Cultural Issues in Land Information Systems

I. Chukwudozie Ezigbalike
Mele T. Rakai
Ian P. Williamson

Department of Geomatics
The University of Melbourne
Parkville, Victoria
Australia 3052

ABSTRACT

This paper considers the cultural dimension of applying the land information (LIS) concept to lands held under customary land tenure. The paper recognises that the LIS concept has been primarily developed to serve the needs of countries using a Western-styled land market where individual land rights are the norm. However, many countries where customary land holdings exist, or predominate, are also wishing to establish LIS to better manage their land resources.

The paper has three main parts. In the first part, Western LIS concepts are reviewed, placing their development in a historical perspective. This includes a sample of the main attributes of land that would be stored in a typical LIS. The paper then reviews the main features of customary land tenure systems which distinguish them from the western systems. Drawing examples from Fiji, where one of the authors is involved in establishing an LIS, the paper compares the rights in land under Western tenure to those under customary tenure, and discusses the cultural implications of including these attributes in an LIS.

1. INTRODUCTION

The ownership of land and its resources has been the basis of wealth for most societies since the beginning of civilisation. However, the management of such land and resources, while being central to most societies, has seen many and varied approaches and systems. Traditional agrarian societies, usually based on a complex form of customary land tenure, maintained a balance in the environment which sustained the food supply over generations, subject to the vagaries of nature. Examples of such societies are found in virtually every country in the world, including Australia, North America, African and the South Pacific.

On the other hand, Western countries have developed land registration and cadastral systems that record the details of all land parcels in a state or jurisdiction. The primary purpose of these systems is to manage land and to support a free land market. Today’s land information systems are an outgrowth of many of these land registration systems or at the very least land registration systems are an important component of such modern LIS. As a result of this development being primarily in the Western world, this inevitably meant that these LIS would be based on Western concepts of land tenure, including the perception of land as a commodity and as an agent for economic growth.

However, de Soto (1993) has pointed out that as much as two thirds of the countries of the world are still classified as developing countries. The majority of these countries operate under customary land tenure systems. These customary systems do not encourage the
commoditisation of land based on cultural ties. The introduction of LIS in these countries would invariably have to deal with some of these lands held under customary tenure. Therefore, it is essential to examine the appropriateness of LIS for such lands.

The paper reviews the historical development and attributes of current LIS. It follows with a review of the concept and features of customary land tenure systems. McLaughlin (1981) defines `land tenure' as "rights, responsibilities and restraints that individuals and groups of individuals have with respect to land." The discussions relating to land tenure emphasise this triad of rights, responsibilities and restraints. The reviews and discussion on `customary' land tenures draw on the first hand knowledge and experience of two of the authors--from Nigeria and Fiji. Drawing examples from Fiji, where Mele Rakai is involved in establishing an LIS, the paper compares the rights in land under western tenure to those under customary tenure, and discusses the cultural implications of including these attributes in an LIS. In the Fiji analysis, the paper adopts a Hohfeldian approach (see, for example, Dias 1985; Stoljar 1984) and attempts to match the rights with associated responsibilities and restraints.

2. WESTERN LAND INFORMATION SYSTEM CONCEPT

Cadastral systems were first developed in Europe to support land taxation, being a major source of government revenue. They were also used for managing and controlling the population. The Doomsday Book of William I in England and the modern cadastre of Napoleon I in France and many parts of Europe are prime examples.

A definition of cadastre which has general acceptance is :

A cadastre is a complete and up-to-date official register or inventory of land parcels in any state or jurisdiction containing information about the parcels regarding ownership, valuation, location, area, land use and usually buildings or structures thereon. (Williamson 1983) p> There has been a trend for cadastral systems to become closely linked to title registration and land ownership. This is due to a move to the development of active land markets and the expansion in the use of bank finance for mortgages in supporting the land market. This, in turn, was due to a trend away from land taxes as the primary source of wealth for governments in the 19th and 20th Centuries.

Over the last century, cadastral systems have increased in sophistication and developed a multi-purpose role, especially with the advent of computer technology. In cities, these systems are becoming a basic framework for local government administration, city planning, collection and assessment of rates, and managing utilities and transport systems. Such cadastral systems have developed into parcel based land information systems, as shown in Figure 1 (Williamson 1985a; 1985b).

In this multi-purpose form, the cadastral concept "has been considerably broadened and the cadastre either contains additional information, or is linked to other databases, especially when in digital form" (Benwell and Ezigbalike 1994). The term 'land information system' (LIS) has increasingly been used world-wide to describe such systems which support the management of spatial data of all forms in a government context. It has been used in many countries as the 'global' term to include all cadastral and parcel-based, environmental and natural resource systems at both small and large scales. LIS refers primarily to systems and processes, with minimal emphasis on technology.

A successful LIS should be able to store and provide all information relevant to the nature, extent and possession of land rights. The widespread practice in Western countries of recording all dealings that affect the ownership of land has facilitated this task.

The standard Western LIS has adopted the parcel of land as the basic organisational unit for
referencing land tenure data and information. This basic organisational unit links all disparate
data sets with each other. The attributes of land maintained in this LIS can be classified
according to two types -- spatial attributes and textual or non-spatial attributes.

The spatial attributes of a land parcel determine the following:

- location (state/province, district, block, absolute coordinates);
- size (area);
- shape (lengths of sides, angles, azimuths or bearings, relative coordinates).

These attributes can be collected directly by conventional field surveys or remotely by means of
aerial photography, or through some combination of these methods.

Textual or non-spatial attributes of the land parcel determine the following:

- the nature of the land tenure rights -- rights, restraints, responsibilities;
- the identification of those who hold them -- names, addresses.

The textual attributes, which generally require some form of adjudication or legal investigation,
include:

- the length of time the use may continue;
- the right of inheritance;
- what rent is due, and when;
- the right to sell the land;
- the right to mortgage the land;
- the nature and limits of land use;
- the rights of reversion; and
- residence and improvement requirements.

