

# The Cadastre as a Basis for Sustainable Development

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## 1. Abstract

Sustainable land management in Zambia will continue to be a myth as long as the Cadastral system remains unchanged. Proper land management as any management requires information in order that informed decisions can be made. The current state of our cities in which the majority of our population lives in squalor indicates that there is great need to rethink the way cities are planned.

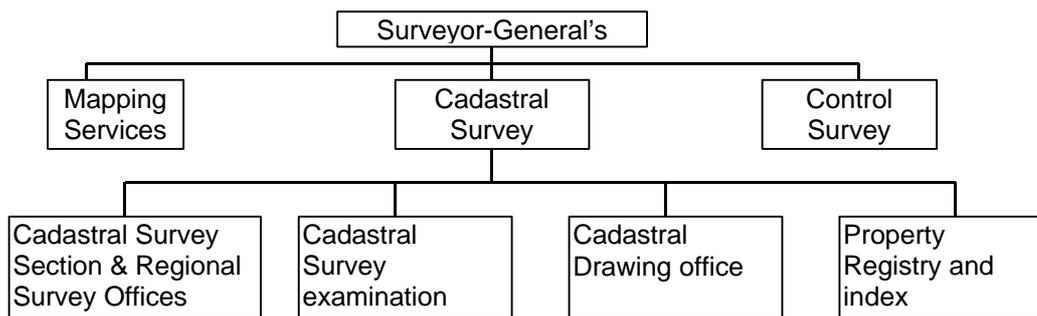
The paper looks at the current cadastral system in Zambia and suggests ways of improving it as means of achieving sustainable land management.

## 2. Background

The past five years have seen some dramatic changes in the area of land reform in Zambia. The country changed from a one party to a multiparty state in November 1992. The new government that came to power after 20 years of one party rule brought about sweeping changes on the economic front. The major change was the liberalization of the economy which was hitherto monolithic and state controlled. The government formed the Zambia Privatization Agency in 1993 to oversee the sale of parastatals. A lot of companies have already been sold. The major foreign exchange earning company, Zambia Consolidated Copper Mines (ZCCM) is about to be sold.

In respect to the cadastre the government last year proposed to hive-off the cadastral section of the Government Survey Department (see Fig1 below for the structure of the Department) so that this section could either be privatized or commercialized. A consultant was hired to carry out a study on how this was to be done. The survey profession still awaits a decision from Government on the future of the cadastral survey services. The Zambia Survey Department is the organization responsible for overseeing the execution of all forms of surveying and mapping services in the country. Apart from the department there exists a small section of the private sector running cadastral firms. These are very under capitalized and ill equipped to handle and generate the mass of information required for Land administration and management.

The Lands Department is the department responsible for the actual land administration and registration.



**Fig:1 Zambia Survey Department (cadastral survey services emphasized) after Chilufya (1997)**

## 2.1 Land conference 1993

As early as 1993 a National Conference on Land Policy and legal reform in the Third Republic of Zambia was held to discuss a new land policy given the new thinking of government. Some of the resolutions of this seminar were

- That there should only be two land classes i.e. state land and customary land as opposed to the situation where land was classified as state land, reserve land and Trust land.
- There was need to strengthen land registration by decentralizing the Lands Department and the Survey Department.
- There was need to develop a land information system.
- Multi-holding of land should be introduced to facilitate acquisition of sectional titles.
- On state land market forces should determine the price of land.

## 2.2 Land Act 1995

The Lands Act passed parliament in 1995 after much controversy. The salient features of this new Act are

1. Repeal of the Lands (conversion of Titles) Act of 1975, which was the major law on land in the country before 1995.
2. The amalgamation of Reserve and Trust land to one type of land to be as known as customary land. This land is not to be alienated without the consent of the chief.
3. The recognition by law of the holding of land under customary tenure;
4. The conversion of customary tenure to leasehold tenure is provided for in the Act.
5. The legal recognition of the chiefs role in land held under customary tenure
6. Establishment of a Lands Tribunal for settlement of Land disputes
7. Establishment of a Land Development Fund.
8. Land now has value unlike in the past when value could only be attached after "exhaustible improvements".

## 2.3 Lands and Deeds (Amendment) Act and the common leasehold schemes Act

Two other laws related to land were enacted viz.: the Lands and Deeds Registry Amendment Act of 1994 and the common leasehold scheme Act of 1994. The Lands and Deeds Act was enacted to:

- amalgamate the Lands and Township Registers and introduce a Common leaseholds Register

- allow land to be registered with a description approved by the Surveyor-General in place of the survey diagram;
- allow the registers to be kept electronically

The common leasehold schemes Act was introduced in 1994 to provide strata title. Before then there was no provision to buy a flat in an apartment building.

