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THE IMPORTANCE OF CADASTRAL SURVEY INFORMATION FOR EFFECTIVE LAND ADMINISTRATION IN NIGERIA

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ABSTRACT: *Cadastral survey information is a subset of spatial information that is concerned with identifying and maintaining legal boundaries of properties. Land administration in Nigeria must of necessary involve a cadastral input; since land must be discussed in terms of location, extent size shape size shape ownership rights and encumbrances. Cadastral survey information has been positively improved by the advancement in computer and space technology and as well as techniques of information gathering, storage and dissemination for good land administration. Since land plays a major role in human activities. The task of any cadastral survey information is to register in a concise manner ownership-rights and other relationships between man and the land. There will be numerous problems in the country if there is no up-to-date digital database for effective land administration system. At present most of the maps being used for development in all the parts of the country are maps produced over two decades. This made development in some areas difficult because some of the locations on the maps had been physically built-up.*

KEYWORDS: Cadastral Survey Land, Administration, Information, Mapping.

INTRODUCTION

The cadastre is a daily maintained record system which contains an unambiguous description of the physical location and extent of a parcel of land, the related rights to the land, and information on the other hand.

Thus, it can be deduced that cadastral surveying on the other hand is the necessary field observations, office computations and mapping required to maintain the cadastre. Cadastral surveying could include the work necessary to build cadastre although the problems are different from maintaining a cadastre, (Dashe, 1987).

Information is a combination of the human and technical researches together with a test of organizing procedure that produces knowledge in support of some managerial requirements. Land information in particular gives support to land management by producing knowledge about the land and the resources upon it and the improvement made into it.

Cadastre Survey Information (CSI) is a subset of spatial information that is concerned with identifying and maintaining legal boundaries of properties. Land is the solid substance comprising the material part of the earth, considered in its entirety; especially the exposed surface of the earth, and where man, animals, plants and organisms stand on. It makes ¼ of the earth surface, while water takes over 3/4.

It therefore follows that land administration is the process by which land is managed and put to good effects as the most basic, vital and valuable resource that supports human activities

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and livelihood. It covers all activities concerned with the administration or management of land as a resource from economic, social and environmental perspectives. Land administration in Nigeria must of necessity involve a cadastral input; since land must be discussed in terms of location, size, shape, ownership rights and encumbrances. We say in Nigeria and not any other place because it is a familiar terrain and that it is difficult to design a global cadastral information system because there are various socio-economic, cultural and physical differences between countries. The type of land tenure and legal situation will determine the framework and configuration of each system.

From the above, one can see that cadastral information is of fundamental importance for land administration and management of spatial data and the solving of environmental and human problems.

The major problem we have in Nigeria is that there is no up-to-date digital database for good land administration system and this when provided will help the country to generate substantial revenue from land resources.

The objective of this article is to provide an up-to-date digital database for land administration and management. This information may be required in respect of specific parcel of land (micro-scale) or in respect of the parcels of land in a given area (macro-scale). The quality of the information received will be dependent upon the quality of the information retrieved and the time taken to transfer this information to the user. The information resulting from a cadastral boundary survey may be disseminated in the form of the survey beacons, the field sheets, computation sheets, written description and survey plans.

Cadastral systems are used to provide information for various uses in society. The data often has great legal, social, and economic importance. Therefore the information should be accessible and the cadastre should be open to the general public. Cadastral managers also have a responsibility to ensure that the information can be relied upon with confidence. On the other hand, the information can be missed and the system must protect the interests of individuals from misuse. Misuse can include; for instance, provision of incorrect information about a person. It also includes the combining of harmless information in such a way that a threat is created. Therefore, a balance must be established between open access to information and the protection of individual interests. This may be achieved through legislation, management policies, security access code, etc. However, it should be emphasized that unless information is readily available to users and the general public, the real benefits of a cadastre cannot be realized.

Information identifying those people who have interest in parcels of land;

Information about those interests (e.g. nature and duration of rights, restrictions, and responsibilities);

Information about the parcels (e.g. their location, size improvements value).

People's View about Land

Nothing is essential to people's lives as the land and everything connected with it. Land is an independent asset which supports our overall existence and without which no living thing would have been on earth Dale (1991).