The following is a list of typical tenure information that may be found in a `Western' land
tenure based LIS:

- Ownership: name, postal address, street address
- Occupier: name, postal address, street address
- Full Private Rights: title reference, dealings, transfer documents
- Parcel Boundaries and Location:
  - Legal description (PID) eg Plan & Lot No.
  - Cadastral boundary data, Map Reference
- Private Restrictions: Mortgage, Covenants, Caveats
- Public Restrictions: Zoning
- Limited Rights: Leases, Water
- Land Value: Assessed, Market
- Other ownership attributes: Historic descriptions
- Other Parcel attributes: land use, cultural features (buildings, roads)

3. CUSTOMARY LAND TENURES

3.1 Definition of Customary Tenure

Acquaye (1984) suggests that customary land tenure "does not lend itself easily to precise
definition" for two main reasons. Firstly, "it can never be of universal application because it
varies between communities." Secondly, "it is constantly undergoing natural evolution, and [is]
being modified or even completely changed by the grafting on of foreign legal concepts." A
report prepared for the United Nations (UN) defined it as:
The rights to use or dispose of use-rights over land which rest neither on the exercise of brute force, nor on evidence of rights guaranteed by government statute, but on the fact that they are recognised as legitimate by the community, the rules governing the acquisition and transmission of these rights being usually explicit and generally known though not normally recorded in writing.

(quoted in Noronha and Lethem 1983, 7)

This definition has been criticised by Simpson (1976, 224) because it leaves wide open the vital question of how the rules are arrived at; also, it is very doubtful if many practical administrators will agree that such rules are usually explicit; on the contrary, it is the uncertainty of these ‘rules’ that gives rise to one of the most valid criticisms of customary land law.

The definition has also been analysed and criticised by Noronha and Lethem (1983, 7-9) and pointed out:

The use of the words "brute force" takes the reader back to Hobbes and the artificial reflections on life in the early days of man. The definition, further, is too narrow: It excludes statutes recognising customary rights. It also eliminates codes which are written and customarily govern the use and transmission of property among significant sections of the population -- the Islamic and Hindu codes.

In the light of the above criticisms, Noronha and Lethem (1983, 9), preferring the word ‘traditional' to `customary' defined it as:

the rules accepted by a group of the ways in which land is held, used, transferred and transmitted. These rules may have the ‘force of law', that is, they may be enforced by the courts of a country even though they [may be] unwritten and not incorporated, or specifically set out, in any statutes.

This latter definition is used in this paper. It is no longer true that customary land tenure is not recognised by statute law nor always unwritten. Rakai (1993, 144) observed that customary land tenures in Fiji can be classified according to formal and informal land tenures:

**Formal** customary land tenures are those that have been regulated by Government laws and regulations and are therefore officially recognised and sanctioned. These include such features as the universal classification of Fijian land owning groups into tokatoka or mataqali; the universal sanctioning of the aristocratic rights of chiefs to a portion of the yields of the land being epitomised in their being permanently apportioned a percentage of all lease rentals.

**Informal** customary land tenures are those that are not officially sanctioned or recognised by the courts or Government, but are practised and accepted as an unspoken long term customary practice. These systems include such things as complying with traditional beliefs and customary taboos : eg lala - providing services to chiefs.

### 3.2 Features of Customary Land Tenure

#### 3.2.1 Dual Land Tenure Systems

As has been mentioned in the definition and customs subsections, customary tenure is changing under several influences. The most significance agent of change is the contact of the communities, directly or indirectly, with outside communities, especially European. Colonial governments, and sometimes post-colonial governments have introduced land laws fashioned along the lines of `Western' economies. These laws usually include incentives or sanctions to encourage or persuade land holders to convert their land rights to the perceived superior system. Despite the efforts in this direction, the customary systems have proved resilient. The
result is therefore a dual land tenure system in which some lands are held under Western/European laws, while others are held under customary laws, albeit, formalised by legislation. Two main reasons account for its resilience. First is the kinship and lineage organisation of society whereby descendants of a common ancestor live together and discourage "immigration" into their community. The second is that "access to land in most of rural Africa continues to be determined by indigenous systems of land tenure" (Bruce 1988).

Fourie (1994) came to similar conclusions from extensive fieldwork in an informal settlement: "Even in an urban area behaviour in significant measure is shaped by historically determined relationships and perceptions of land, rather than exclusively by economic forces." The most important source of land rights is by inheritance. Before the introduction of the European concept of testacy, which is still not very commonly observed, a man’s land rights upon his death either devolved upon his children as family property or reverts to a communal pool for reallocation by the responsible authorities. Nwabueze (1972, 45-46) notes that, in Nigeria, the devolution of the property upon children "applies with equal force even where the property has been acquired and held by the intestate under English law. The operation of this rule imposes a severe limitation upon the process of individualisation; for it means that whatever progress is made in one generation is stultified in the next." While the 1978 Land Use Act of Nigeria attempted "to provide a uniform mode of access to land in Nigeria" (Aina 1990, 196), it created another dual system, the "customary" and "statutory" occupancy.

3.2.2 Based on Custom

Customary land tenure is assumed to be based on "custom". There has been considerable discussion in the literature regarding this assumption. "These systems are frequently referred to as "customary" or "traditional," a misleading practice because they change and evolve rapidly; often an important customary rule turns out to be only a generation old" (Bruce 1993, 35). Such problems arise because "custom" seems to be used in its specialised context "in English law to denote a peculiar exception to the common law of the Land; ... and [which] must be shown to be of antiquity ..." (Lloyd 1962, 16). This usage explains why it is also referred to as "traditional", implying long-established practice passed down from past generations.

