

R. L. Crocombe  
114 d/Space  
l.c.

A LAND  
REPORT OF THE "PILOT SURVEY" CARRIED OUT AT TARAWA - GILBERT & ELLICE ISLANDS COLONY.

This report covers the findings of a pilot survey carried out over part of North Tarawa over a period of six weeks and includes recommendations dealing with various related subjects which affect the approved Lands Code. These subjects are -

- from January to March 1963
- (i) Fragmented Holdings
  - (ii) Consolidation by outright purchase,
  - (iii) Free dealing,
  - (iv) Future of Cadastral Survey,
  - (v) Evolution of Tenure,
  - (vi) Village Land and House Sites,
  - (vii) Land Use and Country Planning,
  - (viii) Conclusions.

Following arrangements made in 1962, I arrived in the Colony on 21st January, 1963 to carry out a pilot survey of Gilbertese owned land on Tarawa Atoll. My terms of reference, as stated in the Resident Commissioner's letter F.48/9/6 of 24th September, 1962 to the Honourable the Financial Secretary, were as follows :-

- (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.

It was decided that the pilot survey should be divided into two distinct parts, namely :-

(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 l.c.

Appendix 1 & 2:

Sheets 1 and 2 (see Appendix 1 and 2) of the Cadastral Plan attached to this report will show that 206 parcels were mapped. These parcels vary in size from 6/100ths 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:-

<u>Size of Parcel</u>	<u>No. of Parcels on Sheet 1</u>	<u>No. of Parcels on Sheet 2</u>	<u>Total No. of Parcels.</u>
0 - 1/2 acre	18	12	30
1/2 - 1 acre	19	9	28
1 - 1 1/2 acres	17	14	31
1 1/2 - 2 acres	15	11	26
2 - 2 1/2 acres	10	6	16
2 1/2 upwards	12	35	47
<u>Totals</u>	<u>91</u>	<u>87</u>	<u>178</u>

Of the 206 parcels which were mapped in the Survey it is interesting to note that:-

- a) 108 parcels are owned by residents of Buariki Village (a few owners live at Tearinibai Village),
- b) 86 parcels are owned by non-residents who had appointed "Caretakers" resident at either Buariki or Tearinibai Villages,
- c) 12 parcels 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 l.c.

The Tarawa Land Registers comprising 7 registers are kept at Aboakoro, 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 Aboakoro was obtained in locating the approximate positions of certain land parcels on it. A copy of the map is attached to appendix 3 which includes all the details recorded from the Tarawa Registers.

Photostat

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

Residents

Table 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	3-5m	5-10m	10-20m	
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

Residents

Village No	Village	Number of landowners per villages	Location of parcels with respect to villages				Number and parcels
			0-3m	3-5m	5-10m	10-20m	
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
		1055	1368	197	424	726	2715

What is the relative to population of Tarawa.  
Usually means persons whose parents have died.

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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 most striking facts arising from the analysis of the Tarawa Register are that

a) 41% of all resident landowners only hold one parcel, and that

b) 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

c) 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

d) 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.

Similar information as provided by the analysis of the Tarawa Register could fairly easily be obtained from all other island registries. Attached at Appendix 4 is a suggested procedure to be adopted in order to obtain this information. Whether or not this information will confirm the findings from the Tarawa Register is as yet unknown. Assistance in preparing the outline maps will be required and it may be possible to arrange for this work to be produced in the Solomons.

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:-

a) the increasing density of population combined with the scarcity of suitable land; and

(b) the social status conferred by the ownership of land.

Minute parcellation does exist 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.

*Title or use?  
How did he find this out  
as no registers then?  
Looks like some one's guess  
+ a most unlikely one*

If an analysis of all other island and atoll registers is made, the problem can be studied as a whole. Whether or not the findings on Tarawa Atoll apply to other atolls is yet to be discovered. Information about the number of parcels of land which are held by each registered landowner in the Colony is required before a complete assessment of the problem can be made. The lack of a Central Registry is felt although no recommendation to create a Central Registry is suggested at this stage.

*No underlining*

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 of rights'. 'Remembrement' is an operation of exchange whereby each new allotment given to each owner produces

*In view of fact that registers exist + areas + land qualities listed for tax purposes - is survey needed for consolidation*

(a) land of the same value; and

(b) 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 causes 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.

