

GILBERT AND ELLICE ISLANDS COLONY.



# REPORT

BY

H. E. MAUDE, ESQUIRE, M.A.,  
ADMINISTRATIVE OFFICER AND NATIVE LANDS COMMISSIONER,

ON

COLONIZATION OF THE PHŒNIX ISLANDS BY THE SURPLUS  
POPULATION OF THE GILBERT AND ELLICE ISLANDS.

CONFIDENTIAL

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I.

CAUSES AND EXTENT OF OVER-POPULATION AND LAND HUNGER IN THE  
GILBERT AND ELLICE ISLANDS COLONY.

Sir,

Ocean Island, 19th November, 1937.

As directed by His Honour the Resident Commissioner, I have the honour to submit the following report on the causes and extent of over-population and "land-hunger" in the Gilbert and Ellice Islands Colony, with special reference to the proposed scheme for the relief of increasing population congestion by emigration to the Phœnix Islands. An exact statistical survey of the amount of over-population would necessitate a visit of several weeks to each of the islands concerned and the investigation of thousands of individual cases. I do not consider, however, that a detailed enquiry of this nature is necessary at this early stage of the scheme as there can be little doubt that a considerable measure of over-population and land-hunger does exist in the Colony and my inquiries have convinced me that there are more deserving cases in the Southern Gilbert Islands alone than can be found immediate room for in the Phœnix Group.

2. In order to avoid any misconception, however, it can be definitely stated that no one in the Colony is living in a state of destitution—the claims of kinship and clan are too strong for anyone to be left to starve. At the same time the Gilbertese as a race are so prolific that they would soon exhaust the slender resources of their islands if they did not limit the size of their families by artificial means.

The population capacity of these barren atolls is strictly limited by nature and the islanders, who thus unwittingly exemplify the doctrines of Malthus, have from time immemorial realised that only by carefully limiting the number of their offspring by artificial methods could they hope to prevent the operation of the less pleasant natural checks of starvation and incessant warfare.

3. Many authorities could be cited in support of the above statement but, in view of the fact that the matter is probably beyond argument, I will confine myself to quoting only two careful observers.

The Rev. L. H. Gulick, M.D., a recognised early authority on Micronesia, writes of the Gilbertese in 1860:—

"So prolific are they as yet on the greater number of the islands, so uncontaminated with foreign disease, that their population is deliberately limited by practising abortion to prevent too great a number of mouths. Their numbers are also shown by the sanguinary nature of their battles."

Sir Basil Thomson, an observer writing long after the establishment of the Protectorate, states as follows:—

"As the Gilbert Islanders are credited with being excessively prolific, and are said to be the only race in the South Seas that would increase if artificial means were not used to prevent the population exceeding the capacity of the islands, it will be well to compare their methods of midwifery as described by Tearabungu, a professional midwife. On her island—Tamana— . . . . . She said that four or five children are considered enough, and any above that number are not allowed to come to maturity. All the women practise abortion because they are so prolific. If they did not they would have from ten to twenty children apiece. But neither medicine nor instruments are used. The common method is to pound the abdomen with a billet of wood, and this is not fatal to the mother. Now, however, the practice is being abandoned, because the missionaries have persuaded the people that it is dangerous."

Again, on a later page, he speaks of, "Various methods of inducing miscarriage by violence, such as are practised by the Gilbert islanders, who pound the abdomen of a pregnant woman with stones, or force the foetus downwards by winding a cord tightly about her body."

Similar conditions prevailed on, at any rate, Niutao Island in the Ellice Group. The Rev. W. Gill states that on that island, "it was their custom, in seasons of scarcity, to make war on certain families. The conquered men, women, and children were either slain or cruelly driven to sea in canoes, without food or water."

4. The present inhabitants of the various islands make no secret of the existence of artificial checks to population increase in the past. The natives state that it is precisely because such artificial controls are frowned upon by the missions and prohibited by the Government that a population problem exists to-day and will necessarily grow more acute year by year. It should be remembered, furthermore, that the successful efforts of the Colony Medical Department in reducing the Death, and in particular the Infant Mortality, rate will inevitably add further to the embarrassment of the Gilbertese when endeavouring to adjust his natural prolificity to his limited food resources. Contrary to an opinion generally held by European residents, there are no contraceptive methods known to the islanders and the only artificial population check now employed is that of abortion, a practice which, though still common, is less prevalent than in former times.

5. The Gilbertese hold that, left to themselves, they can deal effectively with their population problems, but as this is not presumably feasible their surplus numbers should be permitted and assisted to emigrate. I must confess that their argument appears convincing to me and I would submit that the Government is under a definite moral obligation to facilitate the emigration of the Gilbertese. After all, in virtually all small islands of the Pacific it has been the practice from time immemorial, whenever the population threatened to overstep the resources of the island, for the surplus inhabitants to set sail in search of new lands. Should the Government permit the native to migrate, therefore, it would be merely assisting him to carry out a custom sanctioned by his forbears. Failing such assistance it is difficult to see how the Government will be able to insist on a rigid enforcement of the law against abortion, which is based on purely western ideas of ethics and has never received the sanction of native opinion.

6. A table is annexed to this letter showing the changes in the population of each island in the Southern Gilberts from 1876 to the present day. From this it will be seen that the population of the District has remained virtually stationary throughout the present century whereas all the other islands of the Colony have shown increases, in some cases of a substantial nature. This confirms Mr. G. M. Murdoch's statement, made in his letter to the Resident Commissioner, No. 51 of the 8th May, 1911, that the islands of Beru, Nikunau, Onotoa, Tamana, and Arorae, "would not comfortably carry any more population than they have at present."

The table unfortunately conveys a somewhat false impression, not only owing to the unreliability of the early estimates, but because it does not show that a larger percentage of the population than ever before consists of young people. At every island it was explained that, given the room, the next generation will witness a great expansion of the population but that at present there was no space for any great numbers of children. In other words, even were it admitted that the Southern Gilbert Islands can support, with difficulty, their present population, there is absolutely no room for expansion and unless the practice of abortion is to be resorted to more extensively in future there is going to be a really acute land shortage within the next few years. The potential fertility of the race is greater than ever and we have broken down the old controls.

7. It should be emphasized, furthermore, that even allowing for the fact that a portion of the population is able to obtain employment on Ocean, Fanning, or Washington Islands, it is difficult for the Southern Gilbert Islands to maintain the same population as in former years, since a certain amount of money, or its equivalent in copra, is now an absolute necessity for each family. Due to the advent of the Government and the missions a native and his family can no longer consume the entire produce of their lands. He must have a surplus to pay his Government tax, the various levies of the mission, the fines of the Native Court, the clothing of himself and his family in accordance with what are considered to be the wishes of the Government and mission, and for numberless other things which it is now obligatory for him to provide. It is estimated that approximately one-third of the coconut crop, which would formerly have been consumed by the native owners, is now required for taxation or other indirect purpose.

8. The natives of the Ellice Islands have a higher standard of living than the Gilbertese and even a poor Ellice Islander would be considered a comparatively rich man by the Gilbertese. A striking illustration of this difference in wealth is shown by the number of young coconuts used for drinking purposes—on an average an Ellice island family requires two carrying loads of 20 nuts each daily for drinking, whereas on the poorer islands in the Gilbert Group a native would be severely censured by public opinion if he used a single nut for this purpose. Niutao is by far the poorest of the Ellice Islands and there the natives stated that they could not afford to drink more than five nuts daily per family. I discussed the question of relative poverty with the Administrative Officer, Ellice Islands, Mr. D. G. Kennedy, and we agreed that whereas a Gilbertese family could be considered as being below the poverty line if the members did not possess enough coconuts for food purposes plus a surplus sufficient to bring in an annual sum of 30s. for necessities, the corresponding line in the Ellice Group should be drawn at enough coconuts for food and drink plus a surplus sufficient to bring in at least £5 per annum.

9. Owing to the inevitable inequality in the distribution of land in the Gilbert Islands, where individual ownership prevails, I consider that several families could be found on nearly every island who are sufficiently poor to desire to emigrate. At the same time my investigations have convinced me that the greatest measure of over-population and "land-hunger" exists on the islands of Beru, Arorae, Onotoa, and Nikunau, in that order. I have never had an opportunity of studying the land question on Nonouti but I have been informed by several natives that there are many families there who have insufficient land and are anxious to emigrate. By far the most over-populated island is Beru, where over 2,000 natives inhabit a remarkably unfertile island some eleven miles long. In the Ellice Group the most over-crowded island is Niutao, while a few families might be willing to emigrate from Nanumea. Were it not for the comparative fertility of the soil, a small island like Niutao would not be able to support more than four or five hundred even on a Gilbertese standard.

10. It is impossible to give any exact figures of the number of families on each island anxious to populate new lands. I understand, however, that nearly 1,000 natives on Beru have signified their desire to emigrate. From native informants I gather that Arorae and Onotoa would furnish another 500 candidates each and that at least a further 1,500 could be obtained from the remaining islands in the Gilbert Group. With regard to the Ellice Islands probably 100 would be anxious to emigrate from Niutao and about 30 from Nanumea. In my opinion it can be safely held that few, if any, natives would be willing to give up their ancestral lands on their own islands and emigrate unless they were genuine cases deserving of Government assistance.

11. To summarize my conclusions, I consider that:—

- (a) Over-population and "land-hunger" exists to a varying degree on several of the Gilbert Islands and on the island of Niutao in the Ellice Group;
- (b) to a certain extent it is not so much a question of actual shortage of land for the present *adult* generation as a lack of room for expansion for the youth of the race. Its full effects will, therefore, not be seen until the present disproportionate number of children and young people reach a marriageable age;
- (c) the over-population is caused through the abandonment of the old population checks of infanticide, emigration, and warfare, and a decrease in abortion, due to the establishment of British rule, coupled with the fact that the native is no longer able to consume all his food resources but must convert a portion into cash or its equivalent which results in the islands not being able to support as many inhabitants as before;
- (d) The Government is therefore under a certain obligation to assist the poorer families to emigrate, provided there are suitable untenanted lands in existence.

I have, &c.,

H. E. MAUDE,  
Commissioner for Native Lands, Gilbert Islands.

*First enclosure to I.*

POPULATION CHANGE IN THE SOUTHERN GILBERT ISLANDS.

Island.	1876. <sup>1</sup>	1883-6. <sup>2</sup>	1895.	1901-2.	1911.	1914.	1921.	1931.
Nonouti ..	4,500	.....	.....	2,924	2,601	2,622	2,273	2,255
Tabiteuea ..	7,000 <sup>4</sup>	7,500 <sup>3</sup>	.....	4,343	3,858	4,268	3,590	3,702
Beru ..	2,500	2,000 <sup>2</sup>	.....	2,309	2,305	2,219	2,170	2,241
Nikunau ..	2,000	1,850 <sup>2</sup>	1,684	1,681	1,715	1,708	1,647	1,674
Onotoa ..	950 <sup>5</sup>	1,052 <sup>2</sup>	967	1,398	1,585	1,542	1,425	1,639
Tamana ..	1,700 <sup>6</sup>	570 <sup>25</sup>	.....	769	870	.....	814	989
Arorae ..	600 <sup>5</sup>	1,200 <sup>37</sup>	960	1,050	1,282	.....	1,225	1,451

<sup>1</sup> From Turner, G.—*Samoa, A Hundred Years ago and Long Before.* London, 1884.

<sup>2</sup> From Woodford, C. M.—*The Gilbert Islands.* Journ. of the R. G. S., October, 1895.

<sup>3</sup> From Brigham, W. T.—*An Index to the Islands of the Pacific Ocean.* Memoirs of the Bernice P. Bishop Mus., 1900.

<sup>4</sup> Based on an estimate made by Capt. Randall in 1860.

<sup>5</sup> Figures artificially depressed owing to raids made by blackbirders, 1870-75.

<sup>6</sup> Probably an over-estimate, but made before the blackbirders had visited Tamana.

<sup>7</sup> Includes natives re-patriated by blackbirders.

All other figures are from Government Censuses.

*Second enclosure to I.*

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2. Thomson, Sir Basil.—"The Fijians. A Study of the Decay of Custom." London, 1908.
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II.

REPORT ON VISIT TO THE PHOENIX ISLANDS.

Sir,

Ocean Island, 3rd December, 1937.

I have the honour to forward the following account of my recent visit to the Phoenix Islands on board H.M.C.S. "Nimanoa," together with Notes on each of the islands visited. The Notes are not intended to be exhaustive and in general I have only included information which bears on the object of the expedition, which was to investigate the feasibility of alleviating the over-population and "land-hunger" existing in certain parts of the Colony by voluntary transfer of the poorer families to the islands of the Phoenix Group.

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2. My orders were to call first at those islands in the Gilbert and Ellice Groups where the existence of land hunger had been reported, inquire into the extent and causes of any over-population found to exist, and embark delegates who would investigate the suitability of the various islands visited for permanent colonization. My report on the question of over-population has already been submitted and the present letter deals only with the actual work of the expedition in the Phoenix Group. A further report, on the various problems connected with the scheme for voluntary migration, is to follow.

3. Leaving Ocean Island on the 18th September, we visited the islands of Tabiteuea, Beru, Onotoa, and Arorae in the Gilberts, and Nanumea, Nanumanga, Niutao, Vaitupu, and Funafuti in the Ellice. Tabiteuea, Vaitupu, and Funafuti were visited for reasons unconnected with the main object of the expedition and no investigations were held on them, although it is probable that several families exist on Tabiteuea who are sufficiently impoverished to desire to emigrate. There was no evidence of any land hunger on Nanumanga and none of the inhabitants were willing to consider migrating to the Phoenix Group. On each of the other islands a varying degree of land hunger was found to exist, and from two to five delegates were taken on board H.M.C.S. "Nimanoa," the actual number depending on the population of the island and the estimated extent of the local land shortage. Seventeen delegates in all were taken, distributed between the islands as follows:—

Beru . . . . .	5	Nanumea . . . . .	2
Onotoa . . . . .	3	Niutao . . . . .	4
Arorae . . . . .	3		

The delegates were all chosen by the people of the islands concerned, with the exception of Koata, the well-known Magistrate of Onotoa Island, who was selected by myself and whose skilled assistance was invaluable.

Apart from the native delegates, I was accompanied by Mr. E. R. Bevington, Cadet Officer, as assistant, Mautake, the Permanent Head of Delegates to the Lands Commission, as native adviser, and Tutu, Native Medical Practitioner, who investigated conditions in the Phoenix Group from a medical standpoint.

4. The enthusiasm evinced at every island in the Gilbert Group for the scheme was amazing. In view of the chronic land hunger on many of the Gilbert Islands it would probably be impossible for the Government to advance a more popular scheme than one by which the Gilbertese are allowed to settle the unhabitated atolls of the Pacific. At my suggestion, however, the island delegates were chosen from among the more cautious element in the population and at the outset none of them were particularly prepossessed in favour of the project. They were the pick of the agriculturists and cultivators on each island and I was very impressed by the business like manner in which they conducted their investigations in the Phoenix Group and by their concise and accurate summing up of the merits and disadvantages of each island.

5. At Niutao, the last island visited in the Ellice Group, two sturdily built canoes were taken on board for surf work. Four delegates instead of two were taken from Niutao in order to manage them. These canoes were undoubtedly a great success and handled, as they were, by experts no difficulty was experienced in landing the delegates at any of the Phoenix Islands.

6. The expedition left Niutao Island early on the 9th October, and sailed due east for McKean Island, which it was proposed to visit *en route* to Canton. The following day the International Date Line was crossed, which gave us two Sundays, much to the astonishment of the native delegates. Owing to the easterly wind and a strong adverse current our progress was very slow and on the 12th October, it was decided to change course and make for Gardner Island, which was reached at 8 a.m. the following morning.

#### GARDNER ISLAND.

7. The profuse vegetation on Gardner Island gave it the appearance, from the sea, of possessing several low hills. Approaching from the north-west, after an unsuccessful attempt to find an anchorage the "Nimanoa" was tied to the wreck of the "Norwich City," about 200 yards to the north of the main entrance into the lagoon. The delegates were immediately landed in the two canoes and the majority, in charge of Mr. E. R. Bevington, commenced to walk round the island. Camp was pitched under the shade of a clump of "buka" trees to the north of the lagoon passage. It was nightfall before the delegates returned, the chart having proved to be quite inaccurate and the island far larger than had been anticipated.