There is no such system which has maintained its "indigenous" (another term commonly used to describe customary tenure) purity. In view of this fact, and of the points raised above for definition, the sense in which "custom" would now refer to land tenure practices and rules is in the sense of "a synonym for usage--what is usually done" (Lloyd 1962, 15). This implies some element of the English law usage, viz: that they "be accepted by those to whom they refer as certain, reasonable and obligatory."

It is no longer true that customary land tenure is based on unwritten law. Rakai (1993, 144) referred to "formal customary land tenures" as "those that have been recognised and regulated by government laws ..." The Nigerian Land Use Act of 1978 provided as follows:

2. (1) As from the commencement of this Decree--

... 

(b) all other land shall, subject to this Decree, be under the control and management of the Local Government within the area of jurisdiction of which the land is situated.

... 

(5) There shall also be established for each Local Government a body to be known as "the Land Allocation Advisory Committee" which shall consist of such persons as may be determined by the Military Governor ...

6. (1) It shall be lawful for a Local Government in respect of land not in an urban area--
(a) to grant customary rights of occupancy to any person or organisation for the use of land in the Local Government area for agricultural, residential and other purposes;

(b) to grant customary rights of occupancy to any person or organisation for the use of land for grazing purposes and such other purposes ancilliary to agricultural purposes as may be customary in the Local Government area concerned.

(Nigeria 1979)

The rules and practices are also no longer simply passed on by word of mouth. With the introduction of literacy, more people are documenting, not necessarily ‘registering’, their land rights and transactions. It is not uncommon now for a father who is barely literate to prepare a document allocating residential sites to his sons. Such a document would confer a customary rights of occupancy. It would not be a will and would not be registered nor registrable, except for the possibility of conversion to a ‘statutory right of occupancy’ as provided by the 1978 Land Use Act. Though the Act provides for passing on of land upon death, according to “the customary law of the region” (Igbozurike 1980, 16), it does not expressly provide for such allocation. But by recognising the customary law, the Act allows such modern expression of the custom.

3.2.3 The Concept of `Ownership'

Ownership of a thing is comprised of "the right to make physical use of a thing, the right to the income from it, in money, in kind or in services and the power of management, including that of alienation" (Nwabueze 1972, 7). In customary land law, the concept of ownership is different from the `Western' concept, for example:

Some legal writers refer to the ownership of a freehold, or ownership of a leasehold; use of the word `ownership' seems unnecessary here since its connotation is merely `to have' and cannot imply any more than this. One does not own a right or series of rights; one has or holds a right, and the possession of a certain quantum of rights in respect of land can be described as ownership of the land. ... In Yoruba one can but say, `the land is mine--iltemi ni'.

(Lloyd 1962, 66)

While the rights held under customary law may be only rights of occupancy or use, Nwabueze (1972, 26) observes that in many cases "a customary right of occupancy has an indefiniteness and infinitude of duration, which is a striking indicum of absolute ownership." Elias (1971, 74) cautions that:

Care must also be taken in applying the word "ownership" to the complex scheme of relations between the Nigerian and the soil. Under the customary law of tenure there is no conception of land-holding comparable to the English idea of a fee simple absolute in possession. The average occupier has something analogous to a possessory title which he, however, enjoys in perpetuity and which gives him powers of user and disposition scarcely distinguishable from those of an absolute freeholder, except that he cannot alienate his holding so as to divest himself and his family of the right to ultimate title.

This inability to alienate the land is the main indicator, in the Western sense, of an interest or right which is less than ownership:

It may be said that the most conclusive way in which a person can demonstrate that he is the owner of a thing is if he can alienate it outright to any one he likes. The real essence of ownership lies therefore in the power of alienation; it connotes essentially the totality of the rights of disposal over a thing. The right to disposal is not only the most conclusive but also the most valuable incident of ownership.
3.2.4 Alodial Nature of Rights

Though the cardinal right of alienation may be missing in customary rights in land, the rights which exist tend to be absolute in nature, as Nwabueze (1972, 28) explains that

[absolute ownership in this context is used primarily in contradistinction to relative or limited ownership; ... absolute ownership implies not only the fullest amplitude of rights of enjoyment, management and disposal over property, but also that the owner's title is superior to, and not subordinated or dependent upon, any other rights that may exist in the property in favour of other persons. It is not necessary to the concept of absolute ownership that the rights of the owner should be exclusive of all other rights in the property, so long as these others are not superior to his own.

This does not however mean that the rights are exclusive. Customary owners may grant passage or usufruct rights over the land they occupy, thereby qualifying their own rights. However, Nwabueze (1972, 29) points out that "such rights do not have the same incidents as under modern law." Also the right of any owner is qualified by the restrictive rights vested in the planning authorities. Lands held under customary tenure are usually in rural areas, outside the ambit of such planning, and therefore less restricted.

It should be pointed out that among societies which had central government structures, whether indigenous or introduced by colonial governments, allocation and control of land is one of the most important attributes of the power of the authority. However, Elias (1971, 74) notes that "the chief has no right, even under ancient customary tenure, of continuous or detailed supervision over any land which has once been granted to a family, or to an individual, whose right of enjoyment and user cannot be lightly disturbed unless for good cause shown."

3.2.5 Group Ownership of Rights

The most important feature of customary land tenure is the predominance of group ownership of whatever rights exist in land. Acquaye (1984, 17) notes that rights are usually "held corporately by a social group." This group could be "a tribe, village, clan, lineage, or family." This is a consequence of the group control and discipline which exists at a very high level:

Even among the peoples where one would not expect this, as where herding makes a for nomadic way of life, the controls are nevertheless present, based on well-established principles that arise out of the relationship between the people and the political institutions that they have set up in their historic experience for their own governing. ...