*No: due to fact that on Tarawa Court members just would allow it. The legislation doesn't stop it.*

CONSOLIDATION BY OUTRIGHT PURCHASE, l.c.

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. ~~Whether or not measures involving the destruction of worthless trees and other actions involving a programme of improvement of the existing coconut holdings is undertaken, prior to the sale of the units, is a matter for consideration.~~ It can be safely stated that no peasant community will be persuaded to adopt progressive agricultural practices until visual evidence of the benefit of such practices is available to them.

A L.O.E. file note observes that free dealing could be tragic, men could get angry with family + sell most of the land, or rich men could exploit poor in times of stress + a feudal system develop. [This is just about S.E. Asia + suffering from].

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. This procedure of confirmation of ownership would have to be adopted and such confirmation obtained by vendors before any parcel of land is available for purchase. 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. Whether or not a local government official could be appointed to act as 'part-time' estate agent is a matter for consideration.

As Anderson (R.C.) notes - can part advertise on local Govt notice board. But will anyone do it?

CADASTRAL SURVEY IN THE FUTURE.

Experience in many countries has shown that the effective record of rights and duties pertaining to land, particularly in parts of the world less stably patterned agriculturally, has suffered grievously from a divorce between the legal and the technical aspects of cadastral record. To Land Surveyors and land holders it seems a basic necessity in the construction and working of any dependable land record that the units of land to which entries relate shall be defined so that they can be located readily, surely and unambiguously at any time on the ground. To administrators of government and their legal advisers, this often presents itself as a tedious and costly refinement especially when the rapid clarification of a long standing territorial confusion is demanded of them. The reconciliation of these differing approaches does not, of course, mean that the juridical, fiscal and administrative requirements of a land record can be subordinated to the technical and operative, but merely that the satisfaction of them all should be ensured. The divorce mentioned above has historic origins arising out of the limitations of land survey technique.

No underlying

Identification of parcels of land is an essential of any system of registration of Title to Land. Identification involves some form of survey and the strides made in recent years in electronic forms of measurement has accelerated survey work.

In view of the fact that the Colony has no history of cadastral survey a very early start should be made with the recruitment of a qualified expatriate officer who should undertake survey duties as soon as possible. The immediate task would involve surveying government holdings, including local resettlement schemes, urgent topographical surveys required for town planning purposes etc. Some training would commence with locally engaged personnel although the surveyor's duties should be primarily concerned with the cadastral survey. Cadastral survey control around all atolls and between certain

atolls will be required in due course and this could be handled quickly and easily by a visiting team of surveyors using electronic distance measuring equipment. ~~Small territories such as the Colony, will never be able to afford such equipment and I shall discuss this matter with the Directorate of Overseas Surveys whilst on leave in London. To ensure minimum delay, the resident surveyor should be qualified to select and construct all survey control points prior to the visit of the specialised team.~~

From many points of view it would be desirable to second such an officer from the Solomons Service. A check on the quality and output of work carried out by the surveyor can be maintained by a larger department. Similarly, advice and help can be provided much more easily to a seconded officer.

From experience gained in the Solomons, it is obvious that 'on the spot' training of locally recruited personnel is not adequate. When pressure of work keeps a professional man busy he cannot and does not spend sufficient time on teaching and training. An application will be lodged in due course to extend the current B.S.I.P. C.D.& W. scheme granted for training purposes, to cover the cost of employing a full time lecturer and demonstrator. If such a scheme is approved, there is no doubt that locally selected Gilbertese and Ellice Islanders would receive far better tuition and training.

The costs of extending the control survey through the islands could be met either from a grant from the Department of Technical Co-operation or on a hire basis, of equipment and personnel if Solomon Islands professional staff were used. In any event, there is no great hurry involved since the only practical way of introducing survey to the Colony is to handle it on an island by island basis.

The current annual expenditure envisaged if an expatriate surveyor is recruited, is as follows -

Personal Emoluments.

Surveyor	£2,000
Survey Assistant	200

Other Charges

Wages	1,200
Office Expenses and Incidental	50
Travelling and Transport	300
Survey Expenses	300

£4,050

Special Expenditure

Part share of new 'Lands' Office	£2,000
Survey Office furniture and equipment	400
Instruments and Field Equipment	1,000

£3,400

There is no doubt that in due course an expatriate surveyor will be able to control the work of locally trained surveyors who should be based at selected centres throughout the Colony. Excellent instruments for the use of locally trained personnel are available today at a cost of £130 each, and expenditure for this type of instrument could be allowed for during subsequent years. At the outset, I suggest that the survey staff be confined to the immense task of cadastral survey and that lands work be undertaken by others.