## **2.4 The New Land Policy**

Further a Land Policy was formulated in 1996 with the general objectives:

- being to recognize a person's right and access to land and provide land information for the social and economic development of the nation
- to ensure that the people of Zambia are secure in their holding of land and making more land available for productive and sustainable use and to collect revenue as well as sufficiently develop human resources

The Land Policy goes on to mention more specifically, the improvement of the land delivery system by harmonizing all land legislation, decentralizing land allocation and co-ordinating as a Ministry the various organizations that deal with land.

One sees clearly that in this short period the government has been keen to see change in the way land is managed. The introduction of the Land Act was with the view of encouraging development in rural areas through the recognition of customary land tenure. Research should now start on how this land tenure can be codified so that it can be part of the cadastral system.

## **3. The Cadastre**

According to FIG (International Federation of Surveyors) "a cadastre is normally a parcel based up-to-date land information system containing a record of interest in land (e.g. rights, restrictions and responsibilities)." It further states that a cadastre is a public land information system that supports the public administration of land. The question now is whether the cadastral system as currently obtaining is able to answer the aspiration of the people.

### **3.1 Land classifications**

Zambia is a country of about 750000 Km<sup>2</sup>. Six percent of this is classified as Stateland with the rest of the country classified as customary land. Cadastral surveys ostensibly are only done in the stateland. In the new Land Act of 1995 there is official recognition of customary tenure although provision is given for land to be converted to leasehold tenure. Upon this conversion, it is expected that a cadastral survey will be carried out in the customary area so that land, can then be registered after the survey has been done.

### **3.2 Land registration**

Zambia has a system of registration of Deeds and this is regulated by the Lands and Deeds Registry Act. All transfers affecting private and state lands must be registered in the Registry. Certificates of Title are issued for a period of 99 years for land that

has been surveyed and a <sup>1</sup>diagram prepared. In 1994 the government passed the Lands and Deeds Registry Act 1994 with the view to replacing a diagram with a sketch plan or a description. In the view of government cadastral surveys were taking long and therefore new methods were required to speed up the process. Since 1994 there has been no agreement on the form and shape of these sketches or descriptions. The Land surveyors, have proposed that this should be done by the profession as the Act (Lands and Deeds Amendment Act ) left it open for anyone to do the sketches.

### 3.3 The cadastre in Zambia

The cadastral system in Zambia was established essentially for land taxation and normally only affects urban areas. The new Ratings Act 1997 excludes Agricultural land from taxation as long as that land is actively used for agricultural purposes.

The cadastral system in Zambia is regulated by the Land Survey Act, which was enacted in 1960. It has had a few amendments since then. The amendments have concentrated on the registration of land surveyors

The benefits of land registration have long been recognized and include (Williamson, 1986):

- certainty of ownership.
- security of tenure
- reduction in land disputes
- improved conveyancing
- stimulation of the land market
- security for credit
- monitoring of the land market
- facilitation of land reform.
- Management of state lands
- support of land taxation
- improvements in physical planning
- recording of land-resource information and
- supporting environmental management

For sustainable development to take place, an efficient cadastral system that will be able to deliver some of the above benefits must be put in place. In the quest of environmentally sustainable development a number of challenges have to be met, among which are (see, World Bank, 1996):

- making urbanization sustainable by building on the positive aspects of market growth in the cities and mobilizing labour and people participation while breaking the downward spiral of deteriorating living conditions
- speeding Africa's entry into the information civilization.

There is no denying that in sub-Saharan Africa urbanization has brought about environmental degradation in the area of waste refuse, housing which is unfit for human habitation etc. (every year there is an outbreak of cholera because of poor sanitation.)

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<sup>1</sup> A diagram is a document containing geometrical, numerical and verbal representations of one or more parcels of land, the boundaries of which have been surveyed by a land surveyor and which document has been signed by such surveyor or which has been certified by a government surveyor as having been compiled from approved records or surveys carried out by one or more surveys.

In a case in Lusaka the capital city of Zambia an area of land north of the city which was under reserve land in the late 1960s was converted into stateland and incorporated into the Greater Lusaka. Up to date there has been no meaningful development because of the lack of cadastral information in the area. The area has seen rapid uncoordinated settlement. This has led to planning problems such that provision of services such as water, roads has been next to impossible. In addition part of this area is used by the city council as a dumping site for waste but this information is not available even in simple map form to know the extent to which this dumpsite is being used. Young children in the local community nearby have been known to scavenge on the dumpsite posing an environmental and as well as a health risk. The above case clearly points to the need to have a proper cadastral system and how it affects the environment if not available.

The cadastral surveying system in Zambia is fraught with problems arising mostly from a law which is archaic and past its time. The United Nations Centre of Human Settlements (habitat)(1990) identified a number of problems at both technical and institutional level as obtaining in Eastern, Central and Southern Africa. Those relevant to Zambia include the following:

- The approach that is taken towards land surveying is predominantly method-oriented. It is instructive to note that this was observed much earlier see Dale (1976) pp275. The surveyor has been forced to do work in the same routine way, partly because of the regulations in the Land Survey Act: e.g. Section 14 of the Land Survey regulations state that “14(1) Observations of horizontal angles shall be made with the telescope in both the direct and reversed positions for all rays longer than 300 meters, and on at least two arcs where a ray longer than five kilometers.”