(Herskovits 1956, 235)

This group control is commonly described as 'communal' ownership. Bruce (1988) discussed three common situations covered by the term 'communal'. The first connotation of real communal ownership, with no individual rights whatsoever, he found exist "only in exceptional cases." The second connotation is the concept of "a right of commons" whereby each member of a group uses independently the full extent of certain land. This he explains are found mostly with grazing land and areas for hunting and collection of firewood, but never in arable lands. There is a third connotation:

Third, the term may refer to significant group control, reflecting some group interest, over land that is apportioned for the relatively exclusive use of individuals or families of the group. The group may be an extended family, a lineage, a clan, a village, or a tribe. It is usually defined by common descent, common residence, or some combination of the two principles. The group's interest may be as a property right or couched in political and administrative terms. It is only in
this last sense that most indigenous tenure in farmland is "communal."

(Bruce 1988, 25)

The most important type of group land holding is the family land. While the word `family' has a precise meaning in English, its meaning varies according to which of several approximate concepts it is translated into. For instance, in Southern Nigeria, the primary meaning of `family' is:

a social institution consisting of all the persons who are descended through the same line (the male line in a patrilineal, the female line in a matrilineal, society) from a common ancestor, and who still owe allegiance to or recognise the over-all authority of one of their number as head and legal successor to the said ancestral founder ...

(Coker 1966, 9)

Elsewhere, quoting the work of an earlier writer, Coker (1966, 24) provided a more precise definition of an extended family among the Igbo as:

a group of closely related people, known by a common name and consisting usually of a man and his wives and children, his sons' wives and children, his brothers and half-brothers and their wives and children and possibly near relations. ... All the people born in a village believe themselves to be descended ultimately from a common ancestor.

The family, however defined, is the most important land-owning unit. Family lands usually result from the descendants of a founder preferring to hold the land together rather than individually, the size of the family increasing as new generations are added.

A question that naturally arises is the nature of the rights of each member of the land owning group in the group's property. Does each person hold a separate individual interest over the whole land or an aliquot portion of it? Or does the community constitute a land owning corporate entity? Group ownership is not uncommon in `Western' land tenure. English law has joint tenancy. How does this compare with the group ownership under traditional tenure?

There is perhaps no rule of customary law that is more firmly established than that no member of a land-owning community or family has a separate individual title of ownership to the whole or any part of the communal land. Indeed the constitution of the community, village or family for purposes of land ownership makes such a view of the nature of communal ownership quite untenable. ...

The alternative of regarding the community, village or family as a corporate entity, distinct from its members, must also be rejected. With regard to the community or village it is necessary to distinguish its social from its political aspects. ... It is the community or family as a social unit which is pre-eminently important for this purpose; in this capacity the community, village or family is not a corporate entity in law, but merely a society or collection of persons with a common interest in land, all of whom are jointly, severally and directly liable for debts properly incurred on behalf of the land.

(Nwabueze 1972, 53-54)

3.2.6 Religious Significance of Land

In most places where customary tenure exists, there is usually some religious significance attached to land. It is regarded as a gift from God, to varying degrees. Among the Igbo of Nigeria, for example, land, ground and earth would synonymously be translated as Ala, the Earth-goddess. She is the most significant and most cherished of all Igbo deities, being responsible for the place where one lives and plants crops (Igbozurike 1980, 113), the fount of
all fertility and the guardian of public morality (Meek 1957, 147). Still using the Igbo example, the ancestors play an important part in the lives of the living. The final resting place of one's ancestor is therefore sacrilised.

Another factor of importance in all the continent that must be taken into account in dealing with Africans, and which certainly must enter into the discussion of the tenure problems and land-use in other parts of the world, is the role of the supernatural. It may seem curious to inject this note here, but I submit that in any civilization where a cult of the ancestors, for example, dictates the reason why people are devoted to their land, this element in their belief-system is crucial if proposals to introduce changes in the holding or use of the land go beyond technical considerations and are to achieve any measure of co-operation. Certainly, in Africa, the relationship between a given group and the deities believed to control the land plus the ancestors who are attached to the particular plots where they lived is absolutely critical.

(Herskovits 1956, 235)

The result is that even though land now has a commercial value and even `customary' lands are now exchanged for value, there are some plots with special religious or metaphysical significance, and would not normally be offered for sale.

### 3.2.7 Concept of Permanent Home

Most non-urban communities were comprised of people who are related by blood. This situation still exists to a large extent today. These relatives have varying rights and responsibilities in the community lands. People could always travel out of their communities on commercial ventures for varying lengths of time. While on such trips, one usually set up a temporary home. To most people, their real home is the ancestral home to which they always return. Their rights were never lost and they were never discharged of their responsibilities. The communities usually did not have a concept similar to `immigration in English. While on the trip, the stranger may be given rights to land for housing, agriculture or other industry, but these rights are limited and would usually not extinguish the rights of the original owner or community. While the `stranger' has some responsibilities in the community, these would usually not be the same as those of the members. Aina (1990, 196) observed that in Nigeria, "distinction [is] made in all indigenous communities between `strangers' and members of the community. Again this distinction contributed to the restrictions placed on providing land to migrants for building." This `stranger' classification is the recognition of the fact that `strangers' do not lose their membership of their original, ancestral communities. Their rights to land, and associated responsibilities, are still respected and binding. Thus, a Fijian who lives in Suva still has land rights, and development responsibilities in Sawana, her `permanent' home, and a Nigerian who in the past 12 years has spent a cumulative total of two months in Nigeria still regards Nimo as his `permanent' home. As far as the relatives `back home' are concerned, these are no different from the seasonal movement to farming or fishing grounds who would return at the end of the season. In the meantime, part of their earnings are repatriated and are applied towards general development projects at `home' and sometimes for sustenance of older relatives who could no longer earn independent income. Even children born in these `places of work' would know that their `real home' is wherever their parents originally came from. Hardin (1990, 63) reporting on "the extended family labyrinthian web of rights and duties" of an Accra-based lecturer in Ghana observes that the system "does not follow free-market precepts, Marxist dogma, or the rule of law. It is governed by blood, of tradition, of guilt." Even in modern Nigeria, in spite of the access to land anywhere guaranteed by the 1978 Land Use Act, access to some official entitlements are still determined by the ubiquitous `state of origin' question on many forms.

