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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W. DEPARTMENT

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Dated	26-1-1881	-197-

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

26th January 1881, No. 222 W.

Buildings and Roads.
Civil Works.

Read the following paper:—

No. 141. From W. T. HOLMES, Esq., Honorary Secretary, Chamber of Commerce, Cochin, to the Secretary to Government, Public Works Department, dated Cochin, 20th January 1881, No. 81.

THE Chamber has had under consideration the letter from Captain J. H. Taylor, Master Attendant, Madras, dated 16th December 1880, attached to Proceedings of Government, dated 27th December 1880, No. 2,943 W., and I am desired to make the following representations in answer to his remarks on the Chamber's application for harbour improvements.

2. The Chamber concurs in the opinion that the question of converting Cochin into a first-class harbour can only be settled on the spot; and is sanguine that no person coming to the study of the question with a practical and unbiassed mind can fail to be impressed with the facilities offering for such conversion. It may be Captain Taylor's opinion that it is an impossibility; but other equally competent judges who have visited the port and considered the question have formed an opposite opinion, and the weight of professional judgment is, so far, the Chamber considers, strongly against Captain Taylor. Amongst Commanders of vessels visiting the port, there is but one view of the facility with which the conversion could be effected, and Captain Taylor's opinion is the only conflicting one that has come to the Chamber's knowledge.

3. In the third paragraph of his letter Captain Taylor seems to imply that, as a second-class port, the harbour meets all requirements of trade during the season, and that during the monsoon months there are no trading operations requiring harbour facilities. If this were the state of the case it is probable that it would be familiar to the merchants of the port, and, knowing it, they would hardly propose to Government a measure for additional taxation on their trade to pay for works which they felt to be unnecessary. It is, of course, true that the bulk of trade is done between the months of October and May, both months inclusive, but a reference to the statistics of imports and exports at Narrakal, already furnished to Government, will show that the monsoon trade of this port (the trade of Narrakal is only the monsoon trade of Cochin) is a rapidly growing one. The imports rose from 500 tons in 1870-71 to 11,869 tons in 1879-80, and the exports from 2,300 tons in 1870-71 to 4,898 in 1879-80. It was owing to there being no facilities for monsoon trade that none existed prior to 1870-71, and that it has not greatly exceeded the rapid advance already made since that date is because the port of Narrakal has not furnished all the facilities required.

4. From the tenor of his remarks in paragraphs 4 and 5 of his letter, Captain Taylor would seem to have missed the purport of the Chamber's proposals, which are not only to remove the bar but to carry out a deep channel into deep water by pier walls built out into five fathoms water if necessary; in fact to provide a channel of 30 feet deep into the same depth of water which Captain Taylor admits would justify a large ship in approaching the coast. The Chamber's proposals for effecting this and its reasons for believing that they would be effective are set forth in paragraphs 3, 4, 5, and 7 of its letter, dated 25th November last.

5. The time when Captain Taylor knew the depth of water on the bar to be only 14 feet was probably when the Cruz Milagre gap was open. It has not been so low since.

6. Captain Taylor's remarks against the possibility of removing the bar and other obstructions by a natural process as contained in paragraph 6 of his letter are, in the

Chamber's opinion, altogether erroneous. It is not the case that the sand spits on either side of the entrance to the back water come so near to the surface that the contemplated walls would do little more than guide the current as it now flows, and it is difficult to understand how, with the chart of the port before him and, it may be supposed, some personal knowledge of the port, he has fallen into such an inaccurate statement.

7. Near the shore line the water on the spits is shallow; and at a little distance to the west of Typeen point a small sand bank is visible at low water for about one month after the monsoon, formed, probably, by the action of the monsoon floods on the littoral sand laden current. This bank disappears with the subsidence of the floods, and for the rest of the year there is no sand appearing above the surface of the water. Between the site of this sand bank and the Typeen point there is a broad channel with, at present, a depth of 12 feet of water (during the monsoon floods it is more) through which sweeps a powerful current northwards. The sand spits as they proceed seawards gradually fall into deeper water until where they join the bar there is about as much water on them as on the bar. A reference to the chart shows a depth of water on the N. spit ranging from 4 feet at its shore end to 17 feet near the bar, and on the S. spit of from 4 feet near the shore to 11 and 12 feet near the bar.

