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Cadastral Map use in Uganda
Associated Problems

Working Paper

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Introduction:

This paper was prompted by the enormous difficulty and erroneous ways cadastral use has occasioned on Uganda. There are numerous cases of cadastral maps not showing what they should represent, for example land value and ownership.

An unregulated land use specifically in urban regions and use of whatever parcel of land for monetary gains has resulted into extensive slum developed termed in Uganda as the rich mans slums. This is as a result of clear and major townscape plans, build and land use aspects.

The above coupled with lack of base maps and a covering spatial information system data base, it is almost impossible to physically plan in Uganda.

Poorly trained surveyors and cartographers technicians have serious ethical problems most probably as a result of lack of deeper understanding of what they are doing.

There are problems of land demarcation issues based on fraudulent survey data sheets and most oftentimes difficult to interpret. As a result there are cadastral which can't be set to march the expected cartographic data.

Cadastral surveying is the demarcation of the land for the purpose of defining the parcels of land for registration in a land registry. It is used to define land for ownership, should the owner wish to sell off part of that land, the cadastral surveyor is again called in to partition the land to be sold. Furthermore the cadastral surveyors are required whenever a boundary beacon must to be found or replaced. Thus far Cadastral maps are simply representation of economic and financial values of a physical geometric dimension over land. This is irrespective of utility and infrastructure lay out.

Cartographic maps

Cartographic methodology is a continuous process as the evolution of the earth crust also continues to be formed and transformed. Geologically the earth is not statistic. Geomorphological processes mount transforms, pressure, and changes the morphological structures. Hills are denuded and become slopes, flat plains or plateau. Plateaus are likewise worked out and they become valleys or desert region. The elements are simply too many to imagine that spatially the earth can remain the same for quite a very long geological time.

The spectre of disorganised industrialisation in Africa, has brought about many forces sculpturing the earth crust in so many different and an unimaginable ways than in the world before ours. There are expansive open and deep mines, oil and gas exploitation leaving behind empty wells underground, urbanisation and its appended enormous excavation and construction industry for the roads, building sites etc., all contribute to many more ways in Geomorphological changes. Use of cadastral maps on sheets, rather than comprehensive cartographical maps results into inadequate and inexact data generation.

In Kampala City, where most of the information in this article is being generated, the relief being hilly has meant that generation of base maps last carried out in 1950s and 1960s has left a huge gap in the application of survey data. As an example of gravel roads that dominate the city infrastructure, under torrential tropical rains, have shifted several meters as a result of heavy soil erosion. Yet planning authorities in the country under a veil of lack of cartographic data have went ahead to construct roads, houses, and carry out land demarcation without propel maps showing for example utility and infrastructure placement.

This is a typical African phenomenon, shrouded into mental mapping associated with communal land parcelling. Coupled with huge influx of rural population into equally unplanned towns all over the East and Central African region and appended social problems thus far generated, this calls for agent action.

With huge forests some completely decimated and food resource consumption, vast tracts of land is left bare to the elements and soils are eroded leaving behind deep gullies and eroded holes into the earth crust. What is happening in our time is not quantifiable in geologic terms.

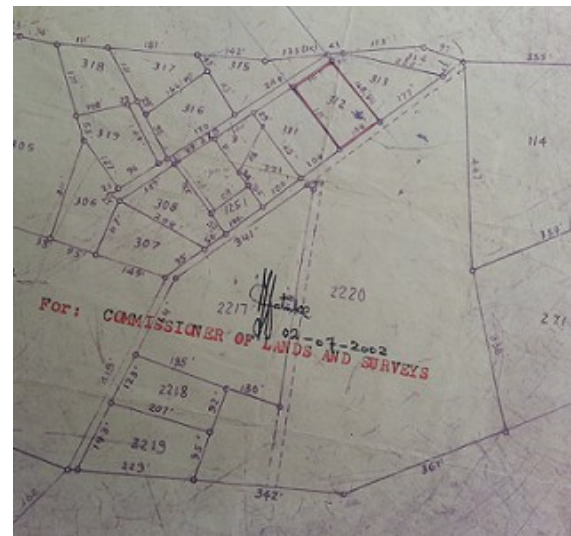
Methodologically this paper is based on interaction with students and graduates of surveying in Uganda. Further description of problem is derived from analysis of cadastral prints generated by different survey agencies and land administration offices.

