

Results of a Pilot Land Survey for Tarawa Atoll, Gilbert Islands

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This report covers the findings of a six weeks pilot survey carried out over part of North Tawara from January to March 1963. My terms of reference were to recommend:

- (i) Possible methods of consolidating fragmented holdings in the Colony,
- (ii) Methods of extending the survey to the rest of the Colony with an estimate of the costs; and
- (iii) a suitable land tenure and registry system for the Colony.

The pilot survey was divided into two parts: (1) *Field survey*, being an investigation of the pattern of the existing land holdings in order to provide information as to their size and shape; and (2) *Register analysis*, being an investigation of the Tarawa Land Registers in order to obtain all available information regarding the number of owners and the number of parcels of land involved including approximate parcel identification.

Field Survey

206 parcels were mapped. They vary in size from 6/100 ths part of an acre to 24 acres in extent. Some of the common boundaries between parcels were not demarcated by the owners or their representatives and the table listed below has been compiled from 178 area calculations:

<i>Size of Parcel</i>	<i>Total No. of Parcels</i>
0— $\frac{1}{2}$ acre	30
$\frac{1}{2}$ —1 acre	28
1— $1\frac{1}{2}$ acres	31
$1\frac{1}{2}$ —2 acres	26
2— $2\frac{1}{2}$ acres	16
$2\frac{1}{2}$ upwards	47
	<hr/> 178

Of the 206 parcels mapped, 108 are owned by residents of Buariki Village (a few owners live at Tearinibai Village), 86 are owned by non-residents who had appointed "caretakers" resident at either Buariki or Tearinibai Villages, 12 are owned by non-residents who had not appointed caretakers.

Boundary Marks

The standard boundary mark found during the survey consisted of a coral stone or slab usually planted in an upended position in the ground. Certain boundary marks placed either by the earlier Lands Commissioners or under the direction of Lands Court officials were removed by unknown persons during the course of the survey.

812 boundary stones were surveyed, approximately 100 of them being placed at the time of survey as the result of Land Court decisions. Although penalties exist under the law for the removal or interference with boundary marks, I am convinced that interference with or removal of boundary marks is a common practice. The practice of relying on the memories of aged persons in order to identify parcel boundaries is obviously unreliable. No security of tenure can ever be obtained when boundary lines are dependent on the emplacement of a stone (which is easily removable) and which cannot be replaced with any semblance of accuracy. Land and boundary disputes will always develop from such a system.

The post-war Lands Commission introduced the practice of blazing certain coconut trees to indicate that a boundary line of any given parcel was irregular and that the trees in question were either included within or excluded from the parcel boundaries. Since obvious cases of mutilation of old blazed marks coupled with indiscriminate blazing has occurred, it will be appreciated that any benefit derived from this technique has been lost.

Analysis of Land Register

The Tarawa Land Registers comprising 7 registers are kept at Abaokoro, the headquarters of the local government on Tarawa Atoll. A sketch map of Tarawa Atoll was prepared (island outlines with names of villages) and the assistance of the Land Scribe at Abaokoro was obtained in locating the approximate positions of certain land parcels on it.

	1055 Residents.	holding 2715 parcels;
	294 Non-Residents.	holding 536 parcels;
Total:	1349 landowners.	holding 3251 parcels.

Note: The term landowners is used to denote a registered entry in one person's name and does not imply that he is in fact the sole owner holding the land for his own use and benefit. There are about 379 entries in the Register indicating that the landowners hold the land parcels (899) for themselves and others (joint ownership).

The following tables illustrate the findings from the Tarawa Register:-

Table 1. Showing the Number of Owners with Land Holdings Comprising One to Twelve Parcels Each and the Location of These Parcels with Respect to the Owners' Villages

Number of parcels per owner	Number of registered landowners	Location of parcels with respect to the owners' villages				Number of parcels
		0-3 miles	3-5 m	5-10 m	10-20 m	
1	432	222	46	78	86	432
2	220	235	29	77	99	440
3	167	269	31	63	138	501
4	90	208	25	45	82	360
5	51	99	11	39	106	255
6	36	116	21	34	57	228
7	20	71	8	24	37	140
8	12	49	12	23	12	96
9	7	24	2	14	23	63
10	4	19	6	9	6	40
11	8	34	5	6	43	88
12	6	22	1	12	37	72
Grand total	1055	1368	197	424	726	2715

Table 2.