8. Now, considering that the bar is about 1,700 yards from the mouth of the backwater, it must be admitted that, before it is reached, there is room between the top of the spits and the surface of the water for a very considerable portion of the current to pass without going near the bar at all, and, as a matter of fact, which is open to ocular demonstration every day, much more of the current passes over the spits and through the channel round Typeen point than crosses the bar.

9. The construction of the proposed walls, which, it may be remarked, are not intended to take the usual harbour form, but, as before stated, to direct the current, would, therefore, very materially alter the course of the current, bringing the whole of it into a channel in which but a small portion of it now flows; and there is reason to believe that this confinement of the current would effectually remove the obstructions which Captain Taylor considers "crushing defects," from the fact that, where the out-flowing current is now confined, it maintains a depth of from 36 to 42 feet of water.

10. With reference to the statement, that the breadth of the passage between Cochin and Typeen at the point of deepest water is only 1,100 feet, the Chamber begs to remark that, according to the Government chart now in use at the port, it is 1,350 feet across, and the channel has not narrowed since the chart was drawn; but there is no reason to suppose that, as a matter of necessity, a steamer of 350 feet length would be anchored in this particular portion of the harbour and be left to swing with the tide to the obstruction of navigation. Vessels would be moored stem and stern as in other places, it may be presumed.

11. Not having before it the chart on which Captain Taylor has drawn his blue pencil lines, the Chamber cannot judge what he considers to be the limited space within the backwater, but has no hesitation in affirming that there is at the present time ready space of sufficiently deep water for mooring several vessels of considerable size.

12. If a line be drawn eastward from Builder's point parallel with the Cochin shore, and terminating in a line with the corner at the end of the yards, there will be enclosed a space, inside the backwater, of 1,000 yards long by 400 yards broad, all deep water, with the exception of a small piece in the north-east corner. Supposing that every vessel visiting the port is 350 feet long and requires a length of 550 feet for a mooring, there could be accommodated within these limits eight such vessels moored in double tier, leaving ample room for passage on both sides and a space of 600 feet by 1,200 feet for ships to be turned in so that they might be berthed with their stems seaward. If, instead of confining the moorings to space actually within the backwater, they be extended down the passage between Cochin and Typeen, where ships often now anchor, and the whole of which would become available under the Chamber's proposals, there would be a length of 1,650 yards which would accommodate sixteen ships of 350 feet moored in double tier, and leave a space of over 500 feet by 1,200 feet as a turning station. It is a mistake, however, to suppose that

every vessel visiting the port would be 350 feet in length, or that there would ever be so many vessels of such size in port at once (it is probably not found so in Madras); and allowing for a large proportion of vessels of smaller size, the space pointed out would afford accommodation for a larger number of ships.

13. Should more space be required with the development of trade or for other reasons it can be obtained by the construction of training walls and the operation of dredging further into the backwater, which operations were contemplated by Colonel Thomason, R.E., in his estimate of probable cost; and there is somewhere a powerful dredger, purchased a few years ago for use at this port at a cost of £20,000, which has never done a day's work in the port. This plan of extending the harbour accommodation might be made doubly profitable; for, besides providing accommodation for more shipping, the depositing of the mud dredged up behind the training walls would reclaim an area of the backwater that would be of great value for yards and would be eagerly taken up by the mercantile community.

14. Captain Taylor is also in error in his remark, "the hundreds of miles of backwater spoken of by the Chamber," for the Chamber has not made any such statement. The Chamber has stated that the backwater is over one hundred miles in length, and this reference to its length was not made with a view to make it appear that the whole of it is available for shipping, but, in a consideration of the silt question, to show that it collects all the silt brought down by the rivers and of which none passes into the sea. But many parts of the backwater are very deep, particularly the wider ones, and over it is conducted an immense traffic. It furnishes water communication from British territory right through the Native States of Cochin and Travancore, and bears much of the produce of those two States to British Cochin for shipment.