The canoes were brought through the passage and the following day I examined the lagoon and the various points of interest on the island, while the delegates dug a series of wells along the western side of the atoll. The inspections and well-digging were completed on the third day, the 15th October, and the expedition left for Canton Island at 4.45 p.m.

8. The results of the expedition's work on Gardner are summarised under the following heads:—

*Topographical.*—The map of the island contained in Admiralty Chart No. 184 was found to be quite unreliable. The island is of atoll formation, approximately 4 miles long by 1-1½ miles wide, enclosing a lagoon approximately 3½ miles long by ¾ mile wide. The width of land varies from under 100 yards on part of the east and north-east coast to ¾ mile on the west. The land was generally flat but on parts of the north coast there was a gradual rise amounting to several feet, culminating in a ridge along the centre.

*Lagoon.*—From the point of view of possible settlers the lagoon, which trends E. and W., is an excellent one. There are two passages into it from the sea, on the middle of the west and south coast respectively. The western passage is at present just navigable for canoes at high tide and, by means of blasting, it should be possible to make a passage which could be used at half tide or over. Owing to there being only the two comparatively narrow passages there is no daily tidal rise and fall in the lagoon, the only change in the water level being between the spring and neap tides. As a result it is possible in many places to step straight from canoe to shore. There is a remarkable absence of coral patches or "horses heads" in the lagoon, making it easily navigable.

*Fertility and Flora.*—Without hesitation I should judge Gardner to be the most fertile island in the Colony, with the possible exception of Washington Island. The typical soil was a rich dark brown mould, resembling peat, and quite unlike the coral sand of the Gilbert Group. Most of the island was covered with groves of enormous "buka" trees (*Pisonia grandis*), an excellent wood for house building and box making. These, with their large grey trunks several feet in diameter and anything up to 60 feet in height, and their soft green foliage, are more reminiscent of European than tropical trees. To the south of the main passage there were also some fine groves of "kanawa" trees (*Cordia subcordata*), which are invaluable for canoe and boat building. In the Gilbert Group both the "buka" and "kanawa" trees are very rare indeed and can only be grown on the most fertile islands and then with the greatest difficulty.

A striking illustration of the fertility of the soil was seen in the growth of the "kaura" plant (*Sida fallax*, Walp.), for whereas in the remainder of the Colony it forms a small shrub, often procumbent and never more than a foot or two high, on Gardner, it had grown into small trees seven or more feet in height. Unlike, I believe, all other low islands in the Central Pacific, there is very little undergrowth on Gardner Island, and particularly on the western and northern sides there were few of the plants and grasses typical of the Gilberts. This, however, is almost certainly due to the dense groves of trees, for on the south-east of the island where there was extensive open country, the flora, while growing more luxuriantly, was identical with that of any other coral atoll.

Soil profiles obtained when well digging showed the dark brown mould, which contained a large admixture of guano, extending down to four feet, gradually becoming lighter and being finally replaced by white coral fragments. On the south-east corner of the island the soil was of a light brown sandy nature, more like that of the Gilbert Islands.

There were five small groves of coconut trees on the west side of the island, two to the north of the lagoon passage and three to the south. Unfortunately many of the trees had grown up in hopeless positions subject to inundation during spring tides, but the two groves planted in tolerably good localities were doing extraordinarily well, the trees bearing heavily with the ground round piled high with nuts. A feature that struck the delegates forcibly was the fact that the trunks of the coconut trees were in no instance "waisted," demonstrating that during the last fifteen or twenty years at any rate the island has been free from drought. There were altogether 111 coconut trees on the island in full bearing and no indication could be found of others having been planted and subsequently dying.

*Water supply.*—Eight wells were dug during our three days on the island—four to the north of the main lagoon passage and two to the south. The water in five of the wells was of indifferent quality, particularly those to the south of the channel. Two of the wells in the north, however, contained water of fair quality, while one well contained drinking water nearly equal, in the opinion of the natives, to that on Sydney Islands and fresher than many wells in the Gilbert Islands. The expedition was fortunate in visiting the Phoenix Group just before the commencement of the wet season and I think that it can be taken as an axiom that if an atoll well contains drinkable water in October or November, there is no likelihood of the water proving undrinkable at any time. Low island wells are, of course, partly tidal and contain a mixture of rain water seepage and sea water filtered by the coral sand. As a consequence most Gilbertese wells run very saltish towards the end of the dry season. The water in freshly dug wells is, furthermore, usually exceptionally brackish for the first week or so and the expedition was unfortunately unable to stay long enough to see whether the water in the southern wells improved. The delegates appeared to be satisfied with the water on the island and were of the opinion that even better water could be found if further wells were dug. Samples of the water were bottled and taken to Beru, where the people stated that it was better than they obtained from some of their own wells.

*Fishing.*—Fish were everywhere plentiful, both off the reef and in the lagoon, and most of the varieties common to the Gilbert and Ellice Groups were recognised by the delegates. If settlers lived on Gardner Island permanently the fish naturally would gradually become scarcer, as in the Gilbert Group. There were large numbers of sharks, but those seen in the lagoon were quite small.

On the south-west corner of the lagoon a natural lake had formed which teemed with "baneawa" fish, a species of pond mullet much esteemed by the natives. This natural supply would prove of value during the early stages of any settlement.

*Anchorage and landing facilities.*—For convenience in landing passengers and gear, the "Nimanoa" was tied to the wreck of the "Norwich City" during the whole of our visit to Gardner Island. A fairly good 9 fathoms anchorage was, however, discovered by the officers of the vessel about  $\frac{1}{2}$  to  $\frac{3}{4}$  of a mile south of the wreck.

There is quite good landing during easterly weather, to the south of the wreck by the lagoon entrance, and a small amount of blasting could make the landing better than at some of the reef islands in the Ellice Group.

*Suitability for immigration.*—The delegates were quite certain that Gardner Island is suitable for settlement by Gilbertese or Ellice Islanders. They were overcome with astonishment at the fertility of the island and the Onotoa and Arorae natives, in particular, have made earnest representations that they should be permitted to colonise it jointly.

The delegates considered that practically the whole of Gardner Island was good coconut and pandanus land, with the exception of about  $\frac{3}{4}$  mile on the east and north-east coasts. This would largely depend, however, on whether soil well suited for the growth of "buka" trees is also suitable for coconut and pandanus cultivation. It is doubtful if the native "babai" would grow in such rich soil but limes, tomatoes, yams, kumaras, taro, and other plants that will not readily grow elsewhere in the Colony, should do quite well.

It is estimated that, when fully planted, Gardner Island should support a population of approximately 1,100 Gilbertese in comparative affluence.

*Miscellaneous.*—The island was found to contain thousands of enormous coconut crabs, which formed a welcome addition to the diet of the delegates. As the crabs were often met with several miles from the nearest coconut tree, it is obvious that they must feed on leaves and grasses as well as on coconuts. Rats and innumerable birds formed the other occupants of the island.

A large cairn was built in a conspicuous position midway between the wreck and the lagoon passage, surrounding a flagstaff and notice board. As similar notice boards were erected at the other islands, a copy of the inscription is enclosed.

Owing to the difficulty the Gilbertese have in pronouncing European names, the island was unanimously re-christened "Nikumaroro" and it is by this name that it is known throughout the Gilberts at the present time. The name happens to be exceptionally suitable as it was from the island of Nikumaroro, lying to the south of the Gilbert Group, that the famous Gilbertese ancestress Nei Manganibuka came, bringing with her the traditional lore of deep-sea navigation and the first "buka" tree.

#### CANTON ISLAND.

9. Owing to a due easterly wind and set it was decided to make straight to Canton, the northernmost of the Phoenix Group, from Gardner. Canton Island was reached at 9 a.m. on the 17th October, the ship anchoring in 7 fathoms, to the south of the main lagoon passage. On proceeding ashore I was met by Mr. F. H. Rostier, Administrative Officer, Phoenix Islands District. The first morning was spent examining the land in the vicinity of Mr. Rostier's station, two wells being dug. At 3 p.m. I left with Mr. Bevington and a number of delegates in the launch to inspect the remainder of the island. During the afternoon and evening the southern coast was explored, the party sleeping on the beach at the south-east corner of the lagoon, where Mr. G. V. Langdale, Assistant Administrative Officer, Phoenix Islands District, with his Niutao Island servant, had pitched their camp.

During the second day the eastern and the northern sides of the island were examined, several wells being dug in the vicinity of the old guano workings on the north-east corner. On the third day the area to the north of the present settlement was inspected, as far as the north-west point, thus completing the exploration of the island. In the meantime the remainder of the delegates had proceeded by launch to a point near the South-east corner, which we had found to be thickly covered with "mao" (*Scaevola frutescens*) scrub, in order to dig for water. Before our departure further wells were dug on the western side of the island, H.M.C.S. "Nimanoa" finally leaving at midnight on the 19th October.

10. *Topographical.*—The plan of Canton on Chart No. 184 is apparently an accurate one. The island is the largest in the Phoenix Group, being approximately  $8\frac{1}{2}$  by 4 miles. It is narrower than Sydney or Gardner and varies from a width of under 100 yards along portions of the southern shore to 500 yards and over on the western coast. The island is low—about 8 feet high on the western side rising to 30 feet on the eastern. A sketch map of the island showing the well sites, groves of trees, &c., is enclosed.

*Lagoon.*—The island encloses a large lagoon which, however, is shallow over most of its area and full of coral patches. Sailing from east to west and vice versa is rendered difficult owing to the fact that four long ridges of coral rock cross the lagoon from north to south. The lagoon to the north and north-west is clearer and, in any case, native settlers could soon find innumerable canoe passages through the coral barriers. As a landing ground for seaplanes or flying boats, however, Canton does not appear to possess such a fine lagoon as Hull Island.

There are three passages into the lagoon, all on the western side. The main entrance, just to the north of the anchorage and settlement, is deep and practicable for boats and canoes of any size. The inflow and outflow of the tide through this passage is said to run up to six knots, but we found that it was possible to haul loaded boats and canoes in and out of the lagoon by ropes at any state of the tide.

Besides the main passage there is a wide but shallow channel half way up the western side of the island and a small one further north. Neither of these are practicable for boats.

Owing to the small volume of water that can enter or leave the lagoon, the tidal rise and fall is small, particularly in the eastern portion.

*Fertility and flora.*—At first sight Canton appears rather barren and unprepossessing. The island was, however, thoroughly examined by the delegates, who were of the opinion that it was suitable for settlement. The island reminded one forcibly of what the Gilbert Group must have looked like before coconut and pandanus trees were planted by the ancestors of the Gilbertese. Apart from trees the flora was similar to that of the Gilberts. Boi, kiao, ntanini, tarai, wao (of both types), kaura, ruku, and various other standard plants and grasses of the Gilbert and Ellice Groups were all growing on Canton and, while there were few large bushes and trees, on one part of the island or another there were specimens of nearly all the standard Gilbertese varieties. Several "kanawa" trees were seen in the north-west and south-west and a large grove by the guano workings in the north-east corner. On the lagoon side of the western coast there was a considerable area covered with "aroua" bushes, a species allied to "ngea" (*Pemphis acidula*). It is noteworthy that on the south-east coast there was a stretch of flourishing "mao" bushes (*Scaevola frutescens* or Polynesian "ngashu"), for on the Central Pacific Atolls it is generally held that where the "mao" grows coconuts will grow also. Isolated clumps of "buka" (*Pisonia grandis*) and "ren" (*Tournefortia argentea*) trees were also noted and a few "non" bushes (*Morinda citrifolia*).

There were only ten coconut trees on the island, a clump of eight close to the settlement and two isolated ones on the north-west coast. The delegates were impressed with these trees, in view of the fact that isolated trees and clumps in the Gilbert Islands do not, as a rule, exhibit such a flourishing appearance. The natives pointed to the fact that, like the trees on Gardner but unlike

some on Hull and Sydney, the trunks showed no signs of "wasting," which suggests freedom from drought. The delegates stated repeatedly that, although several of the trees on Canton were bearing fairly well, it was idle to expect isolated trees to do any good as a general rule. They held, however, that if Canton Island were planted systematically the trees would provide the necessary shade and keep the ground moist and cool over large areas. This in turn would result in an increased rainfall, for at present the lighter rain clouds are being split by the strong heat radiation, resulting in a rainfall lower than that of the surrounding ocean. The soil was abrownish sand, with the exception of the middle portion of the south coast, where it was much lighter. While not so rich as on Gardner, and containing less organic matter, the soil appeared better than on Hull Island where coconut plantations are doing well. It was superior to any seen in the Gilbert Group.

*Water Supply.*—Ten wells were dug on Canton Island as follows:—

Three by the Government settlement, of which two were of good average quality.

Two on the north-west coast, of which one was of good average quality.

Two on the south-east coast, of which one was of good average quality.

Three on the east and north-east coast, none of which were fresh enough for drinking purposes.

The water was considered by the delegates to be similar in freshness to that found in many Gilbertese wells. It was not so good as the water found on Sydney Island but better than that on Hull.

*Fishing.*—Probably nowhere else in the Colony are fish so plentiful as in the vicinity of Canton. Both along the reef and inside the lagoon fish teemed and one had only to put a hook in the water to catch any number desired. The reef beaches were covered with turtle tracks and four large turtles were caught by members of the expedition. Sharks were plentiful everywhere.

*Anchorage and landing facilities.*—The anchorage is, I understand, the best in the Phoenix Islands. H.M.C.S. "Nimanoa" anchored without difficulty in 7 fathoms to a 30-fathom cable. By blasting some of the coral heads on the lagoon side of the passage, it might be possible for small vessels, such as the "Nimanoa," to enter the lagoon and anchor off the settlement.

The landing is easy anywhere inside the lagoon. There is also a good landing by a sandy beach on the seaward side of the passage, close to the spot marked "wreck" on the chart. This landing is practicable at any state of the tide.

*Suitability for immigration.*—The delegates considered that, given a reasonable rainfall, Canton is suitable for settlement by the Gilbertese. They stated that the island could be more easily planted than Gardner, owing to the absence of large trees and undergrowth; the water appeared satisfactory, and the island has a comparatively rich soil, which they thought was suitable for growing the food-bearing trees and plants that are cultivated in the Gilbert Islands. According to tradition the Gilberts used to be very similar to Canton before they were planted.

The best land on Canton is on the western side but the delegates considered that practically all the western, northern, north-eastern, and south-eastern coasts can be planted with coconuts. An ideal village site was chosen in a little bay about two miles to the north of the present settlement. What the Gilbertese considered good drinking water was found close to this site.

On returning to Beru Island meetings were held at which the delegates detailed their views on each island. I was much struck by the fact that, following these meetings, I was approached by the people of Beru who desired for various reasons to be allowed to colonise Canton in preference to any of the other islands in the Phoenix Group. It is estimated, if fully planted, Canton Island would be able to support a population of not less than 1,200.

*Miscellaneous.*—Canton Island was the home of millions of birds of the same species as those inhabiting Gardner. While on Gardner Island, however, the birds were able to nest in trees, on Canton they were compelled to nest on the ground and it was difficult to avoid treading on the eggs, which lay everywhere.

Although a number of small rats live on Canton the numbers seen did not appear to be more numerous than on many of the Gilbert Islands and the delegates considered that they could be easily kept down were the island settled.

A number of sprouting coconuts were noticed to the south of the Administrative Officer's house. These had, I believe, been planted by H.M.S. "Leith" some months previously. Although many of them appeared to me to be doing quite well the natives stated that they would be surprised if they lived as the nuts had been wrongly planted in shallow holes instead of several inches under the ground. Many of the nuts were lying half buried in the earth, exposed to the full withering effect of the sun's rays. The island was called "Aba Riringa" (Land of Sunshine) by the Gilbertese owing to the absence of shade.

#### ENDERBURY ISLAND.

11. H.M.C.S. "Nimanoa" left Canton Island at midnight on the 19th October, Enderbury Island being reached at 8 a.m. the following morning. The delegates were landed at once and divided into two parties to dig wells in the north and south portions of the island respectively. Well digging continued all day, during which time I explored the island from end to end. By nightfall the whole island had been examined and the delegates accordingly proceeded on board the Colony vessel, which left at 11 p.m.

12. *Topographical.*—The plan of Enderbury given in Chart No. 184 is, as far as we could ascertain, an accurate one. The island is  $2\frac{3}{4}$  miles long by about 1 mile in breadth. In shape it is roughly rectangular, trending N.N.W. and S.S.E. The island is about 18 feet above sea level at the highest point and much of the land area is composed of large slabs of compact coral rock, interspersed with the sandy soil, and giving off a ringing sound when struck.