Residents

Village No.	Village	Number of landowners per village	Location of parcels with respect to village in miles				Number of parcels
			0-3 m	3-5 m	5-10 m	10-20 m	
1	Buariki	119	141	10	17	81	249
2	Tearinibai	39	51	2	3	27	83
3	Nuatabu	21	23	5	3	16	47
4	Tebangaroi	9	13	4		2	19
5	Taratai	59	67	10	22	26	125
6	Taborio	4	3	1	1	4	9
7	Noto	75	85	22	47	63	217
8	Abaokoro	26	32	7	19	18	76
9	Marenanuka	12	15	3	11	11	40
10	Tabonibara	35	48	17	20	11	96
14	Kainaba	55	81	5	23	6	115
19	Nabeina	48	96	9	16	8	129
23	Tabiteuea	60	86	18	30	21	155
25	Abatao	3	1	1		3	5
26	Buota	37	51	18	7	22	98
27	Bonriki	63	137	8	22	21	188
29	Bikenibeu	67	105	13	24	32	174
30	Eita	78	94	21	54	27	196
32	Banraeaba	53	60	4	51	32	147
33	Teaoraereke	49	46	8	20	37	111
35	Bairiki	26	27	10	3	36	76
36	Betio	117	106	1	31	222	360
Grand Total		1055	1368	197	424	726	2715

The most striking facts arising from the analysis of the Tarawa Register are that 41% of all resident landowners only hold one parcel, and that 61% of all resident landowners only hold either one or two parcels. Clearly there is at the moment no case for a major scheme for consolidating land holdings in Tarawa. Only 1% of the resident landowners hold 8 parcels and approximately half these parcels are situated within three miles of their landowners' residences. A total of 14% of the resident landowners hold from 5 to 12 parcels each i.e. 156 persons either as sole owners or joint owners with other persons not included on the Registers hold 982 parcels of land. 434 of these parcels of land are situated within 0-3 miles of the landowner's villages.

Due to the expected increase in population it may safely be assumed that under the present Lands Code the amount of fragmentation present in the Colony will increase rapidly. There is evidence that approximately 27% of all the parcels of land on Tarawa Atoll are being held under some form of joint ownership and there is every reason to believe that this percentage will increase rapidly within the next few decades. Similarly, 536 parcels (i.e. 16% of all the parcels of Gilbertese owned land) are held on a sole or joint ownership basis by 294 absentee registered landowners. (These absentees, who comprise 21% of the total number of registered landowners, do not live on Tarawa Atoll).

Under the Lands Code, any absentee owner is free to appoint a "Caretaker" to look after his property. This 'caretaker' system is invariably practised and it would seem that between a $\frac{1}{3}$ and $\frac{1}{2}$ of all land parcels on Tarawa are being held on a 'caretaker' basis. No 'caretaker' can be expected to take a proper interest in a property when he has no security of tenure.

The principal cause of fragmentation in the Colony is undoubtedly the cumulative effect of the law of succession over successive generations. It is generally aggravated by the increasing density of population combined with the scarcity of suitable land; and the social status conferred by the ownership of land. Minute parcellation exists on Tarawa but at the present time it does not constitute a menace, although the position can be expected to deteriorate in the future. The Lands Courts are, I understand, unable to cope with the distribution of parcels of land held under joint ownership. I was told that the percentage of parcels held under joint ownership in 1928 was about 1%. The figure is 27% at the present time.

No doubt there are other areas within the Colony in which minute parcellation has taken place. The recommended method for consolidating fragmented holdings and re-subdivision into economic units is both involved and expensive. This operation cannot be properly and equitably carried out unless a cadastral survey is made, in order to produce the required 'schedule or rights'. 'Remembrement' is an operation of exchange whereby each new allotment given to each owner produces land of the same value; and land of the same category, quality and area as his former holdings.

Colony land, though valuable, because it is in such short supply, cannot generally be considered as 'first class' agricultural land. In order to ensure that full use is made of the limited land holdings, it is imperative that steps should be taken to remove the obvious causes which produce minute parcellation. These are (a) lack of suitable land for purchase by the increasing population; (b) lack

of land dealings due to rigorous control of land under the Lands Code; (c) to some extent the 'mama' or shame element preventing Gilbertese hiring themselves out to other Gilbertese as agricultural workers.

Consolidation by Outright Purchase

If land can be acquired by Government by either using the Neglected Lands Ordinance or by outright purchase, proper subdivision can be undertaken after an Agricultural Survey has been carried out. No peasant community will be persuaded to adopt progressive agricultural practices until visual evidence of the benefit of such practices is available to it.

Free Dealing

An amendment of the Lands Code to permit free dealing in land will assist towards an improvement of the present position. I am convinced that with such an amendment sales will take place and that landowners will avail themselves of the opportunity of selling off parcels which are unworkable due either to geographical position or size. At the same time, persons sharing interests in any parcel of land should be encouraged to dispose of these one to another. There are no dealers in real estate and provision for a 'land broker' would have to be made. Under the Native Lands Ordinance No. 5 of 1956, land dealings such as Native Leases and Leases of Native Land cannot take place until the lands court has confirmed ownership. As an interim measure, the centres of local government are probably the most suitable places in which an office of a land broker could be established.