### 3.2.8 Transactions in Land

Even where there was an abundance of land, the land might not be equally suitable for agriculture, grazing, housing or whatever other uses people might have for it. In an agricultural
community the more fertile lands would normally attract more attention during the initial settlement of the community when land was being cleared and colonised. Some people would eventually gain control over more parcels of land of a certain desirable nature than they could effectively use, while other would have less. In spite of the religious attitude which discouraged outright sale, and the apparent abundance of land, various types of transactions in land developed.

1. Lease

The lease under customary tenure was very similar to its application in English law. The usual form is where one person creates use rights in favour of another for a specific period, for a specific purpose (usually agriculture), and for some material returns. The rent was usually paid in goods or services, but with economic evolution, cash rent is now common. The residential leases, which are normally granted to ‘strangers’, are usually for the indefinite period of the latter's surjourn, while the agricultural leases are usually for one farming period, indefinite arrangements not being uncommon, especially to strangers.

2. Pledge

This is a practice of using land as a security to borrow money or goods, or to get services for credit. This contrasts with the ‘Western' concept of mortgage because the pledgor surrenders possession of the land to the pledgee until the debt is discharged. With the introduction of land sales, sometimes the pledge merges into a sale, the parties agreeing on a time limit after which the pledgor can no longer redeem the land.

3. Gift

This is the gratuitous granting of rights to land to another. No price is fixed, nor are any conditions stipulated. The giver transfers whatever interest they had in the land to the beneficiary. Land gifts are made for varying purposes. A father may make a land gift to a son, outside and separate from the son's entitled inheritance. This could be done to circumvent inheritance provisions, for example to provide for a son in societies where a man's land pass on to his surviving blood brothers, or for a daughter where land is inherited only by sons.

4. Outright Sale

While it may be true that land did not have an exchange value in times of abundance, and that religious beliefs discourage the sale of certain types of land, land is now being bartered and sold. It was not all societies that were blessed with the abundance of land. For example, the people in the southern forest regions of Nigeria did not have much land. They therefore developed more sedentary lifestyles, with closely knit societal structures where descendants of a common ancestor live together. The land available to the community was limited and was a measure of wealth and importance in the community, among other measures of affluence. It should therefore be expected that with the introduction of cash economy, some would be expected to convert such wealth into cash. "With increasing commercialisation, land has become a fertile source of income in the form of periodic rent or lump sum payment" (Nwabueze 1972, 7).

4. INCORPORATING CUSTOMARY LAND TENURE INTO LAND INFORMATION SYSTEMS

As discussed earlier, customary land tenure refers to the accepted practices and conditions under which rights, responsibilities and restraints are created for individuals and groups of individuals with respect to land. Table 1 describes some of the rights attached to the land; and the associated restrictions and responsibilities attached with the rights to the land. It has also been explained that land information systems are systems for managing land related data to
support land management and land administration. So far, the LIS has been applied in areas
where land is held under ‘Western’-styled laws. There is no reason why the same concepts of
informed management and administration should not be applied to all lands, irrespective of
which land tenure system they are held under. Ezigbalike and Benwell (1994) have suggested
that applying cadastral concepts to customary tenure areas have tended to ‘reform’ the
customs to fit the ‘Western’ concepts, with some cultural costs. In order to ensure that the LIS
will be relevant to the needs of the community, the cultural dimension should be considered
when incorporating customary tenure rights into the LIS. As a first step towards this
consideration, Table 2 lists some important features of customary tenure, classifying them into
formal and informal, and comparing them with ‘Western’ tenures.

Table 1: Rights, Restrictions and Responsibilities Associated With Customary Tenures in Fiji

<table>
<thead>
<tr>
<th>Rights</th>
<th>Restrictions</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right to build house</td>
<td>- height and style restrictions - on others not to rebuild over land without consent, even in case of absenteeism</td>
<td>Contribution to village maintenance Community obligations as above</td>
</tr>
<tr>
<td>Agricultural rights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inherited ownership and land use rights of individual</td>
<td>- cannot transfer right without first obtaining consent of community -</td>
<td>- fulfilment of social and traditional obligations - good land management practices,</td>
</tr>
<tr>
<td>Inherited land use rights of older siblings</td>
<td>- cannot transfer right without first obtaining consent of community -</td>
<td>- to always maintain interests of younger ones and their families - good land management practices,</td>
</tr>
<tr>
<td>Acquisition Rights of females</td>
<td>- rights attach only until marriage or migration, when it reverts to remaining members</td>
<td>- fulfilment of social and traditional obligations - good land management practices,</td>
</tr>
<tr>
<td>Rights of chiefs to a portion of the profits of the land</td>
<td></td>
<td>- fulfilment of social and traditional obligations - maintenance of interests of people</td>
</tr>
<tr>
<td>Land use rights of migrants</td>
<td>- rights restricted to use and occupation of land - rights not inheritable</td>
<td>- fulfilment of social and traditional obligations - supply of part of harvest to supplier of land</td>
</tr>
<tr>
<td>Fishing and hunting rights</td>
<td>- location-specific method restrictions - rights restricted to allocated areas -seasonal restrictions (eg during breeding season)</td>
<td>- observe conservation practices</td>
</tr>
<tr>
<td>Access to sites of spiritual, historical significance</td>
<td>-free access restricted only to selected individuals (eg priests, chiefs)</td>
<td>- dress and behave respectfully, in accordance with customs and traditions</td>
</tr>
</tbody>
</table>

Table 2: Comparative Attributes Of Land Tenure Systems in Fiji

<table>
<thead>
<tr>
<th>Customary Land Tenure</th>
<th>Western Land Tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal</td>
<td>Formal</td>
</tr>
<tr>
<td>Rights</td>
<td>- recognition and legitimised by: community (and reinforced by occupation and amicable relationships within community) - statutorily by legislation</td>
</tr>
<tr>
<td>Land rights transmitted for land-owning members: inheritance, only by sale - By gift - all Inheritance - By sale - By gift - all rights</td>
<td></td>
</tr>
</tbody>
</table>
Where customary tenure has been formalised and/or codified it is expected that the attributes of land which are incident on such customary tenures could be accommodated, as is being done in Fiji. Informal features of customary tenure, however, are yet to be systematically documented and included into an LIS.