*Lagoon.*—There is a small shallow lagoon without any inlet from the sea except, perhaps, at the highest tides. The main lagoon area is in the south centre of the island, with two smaller ponds in the north centre and south. The water is very salt and the shores were covered with saline incrustations. The lagoon is useless from the point of view of intending settlers, although it might be worth while mining the minerals such as gypsum and common salt, which it contains.

*Fertility and flora.*—The plants and grasses growing on Enderbury are identical with those found on Canton. No "buka," "ngea," or "mao" trees were seen, but there is a large grove of "ren" trees (*Tournefortia argentea*) on the centre of the western side of the island. About 200 yards north of this grove is a small artificial hill of guano, affording a view over the whole island, surrounded by clumps of "kanawa" trees, which appeared to be doing moderately well. As on Howland Island, however, the tops of the "kanawa" trees were dead.

There are three small clumps of coconut trees in the north, north centre, and south, containing 16, 10, and 13 trees respectively. The trees did not appear to be doing as well as on the other islands, but this may be due to the fact that they were growing in unsuitable positions. The trees in the south, in particular, were growing beside a salt pond in a depression from which all the guano had been removed. Only one tree out of the thirteen was bearing.

The delegates considered that Enderbury Island was more fertile than Canton. The soil appeared richer and the growth of plants was comparatively luxuriant, a large portion of the centre and south being covered with greenery. The roots of such plants as "te wao" caused astonishment, being far larger than in the Gilbert Islands. The inner lagoon was surrounded by a flourishing growth of "te boi" or purslane (*Sesuvium portulacastrum*?).

*Water supply.*—Seven wells were dug on the island, three in the north and four in the south. Unfortunately our attempts to find drinkable water were quite unsuccessful, as in every case the wells yielded water far too salt for use. Two of them were dug in what appeared to be the sites of former wells.

It is doubtful whether even the brackish water drunk by the Gilbertese will ever be found on Enderbury since Mr. George Findlay in his *Directory for the Navigation of the South Pacific Ocean*, fifth edition, 1884, states:—"As there is neither wood nor water upon the island ships visiting it for guano are required to land a certain quantity of each. The water used on the island is brought from Honolulu."

*Fishing.*—The supply of fish was plentiful, as on Gardner and Canton.

*Anchorage and landing facilities.*—No anchorage could be discovered and H.M.C.S. "Nimanoa" had to drift off the island while the delegates were ashore. According to Findlay, ships loading guano used to tie up to a large wooden buoy, moored on the western side in 75 fathoms, also securing by hawser to an anchor embedded on the shore.

The reef extends some hundred yards from the shore but is cut up by several channels. There is quite a good passage for landing just to the south of the centre of the east side. It could easily be improved by blasting.

*Suitability for immigration.*—The delegates considered the island to be suitable for planting with coconut trees. They liked the island as it was broad and fairly large—about the same size as Tamana in the Gilbert Group. They considered that "babai" and "taro" might grow well in some of the dried up ponds. It is obvious, however, that unless cisterns and catchment areas were built the island could not be colonised, although it might conceivably be planted and utilised by settlers living on Canton or some other island. Captain Schorf, however, in *Annalen der Hydrographie*, published in 1878, states that while squalls accompanied by light rain occur all the year round in the vicinity, very little rain falls on the island.

*Miscellaneous.*—Two abandoned settlements were seen on the island, and there were numerous traces of old tramways and buildings. A flagstaff and large cairn were erected facing the sea in front of the southern settlement. The usual notice board recording the visit was nailed to a post embedded in the cairn and two cannon, which were found lying beside the main house in the settlement, were placed on either side.

#### PHŒNIX ISLAND.

13. We left Enderbury at 11 p.m. on the 20th October, Phoenix Island being reached at 7 a.m. the following morning. The delegates landed without much difficulty through a small passage in the reef to the north of the centre of the eastern side. Should the wind be inclined to the north of east a better landing would probably be made at the spot marked "Landing" on the chart, where there is a distinct gap in the reef.

The plan of the island contained in Admiralty Chart No. 184 appeared to be correct. The island is of roughly triangular shape, with the corners rounded, and is about  $\frac{3}{4}$  mile by  $\frac{1}{2}$  mile in area. The beach rises rather abruptly to a plateau about 12 feet above the reef level. From this plateau the land slopes down to a lagoon occupying the east centre of the island, which is thus saucer-shaped.

There was very little water in the lagoon at the time of our visit and the island appeared to be suffering from a period of severe drought. The only vegetation noticed on the island was a flourishing green area of "te boi," or purslane, in the vicinity of the lagoon, "te wao," "te kaura" flower which was here procumbent, "kiao," and two species of grasses. The description in the *Pacific Islands Year Book* which states that the island is, "the most fertile of the group, with extensive growth of coconuts, and has a freshwater lake in the centre," would require amendment as there were no trees or even shrubs on the island and there were no signs of any coconuts having been planted at any time. The lagoon was quite salt, but might become fresh after heavy rains.

Six wells were dug on Phoenix but, although the natives went down to over 12 feet, water was only reached in two instances and was then found to be too salt for drinking.

Nowhere else in the Phoenix Group were there found such quantities of birds as on Phoenix Island. Wherever one walked dense clouds of wheeling birds flew overhead while the clamour could be heard from far out at sea.

A flagstaff and notice board were erected on the centre of the west coast surrounded by a large cairn of stones.

The hut, shed, and disused tramline, marked on Chart No. 184, should be deleted as there is now no sign of them except a very low wall and two rusty wheels. These were constructed by the Phoenix Guano Company, which discontinued working in 1871. This Company released rabbits on the island, which are still there in considerable numbers. About 25 were captured and taken on board.

H.M.C.S. "Nimanoa" anchored, in 11 fathoms to a 45-fathom cable, in a fairly good anchorage off the centre of the west side of the island.

Owing to its small size and the absence of water the island is useless for colonisation purposes. The natives, however, claim that it would afford a convenient stopping place for inter-island canoes proceeding from Canton to the southern islands. Apart from this problematical use, its only value is as a bird sanctuary.

#### BIRNIE ISLAND.

14. Leaving Enderbury Island at 11 p.m., H.M.C.S. "Nimanoa" arrived at Birnie Island at 7.30 a.m. on the following morning, the 22nd October.

Birnie Island was found to be about four-fifths of a mile long by one-third of a mile broad, trending north-west. Contrary to the report furnished by Captain Bevir of H.M.S. "Leith" the island contains a salt-water lagoon in the south-east. This lagoon is fed by a small stream of water which runs first into a curious artificial pond formed by coral slabs cemented together.

A large stone beacon, encased in an iron framework, was found on the eastern side of the island—not at the western as charted. This cairn was repaired and the usual flagstaff and notice board erected on it.

As the island, owing to its small size, was unsuitable for settlement purposes and we were anxious to reach Sydney Island before nightfall, no wells were dug. In any case there is little prospect of obtaining drinkable water on such a small island.

The vegetation was similar to that on Phoenix Island, but there were far fewer birds.

The Colony vessel anchored on the west side in 9 fathoms to a 30-fathom cable, the beacon bearing N.E. by N.  $\frac{1}{2}$  N. from the anchorage. No difficulty was experienced in landing.

This island also is of little use except as a bird sanctuary or a resting place for inter-island canoes.

#### SYDNEY ISLAND.

15. H.M.C.S. "Nimanoa" left Birnie at 10 a.m. on the 22nd October and reached Sydney Island at 6.15 p.m. We were boarded on arrival by Mr. J. W. Jones, Administrative Officer, who had arrived the previous midnight from Hull Island, having made the journey in a small open boat with an auxiliary engine. Mr. Jones is working the coconut plantations on the two islands under an agreement with Messrs. Burns, Philp (South Sea) Company, Limited, of Apia, Samoa. He had brought 11 unmarried Tokelau natives with him who were to be left to work the plantation on Sydney.

I went on shore that night with most of the delegates and inspected the old well, which had just been cleaned out. The water was found to be excellent, and very fresh. A further well was dug in the south-west of the island at midnight but the water proved to be undrinkable.

The following day the island was thoroughly explored by Mr. Bevington and myself, together with the delegates. Several more wells were dug in the course of the day. A meeting was called at nightfall at which the delegates stated that there was no point in staying another day as they had seen all the island. In view of the fact that the supply of fresh water on board the Colony vessel was running short, I thought it best to make for Hull Island without delay, anchor being weighed at 9.30 p.m.

16. *Topographical*.—Sydney Island is almost circular in shape, enclosing a completely land-locked lagoon. From east to west it is about 2 miles, and from north to south  $1\frac{1}{2}$  miles. The average height of the land is approximately 10 feet and the width, from sea to lagoon, varies from 100 to 400 yards. The plan of the island contained in Chart No. 184 was found to be fairly accurate.

*Lagoon*.—The lagoon, though now shallow and full of exposed sand banks, was evidently more extensive in former times. Having no inlet from the sea, the continual evaporation has made the water very salt and there are now no fish in it. An old stone fish trap testifies to the fact that the water was once fresher. The lagoon can still, however, be used by canoes.

*Fertility and flora*.—The soil, while rich if compared with that of the Gilbert Islands, was lighter and sandier than on the islands visited previously. The delegates considered it to be suitable for the cultivation of all the food plants of the Gilbert and Ellice Groups.

The vegetation was similar to that seen in the Ellice Islands, though a few trees such as the "ngea" (*Pemphis acidula*) and "ango" (*Premna taiensis*) were not noticed. The coconut trees appeared to be doing well and had a yield greater than in the Gilbert Group. Some of the trees showed, however, signs of "waisting." There were very few pandanus trees but those that were seen were doing extraordinarily well, the size of the leaves, which are valuable for thatch making and mat weaving, being greater than elsewhere in the Colony.

There were no taro or "babai" pits but the delegates considered that there was no reason why these plants should not grow well if cultivated.

*Water supply.*—Two good wells were found, both of them being old sites. The fresh water area would appear to be confined to the west and north-west parts of the island as wells dug elsewhere produced brackish water only. The water from the old site near the village was above the standard of the average Gilbertese well.

*Fishing.*—While there were no fish in the lagoon there was no lack of fish off the reef. Many species, however, were said to be poisonous and the delegates refrained from eating any. Should the island be colonised it would not be long before the natives became experts in knowing the species of fish that should be avoided.

*Anchorage and landing facilities.*—H.M.C.S. "Nimanoa" anchored in  $9\frac{1}{2}$  fathoms to a 30-fathom cable, the beacon bearing E. x N. from the anchorage. Apart from Canton the anchorage is probably the best in the Phoenix Group. As on most low islands in the Colony it could not be used in westerly weather.

The best landing was found to be about 200 yards north of the beacon, opposite the manager's house. Except during rough weather the landing should not be difficult for canoes. We landed both in canoes and a whale boat after dark without mishap and no difficulty was experienced in maintaining communication to and from the ship throughout the following day. I should not, however, care to attempt to land except in very calm weather unless natives, used to surf work, were in charge.

The delegates did not consider that the nature of the landing would offer any obstacle to colonisation.

*Suitability for immigration.*—The island would appear to be eminently suitable for colonisation by Gilbertese or Ellice Islanders. From a rough estimate made by Mr. Jones, 250 acres have been planted with coconuts, and a further 300 to 500 acres are suitable for planting. It is estimated that the island would support some 400 Gilbertese or 250 Ellice Islanders at the present moment and, when fully planted, at least 900 Gilbertese or 550 Ellice Islanders.

*Miscellaneous.*—It is evident that both Hull and Sydney Islands were inhabited by members of the Polynesian race in former years, since the Templeton Crocker Expedition in 1933 found no less than 31 stone structures on the two islands.

A number of excellent roads, the remains of old tramways, traverse parts of the island. These are said to have been constructed by Lever Bros., who formerly worked the island for copra.

There were a considerable number of wild pigs and fowls in the bush. The pigs are said to live on the fruit of the "non" tree (*Morinda citrifolia*).

A flagstaff was erected on the old beacon and the usual notice board, recording the visit, nailed beside it.

The island was christened "Manra" by the Gilbertese, after one of the islands of their traditional fatherland.

#### HULL ISLAND.

17. H.M.C.S. "Nimanoa" left Sydney at 9.30 p.m. and arrived at Hull Island at 7 a.m. the following morning, the 24th October. Mr. Jones was given a passage on board and his boat towed behind. The delegates were landed and the wells inspected. During the course of the first day several of the delegates succeeded in walking right round the island, while Mr. Bevington and myself inspected the area already planted. During the night Mr. Jones' launch and whale boat were brought into the lagoon through the north-west passage and on the second day he kindly took the whole party around the lagoon, landing us at various places to examine the land. As the delegates were perfectly satisfied that the island was in every way suitable for colonisation and that they had seen everything, we left for McKean Island at 3.45 p.m.

18. *Topographical.*—Hull is a quadrilateral shaped island approximately 7 miles long by 3 miles wide and trending N.E. and S.W. The island is a typical atoll, cut up into small, narrow, islets and enclosing a lagoon about  $6\frac{1}{2}$  miles long by  $2\frac{1}{2}$  wide, the width of land between lagoon and reef varying from half a mile on the west side to under 100 yards on parts of the east. The plan of the island in Admiralty Chart No. 184 would appear to under-estimate the size of the island.

*Lagoon.*—The lagoon at Hull is probably the finest in the Phoenix Group. Especially in the east and north it is deep and remarkably free from coral heads and should make a better base for seaplanes or flying boats than Canton Island. There are no less than 17 passages into the lagoon, three of which—two N.W. and one S.E.—are said to be practicable for boats at half tide and over. The widest of these three passages is about 40 yards. Navigation in the lagoon is easy for boats or canoes and it teems with fish.

*Fertility and flora.*—The soil and vegetation are very similar to Sydney though the island as a whole is not so fertile. This is largely due to it being, on an average, much narrower. Certain trees, however, such as the "non" and "buka," appear to be more flourishing on Hull than Sydney. The "non" (*Morinda citrifolia*) in particular was conspicuous all over the western side of the island and the fruit was said to be the main food of the wild pigs.

The coconut trees appeared thriving and even isolated clumps on the small atolls were doing well. Several likely sites for taro and "babai" pits were noticed.

*Water supply.*—The only likely part of the island for finding fresh water is the west side, where the land is thickest. Three wells were sampled there and found to be of drinkable quality, though probably not so good as the average Gilbertese or Ellice Islands well. The delegates were satisfied with the water, stating that it was similar to that drunk in many villages, such as Betio on Tarawa, in the Gilbert Islands. Further digging would no doubt result in slightly better wells being discovered.

Two other wells were found to be suitable only for washing or for drinking during the rainy months of the year.

*Fishing.*—There was no lack of fish both in the lagoon and on the reef. As on Sydney, however, some species were said to be poisonous. The Tokelau Islanders living ashore had learned which varieties were to be avoided and any colonist would no doubt also speedily acquire the necessary local knowledge.

*Anchorage and landing facilities.*—A quite good anchorage was found in 10 fathoms, the "Nimanoa" anchoring to a 30 fathom cable. The best landing is close to the anchorage opposite the beach copra shed. No difficulty should be experienced in landing except during rough or westerly weather.

*Suitability for immigration.*—The island would clearly prove ideal for colonisation by Gilbertese or Ellice Islanders. Mr. Jones estimates that approximately 280 acres have been planted and that at least a further 800 acres are suitable for growing coconuts or pandanus.

The island should support approximately 350 Gilbertese or 200 Ellice Islanders immediately and about 1,100 Gilbertese or 650 Ellice Islanders when fully planted.

*Miscellaneous.*—There are approximately 30 Tokelau Islanders, including nine married women, on Hull Island. These are labour indentured from Fakaofu by Mr. Jones and are employed in copra making.

There are said to be a large number of wild pigs on the island, although none were actually seen.

Mr. Jones has erected a good flagstaff on the western coast to the north of the copra shed. The usual notice board was placed beside it.

The new manager's house is a fine raised dwelling built of European materials and facing towards the lagoon. The married labourer's houses, of native construction, are beside it, while the single labourers live in an airy dormitory raised on piles, on the western side of the island. The wreck of the a.s. "Makoa" can be clearly seen on the reef opposite the anchorage, though the sea is rapidly demolishing the wooden hull. Mr. Jones has made much use of materials obtained from the wreck for building purposes.