#### EVOLUTION OF TENURE IN GILBERTESE LANDS.

*Assumes a natural evolution of tenures ???*

We are apt to forget that property in land, as a transferable marketable commodity, absolutely owned and passing from person to person like any chattel, is not an ancient institution but a modern development reached only in a few advanced countries. In a greater part of the world the right of cultivating patches of earth is rather a privilege than a property. The evolution of tenure must be controlled by statute and if the best interests of the land holders are studied, it must be a gradual process. I attach at Appendix 5 a copy of an extract from Dawson & Sheppard's book 'Land Registration'. This extract deals with the evolution of customary land tenure in Malaya. 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 and I shall consult with specialists within the Department of Technical Co-operation and will attempt to produce -

- Appendix 5.*
- Dis has been done it seems.*
- (a) a draft Land Code involving proposed amendments to the existing Native Lands Ordinance 1956; or
  - (b) a draft of a new Lands Ordinance to incorporate the proposed new Land Code.

#### VILLAGE LAND AND HOUSE SITES.

*What are they?*

*Appendix 6.*

Sociologists have <sup>argued</sup> 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. The attached plan (Appendix 6) of Buariki Village, shows the 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 land owners 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 -

- As Anderson (I.R.C.) notes, this may make people leave the village & live on their lands.*
- (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.

*I had the impression that in Tarawa it was all much the same xpt that Buariki + Betio valts not so good.*

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.

*Is the existing land register sufficient?*

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'.

*Why the precision for tax assessment?*

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, etc.

*Will free dealing do this?*

(J.B. Twomey)  
Crown Surveyor.

Honiara.

25th April, 1963.



PROCEDURE TO BE ADOPTED WHEN ABSTRACTING DETAILS FROM  
THE LAND REGISTERS AND IN THE COMPILING OF STATISTICS

PRELIMINARY: It is first necessary to mark on a map of the atoll or island in question the position of every inhabited village and the approximate locations of readily identifiable land parcels (called hereafter "parcels"), giving these parcels their current numbers as recorded in the Land Registers. "Local knowledge" is perhaps the best way of doing this. See photostat plan of Tarawa Atoll showing approximate land parcel identification.

FORM 1. Using the prepared plan from above, the villages are numbered in sequence, for example, north to south or east to west. The village names are then entered against their corresponding numbers on Form 1. The atoll name and number of villages on that atoll are to be entered in their respective positions. It is essential that the page number and total number of pages of Form 1 used be recorded as a precaution against loss of any information.

FORM 2. (As the information entered on this form is the basis of the analysis of the Land Registers, it is imperative that these instructions be strictly adhered to and that all details are accurately recorded in their respective positions. Before the work of analysis begins, the land scribe should page through the registers and record in pencil alongside a registered land owners name the following information:-

- a) the village name if a resident of the atoll under analysis;
- b) the atoll name or place name if a non-resident of the atoll under analysis;
- c) the word 'dead' if no longer living or the words 'address unknown' if alive though whereabouts unknown.

Only land on the atoll or island being dealt with is recorded on this Form and no provision is made for land held on other atolls as this is not recorded in the Registers).

The name of the atoll or island being dealt with, the particular number or letter of the register being used, the total number of registers for that atoll and village where registers are normally kept may be simply recorded.

Each double-page entry in the Land Register is for one owner and the page number is shown in the top right hand corner. (The same number should also be shown in the top left hand corner). This number is recorded in column 1. Quite often all parcels have been transferred from a register page, leaving no information on that page to be recorded. It is not necessary to note this page number. Thus the gap in the numerical sequence shown in column 1 will indicate a completely cancelled page or cancelled pages.

The name of the land owner is shown at the middle top of the left hand page. If a female owner, her name in the register is preceded by "NEI" and in such cases the letter "N" is to be entered in column 2. If a male owner, no entry is made in column 2, the space being left blank.