Problem of analysis in this article is based on the social conflicts that land subdivisions and court of law arbitration in land subdivision cases. The problems can be subdivided into the following categories:

- i. Land fragmentation

maps having a high degree of technical detail (not contours). Furthermore the system should be complete and up to-date as I have shown in the introduction.

- I. A cadastral map designed for land registration purposes has important characteristics which differ from a cadastral map designed for a more multi-purpose role. Institutional, management and financial issues are obvious conflict areas as a result.



In the above plate small plots of land have been parcelled out in no relation to either infrastructure or utility system. The surveyor is both the infrastructure and physical planner by the nature of would be roads shown stochastically placed. Whether the undersigned appreciated this land spatial planning in relation to land use, plan and road network, is a matter of guess work.

In surveying, once the positions of the boundaries have been marked and recorded, the cadastral surveyor and the conveyancer work together to record ownership in public register. This ensures that the rights of the owner can be upheld against false claims and all persons may know who owns what.

As explained that surveying in Uganda as elsewhere in the country has been so degraded, heightened land conflicts is an explanation to a dysfunction system rather than a common problem associated to and pressure.

To be noted is very low construction and housing level in most of Africa as majority population are still located in rural areas. Further still there are very low levels of systematic urbanisation levels in Africa.

Rights over land

The basic rights over land are;

- i) Ownership: this is the most important relationship between a person and land. It gives the owner the greatest rights over land including the rights to: use it to its full potential, dispose of it or sell it, use it as security for a loan.
- ii) Lease: this is a contract whereby land is let to or hired by a person other than the owner for a specified period of time.
- iii) Sub- surface rights: rights to any minerals on a property may be included in the ownership of the property, or may be completely separated from ownership of the land.

Problems associated with cadastral surveying.

Cadastral prints

- Measurements on cadastral prints do not tally with the distances taken on ground. This is so because cartographers plot poorly the cadastral maps.
- Areas indicated on the prints do not match with that on ground. Some land is either more or less than that indicated on the maps.

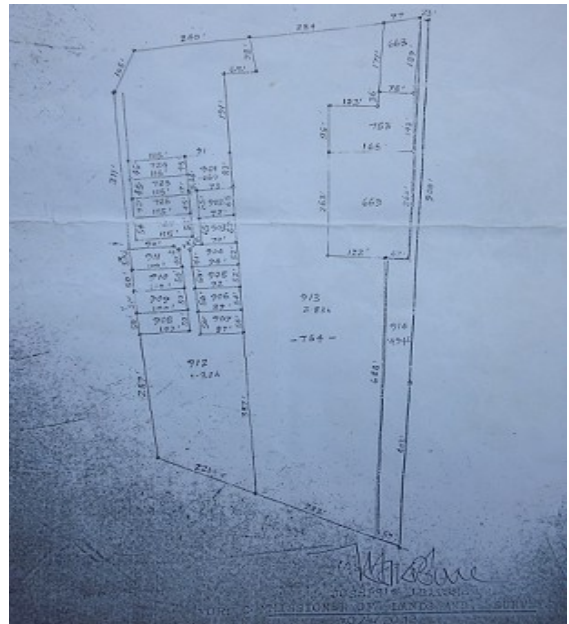


Plate 3

Control data

Some control data obtained from the department of survey and mapping does not tally with what is on ground. Coordinates do not fall in the surveyor's places of expectation. This is more pronounced in Mubende, Mukono etc...

Final Remarks

There is need for re training of surveyors. Besides professional and expert skills, there are ethical issues associated with land parcelling.

Uganda lacks a spatial infrastructure network which should be put in place at the earliest. This calls for production of base maps for the entire country starting with densely populated areas and high productive agricultural regions.

And lastly every there will be need to change the Local Government Act 1997 so that Town and Country 1964 take precedence over is of land management in both urbanised and rural areas. It should be noted that infrastructure and utility planning should proceed land demarcation for efficient service delivery, land, environmental law regulation and mitigation of social conflicts.

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