The island has long been known as "Orona" throughout the Colony, this being the name given to it by the Ellice Islands labourers who used to work on the plantation there.

#### McKEAN ISLAND.

19. McKean Island was reached at 11.40 a.m. on the 26th October. Most of the delegates landed and explored the island which was found to be almost circular in shape with a diameter of less than half a mile. The plan of McKean on Admiralty Chart No. 184 was found to be quite inaccurate and a sketch survey of the island was made by Mr. Bevington, who has been requested to forward it direct.

The island has a lagoon depression containing, when we saw it, a little almost pure salt water. The lagoon, however, contains deposits of gypsum and guano as on Enderbury, Phoenix, and Birnie, and the water level is said to rise and fall with the tides, holding as much as two feet of water at high tide.

The vegetation was identical with that on Phoenix and Birnie Islands, and consisted of six species, the "boi" (*Sesuvium portulacastrum?*) being the most luxuriant. Low walls on the centre of the western side showed that there had once been several buildings on the island in connection with the guano deposits.

As on Enderbury and Birnie, there was no flag or any sign that the island had been visited for a great number of years. A large cairn was accordingly made on the crest of the western beach in front of the main building and a flagstaff with the usual notice board erected on it.

Landing was difficult at first, two canoes being swamped, but a good passage through the reef was discovered later, opposite the present flagstaff. The "Nimanoa" did not anchor off the island, as we were only ashore for a few hours.

Next to Phoenix Island, McKean is probably the favourite breeding place of the frigate bird and should be declared a bird sanctuary. As on all other islands, small brown rats were encountered.

20. McKean was left at 3 p.m. and our course was set direct for Beru Island. The return voyage was uneventful, calm seas and favourable winds being encountered all the way. Owing to our crossing the International Date Line there was no Friday the 29th.

We arrived at Beru Island on the 31st October at 8 a.m. and the delegates disembarked immediately, as the ship had orders to proceed to Tarawa for water and decarbonisation. Mr. Bevington and I also landed, the former taking charge of the Southern Gilbert Islands District from Mr. A. C. F. Armstrong. After a week on Beru Island, I left for Ocean Island direct on the 8th November, arriving there on the 11th.

21. During the week spent on Beru meetings were held of the Native Government and later the whole island at which the delegates described the various places visited. Many of the delegates also visited the villages and spoke at unofficial gatherings. By attending these meetings and at the same time making numerous enquiries among the islanders known to me I was left in no doubt as to the view the Gilbertese will take with regard to the colonisation project after they have had an opportunity of hearing the reports of their delegates. Enthusiastic though the natives have been from the outset there was yet mixed with their eagerness a certain incredulity as to whether the Government was really going to take any practical steps to help them. There was, furthermore, a feeling that if the Phoenix Islands were of the slightest use they would surely be handed over to Europeans to exploit rather than to natives to colonise. By taking their delegates to view the islands, however, the Government has now convinced the most sceptical among the natives that it genuinely intends to assist them, and the eulogistic descriptions of the promised land given by the vast majority of the delegates has heightened the general enthusiasm.

Though I have informed the natives that a project of this nature, even if finally approved, will necessarily entail much careful and detailed planning and that no further move need be anticipated for some months to come, yet not a few natives are said already to have packed their boxes and wound up their affairs, lest when the eagerly awaited day comes they may be found not ready.

22. Before concluding I should like to pay a tribute to the manner in which Captain M. L. Singleton, and the officers of the H.M.C.S. "Nimanoa," co-operated to make the expedition a success. Although nearly every island was reported to lack an anchorage, the "Nimanoa" was navigated up and down the lee side of each until either a suitable spot was found or it was reasonably certain that none existed. As a result anchorages were discovered on every island except Enderbury and McKean and, had time permitted, it is possible that one would have been found at McKean also. Had these anchorages not been found it would have been impossible to have carried out the full programme of the expedition, as the ship can carry only a limited supply of fresh water. My thanks are also due to Mr. E. V. Bevington, Cadet Officer, who was of notable assistance throughout.

I have &c.,

H. E. MAUDE,  
Commissioner for Native Lands, Gilbert Islands.

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*Enclosure to II.*

INSCRIPTION ON NOTICE BOARD ERECTED AT GARDNER ISLAND

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GILBERT AND ELLICE ISLANDS COLONY.

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ADMINISTRATIVE VISIT TO GARDNER ISLAND.

H.M.C.S. "NIMANOA."—OCTOBER, 1937.

M. L. SINGLETON,  
MASTER, H.M.C.S. "NIMANOA."

H. E. MAUDE,  
ADMINISTRATIVE OFFICER, G. & E.I.C.

Similar boards were placed on each of the other islands.

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III.

REPORT ON SETTLEMENT SCHEME FOR THE PHŒNIX ISLANDS WITH  
PRACTICAL DETAILS AND ESTIMATES.

Sir,

Ocean Island, 6th January, 1938.

I have the honour to submit the following report on the proposal to alleviate the over-population and "land hunger" existing in certain parts of the Colony by assisting the more hard-pressed families to migrate to the islands of the Phœnix Group. As stated in my letter No. 11 of the 19th November, I estimate that not less than 3,500 Gilbertese and 130 Ellice Islanders will be found to be genuinely anxious to migrate owing to the insufficiency of their land holdings, and therefore deserving of Government assistance. Both in the Gilbert and Ellice Groups, however, I was informed by the natives that while they were prepared to go anywhere considered suitable, they themselves were anxious to be allowed to settle on Christmas Island rather than the Phœnix Group. As a result of my recent visit it was clear, moreover, that the Group is only capable of supporting some 750 Gilbertese at the present time. It would be a grave mistake, therefore, to embark on any scheme for the settlement of the Phœnix Islands without considering whether or not other atolls, such as Christmas Island, exist in the Central Pacific, as well or better suited for colonisation purposes. This subject can, however, be better dealt with in a separate letter and I am confining myself here to a consideration of the practicability of settling some at any rate of the potential emigrants in the Phœnix Group and with the details connected with the scheme.

PART I.

THE PHŒNIX ISLANDS—THEIR SUITABILITY.

2. Reference to my Confidential letter of the 3rd December will show that the majority of the native delegates taken on the recent expedition considered that four out of the eight Phœnix Islands were suitable for permanent settlement—namely, Hull, Sydney, Gardner, and Canton. The opinions there recorded were those of the majority of the Gilbertese delegates, the Ellice Islanders holding, as a general rule, markedly different views on the whole question of colonization. These views will be detailed and discussed later.

While I agree with the delegates that it is well worth attempting a settlement on each of these islands I consider that owing to differences in rainfall and soil the chances of success are greater on Hull and Sydney than on the other two.

## CLIMATE.

3. Meteorological statistics concerning the Phoenix Islands are virtually non-existent. It seems almost certain, however, that the islands fall climatically into two groups—

- (a) The northern "dry" islands, consisting of Canton, Enderbury, McKean, Birnie, and Phoenix, all lying between latitudes 2.49 and 3.42 S.
- (b) The southern "wet" islands, consisting of Sydney, Hull, and Gardner, lying almost due east and west between latitudes 4.27 and 4.41 S.

(a) *The Northern Islands*.—Writing of Enderbury, Captain Elias Hempstead states that during the three years he was there, "the wind blew steadily from E.N.E. to E.S.E. three-quarters of the time, the other quarter from N.E. to S.E. I have never experienced the wind from the westward. Very little rain falls on the island, although it rains heavily in the immediate vicinity."<sup>1</sup> Captain Schorf says of the same island that, "the winds prevail almost constantly from the eastward, but squalls accompanied by light rain occur all the year round in the neighbourhood; very little rain falls on the island. The wind is variable from January to May, during which period bad weather is most common."<sup>2</sup>

Observations taken by Mr. F. H. Rostier on Canton Island during September and October show the average temperature at 8 a.m. to be 83°; at 2 p.m. 85°; the daily average variation being between 79° and 85°. The relative humidity varied between 76 per cent. and 83 per cent., with an average of 80 per cent. The wind was always from the east. Rain fell on 8 days in September and 11 days between the 1st and 17th October. Rainfall figures subsequently telegraphed to me give totals of .85 of an inch for September, .41 for October, .41 for November, and .03 for December.

The scanty information at our disposal tends to show that Canton and the remaining northern Phoenix Islands have a climate and rainfall similar to the neighbouring Howland and Baker Islands, and Jarvis Island on the same latitude, concerning all of which figures have been published.<sup>3-5</sup> In temperature and relative humidity the islands are comparable to the Southern Gilberts, but, while the precipitation on the surrounding ocean is the same, the rainfall on the islands is less owing to the absence of trees which would prevent the heating of the land surface. The thin and precumbent vegetation cannot prevent the strong radiation, which breaks up the rain clouds, causing them to precipitate into the ocean around, and at the same time dries up any moisture there may be in the soil. Owing to radiation from the extensive phosphate fields, a similar phenomenon is sometimes seen on Ocean Island.

The characteristic feature of a climate such as that of the northern Phoenix Islands is thus an exceedingly even temperature, with relative humidity lower than on the surrounding sea. Clear skies as a general rule but with fairly frequent light showers. Except during westerly weather, heavy showers or rainy days are unknown, and precipitation is lower than on the ocean around. Westerly weather undoubtedly does occur, as in the Gilbert and Ellice Groups, but a year or more may pass without a westerly season.

(b) *The Southern Islands*.—The only observations which I have been able to obtain concerning the three southern islands are those made by Mr. J. W. Jones on Hull Island during a 15 day period in August, 1937. These show the average morning temperature to be 81°, rising to 82° only at midday. The wind varied continuously from E. to S.E. From the general appearance of the islands and an inspection of the flora, soil, pools, &c., I am of the opinion that the rainfall and general climatic conditions represent a mean between those obtaining in the northern Ellice Islands and Arorae and Tamana in the southern Gilbert Islands. The relative humidity appeared high, as in the Ellice Group, and the growth of many plants was more luxuriant than in the Gilberts but, on the other hand, droughts of short duration appear to be more common on Hull and Sydney than in the Ellice Islands. In any case there does not appear to be any reason, from the point of view of rainfall or other climatic conditions, why the three southern islands should not be perfectly suitable for permanent settlement.

## SOIL.

4. The comparatively light and sandy soil of Hull and Sydney Islands have been proved to be suitable for the growing of coconut and pandanus trees, the main sources of the food supply of the proposed settlers. There is no reason to suppose that "babai" and taro, which are practically the only other food plants grown by the natives, should not also do well and, in any case, it is quite possible for the Gilbertese to live comfortably without these tubers which, on the poorer islands, form a luxury diet eaten mainly on feast days.

With regard to Gardner Island, as stated in my main Report I consider this to possess the richest soil in the Colony, with the possible exception of Washington. Characteristic of the island are the extensive groves of flourishing *Pisonia* trees growing in a rich dark brown mould. The delegates considered that practically the whole of Gardner was good coconut land. Subsequent investigations have, however, inclined me to the view that land favoured by *Pisonia grandis* may not prove as suitable for the growth of coconut palm. To quote Christophersen, writing on Palmyra Island,—

"The forests of *Pisonia grandis* are associated with highly phosphatic soils of an acid reaction, and almost entirely composed of organic matter. The presence of a hard pan consisting of coral conglomerate more or less completely transformed into calcium phosphate, is also characteristic. The coconut forest, on the other hand, is associated with sandy non-phosphatic soils of an alkaline reaction, and with a medium or low percentage of organic matter. No hard pan is present."

This is borne out by the findings of Mr. B. Fairfax-Ross on Fanning. In his confidential report on that island he states that:—

"The planted sections are, however, almost entirely phosphate rock and hardpan areas. Almost without exception the planted sections grew excellently as very young

palms, formed robust butts, but failed as soon as the roots reached the rock strata. These areas commenced with a very prolific yield, but at 10 years old were almost non-bearing and shortly finished."

The soil, of Canton Island appeared to be midway between the rich mould of Gardner and the lighter and more sandy soil of Hull and Sydney. The same remarks apply, therefore, to Canton, though to a lesser degree.

#### HEALTH CONDITIONS.

5. I was informed by Native Medical Practitioner Tutu, who accompanied the recent expedition, that there was no reason, from a medical point of view, why Gilbertese or Ellice Islanders should not live perfectly normal healthy lives as permanent settlers on any of the islands in the Phoenix Group, provided they had an adequate supply of suitable food and water. An adequate food supply exists at present on Hull and Sydney Islands only, the remainder lacking coconut trees for more than a handful of settlers. He considered that, at the time of visiting the islands, the water supply on Sydney, Gardner, Canton, and Hull Islands was sufficiently fresh for consumption by the Gilbertese, who are accustomed to drinking similar brackish water from their own wells. As will be seen later I do not, however, recommend the permanent settlement of Gilbertese or Ellice Islanders without the provision of tanks or storage cisterns and catchment areas, for emergency use.

It would appear obvious that with similar climatic conditions and range of temperature, and in the absence of any indigenous population, native settlers from this Colony are unlikely to suffer from any diseases other than those to which they are accustomed in their home environment. The Europeans and natives seen on Canton, Sydney, and Hull were keeping in excellent health and Mr. Rostier spoke highly of the climate. Natives of this Colony who have lived for years in the Phoenix Islands as indentured labour have told me that they kept in perfect health throughout their stay.

There are no mosquitoes native to the islands but past experience has shown that they invariably arrive with the native labour sent to work on the guano deposits or plantations. These immigrant mosquitoes are presumably *Culex* and/or *Aedes variegatus*. No *Anopheles* have ever been recorded.

6. The suitability of each of the four islands for colonization purposes is briefly summarized below in the light of my report on the recent expedition and of the foregoing observations.

#### HULL ISLAND.

I consider this island to be quite eligible for colonization by natives of this Colony. I am confident that the rainfall and climatic conditions will prove to be suitable. The soil has been found to be favourable for the cultivation of coconut and pandanus trees and there is every reason to suppose that "babai" and taro will also grow. It is possible for visiting ships to anchor during fair weather and the landing is not difficult at such times. There is a plentiful supply of fish both in the lagoon and off the reef. In my opinion the only difficulty with regard to this island is the water supply. The delegates, however, drank the well water on Hull Island and were confident that it was suitable for use as the sole supply of any future colonists. Furthermore, Mr. A. F. Ellis, who is the recognized authority on the Phoenix Group and who lived on Hull Island for a considerable time, states in his Notes attached to His Honour's Confidential letter of the 28th May, that, "Fairly good well water is obtainable, the principal well being about 100 yards to the north-east of a stone beacon erected at the west point." Nevertheless, for the sake of safety, I would recommend that, if the island should be permanently colonized, two 30,000 gallon cement storage cisterns, together with a suitable catchment area should be erected for use during a possible emergency. Subject to this provision I consider that at least 350 Gilbertese can be sent to the island immediately and that the settlers can be gradually increased up to a maximum of not less than 1,100 as the remainder of the island is planted with food-bearing trees. As in all my estimates of the numbers of colonists which an island can safely bear at present or in the ultimate future, I have endeavoured to keep on the conservative side and my figures are less than those given by the majority of the delegates. The Onotoa delegates, for example, considered that Hull Island could support a present population of 700 and an ultimate 1,300, while the Arorae delegates held that it could carry 500 at the present time and no less than 2,000 when fully planted. After mature consideration I recommend that Hull Island should be assigned to the natives of Beru for colonization, in view of the fact that their need is by far the greatest and that they possess even at the present moment sufficient numbers of potential emigrants to fill the island when fully planted. This question will, however, be dealt with in fuller detail later on.

#### SYDNEY ISLAND.

I consider that this island also is suitable for permanent settlement. The rainfall and climatic conditions are the same as for Hull Island. The soil is probably even better suited for the cultivation of native food-bearing trees and plants. The anchorage is better than at Hull but the landing is not so good. It would, however, offer little difficulty to natives during fine weather. In this connection it should be emphasised that it was possible to ship guano and land supplies for 100 labourers throughout the period when it was being worked by John T. Arundel and Company, and some 40 tons of copra per annum have been exported from the island for a great number of years. Fish are plentiful off the reef, but there are none in the lagoon. The native delegates considered the well water to be definitely good and above the standard of the average Gilbertese village well. Although the water appeared to be quite drinkable even to an European like myself I would nevertheless recommend that a storage cistern of say 30,000 gallon capacity should be erected for emergency use, if it be decided to colonize the island. Provided

this is done I consider that at least 400 Gilbertese can be sent to Sydney Island immediately and that the numbers can be gradually increased to 900 or more. As against my perhaps somewhat cautious estimate, the delegates from Onotoa considered that the island would hold 700 natives at the present time and 1,400 when fully planted. The corresponding figures as given by the delegates from Arorae were 600-700 and 2,200. As stated later I am of the opinion that Sydney should not be allotted to any one island for colonization purposes but that suitable settlers from any of the over-crowded islands in the Central and Southern Gilberts, with the exception of Beru, should be allowed to settle there.