Cadastral Survey in the Future

A cadastral survey may be referred to as a "land" survey to provide for the definition of economically useful subdivisions of land—the boundaries of which may be located on the ground at any given time especially to the satisfaction of a court. The identification of parcels of land is an essential prerequisite to an effective system of registration of land or title to land in any country where agriculture has not developed into stabilised physical ground patterns. Only in countries where agricultural practice has long established fields, hedgerows, ditches, drains, furrows, roads and walls, etc., may a boundary of land be defined without recourse to land survey and boundary demarcation. In the Colony there is little, if any, variation in topography to allow for the use of "general" type boundary description and in consequence no effective land register can ever be created in that Colony unless the units of land referred therein can be located readily, surely and unambiguously at any time on the ground.

As the Colony has no history of cadastral survey, it will be necessary to commence such a survey, provided the Colony Government desires to introduce an effective system of guaranteed titles to land. A fully qualified land surveyor familiar with acceptable guaranteed title systems should be recruited to start the "cadastral survey" in selected parts of the Colony. Initially he should commence with the survey and demarcation of all Government land holdings as well as re-settlement surveys of suitable agricultural land for allocations to peasant farmers,

urgent engineering and topographical surveys omit as required by the Government. Some training of locally engaged survey assistants should be undertaken though experience gained in the Solomons has indicated that survey training is more effectively carried out through approved survey training institutions. Cadastral survey control around all settled atolls and between certain atolls will be required in due course and this survey control could be expeditiously provided by a team of surveyors using tellurometers.

Evolution of Tenure in Gilbertese Lands

There are tremendous advantages in evolving customary tenure by amending the Lands Code as and when the Gilbertese people are considered to be ready for change. The Native Lands Ordinance allows for amendment.

Village Land and House Sites

Sociologists have argued for and against the appropriateness of isolated homesteads in newly established settlement areas. Although the established pattern of village life in the Gilbert Islands is new, there are striking advantages in preserving this pattern for social, educational and medical reasons. Buariki Village, intersected by no less than 23 land parcel boundaries. Provision exists under the Lands Code whereby a house holder may obtain a 'permission to reside' or a title to the house plot. I understand that many villages throughout the Colony are similarly affected and that both the village residents and the landowners are most dissatisfied with this state. I consider that title to village land should be held by a corporate body e.g. Islands Council, and that this body should, on application, lease house sites to residents. In time, all village land could be subdivided into residential, commercial and other sites. The position of the Maneaba site could easily be satisfied by a long term lease in the name of trustees. Consideration would have to be given to:

- (a) the payment of compensation to land owners;
- (b) the method to be adopted to allow the holding body to acquire additional land to cope with extensions of the village land; and
- (c) provision for acquisition, etc.

Land Use and Country Planning

Legislation in the Indian State of the Punjab, Spain and Jordan contain provisions designed to meet one particular pattern: the existence of different rights over one plot. Not all Gilbertese owned land is covered by areas subject to different rights, although the Buariki area is a good example of this. The rights of all persons involved within one parcel of land could be considered, for consolidation purposes, as joint owners in proportion to the value of their rights and the shared rights of use are not transferred to the property allocated by an appropriate land authority as replacement. Land which is considered to be more useful or suitable for intensive cultivation e.g. babai, bananas etc., could well be zoned accordingly. Clearly, the minimum size of any land parcel must

depend on factors such as land use, expected income to be derived from the land, and the like.

Conclusions

The amount of field work carried out during the pilot survey clearly indicates that no highly specialised technique is involved, but that two field surveyors, with hard work, should take about five to six years to complete a cadastral survey of all the land holdings. This survey would result in a greater security of tenure under the existing Lands Code, and data to produce a schedule of rights would be available if a scheme of consolidation by 'remembrement' was undertaken in selected areas.

The analysis of the Tarawa Land Register suggest that an improved pattern of land holdings could be obtained by allowing free dealing in land and by ensuring that parcellation does not involve areas of land below a minimum size. The current method of estimating areas for taxation purposes, is not considered to be accurate enough for use in a 'schedule of rights'.

Since an improvement of coconut holdings is under review, I consider that the more effective use of survey staff on schemes of resettlement within the Colony would produce tangible results.

The Gilbertese are ready for changes in the Lands Code and the evolution of the current land tenure system should ensure that greater security of tenure is produced. This will involve anti-fragmentation measures, free dealing in land including the charging of land in certain cases, the creation of a landless community who will be available for emigration as new settlers or will be available as an agricultural labour force.