15. With reference to the comparative force of the sea on the east and west coasts of South India, the Chamber is of opinion that the case of the Calicut pier, mentioned in the 9th paragraph of Captain Taylor's letter, is about as good data as a need be required, but it may be supplemented by an allusion to the Alleppy pier, a construction of wooden piles without bolt or nail, the superstructure being secured by chain and rope lashings only.

16. Captain Taylor expresses an opinion that Colonel Thomason did not view the Cochin harbour from a nautical point of view. The Chamber, however, believes he viewed it from a practical point of view, and more does not seem necessary.

17. The Cochin backwater will afford facility for any extent of harbour development, if steps be taken to keep open a deep entrance channel, and the Chamber is satisfied that there is not such a favorable site within the Madras Presidency, or one that holds out so fair a prospect of success and reasonable return on capital expended.

18. The Chamber begs to express its obligation to Government for having sanctioned an early inspection of the port, but it regrets to observe that Captain Taylor has already committed himself to the opinion that it is impossible to make Cochin a first-class harbour for reasons which are now shown to be fallacious.

No. 142. ORDER THEREON, 26th January 1881, No. 222 W.

COMMUNICATED for the information of Captain Taylor, R.N.R., who will take into consideration the arguments in favor of a Harbour at Cochin as now advanced by the Chamber of Commerce, and state his views thereon after visiting the port in company with the Chief Engineer.

(True Extract.)

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

To Captain Taylor, R.N.R.
The Honorary Secretary, Chamber of Commerce, Cochin.
To the Marine Department.
Esd. E. C. Shanker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1881) Madras.
PUBLIC WORKS

Captain TAYLOR, R.N.R.

Sec. Sec. Sec.

Dated January, 1881.

Recd.

Recd.

Recd.

G. O., 25th January 1881, No. 222 W.

JANUARY.

Nos. 141-142.

Harbour at Cochin.—Letter from the
Honorary Secretary, Chamber of Commerce,
Cochin, communicated to Captain Taylor,
R.N.R., to consider the arrangements in view
of a — and to report thereon after visiting
the port in company with the Chief Engi-
neer.

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No. 81. Chamber of Commerce
Cochin. Dated 20. 1881.

From
The Honorary Secretary,
Chamber of Commerce,
Cochin.

To The Secretary to Government,
Public Works Department,
Madras.

Sir, The Chamber has had under
consideration the letter from Captain
J. H. Taylor, Madras attendant, Madras,
dated 16th December 1880, attached to
proceedings of Government dated 27th
December 1880, No. 2242. H. and I am
desirous to make the following representa-
tions in answer to his remarks on the
Chamber's application for Harbour
improvement.

2—The Chamber concurs in the
opinion that the question of convert-
ing Cochin into a first class Har-
bour can only be settled on the spot,
and is sanguine that no person
coming to the study of the question
with a practical and unbiased
mind can fail to be impressed
with the facilities offering for

such conversion. It may be Captain Taylor's opinion that it is an impossibility; but other equally competent judges who have visited the port and considered the question have formed an opposite opinion, and the weight of professional judgment is, so far, the Chamber considers, strongly against Captain Taylor. Amongst Commanders of vessels, visiting the port, there is but one view of the facility with which the conversion could be effected; and Captain Taylor's opinion is the only conflicting one that has come to the Chamber's knowledge.

3 - In the third para of his letter Captain Taylor seems to imply that as a second class port, the harbour meets all requirements of trade during the season and that during the monsoon months there are no trading operations requiring harbour facilities. If this were the state of the case, it is probable that it would be familiar to the merchants of the port, and knowing it, they would hardly propose to Government a measure for additional taxation on their trade to pay for works which they felt to be unnecessary. It is, of course, true that the bulk of

Monsoon
Native boats
Trade of monsoon
Imports & exports

Monsoon
Imports & exports
Native boats
Trade of monsoon

Imports & exports
Native boats
Trade of monsoon

trade is done between the months of October and May, both months inclusive, but a reference to the statistics of Imports and Exports at Barrackpore already furnished to Government will show that the monsoon trade of this port (the trade of Barrackpore is only the monsoon trade of Cochin) is a rapidly growing one. The Imports rose from 500 tons in 1870-71 to 11,869 tons in 1879-80, and the Exports from 2200 tons in 1870-71 to 4898 in 1879-80. It was owing to there being no facilities for monsoon trade that none existed prior to 1870-71 and that it has not greatly exceeded the rapid advance already made since that date is because the port of Barrackpore has not furnished all the facilities required.