### 4.1 The Issues --with particular reference to Fiji

Incorporating customary land tenure into an LIS raises issues of economic, social, institutional and technical significance. The cultural dimension of these issues are discussed below. The appendix tabulates the possible advantages and disadvantages of recording the rights, restrictions and responsibilities in customary lands in a LIS.

#### 4.1.1 Economic Issues

Most `communal' lands are presently used for subsistence agriculture, although they may as in Fiji, be supplemented by very small scale commercial farming--for instance by vegetables or fruits that are sold locally to pay for immediate daily needs. There could also be some low-level cottage industry. The income from these activities are limited and the taukei in these areas sometimes have to depend on relatives `abroad'--in urban centres and overseas--for local development funds. An objective of the government is to encourage the development of the taukei by improving their access to basic needs and services, resulting in a higher standard of living. This will be achieved by enhancing their ability to derive higher independent income from the available natural resources, mainly land and sea based resources. This implies an improvement in their exploitation and marketing of these resources. Information is needed to evaluate the capabilities of the land and sea and to decide on suitable and appropriate technology for sustainable exploitation.
A fundamental economic problem "is that the return on capital investment in the development of LIS is neither immediate nor guaranteed" Dale and McLaughlin (1988, 188). This problems is even more serious under customary societies. Such communities are not expected to be economically self-sufficient, depending on contributions from relatives in cities and abroad for development projects. Source of initial seed funds for the LIS project would be a major issue as banks, by their nature, would normally be interested in systems that are market driven, and where the investment is relatively secure.

4.1.2 Institutional Issues

Where institutions currently exist to administer the affairs of the indigenous people, it will be advisable to involve those institutions that closely interact with the indigenous people, in order to efficiently and authoritatively collect the data that will be required for the LIS. In Fiji for instance, three institutions are responsible for administering the affairs of the indigenous people. These institutions, the Native Lands and Fisheries Commission (NL&FC), the Fijian Affairs Board (FAB), and the Native Lands Trust Board (NLTB), have different functions. The FAB monitors the socio-economic aspects of the indigenous Fijians and accordingly initiates village development projects; the NLTB looks after the administration of their land; and the NL&FC looks after the maintenance of the Vola ni Kawa Bula (VKB--the Register of indigenous Fijians) and the Register of Native Lands, and resolves any disputes or claims that may arise relating to posts of customary authority, including land and fishing rights. Active involvement of these three institutions is essential for the success of any LIS project, each being given definite responsibilities in the project. They are also expected to be the major institutional users of the LIS for decision making; their mandates and requirements need to be considered in the system design. It is particularly important to examine the relationship between them and the traditional institutions and exploit such links in seeking community support and participation, particularly the FAB which is closely involved with the daily affairs of the indigenous Fijians, and maintains links with the heads/leaders of the traditional communities

4.1.3 Social and Policy Issues

The sustainable development of the taukei (the indigenous Fijians) has tended to be closely linked to the maintenance of the social and kinship relationships that are to be found in traditional Fijian society. As discussed in Section 3, customary land tenure rights and responsibilities are closely linked with kinship. The key social issues raised in incorporating customary tenures into LIS are discussed below.

1. Legal status of the LIS

Though the LIS has developed as an extension of the cadastral concept, and usually draws ownership information from the land registration system, it is not a land registration system, and it is not a computerised cadastre. Because there is a confusion in the literature regarding these three related terms, there is a danger that the information in the LIS could erroneously be used for legal purposes. It is important to emphasise that the LIS is not a computerised land registration system at the beginning of the project. If this is not established, it is likely to meet with resistance because it will be perceived as a means to introduce changes in the land tenure system. As concluded by Ezigbalike and Benwell (1994) cadastral and land registration systems are still too specific to Western culture to be applied to customary land tenure without cultural costs. While the LIS should contain relevant tenure and ownership information, it should not be used as a back door for such `cadastral reform'; it should only be a tool for maintaining and disseminating information that will enable more informed land management decisions.

2. Air of Correctness

Though the LIS does not necessarily have to be computerised, its development in Western
countries have always tended to be computer-based because the computer is the current technology for information processing. In today's world, the written word almost always take precedence over the spoken word -- and certainly over the human memories. Computer generated information has an even stronger air of correctness about it. Over time, the LIS could eventually be regarded as the authoritative source of tenure information. The rules of customary land tenure are usually not precisely defined, relying on goodwill and the kinship relationship among the members of the community for their operation. They are usually flexible, being interpreted to suit changing social conditions. With the air of certainty associated with computerised information, customary tenure rules could lose their flexibility. While predictability and certainty are preferred for decision analysis, the flexibility of the customary land tenure system helps reduce the chances of landlessness by providing for the rights of yet unborn generations. Also, the air of correctness could be misused or abused by the educated elite who may refer to it as authority for claiming undue rights and advantages. This danger would be more serious if the LIS was perceived as a land registration system, as discussed above.

