary of State for India -
(Viscount Cross) -

To - Viceroy, Simla -

SP

Government of Madras has suggested that Marine Engineer unquestionable authority be deputed at cost of fifteen hundred guineas to Vizagapatam to report fully on practicable measures for improving that port. Do you agree?

No. 36, dated 9th June 1891.

Telegram from - Viceroy, Simla
To - Secretary of State, London.

Your telegram in the Public Works Department, dated 23rd May last. We are not disposed to countenance the proposal to depute Marine Engineer in connection with Vizagapatam Port.

From India

DE 2787 W of 23rd Oct 1891 B.H. 7
C. H. 7
PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

2787/10

READ the following

From the Govt. of India P.W.D. H 8 No 329 M. d/31st
August 1891
H 8 No 363 M. d/22nd
September 1891.

Recorded with remark
that extract of the first
portion of the last para-
graph of Sir A. Rendel's
letter was duly commu-
-icated to the Engineer-
-in-chief East Coast
Railway on the 9th
September 1891

16/10/91

19.10

To
The Supt. Engr. I circle
C. & for Reg-
-marine Department

L.S.

10227
Govt. of India
PUBLIC WORKS

23^d Octr 91 278748

Vizagapatam Port

Letter from the
Govt of India regarding
the deputation of a
Marine Engineer to
examine & report on
the —, recorded with
remarks.

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20. 4. 1

23/10.

(11)