The owner's normal place of residence should be shown at the top of the right hand page of the register and if living on the atoll or island being dealt with, then he is a "resident" and his place of residence will be one of the villages shown on Form 1; thus the number corresponding to that village may be read from Form 1 and entered in column 3 of Form 2. If the owner is shown as living on another atoll or in another district, then he is a "non-resident" and the name of the island or place in which

he lives is entered in column 6 and no notation is made in column 3. It may occur that the owner's residence has not been shown in the register or, if shown, it may be wrong. In such cases the Land Scribe himself may know the correct place to be entered on Form 2 or he may have to rely on the knowledge of other reliable people. Also, it may be known that the owner, as shown, is deceased and that the register has not been brought up to date with the new owner's name. Under these circumstances, no entry is made in column 3 and "UNKNOWN" is written in column 6. Also, a note to the extent that the register is not up to date is made by writing "R.N.U.T.D." in column 9 (remarks). In the case of two or more persons, being possibly male and female, with different villages being shown as the registered owners of the same land, then the sex and village of the first mentioned owner is to be used and the remark "JOINT OWNERS" made in column 9.

Column 4 shows the number of parcels registered in the name of each particular owner whether he be resident or non-resident. The number is found by counting the current (uncancelled) entries on the left hand page of the register. Care must be taken to ensure that land transferred and no longer in the possession of the registered owner is not included in the total number of parcels. This is checked by subtracting the total number of transfers shown on the right hand page of the register from the total number of entries shown on the left. Occasionally, an owner may have only a share, such as  $\frac{1}{4}$  or  $\frac{1}{3}$  of a parcel of land registered in his name, but because of the difficulty in correlating this share to the owners with other shares, each piece of land registered under any owner is to be treated as one complete, undivided parcel. The parcel number is underlined in column 8 and "JOINT OWNERS" is written in column 9. There is provision for only twelve entries or parcels on each double page of the register and it may often be the case that one owner has more than twelve parcels of land. Thus, one owner would require more than one double page of the register in order to record all his parcels. For this analysis, each double page of the register is to be treated separately and so no more than "12" can ever appear on any line of column 4. When it is known that one owner has in his own name additional parcels listed on other register pages (even if in other registers), then reference should be made to those registers and pages in column 9.

On the left hand page of the register, in the second column, is shown the numbers of the various parcels registered in the name of any owner. Considering only resident owners, (and taking each register page in turn) it is possible to locate on the plan prepared in the preliminary stage the approximate position of each parcel belonging to each owner using the numbers of the parcels shown on the map for guidance purposes. Knowing the position of the owner's village (column 3) it is then a simple matter to measure the distance in miles from the village to each parcel, using the linear scale shown on the map. In the fifth column of the left hand page of the register is shown the size of each parcel of land and its fertility rating (B for BUAKAKA meaning bad; N for NUKA TE MAIU meaning medium; R for RAOIROI meaning good), this figure and number applying to the parcel shown on the same line in the second column of the register page. Knowing, now, the distance from village to parcel, the appropriate heading is located in column 5 and under that heading is entered the size and fertility rating, not, repeat not, the parcel number. This process is continued until every parcel in the register belonging to one owner is shown, through its size and fertility rating, in column 5. When an owner is a "non-resident", his abode is shown in column 6, as mentioned previously, and column 7 is used for entering the location of his parcels. Naturally, these parcels cannot be shown as a distance from the owner's village so they are entered in relation to each other. If parcels are situated within a

mile of each other, then the size and fertility rating of these parcels is grouped under "0-1" in column 7 and the distances of the other parcels from this group are entered under their respective headings. When no parcel is situated within a mile of another, then the most central parcel is placed under "0-1" and the other parcels shown in relation to it. Occasionally, a size and fertility rating may not have been entered in the register and so instead a question mark (?) is used in either of column 5 or 7 and an appropriate remark made in column 9.

The numbers of all parcels currently registered under the name of the owner are to be listed in column 8. (They are the numbers shown under "Plot No." in the register). It is helpful if these parcels are shown in the order of their distance from their owner's village but this is not essential.

In the sixth column of the left hand page of the register, under the heading "encumbrances" the letters or words MM or MA MANENA (meaning with sisters), MT or MA TARINA (meaning with brothers) and MK or MA KANOAN (meaning with the issue of the original owner) may sometimes be written against some (or all) of the parcels, indicating that those particular parcels are held under joint ownership although only one person is named as landowner. In such cases, the remark "1 parcel (or 2 parcels, etc) joint owners" is to be entered in column 9 and the particular parcel (or parcels) shown in column 8 to which that remark refers is (are) to be underlined. Various other remarks and comments as mentioned previously are also entered in column 9 plus any other information which it is thought may assist in the analysis of the register.