4 - From the tenor of his remarks in paras 4 and 5 of his letter, Captain Taylor would seem to have missed the purport of the Chamber's proposals which are not only to remove the bar, but to carry out a deep channel into deep water by pier walls built out into five fathoms water if necessary; in fact to provide a channel of 20 feet deep into the same depth of water which Captain Taylor admits would justify a

large ship in approaching the Coast. The Chamber's proposals for effecting this and its reasons for believing that they would be effective are set forth in paras 3, 4, 5, and 7 of its letter dated 25th November last.

5. The time when Captain Taylor knew the depth of water on the bar to be only fourteen feet was probably when the Cruzillilagre gate was open. It has not been so since.

6. Captain Taylor's remarks against the possibility of removing the bar and other obstructions by a natural process as contained in para 6 of his letter are in the Chamber's opinion altogether erroneous. It is not the case that the sand spits on either side of the entrance to the backwater come so near to the surface that the contemplated walls would do little more than guide the current as it now flows, and it is difficult to understand how, with the chart of the port before him, and, it may be supposed, some personal knowledge of the port, he has fallen into such an inaccurate statement.

7. Near the shoreline the water on the spits is shallow, and at a little distance to the west of Tyneen point a small sand bank is visible at low water for about one month after the monsoon, formed, probably, by the action of the monsoon floods on the littoral sand laden current. This bank disappears with the subsidence of the floods, and for the rest of the year there is no sand appearing above the surface of the water. Between the site of this sand bank and the Tyneen point there is a broad channel with, at present, a depth of twelve feet of water (During the monsoon floods it is more) through which sweeps a powerful current northwards. The sand spits as they proceed seawards gradually fall into deeper water until where they join the bar there is about as much water on them as on the bar. A reference to the chart shows a depth of water on the N. spit ranging from 4 feet at its shore end to 17 feet near the bar; and on the S. spit of from 4 feet near the shore to 11 and 12 feet near the bar.

8. Now considering that the bar is about 1400 yards from the mouth of the backwater, it must be admitted

that, before it is reached, there is room between the top of the spit and the surface of the water for a very considerable portion of the current to pass without going near the bar at all, and, as a matter of fact, which is open to ocular demonstration every day, much more of the current passes over the spit and through the channel round Tupper point than crosses the bar.

9.—The construction of the proposed walls, which, it may be remarked, are not intended to take the usual harbour form, but, as before stated, to direct the current, would, therefore, very materially alter the course of the current, bringing the whole of it into a channel in which but a small portion of it now flows; and there is reason to believe that this confinement of the current would effectually remove the obstructions which Captain Taylor considered "crushing defects," from the fact that, where the outflowing current is now confined it maintains a depth of from 26 to 42 feet of water.

10.—With reference to the statement that the breadth of the passage between Cochin and Tupper at the point of deepest water is only 1100 feet, the Chamber begs to remark that according to the Government chart now in

use at the port, it is 1350 feet across and the channel has not narrowed since the chart was drawn, but there is no reason to suppose that, as a matter of necessity, a steamer of 350 feet length would be anchored in this particular portion of the harbour and be left to swing with the tide to the obstruction of navigation. Vessels would be moored stern and stem as in other places, it may be presumed.

11.—Not having before it the chart on which Captain Taylor has drawn his blue pencil lines the Chamber cannot judge what he considered to be the limited space within the backwater, but has no hesitation in affirming that there is at the present time ready a space of sufficiently deep water for mooring several vessels of considerable size.