Mr. Ellis, in his above-mentioned Notes, refers to the depredations of rats proving a problem on this island. There are small rats on all the islands of the Phoenix Group, as in the Gilbert Islands, but I do not for a moment consider that they will present any problem to future settlers. Should they become at any time inconveniently numerous I would recommend the time-honoured expedient of offering a penny a tail for dead rats as the easiest and most successful method of reducing the numbers of these pests to a reasonable figure. In the days when this method was employed in the Colony I saw campaigns result in the virtual extermination of the rodents on islands larger than either Hull or Sydney in less than six weeks, and for an average expenditure of about £15 which went directly into the pockets of the poorest natives; whereas since the method was discontinued in favour of poisoned baits, &c., the rat population has increased by leaps and bounds and is once again becoming a nuisance throughout the islands.

#### GARDNER ISLAND.

I believe that it is well worth while making a serious attempt to plant and colonize this island. The climate is similar to that of Hull and Sydney Islands and the rainfall would appear to be, if anything, heavier. There is an anchorage and fair landing. Fish are very plentiful both in the lagoon and off the reef. The delegates were satisfied with the well water found, which was better than on Hull Island. The only doubt in my mind with regard to this island is whether the large areas covered with *Pisonia grandis* will prove to be suitable for the growing of coconut trees. Mr. Ellis, in his above mentioned Notes, suggests that the reason why certain coconut trees planted by J. Arundel and Company did not do well was either "because a heavy drought was encountered while the plants were still immature or, more likely, because the large numbers of crabs there ate them off." I believe that these trees were planted about 1890 and, while there was a severe drought in the Gilbert Islands, and presumably in the Phoenix Group also, from 1890-1894, yet it would appear more than possible that the reason that the trees died was because they were planted in soil which proved unsuited to their growth. The coconut trees at present on the island are all growing in areas adjacent to the lagoon and none of them are in very close association with the *Pisonia* groves. Should the trouble, however, prove to be the coconut crabs, they could be fairly easily exterminated by the natives.

While, therefore, the point whether soil favoured by *Pisonia* trees is also suited for coconut cultivation must, I think, remain a debatable one until fairly extensive plantings have been made; there is nevertheless, in my opinion, sufficient open country, particularly in the south-east, to warrant permanent settlement. This open country was very like similar areas in the Gilbert Islands and there is every reason to believe that coconut and pandanus trees would do well there. There are, also, further areas around the lagoon shores similar to those where coconut trees are flourishing at present. Much of the island, furthermore, particularly on the north coast, carries only poor specimens of *Pisonia* trees, and it is quite possible that this type of soil, ill-adapted for the growing of "buka," may prove suitable for coconut palms.

Should an attempt not be made to colonize this island it will prove a grave disappointment to the natives of the Colony, since the delegates have brought back such glowing accounts of the eminent suitability of the island for settlement that it is generally considered the finest atoll in the Colony and everyone I have spoken to is anxious to be given a chance to go there. If the Government is not willing to finance an experimental settlement I feel sure that the natives of Onotoa and Arorae would be more than anxious to refund the cost of such an undertaking, provided they were allowed to colonize the island between them. My estimate that the island would support a total population of 1,100 when fully planted, given in the main report, was, of course, based on the assumption that the *Pisonia* areas would carry coconut trees. This figure may be compared with the estimate of 1,500 and 1,600 made by the Arorae and Onotoa delegates respectively. Should the *Pisonia* areas not prove plantable the island would still, in my opinion, be able to carry a substantial population, though I am unable to give an estimate of the exact number of hundreds which it could then support as it would depend on the areas which experiment found suitable for coconut and pandanus cultivation.

I recommend that the island should be allotted to the natives of Onotoa and Arorae jointly for the purpose of colonization but that the expense of the settlement should be met from Government funds. I suggest that five young men in charge of two carefully selected middle aged natives of standing should be sent from each island, the whole Group to be under the direct control and supervision of a native or half-caste appointed by the Government. I believe that on Gardner Island these pioneer planters could safely be accompanied by their wives and children and that it would be advisable for them to be allowed to do so. The labourers could be legitimately expected to obtain their own food from the resources of the island—the unlimited supplies of fish, the birds, coconut crabs, turtles, and the fruit of the 111 bearing coconut trees. It would be desirable, however, to supplement this, at any rate at first, with a strictly limited daily ration of unpolished rice per family. On the advice of the native delegates and others I recommend that each of the 14 labourers should receive a nominal wage of say £1 per month recoverable, if desired, from the islands concerned. The native is unfortunately not so public spirited that he will plant land for strangers without remuneration and the payment of a small salary will enable the Government to insist on the work of planting being done. The payment will, furthermore, prevent the labourers



acquiring rights over the lands planted, which they would otherwise possess in perpetuity in accordance with Gilbertese custom. I would suggest that the overseer should receive a salary of £36 per annum and, should he not be an Onotoa or Arorae native and therefore directly or indirectly interested in the venture, the usual issue of Government rations.

It is recommended that a 10,000 gallon cement storage cistern should be erected on this island for emergency use. Sufficient corrugated iron sheets should be sent to roof the labourers' dwellings, as there are no pandanus trees and not enough coconut leaves for thatch making. The houses would at the same time form a catchment area for the cistern. Except for the roofs, all the houses can be constructed from materials on the island itself. A rat proof container would, however, have to be built for the rice and other stores.

As the island becomes gradually planted up and the trees come into bearing free settlers from Onotoa and Arorae would be allotted areas and the labourers, having finished their work, could either stay on as permanent settlers or return home. In such fertile soil it should take about four years for the first tree to bear. Although the labourers should complete their work of planting within a year it would be necessary for at any rate some of them to stay on to look after the plantations of immature trees as without such after care they would take longer to bear and the percentage of failures would be far greater.

#### CANTON ISLAND.

I would urge that an attempt be made to colonize this island also. It has the best anchorage in the Group and the best landing. Probably nowhere else in the Colony are fish so plentiful. The delegates were satisfied with the water, which they considered better than that on Hull. Any scheme of settlement must, however, be in the nature of an experiment, as we are necessarily working with two practically unknown factors—soil and rainfall. As has been explained before, the soil, while not the rich mould of Gardner Island, is yet definitely darker and richer than the soils of Sydney, Hull, or the Gilbert Islands. It may possibly, therefore, prove unfavourable for coconut cultivation. Against this, however, is the fact that the few coconut trees which are growing on the island are mostly situated in the middle of the land area, and are growing straight out of typical brownish soil. They appear, furthermore, to be doing well.

I have already explained my reasons for believing that the island has at present a very small rainfall. In my main report I have, however, detailed the contention of the delegates that were the islands planted systematically the trees would provide the shade required to keep the ground moist and cool, which would in turn reduce the heat radiation and result in a rainfall similar to the Gilbert Islands. I have little doubt that this would be the case provided a sufficient number of palms reached maturity to decrease heat radiation. The phenomenon of increased rainfall following tree planting has been observed elsewhere and must have taken place in both the Gilbert and Ellice Groups when they were first planted.

My own opinion is that certain areas, notably that covered in *Scævola* scrub, will almost surely be found suitable for coconut palms and that there is a distinct possibility that the whole island will be found to be plantable. Should there be no actual drought in the Central Pacific area during the next few years I believe, furthermore, that the present normal rainfall on the island will be sufficient to bring the trees to maturity. The trees belong to J. Arundel and Company, and were planted, I understand, in 1886 and would consequently have had the drought of the early '90s to contend with while they were still immature, which would account for their not having flourished.

The island is a very large one and, if coconuts eventually did well there, should support a correspondingly large population. My own estimate of a possible 1,200 is modest when compared with that of the Arorae delegates, who considered that the island could support 3,000. If any of the areas which the delegates considered favourable for coconut growing eventually prove unsuitable the estimate will, of course, have to be correspondingly reduced. In any case I consider that it would be a great pity not to make an experimental settlement of Canton although the result of the attempt must be largely unpredictable. Apart from other reasons, should Canton Island become, in the future, an air base on a trans-Pacific route the importance can be readily seen, from an Empire point of view, of having a settled permanent population on the island.

I recommend, therefore, that ten labourers in charge of two older men and a Government appointed overseer should be sent from Beru Island to Canton. I am not in favour of the labourer being accompanied by their families, as Canton is not, at the moment, a very suitable place for women and children. I recommend that they should be given nominal wages as in the case of the Gardner Island labourers, and full rations with the exception of meat or fish. The overseer should be paid and rationed as for Gardner Island. A supply of lemon juice or other anti-scorbutic would have to be taken and issued regularly and the natives compelled to eat the portulacca, known to them as "te boi," which grows readily all over the island.

A 10,000 gallon storage cistern should be erected for emergency supply and sufficient corrugated iron sheets would have to be sent for roofing the labourers' houses and providing a catchment area. All materials for house building will have to be provided as there is no local timber available. The labourers, however, could live together in a single building which should be large enough to provide sufficient catchment surface. The procedure of planting, after care, &c., would be the same as for Gardner, though, as the land is already cleared, the actual planting should be a very much more rapid process.

#### PART 2.

##### SCHEME FOR PARTIAL SETTLEMENT OF HULL AND SYDNEY ISLANDS.

7. In a recent discussion with His Excellency the High Commissioner, Mr. James Burns, the Chairman of Directors of Messrs. Burns, Philp and Co. Ltd., offered to enter into negotiations with the Government with a view to handing over certain unplanted areas on Hull and Sydney

Islands, together with the whole of the unplanted islands, for the use of free settlers. As a result of visiting these islands I do not consider that Mr. Burns' suggestion is a practicable one, for the following reasons:—

- (a) the islands are too small for both free settlers and a private company to make a living;
- (b) the best lands are already planted and only inferior areas would be available for the settlers;
- (c) there is only one possible site for a village on either Hull or Sydney and in each case this is situated in the middle of the planted area;
- (d) the only part of the islands where even moderately fresh well water is obtainable is in the west and north-west of Sydney and the west of Hull. These areas are again in the centre of the existing plantations.

I do not believe that anyone who had actually been over Hull and Sydney Islands would consider that a scheme of partial settlement could prove successful, as the numbers of free settlers who could be sent would be very small, and their administration at such a great distance from the nearest permanent settlement would result in a constant drain on the Colony's finances altogether disproportionate to any benefit that would accrue to the native community. I was informed by Mr. J. W. Jones, who works the existing plantations on Hull and Sydney, that he was not prepared to carry on if free settlers were introduced by the Government, as they would inevitably be reduced to stealing their food from his trees. I do not think that Mr. Jones' fears are exaggerated.

8. Proposals have also been made by Messrs. Burns, Philp and Co. Ltd., at one time or another, to:—

- (a) allow a few settlers to live on Hull and Sydney Islands with a view to employing them as labourers;
- (b) import settlers to work the islands on a half-share basis.

In my opinion neither of these schemes would prove successful. Not more than 20 families on Hull and 15 on Sydney would be required by Messrs. Burns, Philp under scheme (a), and every additional family above these figures would result in a corresponding reduction in the copra output, and therefore profit. The Government would have to insist that each family be allotted a parcel of already planted land sufficient to maintain themselves without the necessity of working as labourers; for no administration could tolerate the establishment of a group of semi-landless exiles living at the mercy of a private company. Government supervision would have to be thorough and constant and could only be maintained at great expense. Finally, the scheme would offer no real solution towards the problem of relieving the over-population in the Gilbert and Ellice Islands.

It is doubtful if either the natives or Messrs. Burns, Philp would be content to work under scheme (b) for long. If the settlers had to produce a surplus of copra sufficient both for themselves and the Company they would have to be given very large holdings of land per family, with a corresponding reduction in the number of natives which the island could support. In this connection it should be remembered that, as a native family eats a certain portion of the coconuts grown on their land, the surplus available for export is not normally very large except in the case of rich families. There would, I am convinced, be incessant friction if any half-share scheme was adopted, with the same necessity for close Government supervision as in the case of the other proposals.

9. I would urge, therefore, that no scheme for the colonization of the Phoenix Islands is likely to prove successful unless the Government is able to obtain the whole of both Hull and Sydney Islands for the free use of the settlers. There is a clause in the original licence granted to the Samoa Shipping and Trading Company Limited, by which land required for public purposes may be resumed by the Government. Should, however, it not be desired to take advantage of this right I would suggest that it would be worth while purchasing, from Messrs. Burns, Philp and Co., Ltd., the remainder of their lease over the islands. These islands can be worth practically nothing to the Company and their rights could, presumably, be acquired for a nominal sum.

In view of the experimental nature of the scheme for the settlement of Gardner and Canton Islands it must be regarded as a purely subsidiary part of the project for the colonization of the Phoenix Group and I do not recommend that it be proceeded with unless Hull and Sydney can be obtained for colonization purposes. Unless we can look forward with reasonable certainty to being able ultimately to provide for a population of at least 2,000 in the Phoenix Group the expenses of administration would tend to outway the benefits to the native community.

### PART 3.

#### THE CHOOSING OF SETTLERS.

10. It remains now to deal with the actual choosing of the settlers and the details of the settlement scheme. I should like to state here that I believe it to be vital to the success of the scheme of settlement that from its inception it should be under the charge of a full-time officer who should be responsible for carrying out the undertaking in all its multifarious details. However carefully the scheme may be worked out in advance I consider that its ultimate success will depend on whether the Government is prepared to second an officer, conversant with the Gilbertese and their language and trusted by them, to work out the practical problems involved in the undertaking and carry it to a successful conclusion. It would appear to be important, furthermore, that the same officer should be primarily responsible for the whole organization of the undertaking, from the first choosing of the delegates to their final establishment in their new homes. The remainder of this letter is based on this assumption.

## THE ELLICE ISLANDERS AND MIGRATION.

11. As a result of my visit to the Ellice Islands, supplemented by several conversations with the delegates taken from Nanumea and Niutao, I am of the opinion that the views of the Ellice Islanders with regard to the migration scheme are materially different from those of the Gilbertese. On most of the Ellice Islands there are families who are anxious to be allowed to settle in Fiji, but they are far too comfortably off to exchange their lot for the hard life of a pioneer settler on an isolated atoll. On Nanumea, where the inhabitants had been complaining of land shortage, only four natives stood up and stated that they were willing to migrate to the Phoenix Islands. On Niutao alone was any enthusiasm shown for the proposal but even here the natives were only anxious to settle on Christmas or, at the worst, Hull Island, and on certain definite conditions. They were not willing to consider planting and colonizing a new island but desired that the whole of Hull Island should be made over for their use. They made it clear that they had no intention of giving up their rights to their lands on Niutao when they emigrated and the impression that I gained was that they regarded Hull, or any other island which they might acquire, as a place where the young men could be sent to exploit the plantations for the benefit of the home island. I do not believe that their land hunger, while real, is nearly so intense at the present time as that of the Gilbertese and, in view of the fact that there is room in the Phoenix Group for only a limited number of settlers and it would be obviously unfair to hand over either Hull or Sydney to a handful of Ellice Islanders, I recommend that they be left out of the present colonization scheme. After investigation I have come to the conclusion that it would be quite impossible to mix the Gilbertese and Ellice people together on one small island, and this is the view of the Ellice Islanders themselves. The Ellice people, furthermore, lack to a large extent the adventurous spirit of the pioneer and, in view of their more comfortable circumstances, this is not surprising; I do not believe, therefore, that they would be happy in the Phoenix Islands for long even if sent there. Fanning, Washington, Christmas, would appear to offer far more suitable homes for the 100 to 150 families who might be willing to migrate from the Ellice Group and I recommend that their claims should be considered in due course in connection with these islands. Failing this, it might be possible to purchase some of the untenanted lands in the Southern Ellice Group itself for their use. In this connection I would quote from the Colony Annual Report for 1924-25:—

“ . . . there is a great deal of spare coconut-producing land in the large and thinly populated Ellice Islands.