Upon the completion of each page of Form 2, columns 2,3,4, 5 (each sub-heading taken separately), 6 and 7 (again each sub-heading taken separately) are totalled and entered. The total required in column 3 is, obviously, the number of entries thus, showing the number of resident owners. With column 6, the total number of non-resident owners, regardless as to whether they be unknown or living in widely scattered areas, is the figure required. Only the parcels underlined, i.e., those jointly owned, are counted and entered at the bottom on column 8. Under the headings of "R.N.U.T.D." and "joint owners", those particular totals are abstracted from column 9. It is suggested that all these totals be checked.

The page number and total number of pages of Form 2 is tabulated and also the name of the person who compiled that particular page of Form 2 in case it is necessary to address a query to him at a later date. When any owner has several parcels grouped under any of headings in columns 5 and 7 or numerous entries in column 8, then it will be necessary to use two or more lines on Form 2 to record all the necessary information. In this case, care must be exercised when dealing with the next owner (i.e., register page) to ensure that no entries are made on a line showing information relating to the previous owner.

FORM 3.

This is used for collecting all the information shown on the various pages of Form 2 for any register. The register number is entered and also the number of Form 2 pages used for collecting the information from the register. The totals of each page are entered in their respective columns against the page number and so they may all be added and the gross totals obtained. Additional totals are then obtained for parcels within 0 to 3 miles and 3 to 5 miles in both resident and non-resident columns.

FORM 4.

The form is self explanatory since details derived from the summary of the various columns on Form 3 are entered here.

FORM 5.

From the details shown on Form 2 it will be seen that some persons own only 1 parcel whilst others own 2 or 3 or 4 or 5 parcels etc. Form 5 is designed to assess the number of owners with 1, 2, 3, 4 or 5 parcels etc. respectively. As with the other forms, the name of the atoll or island must be clearly shown and also the Register number or letter.

On a sheet of foolscap paper, numbers corresponding to the villages indexed on Form 1 are written down and beside these numbers additional figures being 0-3, 3-5, 5-10 and 10-20 are placed, representing the distances to parcels owned by persons in those villages. Turning, now, to Form 2 and taking each entry in turn, it may be seen that the first person comes from, say, village number 2 and that he (or she) owns 1 parcel of land which is between 10 and 20 miles from the village. These details are then entered against village number 2. The number of parcels and their location is the information shown. An example of this procedure is as follows:-

Village No.	Location of Parcels	NUMBER OF PARCELS PER OWNER					
		2	1	4	5	5	2
1.	0-3	1	-	4	2	4	-
	3-5	-	1	-	1	-	2
	5-10	1	-	-	1	1	-
	10-20	-	-	-	1	-	-

		1	5	2	2
2.	0-3	-	3	-	1
	3-5	-	-	-	-
	5-10	-	-	2	-
	10-20	1	2	-	1

		3	3	1	1
3.	0-3	2	2	-	1
	3-5	1	-	1	-
	5-10	-	1	-	-
	10-20	-	-	-	-

		1	1	2	1
4.	0-3	1	-	2	1
	3-5	-	1	-	-
	5-10	-	-	-	-
	10-20	-	-	-	-

and so on.

Suppose the second owner in the register under consideration also lives at village number 2 and that he owns 5 parcels, 3 of which are within 3 miles of that village and 2 are between 10 and 20 miles distant, all these details are recorded against village number 2 as shown. The next owner, from say village number 1, may have 2 parcels, 1 being within 3 miles of his village and the other between 5 and 10 miles away. These facts are written down beside village number 1. This process is continued until all entries of resident owners are dealt with.

The information shown on this sheet of foolscap paper is then analysed and details extracted and placed on another foolscap sheet, this time in the order of number of parcels per owner. Persons with only 1 parcel are considered first and these persons may be found by looking at the number of parcels for each village. In the above example, there is only one person in village number 1 with 1 parcel, this parcel being between 3 and 5 miles away. In village number 2 there is also only one person with 1 parcel, this time the parcel being between 10 and 20 miles away. In village number 3 there are two persons each with 1 parcel of land and in village number 4 there are 3 persons with only 1 parcel each.

