

1881.

NEW ZEALAND.

THE HARBOURS OF NEW ZEALAND

(REPORTS ON, BY SIR JOHN COODE, C.E., TOGETHER WITH COPIES OF DRAWINGS).

[In continuation of E.-9, 1880.]

Presented to both Houses of the General Assembly by Command of His Excellency.

GISBORNE, POVERTY BAY (TURANGANUI RIVER)

SIR,—

5, Westminster Chambers, London, S W., December, 1880.

I beg now to present my report upon the works which I have to recommend as best adapted for the improvement of the Harbour of Gisborne, in Poverty Bay

The coasting trade of Gisborne is at present carried on partly by steamers, which call and discharge and take in cargo whilst at anchor in the bay, and partly by small vessels drawing, for the most part, from 6 to 8 feet of water, which latter, notwithstanding the smallness of their draught, frequently experience great difficulty in effecting an entrance into the Turanganui, owing to the general shallowness of the bar and the narrow and tortuous character of the channel.

The normal depth over the bar is only from 3 to 4 feet at low water of spring tides. As the rise at springs is generally only from 4 feet 9 inches to 5 feet, it is obvious that the river in its present condition is not accessible by any other vessels than those of the smallest class of coasters, and by these only at the time of high water. It is true that the depth on the bar is subject to occasional improvement by the scouring action of floods, but any benefit so gained is but of comparatively short duration; having regard to the surrounding conditions it could not well be otherwise.

An example of such improvement and subsequent loss of depth is given in the "Notes" by Mr T Perham, an assistant engineer in the Public Works Department, who made the survey for the purposes of this Report. Mr Perham states that, at the time of completing his survey, 2nd May, 1879, there had been no flood in the river for three years, but after a flood, lasting from May 3rd to 8th, the sand was scoured down to the rock (*papa*), the bar being forced out to about 10 chains from its former position, with 8 to 9 feet at low water. He adds: "On 24th June I again took soundings, and found the bar working rapidly back to its former position, with from 5 to 6 feet at low water." Calling at Gisborne on 20th August, I again sounded and got from 3 to 4 feet on the bar, which had then shifted in to about 4 chains off the edge of the western reef."

This is precisely analogous to what occurs elsewhere under similar conditions, and I may here state that there would be no possibility of keeping down the bar at Gisborne without the construction of very long and expensive breakwater piers on each side of the entrance; but in this case there is the further difficulty arising from the presence of a ledge of *papa* rock at 3 feet below low water, immediately in the entrance. The precise extent of this *papa* is not defined by the sections; but, from general indications on the plan and sections, I have not the slightest doubt that it extends at a depth of somewhere about 3 or 4 feet below low water for a considerable length seaward of the entrance.

Having regard to the physical conditions in this case, as above described, I have arrived at the conclusion that it would be altogether inexpedient, at any rate under the present circumstances of the trade of the district, to incur any expenditure in an attempt to improve the entrance of the Turanganui and the channel within, otherwise than on a very small scale, because I feel convinced that the results would not justify the outlay

If harbour accommodation in the ordinary sense of the word—by which I mean a harbour having such a depth of water as would admit of coasting and intercolonial steamers and sailing