“As a general rule the islands of the Ellice Group have but a single village each, and the only lands worked are those which lie within convenient walking distance of such settlements. Large tracts on several atolls are left untouched by the owners, and many tons of copra are thus annually wasted.”

## THE CHOOSING OF THE GILBERTESE SETTLERS.

12. It has been recommended that Beru Island should colonize Hull and that Sydney should be open to settlers from all other islands. Of the two experimental islands it is proposed that Onotoa and Arorae should provide the labourers for Gardner, and Beru those for Canton. Beru is easily the most enthusiastic island concerning the possibilities of Canton and is more likely to make a success of the planting scheme than any other island; but in view of the fact that they already had Hull, no guarantee should be given them that they would be the only island eventually allowed to settle Canton. With regard to Sydney, while I agree that it would be preferable not to mix different communities on the same island, in this case it would appear to be the only way to allow some, at any rate, of the needy on all islands to have a chance of emigrating. Provided the settlers are carefully selected and well mixed, only a few natives being taken from each island, there is no reason to anticipate any trouble. The people of Onotoa and Arorae are traditionally friendly and should work well together.

13. Allowing an average of four persons per family it should be possible for approximately 85 families to colonize Hull from Beru. I recommend that the officer in charge of the project should proceed to Beru some months before the settlement is due to commence and prepare a list of every family wishing to emigrate. The material circumstances of each family should then be inquired into and the number in each group compared with the amount of land owned. From this survey it should be possible to make a rough selection of the 85 poorest families on the island, care being taken to distribute the numbers between the seven villages and three village districts. Not more than one family should be taken from each kinship group. This method of selection, while, admittedly rough and ready is, I am convinced, the only practicable one.

The same method could be employed when choosing the settlers for Sydney but in this case it would be necessary to establish beforehand the maximum number which could be taken from each island. The following scheme of distribution is based on the estimated extent of poverty on each island, Onotoa and Arorae having a smaller share than would otherwise be allotted them as it is more than probable that the Gardner Island experiment will prove successful:—

Maiana .. ..	10 families.	Tamana .. ..	10 families.
Nonouti .. ..	20 „	Arorae .. ..	10 „
Tabiteuea .. ..	20 „		—
Nikunau .. ..	20 „	Total .. ..	100 families.
Onotoa .. ..	10 „		—

The Northern Gilbertese have been left out of the scheme as it is possible that they would not mix well with the Southerners.

No difficulty should be experienced in selecting the labourers for Gardner and Canton Islands, which would be done by the natives themselves subject to the approval of the officer in charge of the scheme.

14. In order that the migration scheme shall contribute towards the solution of the problem of land hunger and over-crowding in the Gilberts, it will be necessary for the emigrants to abandon all rights over their lands on their old islands. This is insisted upon by the Gilbertese themselves, who state that a family which settles in the Phoenix Islands will be treated in the same way as if they had drifted away and been lost at sea—"mauna i marawa,"—*i.e.*, their lands will be divided up amongst their next of kin as if they were dead. Since, however, there are bound to be some Gilbertese who will become discontented in the early stages of settlement and desire to return, I recommend that any native who abandons his lands in the Phoenix Islands and returns home within seven years of his first arrival in the Phoenix Group shall be entitled to resume his former land rights in the Gilbert Islands.

#### PART 4.

#### DETAILS OF THE SETTLEMENT SCHEME.

##### BASIS OF LAND DISTRIBUTION.

15. I would suggest that some months before the actual settlers are sent the officer in charge of the scheme should proceed to Hull and Sydney and divide the planted land into plots of approximately equal size, in no case containing less than 100 bearing coconut trees. The village areas should be demarcated at the same time, and sites selected for churches, maneabas, schools, hospitals, cemeteries, Native Government stations, and transit quarters. It would avoid incessant friction later on if a qualified surveyor could accompany this expedition and record the boundaries of each plot. Having completed this the party should, if time permits, proceed to divide up the unplanted land into convenient blocks as nearly as possible equal in size. The whole work should take about two months on each island.

16. When the actual settlers arrive the blocks of planted land should be divided amongst them on the strict basis of one block to each settler. Thus if a family consisted of a man and his wife, they would receive two blocks, whereas if they were accompanied by two children, the family would receive four blocks. This is the basis of distribution, known as "te aro ni katangaina," suggested by the Gilbertese themselves, and is, I believe, likely to cause less trouble than any other. As the areas nearest the villages would be the most sought after the actual distribution of blocks should be by lot. A block of unplanted land should be given at the same time to each adult settler, on the understanding that he or she will plant it for the benefit of some member of his or her kinship group still in the Gilbert Islands, who will be sent for when the trees come to maturity. I would urge that all land should be given to the natives freehold, subject to the proviso that unplanted land not planted within a reasonable time—say five years—should revert to the Government. All planted and unplanted land not required for distribution to the settlers should be held by the Government for the benefit of future colonists, and all village sites, cemeteries, roads, &c., should be regarded as being the property of the Government held on behalf of the community. A good tract of land around each village should be held by the Government as communal village land.

Once the land has been given to the settlers it would be inherited and conveyed in accordance with Gilbertese custom.

##### SOCIAL AND POLITICAL ORGANIZATION OF THE SETTLEMENTS.

17. After having considered the subject from every aspect I have come to the conclusion that the settlers should be under the control of their own Native Governments precisely as on their former islands. The key men, on whose tact and ability the peace and happiness of the communities will largely depend, will be the two Native Magistrates. I have little doubt, however, that suitable candidates for these difficult positions can be found in the Gilbert Islands, as several Native Government officials and even Magistrates will, no doubt, be anxious to emigrate.

Besides the usual Native Government staff it will be necessary to station a carefully selected Native Dresser on each island in charge of the local hospital.

The following table gives the estimated annual cost of local administration on each island:—

Personal Emoluments—				
Native Magistrate	..	..	..	£12 0 0
Chief Kaubure	..	..	..	10 0 0
Scribe	..	..	..	10 0 0
Chief of Police	..	..	..	9 0 0
Warder	..	..	..	6 0 0
Wardress	..	..	..	4 0 0
Village policemen, 4 at £4	..	..	..	16 0 0
				£67 0 0
Other Charges—				
Stationery	..	..	..	3 0 0
Kerosene, soap, disinfectants	..	..	..	5 0 0
Upkeep of hospital buildings	..	..	..	4 0 0
Upkeep of school buildings	..	..	..	4 0 0
Incidentals	..	..	..	3 0 0
				£19 0 0
				£86 0 0

This gives a total expenditure, from Head XIX, Island Administration, of £172 per annum for the two islands.

The Native Dressers would be paid from the Medical vote, their actual salaries being somewhere between £12 and £48 per annum. It is suggested that a block of planted land adjacent to the village should be reserved for the Dresser on each island. Provided this is done they should manage comfortably on a ration allowance of £15 per annum. The following is an estimate of the cost of the provision of local medical facilities on each island:—

Personal Emoluments—			
Native Dresser (£12–£48) say .. ..	£30	0	0
			£30 0 0
Other Charges—			
Ration allowance .. .. .	15	0	0
Drugs and instruments .. .. .	20	0	0
			£35 0 0
			£65 0 0

The hospital and Native Dresser's quarters would be built by the colonists from local materials.

#### THE ADMINISTRATIVE CONTROL OF THE PHOENIX ISLANDS.

18. While there are many difficulties connected with the present colonization scheme, probably none is harder to solve than the problem of how to provide for the administrative control of the islands. If the project is to prove a success it is essential that it should be under the close supervision of an Administrative Officer and yet, separated as the Group is by at least five days sailing from the nearest other island in the Colony, it falls within the limits of no District. At first sight it would seem clear that the eight islands should form a District of their own, under an Administrative Officer living on, say, Hull Island. I enclose, however, an estimate of the total annual revenue which we may ultimately expect to receive from Hull and Sydney Islands, which shows that the District cannot afford to pay the salary and expenses of an Administrative Officer. Even when the two islands are fully planted the total copra production is unlikely to exceed 250 tons, which should, if my calculations in Enclosure I are correct, result in a revenue of approximately £619 per annum, the corresponding local expenditure being £312. The Government would therefore have a balance of £307 towards headquarters expenses, &c. which is a sum patently insufficient to maintain a District Headquarters in the Group. The Gardner and Canton Islands project are too much in the nature of experiments to base any estimates of revenue on at present, but should they prove successful the figures given in the enclosure could be doubled. It is recommended that Hull and Sydney Islands should be exempt from copra tax for the first two years of settlement and that after that period the tax should be payable at half rates only for the next five years. The final assessment of 25 tons for the two islands is based on the tax paid by islands with a similar population and copra production in the Gilbert, Ellice, and Tokelau Groups.

19. I have given the most careful consideration to the question of administrative control and as a result I still consider that the only satisfactory solution is one which was suggested to me several months ago, *i.e.*, that this Colony should again take over the administration of the Tokelau (or Union) Islands. I have already discussed this proposal in all its aspects with His Honour and it is only necessary to deal with it very briefly here.

The Tokelau Islands were ceded to Great Britain in 1914, at the request of the native inhabitants, and added to the Gilbert and Ellice Islands Protectorate. At first a District Officer (Mr. MacDermott) was stationed there, but later the islands were administered from Funafuti in the Ellice Group. As there was no Port of Entry in the Tokelau Group after the removal of the District Officer, difficulties arose with regard to the collection of customs duty and the New Zealand Government was asked to take over the administration of the islands. This they were unwilling to do but they agreed to collect the customs duty in Apia and forward it to the High Commissioner. As this arrangement did not prove altogether satisfactory they at length agreed to take over the administrative control of the Group, which was disannexed in 1925.

I understand that the Tokelau natives, who are virtually identical in race and language with the Ellice Islanders, are most anxious to be once again included within the boundaries of this Colony, and Mr. J. W. Jones, on Hull Island, told me that his labourers were overjoyed at coming under our administration. Although their taxation is considerably higher than it was under this Colony, the New Zealand Government is naturally unable to give them anything like the same administrative benefits. As far as can be ascertained, the islanders are left more or less to themselves, except for a brief visit from a warship once a year with an official from the Samoan administration on board. It would not appear that there would be much difficulty in obtaining these islands from the New Zealand Government, which was never anxious to have them in the first place.

20. I have prepared an estimate of the annual revenue and expenditure of the Tokelau Islands, based on figures supplied by the New Zealand Government, from which it will be seen that the revenue would amount to approximately £815 as against an expenditure of £358, leaving a balance of £457. This, added to the estimated balance from the Phoenix Islands, would result in a sum of at least £750, which should be sufficient to justify the stationing of a resident Administrative Officer in charge of the two Groups, together with a Native Medical Practitioner. Should the Canton and Gardner Islands experiments prove successful, the balance would be well over £1,000. The distance between the Phoenix and Union Islands is only 260 miles and, as the Groups lie due north and south of each other, they could be easily controlled by an Administrative Officer with headquarters in one or the other Group and visiting the various islands in a small inter-island boat, such as the one at present being built by Mr. D. G. Kennedy for the Ellice Islands

District. It would not be possible to administer the islands in a similar manner from the Ellice Islands since, owing to the fact that the Phoenix and Ellice Groups lie due east and west of each other, it would be impossible to obtain a fair wind when proceeding from the Ellice to the Phoenix Islands.

21. It is urged, therefore, that every effort should be made to ascertain whether the Tokelau Islands could be again administered by this Colony, not only for the sake of the islanders themselves but since it would be of material assistance towards the efficient administration of this Colony itself. The stationing of a resident Administrative Officer in charge of the two Groups would enable a Port of Entry to be established in the Union Islands, thus doing away with the sole reason for transferring the Group to New Zealand. At the same time the settlers on Hull and Sydney Islands would be able to get better shipping services and a more advantageous price for their copra, since it would be shipped as at present direct to Samoa, together with the copra from the Tokelau Group. Furthermore, while both Groups would be efficiently administered for the first time in their history the extra cost to this Government would be less than the cost of administering the Phoenix Islands alone from a base in the Gilbert or Ellice Group. As far as Colony headquarters are concerned, there is virtually no extra cost involved in administering 37 rather than 34 islands.

22. I realize, however, that it may prove impossible to adopt the proposal detailed above, in which case I recommend that the Phoenix Islands should be placed not within any existing District, but under the direct control of the Native Lands Commissioner, Gilbert Islands. Of the two Districts in the Gilbert Group the Northern and Central contains nine islands and 12,995 natives and the Southern seven islands and 14,367 natives, while the average District in the Solomon Islands Protectorate contains approximately 10,000 persons and in Fiji 8,600, communications, at the same time, being infinitely worse in this Colony. It is not surprising, therefore, that in neither of these Districts are the outlying islands adequately administered from headquarters as it is and, in my submission, it would not be in the interests of the settlers to have their islands added on to a District which it is already difficult to cope with. The vast majority of the problems concerning the new District will be land difficulties such as can be best dealt with by the Lands Commissioner and, at the same time, he is the one official who is in a position to leave the Gilberts and visit the District when opportunity occurs. The occupant of the post of Lands Commissioner will always be a member of the Colonial Administrative Service so there would be no difficulty in assigning the District to his care.

23. Should this proposal also be considered impracticable, I would suggest that the Phoenix Islands should be included within the Southern Gilbert Islands District, whence the vast majority of settlers will come. As the colonists will be all Gilbertese, it would not be feasible to include them within the Ellice Islands District, and the Central Gilberts District is probably too far away, apart from the fact that the Administrative Officer is unable to leave the Tarawa Port of Entry for long periods. It must be remembered, however, that it will be necessary to visit the Phoenix Group not less than twice a year, that it is at least five days sail from Beru to the nearest Phoenix Island, and that even a short stay in the Group will necessitate an absence from the Southern Gilberts of at least a month.

#### STAGES OF SETTLEMENT.

24. It is suggested that the colonization scheme should be carried out in two stages. The first expedition would consist of the officer in charge of the undertaking, either the Foreman of Works or a Senior Artisan such as Mr. J. Pedro, and 20 labourers, accompanied if possible by a competent surveyor. The expedition would take cement and other materials necessary to construct the five storage cisters, and a supply of fresh water in drums for emergency use while the party was on the islands. Owing to the small cargo carrying capacity of H.M.C.S. "Nimanoa" it would be clearly impossible to use her for transporting the cement, but it should be possible to charter a small vessel, such as the s.s. "Moamoa" or s.s. "John Bolton," for the purpose. The chartered ship would proceed to each of the four islands in turn, discharging the cement, &c., the personnel of the expedition disembarking at the last island. It would then be necessary for the Colony vessel to take them from island to island on the completion of their work of surveying and marking out the blocks of land, constructing the cisterns, sinking further wells, planning the village sites, and generally preparing the island for the settlers. The expedition would probably require some two months each on Hull and Sydney and two weeks each on Canton and Gardner to do the work properly. It would not, of course, be necessary for the "Nimanoa" to wait in the Phoenix Group all this time as it could be engaged on other work while the party was on each island. If the chartered vessel left for the Phoenix Islands about the month of June the work should be completed well before the commencement of the rainy season.

25. On his return to the Gilbert Islands the officer in charge of the expedition would proceed to select the future settlers, as in paragraphs 12 to 14, and satisfy himself that they were ready to leave for their new homes. For the final expedition, which will involve the transporting of some 750 persons, together with their belongings, seed coconuts, pandanus cuttings, &c., it will be necessary to charter a ship of some 3-4,000 tons, such as the British Phosphate Commissioners' s.s. "Nauru Chief." The chartered vessel would pick up the colonists and drop them on Hull and Sydney, the officer in charge of the scheme disembarking at the latter island, where he would remain in order to assist the colonists during the initial stages of the settlement. I would suggest that H.M.C.S. "Nimanoa" should be detailed to take this officer from island to island during the first few months, since it is during the early stages of the project that difficulties may be expected and the guidance of an European will be imperative. The labourers, who would be dropped on Canton and Gardner Islands at the same time as the settlers were taken to Hull and Sydney, should be also visited from time to time.

26. The dividing of the settlement scheme into two stages has certain obvious advantages. It will enable the actual colonization to take place after the rainy season, when the weather is likely to be set fair and the landings smooth. At the same time the settlers, on their arrival at their future homes, will find their land ready for them and the emergency cisterns full of water stored during the rainy months from November to March. The admittedly unlikely event of the wells proving, at times, undrinkable could thus be faced with equanimity.