3. Misinterpretation and misrepresentation

Another issue to contend with is the fact that much of the data collection will rely on recollections and opinions, and may therefore be subjective. In Fiji, as in many Island nations of the South Pacific, the belief in the old traditional ways are still strong. While this is encouraged, it is important in data collection to be able to sieve out romanticised glorification of custom and tradition from correct facts. Another point to note is the possibility of intentional misrepresentation of information in response to survey questions. This is because people tend to give answers they think will favour them, based on what they perceive the objective of the data collection exercise.

4. Publicity and sacred information

An important aspect of traditional societies is the role of some traditional institutions in the maintenance of order and morality. The efficacy of some of these institutions depend on the secrecy of certain aspects of their procedures and methods. These have variously been translated into English as 'cults' and 'secret societies'. For example, the mmuo or mmonwu institution of the Igbo in Nigeria is translated as the 'masquerade cult' or 'masquerade society'. These institutions are usually linked with the land and exposing these areas to an increasingly materialistic, profit-oriented public may not be desirable. In Fiji, this would apply to tabu areas where ancestral spirits or local deities are believed to reside. Chapelle (1978) points out that these lands were not cultivated, let alone walked on, with access to them being controlled by the descent groups in the area. Failure to respect these concerns will undermine the moral fabric of the community and create social problems. It is therefore important to have well-defined policies regarding what data to collect and access restrictions where the custom requires such.

4.1.4 Technical Issues

Jeyenandan and Wiliamson (1990) pointed out that attempts to build land information capabilities have often been supply-driven, being closely tied to the commercial or scientific interests of technology suppliers. As discussed in Section 2, it has been developed for Western conditions where land is divided into parcels, with unique identifiers for cross referencing. While the 'formal' customary lands in Fiji are surveyed, lands in the 'informal' sector are not so defined. Cultivation lines are enough to delimit the boundaries and there is no need for a survey of such lands. This is also as a result of the kinship and goodwill among neighbours, as already mentioned. Surveying such lands in order to be able to unambiguously identify them would only increase the cost of using the land. The owners of the land already can define their lands as unambiguously as they really need. Even in Western countries, with all the precise surveying equipment, it is recognised that occupation bounds and 'metes and bounds' descriptions take precedence over surveyed coordinates. The Nigerian Land Use Act of 1978 only requires a
sketch to support an application for a customary right of occupancy. LIS designers should provide for such non-metric systems, based purely on the topological information about neighbours.

5. CONCLUSIONS

This paper has considered some of the implications of incorporating customary land tenure into an LIS. It is recognised that LIS has traditionally been initiated and implemented by government agencies in industrialised countries, with the main objective of improving the administration and management of their land resources and government systems. Any direct benefit to the general public has usually been an incidental result from the main objectives for the LIS.

The conditions which facilitated the development of the LIS include the long established practice of dividing land into parcels and recording all dealings in them. Also, the substantive rights in land are individually held, with their transmission being controlled by the land market. Introducing the LIS therefore required the extension of the already available information and computerising it.

The main objective for the Fiji LIS is also to improve the Government's administration and management of its land resources. It has also been found that direct benefit to the general public will be minimal. The benefit to the population will be indirectly through the effect on the government, and other institutional, users. This is expected to be the case in other countries contemplating the introduction of LIS.

However, a major problem with customary land tenure systems is that they are not homogenous; rather they differ between places. Western land tenure systems can be classified into a few types. With any investment, the investor wants a guarantee, or at least a reasonable expectation, of a good profit margin. Therefore it is encouraging for vendors of LIS-related technology and services to invest in the development of products for the few types, assured of a large market. Investing in the development of systems which provide for the needs of customary tenure jurisdiction is not as attractive. This may explain why designers sometimes prefer to reform customary land tenures rather than design systems for them.

Customary land tenure concepts do not have direct equivalents in English (and other European languages) and are therefore regarded as complex, unclear and uncertain. Because of these conceptual difficulties, they seem not to lend themselves easily to computerisation. This is only a technical problem, and technical problems have technical solutions. The more serious problems with incorporating customary land tenure into LIS are the economic, social and policy problems.

REFERENCES


**GLOSSARY OF TERMS AND ACRONYMS**

CCMS Computerised Cadastral Mapping System (Fiji)

DOSLI New Zealand Department of Survey and Land Information

DTM Digital Terrain Model

EEZ Exclusive Economic Zone (Fiji)

ESCAP United Nations Economic & Social Commission for Asia and the Pacific

FAB Fijian Affairs Board

FGIP Fiji German Inventory Project

FLIC Fiji Land Information Council

FLISSC Fiji Land Information System Support Centre

FLIS Fiji Land Information System

FORGIS Forestry Geographic Information System

LADS Lease Administration and Distribution System (Fiji)

LINZ Land Information New Zealand

LIS Land information system

LIS/GIS Land and geographic information systems

MPI Ministry of Primary Industries (Fiji)

MRD Mineral Resources Department (Fiji)

MSD Management Services Division (Fiji)

NLC Native Lands Commission (Fiji)

NL&FC Native Lands and Fisheries Commission (Fiji)

NLTB Native Lands Trust Board (Fiji)

NLTB-LIS Native Lands Trust Board Land Information System (Fiji)
Table A1: Incorporating Customary Land Tenure Rights: Advantages and Disadvantages