Persons with 2 parcels are then considered. There are 2 owners, living in village number 1 each with 2 parcels and in village number 2 there are again 2 owners with 2 parcels whilst in village number 3 no one has 2 parcels and there is one person with 2 parcels in village number 4. Persons with 3 parcels are now considered, then 4, 5 etc. until all owners are dealt with. These figures are recorded on the foolscap paper as follows:-

No. of Parcels per owner	Village Number	LOCATION OF PARCELS			
		0-3	3-5	5-10	10-20
1.	1	-	1	-	-
	2	-	-	-	1
	3	-	1	-	-
	3	1	-	-	-
	4	1	-	-	-
	4	-	1	-	-
	4	1	-	-	-
		3	3	-	1 (7)
2.	1	1	-	1	-
	1	-	2	-	-
	2	-	-	2	-
	2	1	-	-	1
	4	2	-	-	-
		4	2	3	1 (10)
3.	3	2	1	-	-
	3	2	-	1	-
		4	1	1	- (6)
4.	1	4	-	-	- (4)
5.	1	2	1	1	1
	1	4	-	1	-
	2	3	-	-	2
		9	1	2	3 (15)

and so on.

Each parcel is shown in relation to its distance from its owner's village. The total number of parcels is added in each case. There are seven person with one parcel each so the total number of parcels must obviously be seven. There are five persons with two parcels each so the total number of parcels is ten. There are two persons, both living in village number 3, each with three parcels, giving a total of six. These details are now transferred to Form 5. One parcel per owner is considered first. There are, as just stated,

seven persons with 1 parcel each, 3 of those parcels being within 3 miles of the owners' villages, 3 being between 3 and 5 miles and 1 being between 10 and 20 miles distant. The figures 3, 3 and 1 are therefore placed in the 0-3, 3-5 and 10-20 columns of Form 5 against 1 parcel per owner. The number of owners (7) and number of parcels (7) is shown. Owners with 2 parcels each are now dealt with. There are 5 in the example, giving 10 parcels; 4 are within 3 miles; 2 between 3 and 5 miles; 3 between 5 and 10 miles and 1 between 10 and 20 miles. These figures are entered in their respective columns. The process is continued for owners with 3 parcels, 4, 5 etc. until all are dealt with.

FORM 6

The information required on this form is derived from the figures obtained on the first sheet of foolscap paper. Each village has been recorded in sequence, together with the number of owners, number of parcels and location of parcels so they may be simply transferred to their correct places on Form 6. In the above example, and considering village number 1, there are 6 owners with 19 parcels. Eleven of these parcels are within 3 miles; 4 are between 3 and 5 miles; 3 are between 5 and 10 miles and 1 is between 10 and 20 miles. Village number 2 is similarly treated and so on. As always, the number of the register being dealt with must be shown. As the foolscap papers used in this process are not required once the information has been transferred to Forms 5 and 6, they may be destroyed after the figures are checked and found correct.

FORM 7

Finally, non-resident (absentees who live on other atolls etc.) owners are treated. From the details on Form 2 all owners on any one particular atoll or island may be identified, together with their parcels, including those jointly owned. All these details may be grouped and simply entered on Form 7 exactly as shown on Form 2 there being no need to relate parcels of one owner to another. This grouping is repeated for each atoll or island containing non-resident owners. "Unknown" owners are also entered under that heading on Form 7. All parcels are then listed in order in the appropriate position.

F O R M 1.

TO BE USED WHEN NUMBERING THE  
VILLAGES ON ANY ATOLL OR ISLAND.

NAME OF ATOLL OR ISLAND	NUMBER OF VILLAGES
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VILLAGE NUMBER	NAME OF VILLAGE (USE BLOCK LETTERS)
1:.....	.....
2 :.....	.....
3:.....	.....
4:.....	.....
5:.....	.....
6 :.....	.....
7:.....	.....
8 :.....	.....
9:.....	.....
10:.....	.....
11:.....	.....
12:.....	.....
13:.....	.....
14:.....	.....
15:.....	.....
16:.....	.....
17:.....	.....
18:.....	.....
19:.....	.....
20 :.....	.....
21:.....	.....

THIS IS THE PAGE OF FORM 1	TOTAL NUMBER OR PAGES
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