I recommend, therefore, that the final settlement should take place about May or June and that, immediately on arrival, the settlers should be given their blocks of land and should proceed at once with the building of their homes and, later, the construction of the village church, Government station, and other public buildings.

#### THE PROVISION OF COCONUTS, &C., FOR PLANTING.

27. It will be necessary to provide a large quantity of pandanus cuttings and "babai" roots for planting on all four islands, as there is no babai and but little pandanus at present on any island. It will, furthermore, be necessary to purchase some 100,000 seed coconuts in the first instance for planting on Canton and Gardner Islands. Mr. D. G. Kennedy has recommended that all accounts for planting should be obtained from the District of Fetatau, on Nukufetau Island in the Ellice Group. These nuts were originally obtained by Messrs. Burns, Philp and Co., Ltd., from the Solomon Islands and are superior to any other type seen in this Colony. They will grow any where, give a better yield of larger nuts, and come to maturity, even on Nukufetau, in the short space of five years.

It is recommended that each settler should be urged to take as many pandanus cuttings and "babai" roots with him as he can obtain and that, if necessary, this should be supplemented by Government purchase. The details of this proposal can best be worked out when the time comes but I estimate that the sum of £100 should easily cover all Government expenditure under this head. The planting of the unplanted land on Hull and Sydney Islands would, of course, be done with seed coconuts from the already planted areas.

#### MAINTENANCE OF COMMUNICATIONS.

28. Once the actual scheme of settlement has been completed the most difficult problem which the Government will have to face will be the maintenance of communications with the District. If the Tokelau Group is again joined with this Colony the trouble would, of course, largely vanish, as the trading vessels and a.s. "John Williams" would include the Phoenix Group in their usual round to the Tokelau Islands. If, however, this is not possible I would suggest that the Administration should do its utmost to provide the infant settlement with at least four contacts a year with the rest of the Colony. It is realized that H.M.C.S. "Nimanoa" cannot be exclusively relied upon for this purpose, as she is unable to fulfil anything like the demands made on her at present. Communications, however, might be maintained somewhat as follows:—

- A trading vessel—one, or possibly two, visits per annum.
- A warship—one visit per annum.
- The a.s. "John Williams V"—one visit per annum.
- H.M.C.S. "Nimanoa"—one visit per annum.

Should one of the other ships not be able to visit the Phoenix Islands during any year it might be possible for the Colony vessel to make two trips.

#### COST OF SETTLEMENT SCHEME.

29. An estimate of the total cost of the scheme forms Enclosure III to this letter. It is fully realized that this estimate is far from being exact and that the figures will have to be considerably modified should the general scheme be approved; at the same time it gives an approximate idea of the total outlay involved in the project. Of the estimated total cost of £5,600 approximately £1,600 may be set down to expenses involved in the Canton and Gardner Islands schemes leaving a total of £4,000 which may be fairly debited to the cost of settling the 750 settlers on Hull and Sydney Islands. As this works out at just over £5 per head I think it may be considered as very reasonable. I would earnestly recommend that the whole of this cost should be borne by the Colony, especially in view of the fact that the Phoenix Islands, once settled, will become a valuable and permanent source of taxation. Should, however, it be considered necessary to recover part, at any rate, of the expenditure from the natives who more particularly benefit from the undertaking, it is suggested that this should be done by means of:—

- (a) an increased copra levy, in the nature of rent, from the settlers themselves; supplemented by
- (b) a temporarily increased copra tax on the islands providing the colonists, assessed on a proportionate basis according to the numbers actually emigrating from each island.

A detailed scheme, by which the whole or any proportion desired of the expenditure may be recovered, can be submitted if desired.

After the first year the only cost to the Government would be the maintenance of a skeleton staff of labourers on Canton and Gardner Islands which should not exceed a maximum of £500 for a period of 4-5 years. This sum also could be recovered, if desired, from the natives of Beru, Onotoa, and Arorae Islands.

## PART 5.

## CONCLUSION.

## RECAPITULATION OF PROPOSALS.

30. The main proposals and recommendations made in the course of this report are summarised below:—

It is recommended that:—

1. Hull and Sydney Islands should be settled immediately with 350 and 400 colonists respectively, (para. 6);
2. Hull Island should be colonised by the natives of Beru, and Sydney Island by settlers from seven islands in the Central and Southern Gilberts, paras. 6, 12, and 13);
3. Canton Island should be planted by the natives of Beru, and Gardner Island by those of Onotoa and Arorae, (para. 6);
4. The Ellice Islanders should be left out of the present settlement scheme, (para. 11).
5. Fourteen labourers should be sent to Gardner and twelve to Canton for planting, each group, being in charge of an overseer, (para. 6).
6. The labourers should receive nominal wages only, with limited rations, (para. 6).
7. Cement storage cisterns, with the necessary catchment areas, should be constructed on each island, for emergency use, (para. 6).
8. No scheme for the settlement of the Phoenix Islands is feasible unless the whole of Hull and Sydney Islands are available for settlement purposes, (para. 7-9).
9. An officer, conversant with the Gilbertese, should be in charge of the settlement scheme from its commencement, (para. 10).
10. The colonists should be selected by the officer in charge on a rough basis of comparative need, (paras. 12 and 13).
11. A condition of being selected should be the abandonment of all claims over lands in the Gilbert Group, (para. 14).
12. The planted land on Hull and Sydney Islands should be divided into blocks of not less than 100 bearing trees, each settler to receive one block together with a portion of the unplanted land, (paras. 15 and 16).
13. Native Governments should be established on both Hull and Sydney Islands, with a Native Dresser in charge of each Island Hospital, (para. 17).
14. An examination should be made into the possibility of joining the Tokelau Islands to the Phoenix Group and placing the District under the control of a resident Administrative Officer, assisted by a Native Medical Practitioner, (paras. 18-21).
15. Failing the above proposal, the Group should constitute a District under the direct control of the Native Lands Commissioner, Gilbert Islands, or should this also prove impossible, it should be included within the boundaries of the Southern Gilbert Islands District, (paras. 22 and 23).
16. The settlement scheme should be carried out in two stages, (para. 24).
17. The first expedition should construct the cisterns, demarcate, and if possible survey, the blocks of land, and prepare the islands for the final colonization, (para. 24).
18. The second expedition should transport the settlers to their new homes, (paras 25 and 26).
19. The settlers should be given their land freehold, to be inherited and conveyed in accordance with Gilbertese custom, (para. 16).
20. The settlers should take their own pandanus cuttings and "babai" roots for planting to be supplemented, if necessary, by Government purchase, (para. 27).
21. Coconuts, &c., for planting should be purchased by the Government for Canton and Gardner Islands, (para. 27).
22. The Government should bear the cost of the settlement project but that, should this be considered undesirable, it should be recovered by an additional copra tax on the newly settled islands supplemented by a temporary copra levy on the islands from which the settlers have come, (para. 29).

## CONCLUSION.

31. Before concluding I should like to again stress the great importance of proceeding with the settlement scheme as soon as possible. It is difficult at headquarters to realize the enthusiasm which the Government's proposals have aroused throughout the Gilbert Islands. The scheme is almost unique in that it has come direct from the people, in response to what is probably their most heart-felt need. Sceptical at first, the recent expedition to the Phoenix Islands has convinced the natives that the Government does really mean to assist them. As a consequence, the popularity of the Government is higher than it has ever been since the days of Mr. W. Telfer Campbell. It cannot be too strongly stressed, however, that the present general feeling of confidence in the intentions of the Administration makes it all the more imperative that some scheme for assisting the poorer classes to migrate to the Phoenix or other islands should be proceeded with at the first possible opportunity.

I have, &c.,

H. E. MAUDE,  
Commissioner for Native Lands, Gilbert Islands.



## First enclosure to III.

ESTIMATED ANNUAL REVENUE AND EXPENDITURE OF HULL AND SYDNEY ISLANDS.<sup>1</sup>

		<i>Revenue.</i>		
<i>Customs—</i>			£	s. d.
	Import dues (average of 12½ per cent.) <sup>2</sup> .. ..	62	0	0
	Export duty on copra (187 tons at 15s.) <sup>3</sup> .. ..	140	0	0
<i>Taxes—</i>				
	Native taxes (tax copra 25 tons) <sup>4</sup> .. ..	312	0	0
	Native fines .. ..	20	0	0
<i>Licences, &amp;c.—</i>				
	Licences .. ..	65	0	0
	Capitation taxes .. ..	....		
<i>Miscellaneous—</i>				
	Sundry receipts (miscellaneous fees, sale of stamp, &c. .. ..	20	0	0
		£619	0	0
		£619	0	0
		<i>Expenditure.</i>		
<i>Island Administration—</i>				
	Native Government .. ..	172	0	0
<i>Medical—</i>				
	Salaries and ration allowances .. ..	90	0	0
	Drugs and instruments .. ..	40	0	0
<i>Miscellaneous.—</i>				
	Miscellaneous expenditure .. ..	10	0	0
		£312	0	0
		£312	0	0

## NOTES:—

<sup>1</sup> Based on an ultimate coconut production of 250 tons, including proportion consumed locally.

<sup>2</sup> Value of imports estimated at two-thirds the value of exports (187 tons copra at £4 per ton = £748) based upon copra being sold to traders at £4 per ton.

<sup>3</sup> Average of ½ of coconut production being consumed locally.

<sup>4</sup> At £10 sterling per ton plus exchange.

## Second enclosure to III.

ESTIMATED ANNUAL REVENUE AND EXPENDITURE OF THE UNION ISLANDS.<sup>1</sup>

		<i>Revenue.</i>		
<i>Customs—</i>			£	s. d.
	Import dues (average of 12½ per cent.) <sup>2</sup> .. ..	113	0	0
	Export duty on copra (340 tons at 15s.) .. ..	255	0	0
<i>Taxes—</i>				
	Native taxes (tax copra 25 tons) <sup>3</sup> .. ..	312	0	0
	Native fines .. ..	20	0	0
<i>Licences &amp;c.—</i>				
	Licences .. ..	75	0	0
	Capitation taxes .. ..	10	0	0
<i>Miscellaneous—</i>				
	Miscellaneous receipts (miscellaneous fees, sale of stamps, &c. .. ..	30	0	0
		£815	0	0
		£815	0	0
		<i>Expenditure.</i>		
<i>Island Administration—</i>				
	Native Government .. ..	£163	0	0
<i>Medical—</i>				
	Salaries and ration allowances .. ..	135	0	0
	Drugs and instruments .. ..	50	0	0
<i>Miscellaneous—</i>				
	Miscellaneous expenditure .. ..	10	0	0
		£358	0	0
		£358	0	0

## NOTES:—

<sup>1</sup> Average copra export of 365 tons.

<sup>2</sup> Value of Imports estimated at two-thirds the value of exports (340 tons as £4 per ton = £1,360) based upon copra being sold to traders at £4 per ton.

<sup>3</sup> At £10 sterling per ton plus exchange.

## Third enclosure to III.

## ESTIMATED COST OF SCHEME FOR SETTLEMENT OF THE PHŒNIX ISLANDS.

1. 20 labourers for cistern building, demarcating boundaries, &c. (para 24). 5½ months at £1 per month each .. .. .	£110	0	0
2. Rations for above .. .. .	80	0	0
3. Wages of 14 labourers on Gardner Island for 1 year at £1 per month each .. .. .	168	0	0
4. Partial rations for above .. .. .	70	0	0
5. Wages of Overseer, Gardner Island, at £36 per annum .. .. .	36	0	0
6. Rations for above .. .. .	20	0	0
7. Wages of 12 labourers on Canton Island for 1 year at £1 per month each .. .. .	144	0	0
8. Partial rations for above .. .. .	216	0	0
9. Wages of Overseer, Canton Island, at £36 per annum .. .. .	36	0	0
10. Rations for above. .. .. .	20	0	0
11. Provision of storage cisterns and catchment areas at Hull and Sydney Islands. 3 at £400 .. .. .	1,200	0	0
12. Provision of storage cisterns and catchment areas at Canton and Gardner Islands. 2 at £250 .. .. .	500	0	0
13. Hire of s.s. "Moamoa" or similar vessel for first expedition—22 days at £30 per diem .. .. .	660	0	0
14. Hire of 3-4,000 ton cargo vessel for second expedition—35 days at £60 per diem	2,100	0	0
15. Purchase of seed coconuts, pandanus cuttings, &c., for planting .. .. .	100	0	0
16. Miscellaneous expenditure .. .. .	200	0	0
Total estimated cost of scheme .. .. .	£5,660	0	0

## Fourth enclosure to III.

## WORKS CITED.

- <sup>1</sup> Findlay, A. G.—*Directory for the Navigation of the South Pacific Ocean*, 5th edition London, 1884.
- <sup>2</sup> Schorf, Capt.—*Annalen der Hydrographie* Heft. 1, 1878.
- <sup>3</sup> Hague, J. D.—*On Phosphatic Guano Islands of the Pacific Ocean*, American Journal of Science, Vol. 34.
- <sup>4</sup> Ramsay, W. G.—"Report on Meteorology of Howland and Baker Island," Bernice P. Bishop Museum, 1924.
- <sup>5</sup> Christophersen, Erling.—*Vegetation of Pacific Equatorial Islands*, Bernice P. Bishop Museum—Bulletin No. 44, 1927.

## IV.

## MEMORANDUM REGARDING POSSIBILITY OF ALLOTING SEPARATE ISLANDS TO PROTESTANT AND ROMAN CATHOLIC IMMIGRANTS.

19th January, 1938.

From The Commissioner for Native Lands, Gilbert Islands, at Ocean Island.

To the Acting Secretary to Government, Gilbert and Ellice Islands Colony, Ocean Island.

## ASSIGNMENT OF SEPARATE ISLANDS IN THE PHŒNIX GROUP TO THE ADHERENTS OF THE PROTESTANT AND CATHOLIC MISSIONS.

I regret that this question was not dealt with in my confidential letter of the 6th January as His Excellency's confidential despatch of the 8th December was not received until after the submission of my report.

2. There can be little doubt that the principal of allotting separate islands to the adherents of the different Missions is an excellent one. Its application to the present scheme of settlement in the Phœnix Group presents, however, grave difficulties, in view of the fact that there are only two islands, Hull and Sydney, suitable for immediate occupation and the population of the more land-hungry islands in the Gilbert Group is overwhelmingly Protestant. In this connection I would refer you to paragraph 9 of my letter No. 11 of the 19th November in which it is stated that "the greatest measure of over-population and 'land-hunger' exists on the islands of Beru, Arorae, Onotoa, and Nikunau, in that order." The following table, taken from the latest Census, shows the Catholic and Non-Catholic population on each of these islands:—

	Non-Catholic.	Catholic.
Beru .. .. .	1,821	404
Arorae .. .. .	1,450	...
Onotoa .. .. .	1,453	175
Nikunau .. .. .	1,365	300
Total .. .. .	6,089	879

3. On the island of Beru, furthermore, the local Catholic Father has, it is understood, taken the view that a Catholic who emigrates from Beru is guilty of a moral sin against his church. This view is not, I believe, taken by the Father on any other island; on Onotoa, for example, the Father has expressed himself as being enthusiastically in favour of the migration scheme. Nevertheless, any Catholic who migrates from Beru will do so against the express orders of his Father and will presumably cease to be a member of the church. It is probable, therefore, that the four or five catholic families who may desire to emigrate from Beru will join the Protestant church.

4. Even if certain other islands are brought into the scheme, as recommended in paragraph 13 of my confidential letter of the 6th January, the Catholics would still only be entitled to provide 118 settlers (including women and children) out of the 750 which it is estimated that Hull and Sydney Islands can support. This calculation is based on the proportion which the Catholic population bears to the non-Catholic on each island. It would be clearly unfair, and would be recognized as such by the natives, to hand over either Hull or Sydney Islands for settlement by Catholics only, since it would mean that, in order to fill up the numbers from the small Catholic population, a comparatively rich class of Catholic would have to be taken while far poorer Protestants would be turned down purely on account of their religious belief.

5. It is therefore recommended that, in view of the fact that there is room in the Phoenix Group for such a limited number of settlers and that only two islands can be colonized at present, it is not practicable to reserve an entire island for the adherents of the Catholic Mission. In connection with the scheme of emigration to the Line Islands it is, however, being recommended elsewhere that investigations should be made with regard to the possibility of settling some 340 Ellice Islanders (85 families) on Washington Island, as it is impossible to allot a separate island in the Phoenix Group to these natives either, and some 320 Gilbertese (80 families) on Fanning Island. A small island capable of supporting an ultimate population of some 300 to 400 would appear to be exactly what is required for the Catholics and I would suggest that Fanning Island should be assigned to Catholics only for settlement purposes. Should this be done it is recommended that Hull and Sydney Islands should be reserved for settlement by Protestants only.