The thinking at the time of making the law in 1960 was that the surveyors had to be guided through on how to do their work almost to the minute detail. Any deviation from the above would mean that the survey would not be approved by the Surveyor General. This thinking has continued in the circles of those who are guardians of the profession (the survey control board)

- The standards of cadastral survey are often unnecessarily high. The Act specifies the standard accuracies of the traverses used either in urban or rural areas (Regulation 25 of the Land Survey Act). Coupled with this is the lack of surveyors i.e. licensed surveyors. One of the major components of land management (see Hensen,1996) is the collection, processing and supplying of information on land. Most of this information is collected by a land surveyor. And if there are only 13 as they are in Zambia that creates a lot of problems in the land information cycle.
- All surveys have to be examined by the surveyor-generals office. This examination has always caused delays as the checks conducted have been very thorough almost to the point of redoing the office computations.
- There are no urban land use maps in the country being done on a systematic basis resulting in planning development in areas not suited for the purpose. An example is that of Lusaka East and Ibex hill. The areas were planned as smallholdings and were essentially meant for farming activities. Most people in the area, however, are using their plots as high cost residential housing.
- Facilities mapping is inadequate for effective and efficient management<sup>2</sup>. This problem is better illustrated by the current (1997) rehabilitation of roads in Lusaka in which delays have occurred because an underground telephone

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<sup>2</sup> The exception is the Lusaka Water and Sewerage Company which has been mapping its facilities since 1991

cable or water line had just been discovered and had to be re-routed. This information ought to have been available already to the contractors.

Chilufya (1997) mentions some of the problems at institutional level as those of misplacement of manpower when such manpower is available.

### 3.4 Some Solutions

The starting point is the collection of data in the field. The methods of doing so have been rather slow and cumbersome. With the introduction of new technologies such as GPS and remote sensing. There is urgent need to allow their use in the area of cadastral land information. Laws should not be method specific.

Harris & Price (1991) suggested that regulations should be devised which would enable the right accuracy of survey to be achieved at minimum cost. They further suggest that these regulations should allow survey methods and standards to be adapted to the needs of a particular country or parts of a country.

### 3.5 Land registration

With an expected increase in economic activities in the country they will be more need for geo-referenced information Chilufya (1997) proposes the change from the current manual to an integrated cadastral and land registration information system for Zambia. These changes are at technical level and need to be augmented by changes at the legal and institutional level. An innovation worth looking at is that proposed by Hendrix S.E. & Logan R. (1996) in which they propose what they call the public-private partnership. There is need for a change from a solely Government controlled registration system to that in which private participation will be encouraged. They argue that "in today's economic and political environment, registry and cadastral reform must be demand driven and commercially viable". Indeed the success of reform in Zambia will largely depend on this.

### 3.6 The issue of land surveyors licensing

This is one thorny issue that needs to be resolved in order to reform the cadastral system. The number of licensed surveyors (13) is scandalous considering the size of the country. The professional stagnation has led to a fall out as some of the graduates in land surveying have opted to go into other more vibrant fields. The future of the cadastral surveying system will largely depend on how successful this issue is handled. This will naturally bear on the nature of the cadastre.<sup>3</sup>

### 3.7 Examination of survey jobs

The examination of surveys seems to be an end in itself, with time-consuming methods of checking being employed. The government should seriously look at the possibility of using Quality Assurance. Harris & Price suggest ways in which this can be done. This would entail It might require orientation of the land surveying firms as well as government survey department on what their roles would be in the changed circumstances

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<sup>3</sup> For instance we notice the introduction of preparation of sketches in the Lands and Deeds (Amendment) Act is seen by government as a solution to the lack of surveyors. This however does not provide the important solution to the cadastral system which should be to improve land management.

## 4. Conclusion

Sustainable Land management will not be successful if these issues are not addressed. Research need to be undertaken to incorporate the customary land tenure into the land registration system. Land need to be surveyed systematically instead of the current practice of sporadic surveys.

The role of the professional Institute -the Surveyors Institute of Zambia vis-à-vis that of the survey control board need to be spelled out in the reform process. It has been observed that the professional body has been sidelined with the survey control board taking prominence. This has been detrimental to the cadastral system.

The development of systems that are community based should be encouraged. The example of such a system which need researching in Zambia is that proposed by Fourie & Gysen (1996) in which a case study in Namibia has shown that land management is facilitated where there is a flow of information to the public from a local level registry.

The use of photogrammetry and remote sensing techniques has not been encouraged in the cadastral system. There is need to change the law to encourage such use if we want sustainable development to be achievable.

The current cadastre in Zambia so far seems to concern itself to land taxation. According to Dale, 1976 if it has to service the requirements of society it must grow towards a general land information system.

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