

Residency.—The residency, having fallen into a very bad state of repair, was put into good order, and a new kitchen and store-room built.

Medical Officer's Kitchen.—A kitchen for the Medical Officer was erected.

Takutea.—The planting of the Government Island of Takutea was completed during the year. The whole area planted in cocoanuts is now 227 acres.

ROADS AND BRIDGES.

The Main Beach Road round the Island of Rarotonga had fallen into very bad repair, until towards the end of the year, when the Resident Commissioner called out all the able-bodied Natives on the island. As a result of this calling-out the road is now in much better order, the Natives having done more work than they did before at any one time.

Several of the small wooden bridges were repaired.

AVARUA WATER-SUPPLY.

The Avarua water-supply is working fairly well; but a dam or filter-bed is required at the intake, also about 1,000 ft. of pipes of 2 in. diameter are required at the Avatiu end of the water-supply. During the year twenty-five more houses were connected with the mains. The present revenue is about £150 per annum.

PUBLIC WORKS PROPOSED.

Mangaia Reef Passage.

I recommend that the Mangaia reef passage be taken in hand as the first undertaking for the new year, and propose that the passage be cut out to a depth of, say, 5 ft. at least at low tide, and 10 ft. wide. I may say, in May and June, 1908, I spent four weeks at Mangaia blasting the reef passage, and Mr. Howard Greig continued the work after I left.

The difficulty to contend with in small passages through the reef is the outwash of water from the lagoon from any cut made in the reef.

There are two ways of stopping this outrush or scour: the one is by walling in the harbour made, leaving only the entrance open. The other and cheaper way is by leaving a bar at the entrance. The first is an expensive job, but, of course, the better of the two. At any rate, the bar should be left until the inner work is completed, and then only cut down sufficiently to let boats in and out.

I propose to cut the passage for the present about 400 ft. long from beach to edge of reef, 10 ft. wide or over, and about 5 ft. deep, making 741 cubic yards, of which I believe about one-third, or, say, 250 cubic yards, has been blasted.

The stone blasted will have to be removed on to the high ground if not cemented together, as when a big sea comes the stone will very likely be washed back again into a channel or scattered over the beach.

The cost of the passage, not including explosives and other material in hand, up to the present, has been about £360, and the material in hand cost about £160, making in all £520.

I consider that the remaining 500 cubic yards or so will not cost as much in proportion as the first 250 cubic yards have done. I believe, for the £400 put down in my estimates a good channel can be made.

The Natives promised before to clear away all the stone, the Government simply paying for the drilling.

The passage when completed will be of great service, I believe, to the shippers, as at present at low tide the boxes of fruit have to be carried from the beach to the edge of the reef, a distance of about 400 ft.

The amount of explosives on hand is 30 cases gelatine, 7 cases rackarock.

We only used before 270 lb. of gelatine and a small quantity of rackarock. I consider that we have sufficient explosives on hand to make a fair channel.

For this year I estimate a sum of £400 is necessary.

AITUTAKI SHED AND WHARF TRAM-LINE.

I propose that the Aitutaki shed and wharf tram-line be undertaken on the lines submitted to you in my report of the 21st October last, at a cost of £480.

Arorangi Water-supply.

The Arorangi water-supply might also be undertaken during the year, as submitted to you in my report of the 10th March last, at a cost of £650.

Medical Officer's Quarters.

The estimate for quarters for the Medical Officer at the new hospital is £650.

Roads.

I think the Government should place a sum of £100 this year on the estimates for the purchase of portable tram-line and two tip trucks, for the purpose of bringing gravel from the beach to Main Road.

Upkeep of Government Buildings.

A sum of £100, I estimate, is required for the upkeep of the buildings.

New Offices.

Three new offices, I think, are required, for which a building 40 ft. by 20 ft., with verandahs back and front, is needed, which I estimate at £400.

I have, &c.,

H. M. CONNALL,

Engineer in Charge of Public Works.

The Resident Commissioner.