12.—If a line be drawn eastward from Quillder's Point parallel with the Cochin shore, and terminating in a line with the corner at the end of the yards, there will be enclosed a space, inside the backwater, of 1000 yards long by 400 yards broad, all deep water with the exception of a small piece in the S.E. corner, supposing that every vessel visiting the port is 350 feet long, and requires

a length of 550 feet for a mooring there could be accommodated within these limits eight great vessels moored in double tier, leaving ample room for passage on both sides and a space of 600 feet by 1200 feet for ships to be turned in so that they might be berthed with their stems seaward. If instead of confining the moorings to space actually within the back water, they be extended down the passage between Cochin and Typhoon, where ships often now anchor, and the whole of which would become available under the Chamber's proposals, there would be a length of 1650 yards which would accommodate 16 ships of 550 feet moored in double tier and leave a space of over 500 feet by 1200 feet as a turning station. It is a mistake however to suppose that every vessel visiting the port would be 550 feet in length, or that there would ever be so many vessels of such size in port at once. (It is probably not found so in Madras) and allowing for a large proportion of vessels of smaller size the space pointed out would afford accommodation for a larger number of ships.

It should more space be required with the development of trade or for other reasons it can be obtained by

the construction of training walls and the operation of dredging further into the backwater, which operations were contemplated by Col. Thomas R. E. in his estimate of probable cost and there is somewhere a powerful dredger, purchased a few years ago for use at this port, at a cost of £2000, which has never done a day's work in the port. This plan of extending the harbour accommodation might be made doubly profitable; for besides providing accommodation for more shipping, the depositing of the mud dredged up behind the training walls would reclaim an area of the backwater that would be of great value for yards and would be eagerly taken up by the Mercantile Community. The Captain Taylor is also in error in his remark, "The hundreds of miles of backwater spoken of by the Chamber," for the Chamber has not made any such statement. The Chamber has stated that the backwater is over one hundred miles in length, and this reference to its length was not made with a view to make it appear that the whole of it is available for shipping but

14. in a consideration of the silt question, to show that it collects all the silt brought down by the river and of which none passes into the sea.

But many parts of the backwater are very deep, particularly the wide ones, and over it is conducted an immense traffic. It furnishes, with communication from British territory right through the Native States of Cochin and Travancore, and bears much of the produce of those two states to British Cochin for shipment.

15. With reference to the comparative force of the sea on the East and West coasts of South India, the Chamber is of opinion that the case of the Palicut Pier, mentioned in the 9th para of Captain Taylor's letter is about as good data as need be required; but it may be supplemented by an allusion to the Alleppey Pier, a construction of wooden piles without bolt or nail, the superstructure being secured by chains and rope lashings only.

16. Captain Taylor expresses an opinion that Col. Thomason did not view the Cochin harbour from a nautical point of view. The Chamber however believed he

viewed it from a practical point of view, and more does not seem necessary. — $\frac{2}{3}$

17. The Cochin backwater will afford facility for any extent of harbour development, if steps be taken to keep open a deep entrance channel, and the Chamber is satisfied that there is not such a favorable site within the Madras Presidency, or one that holds out so fair a prospect of success and reasonable return on capital expended.

18. The Chamber begs to express its obligation to Government for having sanctioned an early inspection of the port, but it regrets to observe that Captain Taylor has already committed himself to the opinion that, it is impossible to make Cochin a first class harbour, for reasons which are now shown to be fallacious.

I have the honor to be
Sir,
Your most obedt servant
W. A. Miles
Honorary Secretary

took in company
with the other Chief Engineers.

[Signature]

26/1/87

Captain Taylor R. H. R. ^{ms}
The Hon. Secy. C. of C. ^{ms}
C. of C. ^{ms} 24-1-87
Marine Dept. ^{ms} 21/60
25-2-87

8-2-13

26-7-20

1884
Govt. of (1879) Sydney.
PUBLIC WORKS.

To
Encl
Incl
Recd. Encl

o. o. 26 Jan 1884 22210

Recd. 14/1/84

Harbour at Cochin

Letter from the Hon. Secy.
Chamber of Commerce,
Cochin Commenced
to ~~the~~ Capt. Taylor
R.N. R. to consider
the arguments in
favour of a — and
to report thereon after
visiting the Port in
company with the
Chaplain.

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