

THE NEED FOR LAND SURVEY IN FIJI

(THE SILENT PARTNER IN THE DEVELOPMENT OF FIJI)

by
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Abstract

Land is essential for human survival. The management and use of land is a very important issue in a socially sustainable development. Histories in land management in different countries differ by way of early land surveying systems, different conditions yet the management of land information is a common denominator of all countries.

Introduction

There is evidence that in 3,000 BC the Egyptians found it necessary to mark out boundaries of land in the Nile delta and to make and keep a record of these boundaries. Ever since that distant date all far sighted administrators and land owners have found that there was wisdom in the Egyptians early decision and, to a greater or lesser degree of accuracy, they have sought to mark out and record boundaries of land.

The marking of the boundaries is necessary to define its full extent. Every owner wants to know precisely what is his and where his land ends and another begins. This is a simple matter, which all owners can do for themselves – provided they can agree on the position of common boundaries. Primitive people have always done something on these lines.

However “land” is a person’s only immovable property. A car owner can take the vehicle about with him – so can the owner of a watch or a radio set. But the owner of the land cannot take his plot with him in his pocket. This “immovability” of land is not a very severe drawback to the owner not a to the owner in full occupation of the whole of this land. Nor is it great drawback to the owner who does not want to use his real property as a security. Once an owner lives away from his land or once he finds he finds he needs to use his title to the land as a security, he finds he needs some sort of plan of his boundaries. Simply he must have a survey made of his boundaries and a plan prepared which shows on paper the image of his holding, ie to show the position of these boundaries in relation to the boundaries of adjoining land and to show the actual content of the land in terms of acres. The above will show clearly “the need to survey” to a land owner.

Background in Fiji’s Case

In pre-European times, Fijian land owning units know their boundaries and records were not necessary. But with the arrival of settlers from North America, Australia and New Zealand the concept of boundary surveys was imported with them since boundary surveys were a normal practice in their countries of origin. The early surveys were very

rough although adequate at that stage. However with the increase in settlers and dealings, boundary disputes increased also, with the result that by 1873 the pre-cession government introduced a law permitting only licensed surveyors to practice the profession.

The Deed of cession of Fiji in 1874 by which Fiji became a British territory, vested in the crown the absolute proprietorship of all land not known at that time to be alienated so as to have become the "*bonafide*" property of the Europeans and other foreigners, or not in the actual use or occupation of some chiefs or tribe and not actually required for the probable future support and maintenance of the Fijians. The deed of Cession also stated that all land claims were to be investigated and equitably adjusted.

The Land Claims Commission

A Land Claims Commission consisting of Government Officers, from 1875 to 1880 settled claims by Europeans and foreigners for land negotiated from Fijians in pre-cession days. Most of these claims were supported by maps and survey plans made at the time the dealings were contracted, but where these were not available, Surveyors prepared sketch plans. Such of these claims were found good were finally surveyed to be specified standard and **Crown Grants** issued under the real property ordinance of 1877 based on the Torrens Land Registration System of land registration. These represent the bulk of land referred to as private freehold. Although the claims had been settled by 1880, all surveys were not completed until 1885, principally because of the shortage of surveyors. There were added difficulties of poor survey information, transport, equipment, and suspicion from the native Fijians.

During this period, the first ordinance relation to the appointment and registration of surveyors were enacted (1877). This requires a plan to be deposited with the Surveyor General who was permitted to make regulations in respect of surveys. However the method and accuracy of surveys were not detailed in regulations until 1924, although in 1907 certain requisitions were made regarding marking of boundaries, connections to made etc.

Investigations in respect of land now known as Native Land were commenced by the **Native Lands Commission in 1884**, but the Native Land Commission was **not effective until 1908** when official recognition was given to the Fijian land owning unity – the extended family unit – the extended family known as '*mataqali*' of which there are some 14,000. Furthermore neither sketch plans of ownerships nor general maps were available to facilitate the task of adjudication of some 3.75 million acres (approx 83% of land in Fiji). Therefore starting from scratch, *mataqalis* had to be identified with their parcels and topographical plans prepared. It soon became apparent however, that a comprehensive framework of accurately surveyed points to which all surveys of boundaries could be connected was required so that the resulting surveys could be properly inter-related and recorded.

Control Surveys – Triangulation by McCaw

As a result of the above and in view of the future needs of accurate surveys, a trigonometrical survey of Fiji was carried out during 1908 to 1915 under the supervision of Capt. McCaw, a surveyor from the Royal Engineers Regiment. This so called “McCaw Survey.” Of Fiji has been of enormous value in the control of the boundary surveys in Fiji. It has also proved to have been, of great value to hydrographic surveys who have worked in Fiji waters since 1917. The McCaw survey is still referred to as a classic example of accuracy as compared to the modern day sophisticated high tech equipments.