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Didigwu (2010) defines land "as the sources of all material wealth. From it we get everything that we use of value, whether it is food, clothing, fuel, shelter, metal or precious stones. We live on the land and from the land, and to the land our ashes are committed when we die, the availability of land is the key to human existence and its distribution and uses are of vital importance".

This has actually led to the need for land information which is a pre-requisite for making decisions relating to land management investment and development of the paper.

Brinker and Minnick (1987) explained a land information system as a file or record containing land information records filed in a typical recorder's auditors or assessors office as part of a present – day land information system. These records are based on the cadastre, which is an official record of interest of the quantity, value and ownership of land parcel within the area administered by the government unit in a country.

Dashe (1987) also defined cadastre as a daily-maintained record system, which contains an un-ambiguous description of the physical location of an extent of the parcel of land, the related rights to the land and information on the land.

Cadastral or parcel-based information system is a general systematic and up-to-date register containing information about land parcel including details of the area, values, use and ownership Dale (1991).

Cadastre is categorized into three groups. Juridical cadastre, which serves as a legally recognized record of land tenure namely:

Fiscal cadastre, which was developed primarily for property valuation.

Multipurpose cadastre that encompasses both fiscal and the juridical with the addition of other parcel-related information.

The multipurpose cadastre is also independent centralized, decentralized or both and it may be implemented by one or more agencies at the local, regional, provincial or even at the national level. This parcel-based and information system otherwise referred to as Cadastral Information System (CIS) has been positively affected by the advancement in computer and space technology and greatly improved methods of information gathering, storage, dissemination, Cadastral information system is a sub-set of Geographic Information System (GIS), which is concerned with the provision of spatially reference data. As an immediate member of the set of Land Information System (LIS) it can also be referred to as involving the acquisition, and assembly of data, their processing, analysis and dissemination and use of land information in a systematic manner Dale and McLaughlin (1989).

The major problem of the implementation of Cadastral Information System (CIS) in Nigeria is identifying land use pattern and modeling the user's requirement such that the system will be capable of answering some questions such as "where is what" and "what is where" Adeoye, (1998). The need for the development of these models became necessary so that the digitally acquired data could be modeled for storage in a database.

CIS has received a boost over time and considering the emphasizes placed on information management, every effort must be made by concerned organization in implementing the cadastral land information system for better land management. It is necessary so that the

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digitally acquired data could be modeled for storage in a database and used for database management in cadastre information.

CIS is to support cadastral administration management. Dale and McLaughlin (1989) observed that the demand for parcel based land information has expanded; this extends the application of the existing parcel based system and created the need for new.

The task of any Cadastral Information System (CIS) is to register in a condensed manner ownership, rights and other relationship between man and land, Haudecova (2001). Many human activities are related to land. Public knowledge about ownership of land provides legal protection and security. Every country considers the protection of the land parcel and rights to land to be a government task. Cadastral systems play a key role on this respect, Zevenbergen, (2001). They consist of mainly two parts: cadastral and land registration. The cadastre represents an entry to public land registration. Basically it contains in text as well as in map format, essential data stemming from transfer acts and other legal documents. The map may be used as a basic source for a multitude of geo-application.

The land registration, building and apartment of legal rights and of rightful claimants. This land registers has to be in digital formation which will contain all administrative information on the legal status of land and building). All these information are stored in a central database and GIS technologies and its query tools can be used in solving any cadastre related problem. This article is an attempt to develop such, within the topic area. Though it requires huge amount of financial support in maintaining CIS, the authentic and electronic copy of record will aid in keeping up-to-data information about land.

Proposal for the Design of Cadastral Information in Land Administration in Nigeria

The enlightenment campaign is a means to project the direction of the federal government on land-related matters through the Federal Ministry of Housing and Urban Development. In view of this some of the mandates of the ministry are:

i. Implementing the government policy on housing and urban development as contained in the government white paper on urban development and housing (2002).

ii. Providing and sustaining an enabling and conducive environment through mortgage financing for house ownership among all segments of the Nigerian population both in urban and rural areas.

iii. Ensuring that all Nigerian towns and cities are mapped on appropriate cadastral scale. i – iii can be achieved by the application of the new technology to land reform and encouragement of the Cadastral Units of State Survey Departments to reform their Cadastral Survey practice.