6. Failing this it might be desirable to allot Hull Island for Settlement by the Protestants of Beru, leaving Sydney Island for settlement by both Catholics and Protestants from the other islands. In some five years, when Gardner and Canton Islands may be expected to be ready for colonization, Gardner will in all probability become an entirely Protestant island, if it is to be settled, as recommended, by the natives of Arorae and Onotoa; while it is possible that a few Catholics may desire to settle on Canton, which would thus fall into the same category as Sydney Island.

I have, &c.,

H. E. MAUDE,

## V.

### REPORT ON SUITABILITY FOR SETTLEMENT PURPOSES OF OTHER CENTRAL PACIFIC ATOLLS IRRESPECTIVE OF THE PHOENIX GROUP.

Sir,

Ocean Island, 19th January, 1938.

With reference to the first paragraph of my confidential letter of the 6th January, I have the honour to submit the following report concerning the suitability for permanent settlement by the natives of the Gilbert and Ellice Islands of certain atolls in the Central Pacific, apart from those included in the Phoenix Group. As stated in previous correspondence, the Phoenix Islands are only capable of supporting an immediate population of about 750 while the number of natives anxious to emigrate is estimated to be not less than 3,500 Gilbertese and 130 Ellice Islanders. Even with intensive planting it will take ten years or more before the Phoenix Islands can support their estimated maximum of 4-5,000 and by that time it is more than probable that the population of the Gilberts will have again risen and that yet more people will be anxious to migrate. It must be remembered, furthermore, that the settlers in the Phoenix Islands, given room for expansion, will multiply to an extent impossible on their home islands and that much of the land at present unplanted will be required for the offspring of the first generation of settlers. It is, therefore, necessary to investigate the possibility of colonizing other islands in the Central Pacific area or, should they be already leased, of having some of our surplus labour employed on them.

#### THE LINE ISLANDS GROUP.

2. Apart from the Phoenix Group and certain islands in the Cook Group, such as Nassau and Suwarrow, which belong to New Zealand, the only atolls suitable for colonization purposes appear to be those comprising the group generally known since whaling ship days as the "Line Islands"; namely, Palmyra, Washington, Fanning, Christmas, Jarvis, Malden, Starbuck, Caroline, Vostok, and Flint Islands. Of this group Palmyra and Jarvis have now been claimed by the United States and the latter is, in any case, unsuitable for settlement. The five southern islands of the group are, I believe, the only islands now remaining under the jurisdiction of the High Commissioner for the Western Pacific which have not been included within the boundaries of a Colony or Protectorate, or under the Chief Magistrate of Pitcairn Island. These islands all lie in an almost direct line north and south of Fanning Island and within the same latitudes as the Gilbert and Ellice Groups. It is possible that His Honour might consider the desirability of making representations to His Excellency to have Malden, Starbuck, Caroline, Vostok, and Flint Islands formally included within the boundaries of the Gilbert and Ellice Islands Colony. These atolls fall logically

within the Fanning Island District and while they have until recently been considered of little value it is submitted that they can be of very definite use to this Colony. If not required for any other purpose they can be used for the settlement of our surplus population, while should they be at present leased as plantations they would form an outlet for the employment of Gilbertese or Ellice Island labour, the supply of which is always so greatly in excess of the demand. Whatever use was made of these islands the revenue obtained from them would form a welcome addition to the income of the Fanning Island District and could be used in reduction of the somewhat heavy taxation devolving on the Fanning and Washington Islands plantations and to defray the cost of maintaining a small schooner which is so needed for District Administration use in the Line Group. Apart from the benefits which jurisdiction over the southern Line Islands would confer on this Colony it might not be out of place here to stress the fact that the recent annexation of Howland, Baker, and Jarvis Islands would appear to show that islands hitherto considered to be part of the High Commission Territories are liable to be claimed by other countries unless they are included, as the Phoenix Islands have now been, within the boundaries of some Colony.

3. The following brief notes deal with the eight islands mentioned above from the point of view of their suitability for colonization.

#### FANNING ISLAND.

This island, together with Washington, is owned by Messrs. Burns, Philp and Co., Ltd. During the course of a recent interview in Suva with His Excellency, Mr. James Burns, the Chairman of Directors of the Company, stated that they would welcome the permanent settlement of Gilbertese on Fanning and Washington Islands as a possible solution of their labour difficulties. Mr. B. Fairfax Ross, one of the Company's plantation Inspectors, suggested that an area of 500 acres at present held as a cable reserve could be allotted to the settlers. It was admitted at the time that this was not good coconut land but Mr. Fairfax Ross suggested that it was better than much land in the Gilbert Group. From information contained in a subsequent report by Mr. Fairfax Ross it would appear, however, that the land is very second rate. The following excerpts from page 12 of the report deal with this area:—

“The writer went most thoroughly over these areas, and with the exception of a narrow strip along the borders, struck phosphate rock and hardpan strata, generally within 2 ft. 6 in. of the surface.

“The past experience of planting highland on Fanning Island has been so unsuccessful, that straightout planting could not be entertained with any reasonable possibility of success. If, however, the rock strata were broken through, results might be more encouraging, but at the same time, even with this precaution, these areas could only be classed as definitely secondary coconut land.

“The rock strata vary from several inches to several feet in thickness, and it would seem that the cost of developing under these conditions, *i.e.*, breaking through the rock and hardpan strata, could never be economically entertained, particularly with this labour.

A great deal of money has been lost in useless planting here in the past, and again the writer advances the theory that natural groves established themselves wherever the land was suitable.”

On page 4 Mr. Fairfax Ross states that these phosphate rock and hardpan areas “commenced with a very prolific yield, but at ten years old were almost non-bearing and shortly finished.”

4. I would respectfully urge that the Government should only sanction a settlement scheme on this land after the most careful investigation as to whether it really is capable of supporting a native population. It is suggested that in the first instance the Acting Administrative Officer, Fanning Island District, could go over the whole area with the Gilbertese already on Fanning Island and obtain their views as to the suitability of the land, the estimated number it could support, the nearness of a good water supply, &c.

At the same time it is urged that, in view of the fact that the Company will save some thousands of pounds in recruiting costs should a party of Gilbertese become permanent residents on Fanning, strong representations should be made to Messrs. Burns, Philp to provide an area of good *planted* coconut land for the colonists. The Company employs at present 59 indentured labourers, so a permanent colony of 70 to 80 adult males with their families should be sufficient to supply them with the labour they require. It is suggested that the Company should be invited, as a condition of the Government sponsoring the settlement scheme, to provide an area of planted land sufficient to give a block of not less than 150 bearing coconut trees to each adult male and his wife. This would require the alienation of only 21,000 to 24,000 of the 140,000 bearing trees on the estate and the Company would still be able to make a substantial profit on the copra purchased from the colonists. In view of the fact that the last recruiting trip cost £6,500 for the charter of the ship alone the above scheme would appear to be very definitely to the Company's advantage and at the same time an equitable one from the point of view of the colonists.

5. In any case, irrespective of the actual scheme under consideration, it is respectively suggested that this Colony should insist on the following safeguards as the minimum conditions on which it will consent to any proposal:—

- (1) The colonists must be given holdings of sufficient size to maintain themselves quite apart from any employment which they may succeed in obtaining from the Company;
- (2) The land should be given to them freehold;
- (3) The colonists should have free access to the lagoon and to a convenient supply of fresh water.

Without these safeguards the lot of the native would be worse in his new home than on his former island as he would be a semi-landless exile, dependent for at any rate part of his food on a monopoly

which owned and controlled everything on his island, and deprived of the protection given by law to indentured labour. Should, however, these conditions be accepted Fanning Island would appear to offer a most desirable outlet for the surplus population of the Gilbert Group and should provide a good home for about 300-350 men, women, and children. It has been suggested, in my confidential memorandum of the 18th January, that this island should be reserved for settlement by members of the Catholic faith.

#### WASHINGTON ISLAND.

6. Mr. Fairfax Ross stated, in the course of the above-mentioned discussion, that he thought that land could be made available for native settlers on Washington Island also. This would presumably be planted land, for on page 12 of his report on Washington Island Mr. Ross refers to the unplanted areas as follows:—

“ This comprises areas as under:—				
Undeveloped .. .. .	269			
Peat .. .. .	444			
				— 713 acres.

“ The greater part of the undeveloped area comprises swamp, high land of rock rim, and phosphate deposits, and in the writer’s opinion, wholly unsuitable for further coconut culture. This is supported by the fact that over the course of many years, palms have established themselves in natural groves wherever the soil was suitable. Some years ago an attempt was made to plant the peat bog, and it is not surprising that it was an entire failure. The peat areas can be condemned without hesitation.”

From this statement it would appear that the unplanted areas on Washington are quite unsuitable for settlement.

7. The same remarks with regard to safeguards and conditions apply with equal force in the case of Washington as of Fanning Island but, subject to these, it is suggested that Washington Island is an even more desirable field for immigration. It would appear that Washington is the most suitable island in this Colony for the settlement of Ellice Islanders, as it is the most fertile and will grow all the food plants to which they are accustomed while possessing, at the same time, some of the amenities of civilization, such as a trade store. At present 70 labourers are employed on Washington Island and it is suggested that the settlement of about 85 families should meet the labour requirements of the company and at the same time provide a home for every Ellice Islander who desires to migrate. This would necessitate the alienation of only 25,500 trees out of the estimated 200,000 bearing trees on the estate and should prove a good business proposition for the Company, especially in view of the fact that they will still be able to make an indirect profit from the alienated area.

#### CHRISTMAS ISLAND.

8. Judging from published accounts, there can be little doubt that no other island in this Colony, or probably in the whole Pacific, is so pre-eminently suitable for colonization as Christmas. I would refer you to the standard work on the island, *Ile Christmas*, published in 1914; to articles in the *Mid-Pacific Magazine* for March, 1915 and June, 1925; and to the excellent monograph by Christophersen on the “Vegetation of Pacific Equatorial Islands.” The only criticism that I have heard concerning the suitability of this island is that it is subject to droughts. It is true that variability of rainfall is characteristic of the island but it would not appear that drought periods are more severe or frequent than in the Central Gilbert Islands. The oldest coconut trees show only two drought periods since they were planted and the fact that there are at present, in spite of irregular planting, nearly 300,000 trees on the island, as compared with 200,000 on Washington and 140,000 on Fanning Island, testifies to the suitability of the climate and soil for coconut cultivation. During a visit to the island in 1902, Father Emil Rougier stated that he had “no difficulty in getting fresh water for drinking in any place. We never had to dig more than 12 inches, picking of course the lowest places.” The Whippoorwill Expedition, which visited Christmas Island in 1924, during a dry period, found the water level in the wells at the main settlement to be five feet below the surface, or about the same as in the Gilbert Islands.

9. During the course of the recent expedition to the Phoenix Group I was approached by native delegations, both in the Gilbert and Ellice Groups, who earnestly desired that His Excellency the High Commissioner should be made aware of the fact that, while they were grateful to be allowed a chance to emigrate to any locality, the unanimous desire of the people was to be permitted, if possible, to colonize Christmas Island. Subsequent investigations have inclined me to the opinion that the colonization of Christmas is the ideal solution of the whole problem of over-population both in the Gilbert and Ellice Groups. The island has at the moment about 300,000 coconut trees and it has been estimated that 60,000 acres could be planted, an area which would provide for about 3,000,000 trees. From this it would appear that Christmas Island could, at the present moment, support every Gilbertese and Ellice Islander who desires to emigrate; while, if it were fully planted, it could, if these figures are correct, maintain the entire population of the Colony.

10. The advantages of settling all the surplus population in the Colony on one island are very real. Christmas Island is no less than 35 miles long on the southern side, with an average width of 35 miles. It covers an area of 740,000 acres, of which more than 200,000 acres is available land. The island is thus very large indeed and would maintain extensive colonies of both Gilbertese and Ellice Islanders without the possibility of any friction developing between them. The number of settlers would result in a correspondingly large revenue both from the copra tax and from import and export duties; this would justify the establishment of a District headquarters with an Administrative Officer resident on the island. The considerable volume of trade centred

on the one island would lead to the establishment of traders' stores and would ensure the maintenance of comparatively frequent shipping communication with the outside world. In short, Christmas Island would appear to lack every one of the defects of the Phoenix Islands mentioned in my previous report and, at the same time, to possess no known ones of its own.

11. It is respectfully recommended, therefore, that every endeavour should be made to acquire rights over Christmas Island, if necessary by purchase. It would surely be hard to find a more desirable investment for the surplus funds of this Colony than the purchase of this island, which would bring in interest not only in terms of human welfare and happiness but also in a greatly increased annual revenue. Should it not be practicable to acquire rights over Christmas by agreement with the owners, resumption, or purchase, it is respectfully urged that at any rate it might be possible to insist on the employment of Gilbertese or Ellice Island labour on the island. The almost pathetic eagerness of the natives of this Colony to obtain employment is a feature of every recruiting meeting. It is common sight for hundreds of able-bodied natives to besiege the recruiting table when the number who can be taken can be counted on one's fingers. While, therefore, the situation in this Colony is almost unique among the Pacific Groups in that the supply of labour so greatly exceeds the demand, our natives are under a handicap in so much as they are prevented from competing in the labour market outside this Colony, while foregoing nationals are able to enter and do work which the Gilbertese and Ellice Islanders are well qualified to perform.

#### MALDEN ISLAND.

12. This island, discovered by Byron in 1825, was for many years leased to a Guano Company. It is at present uninhabited. The most reliable published information concerning the island is contained in Emory's monograph on the "Archaeology of the Pacific Equatorial Islands." From this and other sources it is clear that the island was inhabited in former times and carried a population of between 100 and 200 persons. The average annual rainfall from 1890 to 1918 was 25.27 inches, falling on 82 days a year; there being seven ancient wells on the island. It would appear that there is at any rate a possibility that the island could support a small population and it might repay a visit of inspection.

#### STARBUCK ISLAND.

13. Starbuck Island is about  $6\frac{1}{2}$  miles long, some three miles wide at its widest part, and 15 feet high. I have no information as to whether water has been found there or whether any attempt has been made to grow coconuts. The vegetation is, however, reported to be very scanty and from the account given in Arundel's monograph on the "Phoenix Group and other Islands of the Pacific" it would appear to resemble a large edition of Enderbury or one of the other more arid islands in the northern Phoenix Group. It might, however, be worth a visit as, owing to its size, it should be able to support a comparatively large population if any food trees could be induced to grow.

#### CAROLINE ISLAND.

14. Caroline Island is ideally suited for permanent colonization by either Gilbertese or Ellice Islanders. It is about 7 miles long by 1 mile wide and consists of 36 islets encircling a lagoon. The atoll is fertile and even now contains some 30,000 coconut trees. It is conjectured that the island could, at the present moment, support some 300 natives, a number which could be gradually increased should the islets be not yet fully planted.

#### VOSTOK ISLAND.

15. It has, unfortunately, been impossible to obtain any detailed information with regard to this island locally. It is believed, however, to be very fertile and to have been well planted. Like Caroline Island it should, therefore, be able to support a permanent population of several hundred.

#### FLINT ISLAND.

16. Flint Island is about 3 miles long by  $\frac{1}{2}$  a mile wide. It is believed to contain about 30,000 coconut trees at the present moment and to be very fertile. On a tree basis the island should support not less than 300 natives, as the yield per tree is high. Stewart's *Handbook of the Pacific Islands*, however, gives the copra production to be about 250 tons per annum, which is  $2\frac{1}{2}$  times the present combined output of Hull and Sydney Islands in the Phoenix Group. On this basis the island should support a population of 1,000 or more.

17. It is understood that Caroline, Vostok, and Flint Islands are at the moment leased to S. R. Maxwell and Co., of Tahiti, and that Tahitian labour is exclusively employed on the islands. It might be possible, however, to negotiate with the company for the resumption of the remainder of the lease, as the three islands together could support a considerable population. Failing this, it might be possible to insist on the employment of British labour on the islands.

I have, &c.,

H. E. MAUDE,  
Commissioner for Native Lands, Gilbert Islands.