Once the primary network had been established, secondary and tertiary triangulations were established by the native Land Commission Surveyors in which, several New Zealand Surveyors were also involved. With good controls, the surveying of Native Land boundaries began in earnest. The plane table was the main instrument used and surveyors used **resection** and **inter-section** of rays to pick up the flagged native boundary marks. The work was not designed to be of a high order of accuracy but when most of the native Land Commission surveys had been completed in about 1940, it did mean that Fiji possessed for the first time, a topographic map coverage of some 90% of its territory. By investigating the ownership of un-alienated, Native Lands Commission had defined both Native Land and Crown (state) Land. Upon completion of this investigation therefore all the various categories of land (Freehold, Native and Crown/state) that had to be established, were then surveyed and recorded.

The Early Topographic Maps and its Early Revision

In 1954, with a British Government grant the topographic maps of Fiji were revised using aerial photographs and a Fiji Islands coverage of 1:50,000 topographic maps prepared. These maps were referred to as the “DOS” maps. The Department of Lands and Mineral Resources established its own air survey section in 1957 because of the urgent requirements for large scale maps for town planning, road location and other development projects. The possibility of using Air Survey techniques for the survey of boundaries of land registered under the Torrens Land Registration System was conducted but was proved to be unsuccessful due to the uneven topography and division of land into small parcels. (Namosi is still to be surveyed and its NLC boundaries marked.)

Early Survey Work (& Survey Work to Date)

Both government and private surveyors have played their respective roles in the survey of Fiji from pre Cession days until today. Registered Surveyors and other Surveyors has practiced privately from pre-Cession days when the standard of surveys was very low but adequate for the period. Survey Plan S1122 is an example of the survey work carried out. At *Appendix I* is an example of survey done by the private surveyors for the Polynesian Co Ltd in 1873 in the Suva Peninsula as recorded in the Land Claims Commission Report No. 369..

It was after the Deed of Cession that Government had to create its own establishment of surveyors because of the heavy responsibility of surveying and recording the various

categories of land implied in the Deed of Cession. The establishment of Government Surveyors was greater than that of the private surveyors who usually worked under government instructions. Plans of land surveyed by licensed surveyors in private practice were accepted for issue of Crown Grants. (*see Appendix I*) Once the lands had been registered under the Real Property Ordinance any further subdivision of the parcel had to be surveyed

The Role of the Surveyors and its Control Survey Work.

The respective roles of both the private and governmental surveyors has become more distinct in recent times, partly because of the definition of the categories of land. **Government Surveyors** carry out only government surveys which means all public lands of Fiji including foreshores and soil under waters of Fiji and all lands which have been acquired by the government for any public purpose.

Government is also responsible for controls for cadastral and topographic mapping, extensions for existing 'trigonometrical' survey network and the maintenance of all triangulation control points. Furthermore government surveyors carry out investigation surveys where it becomes essential for government to intervene in boundary disputes. Government is also charged with the duty of inspecting the work both of private and government surveyors from time to time so that reasonable standards of accuracy can be maintained.

In the **Engineering Survey** field, government surveyors carry out engineering surveys for development of crown lands only. For the hydrographic survey, government surveyors are only involved in the provision of controls for these, the actual survey of marine details being done by the hydrographic survey unit of the government, now been taken over by the Fiji Navy.

Private Surveyors on the other hand mostly carry out cadastral surveys of private freehold lands and native lands. The survey of the freeholds is normally done for registration for registration in terms of the Land Transfer Ordinance/Act of a parcel upon subdivision.

Native Land Surveys are normally done on behalf of the Native Land Trust Board (the authority administering Native land) for the purpose of granting registered leases. Native Land may not be sold except to government, Apart from these surveys, government may, where it becomes economical to do so, issue instructions to private surveyors to survey crown lands.

Land Survey for Economic Developments and the Modern Surveys

Surveying activities in the tourism and housing development is to satisfy the corresponding needs have been increasing. Private Surveyors with engineering experiences are being absorbed into the field which involve the complete exercise from the client advice and planning stage of a hotel or housing development to the completion of the surveying and engineering works associated with it, and has been very beneficial to the government in all aspects, engineering survey, hydrographical survey, land survey, and on top of that the economical development of the country.

Government surveyors need to train their surveyors in these fields through working attachments to the land developers, example in Vulani and Denarau Islands. Involving government surveyors in all aspects of the survey from hydrographical surveying, engineering and through to cadastral survey will be beneficial to the department and the government as a whole.

Lately in Fiji GPS has *revolutionalised* the process of accurate location in surveying and mapping by obtaining coordinates of any locality with pin point accuracy in three dimension. Are we ready to use this and are statutory sound to use it ?

References:-

1. Annual Reports of Land Survey Department
2. Lands Department, Records