<table>
<thead>
<tr>
<th>Rights</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost, if LIS taken as final authority. - Possible cause of dissension, particularly with loss of flexibility</td>
</tr>
<tr>
<td>Rights of individual by inheritance</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost - Possible cause of dissension</td>
</tr>
<tr>
<td>Acquisition</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost - Possible cause of dissension</td>
</tr>
<tr>
<td>Rights of older siblings</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost - Possible cause of dissension</td>
</tr>
<tr>
<td>Acquisition</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost - Possible cause of dissension</td>
</tr>
<tr>
<td>Rights of females</td>
<td>- Improved efficiency in resolving disputes and claims - Enable VKB to be up to date with existing situation</td>
<td>- Danger of flexibility of original system eventually being lost - Possible cause of dissension</td>
</tr>
<tr>
<td>Rights of chiefs</td>
<td>- Improved efficiency in resolving disputes and claims - Capability of LIS to store historic data will allow verification of chiefs entitled to receive lease rentals, in cases of disputes</td>
<td>- Can eventually override the existing traditional way of encouraging disputants to resolve their differences through dialogue and consideration of other's needs -- thus, can encourage slow conversion to individualism and materialism. - Can be a source of petty bickering</td>
</tr>
<tr>
<td>Land use rights</td>
<td>- Allows monitoring of land use for: * land conservation, * allocation of land rights based on land usage, when disputes occur; * compensation * monitoring of problems of access, topography, soils, etc - Can evaluate value of lands; effectiveness of existing land tenure</td>
<td>- If inaccurately defined initially, potential for explosive disputes later - Difficult to get unanimous agreement - Can lead to LIS data being used as basis to formalise arrangements, using existing legislation, such as the ALTA</td>
</tr>
<tr>
<td>Fishing Rights</td>
<td>- Improved efficiency in resolving disputes and claims</td>
<td>- If inaccurately defined initially, potential for explosive disputes later - Difficult to get unanimous agreement</td>
</tr>
<tr>
<td>Land use vakavanua with migrant settlers</td>
<td>- Monitoring of such incidents to allow assessment of reality of vakavanua arrangements</td>
<td>- If inaccurately defined initially, potential for explosive disputes later - Difficult to get unanimous agreement</td>
</tr>
</tbody>
</table>

Table A2: Incorporating Customary Land Tenure Restrictions: Advantages and Disadvantages

<table>
<thead>
<tr>
<th>Restrictions</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Traditional</td>
<td>* More cultural awareness, thus less conflicts with land developers and foreigners</td>
<td>* Private, personal property publicised * Misinterpreted restraints -- source of dissension and conflicts</td>
</tr>
<tr>
<td>Customs -- sevu to chiefs; death of chiefs</td>
<td>* More cultural</td>
<td>* cultural insensitivity could</td>
</tr>
</tbody>
</table>
--- eg taboo areas --- awareness, thus less conflicts with land developers and foreigners lead to possible desecration of sites

- Legislative restraints on land sales, leases, etc.--- eg majority group consent required
- Specified maximum size of individual holdings

- Legislative * Monitor frequency of disallowed group consents, and reasons why

- Legislative * Monitor frequency of disallowed group consents, and reasons why

- Legislative * Monitor frequency of disallowed group consents, and reasons why

- Legislative * Monitor frequency of disallowed group consents, and reasons why

- Legislative * Monitor frequency of disallowed group consents, and reasons why

- Legislative * Monitor frequency of disallowed group consents, and reasons why

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial --</td>
<td>* Indicator of possibility for fund raising for community projects</td>
<td>* Cause of further dissension, since generous ones are usually those that can afford to be so * Difficult to always get a fair assessment, since many factors involved</td>
</tr>
<tr>
<td>Contribution to village projects</td>
<td>* Less conflicts with land developers and foreigners due to more cultural awareness * Retention of customs and traditional values, due to more cultural awareness * Misuse or disuse of social practises can be monitored * Strengths and weaknesses of such practices can be assessed</td>
<td>* Cultural insensitivity could lead to possible desecration of sites * Danger of flexibility of original system being lost, if LIS taken as final authority * Possible cause of dissension, particularly with loss of flexibility</td>
</tr>
<tr>
<td>Social --</td>
<td>* Less conflicts with land developers and foreigners due to more cultural awareness * Retention of customs and traditional values, due to more cultural awareness * Misuse or disuse of social practises can be monitored * Strengths and weaknesses of such practices can be assessed</td>
<td>* Cultural insensitivity could lead to possible desecration of sites * Danger of flexibility of original system being lost, if LIS taken as final authority * Possible cause of dissension, particularly with loss of flexibility</td>
</tr>
<tr>
<td>Compliance with customary taboos &amp; traditional beliefs -- eg ai sevu or offering of first fruits of land to chiefs sevusevu or formal introductions or requests of visitors</td>
<td>* Monitor misuse of practice * Assess strengths and weaknesses of such practices</td>
<td>* can be an expensive exercise * Difficult to quantify, since many factors involved</td>
</tr>
<tr>
<td>Environmental -- land conservation practices</td>
<td>* Less conflicts with land developers and foreigners due to increased cultural awareness * Ensure sites are preserved, and not desecrated by land developers</td>
<td>* cultural insensitivity could lead to possible desecration of sites * Misinterpreted LIS information on responsibilities can be source of dissension and conflicts.</td>
</tr>
<tr>
<td>Spiritual --</td>
<td>* Monitor misuse of practice * Assess strengths and weaknesses of such practices</td>
<td>* can be an expensive exercise * Difficult to quantify, since many factors involved</td>
</tr>
<tr>
<td>Compliance with customary taboos over sacred areas, burial sites, etc.</td>
<td>* Less conflicts with land developers and foreigners due to increased cultural awareness * Ensure sites are preserved, and not desecrated by land developers</td>
<td>* cultural insensitivity could lead to possible desecration of sites * Misinterpreted LIS information on responsibilities can be source of dissension and conflicts.</td>
</tr>
</tbody>
</table>

--- eg taboo areas

--- Legislate restraints on land sales, leases, etc.--- eg majority group consent required

--- Specified maximum size of individual holdings
Author/s: 
Ezigbalike, I. Chukwudozie; Rakai, Mele T.; Williamson, Ian P.

Title: 
Cultural issues in land information systems

Date: 
1995

Citation: 

Publication Status: 
Published

Persistent Link: 
http://hdl.handle.net/11343/33943

File Description: 
Cultural issues in land information systems