These are critical issues to be considered for development of Nigerian cadastral information system. These must be taken care of in order to achieve successful results from the system.

Unique Parcel Identifier

A cadastral must contain a continuous interest in land. Every parcel in a land related reference system should be uniquely identified. Different types of identifiers are used worldwide e.g. in Zambia a unity system is used which does not give idea of location. With increasing subdivision it becomes impractical to use. It could be difficult to use a unique

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identifier particularly in Africa since informal settlements are rarely parcellated. An alternative could be geo-coding.

According to Dale and McLaughlin (1989), the features of a parcel identifier should possess.

Easy to understand

Easy to remember for the landowner

Easy of use by the public and administrators

Permanent, not requiring change in the case of sale

Unique with correspondence between ground and record

Economic to introduce and maintain.

Uniformity in Base Map Compilation

Presently, there is no up-to-date cadastral map covering the country. Less than 50% of the land area has been surveyed where as less than 30% has been registered and less than 20% has been properly digitized. Planning and development is usually affected by lack of good maps e.g. the postponement of the 2005 national population census. Cadastral maps are large-scale maps with scale larger than 1:10,000 covering the country.

It is therefore important for the whole country to be mapped on a common reference system for planning etc.

Legal and Institutional Framework for bureau of Cadastral Survey and Mapping

Setting up a bureau for cadastral survey and mapping is a reform in itself. However, surveyors are often reticent about changing existing legal frameworks, or relaxing current registration system high standards of accuracy linked to legal accountability issues often make cadastral systems cumbersome and inflexible. This in turn slows down information creation processes and increases cost. There is need for establishment of a geodetic control network, which would be connected, to a global geodetic reference framework. The network should be based on an appropriate map projection system.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Cadastral information is a model of the environment in a large scale map, from which utility maps can be derived for planning of infrastructures. Other maps such as thematic, economic, ecological maps can be produced from cadastral maps. Environment auditing/mapping, environmental sensitivity, index mapping, time lapse mapping and development control are based on the cadastral map. Cadastral information system will give many benefits in national development at the rural areas an efficient system will help to

Provide better information base for planning and administration; lead to better specifications rights and more security; develop responsibilities to finance development; ease implementation of policy measures.

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Urban land is considered to be one of the most valuable economic and social resources of a country and it needs an efficient cadastral system to manage it in urban areas, cadastral information will help to solve housing and shelter blames, where there is population explosion, that often results in slums. The information can help in the following ways: through provision of site and service by low cost exploitation of unused areas owned and controlled by government; upgrading of squatter settlements or regularization of illegal occupancy; information and planning of land resource: mortgage and financing: increase revenue through improved land taxation: improve map production: reduce litigation: ease land transactions, facts can easily be established: improve the provision of exchange with other organizations, facilitate land marks which will aid land use and help private development. It is therefore expected that cadastral surveying and mapping the given more attention as an improved mapping awareness of its products, training, acquisition of state of art equipment, since the best mapped countries are the most developed nations of world.

Recommendations

From the foregoing discourse the following recommendations are advanced:

i. There is need for a current base map to be made to cover the whole country at cadastral scale for planning and sustainable development.
ii. There is the need for a sound mapping policy and enabling legislations at all levels.
iii. There is needs for capacity building, training and re-training and a more process – inclined approach to production rather than functional.
iv. There is need for mapping appreciation and awareness leading to map use culture to give impetus to the new awareness by the total support for enhancing cadastral survey and mapping.
v. Identification of suitable areas for housing development and carry out cadastral mapping of the land.
vi. The payment of fund to a dedicated account, not government treasury to ensure and facilitate survey and provision of infrastructure. These areas must be sufficiently supported i.e. funding, training,, capacity building and human resource development to facilitate reform in the cadastral sector.
vii. There is need to accord a priority to cadastral survey and mapping in the national budget to enhance planning and environmental management.
viii. The political will associated with this administration should be brought to bear on and boost to cadastral surveying and mapping – thus making CIS an indispensable input to the country's land administration. If the recommendations above can be implemented, Cadastral Information System (CIS), a subset of GIS will serve as tool for effective land resource and environmental management.

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