

# **Evaluation of Current Urban Cadastre Practice in Ethiopia: Case of Bahir Dar, Gondar and Dessie**

**Asmamaw Yehun, Ethiopia**

**Key words:** Cadastre, GPS, Aerial-Photographs, Ortho photo, GPS

## **SUMMARY**

Ethiopia's first real property registration proclamation was enacted in 1907. It provided procedures for the registration and transfer of land holding and the issuance of title deeds, as well as property taxation and the like. This proclamation was superseded by immovable property registration articles included in the 1960 Civil Code of Ethiopia which was marginalized by the 1975 urban land and extra housing reform that changed the urban land tenure system. Following the introduction of the 1994 urban land lease holding regulation, the City Government of Addis Ababa launched a cadastral project with the aim of registering all property for taxation purposes. The project brought many improvements in the city administration. However, it faced major problems from the start and throughout its implementation. The absence of clear legal frameworks, focal organizations and the appropriate utilization of technology were some of the major problems. As a result, beginning in early 2009, the city commenced the implementation of a modern real property registration and land (cadastre) system development project.

Modern cadastre practice was conducted in 2007 in four selected pilot project areas over Ethiopian major cities. Dessie, Bahir Dar cities from Amhara Regions, Adama City from Oromia Regions and Mekele City from Tigray Region. All these pilot areas were unsuccessful due to several reasons. The main reasons for the unsuccessful first urban cadastre practice on selected pilot areas were; 1. lack of legal framework, 2. lack of resource and technical assistance from the federal governments, 3. lack of awareness from community and higher officials, 4. Lack of baseline maps and ground-based control points (GCP), 5. high turnover of skilled surveyors and GIS experts.

Even though, the first cadastre practice was failed but it gives good opportunities for socio-economic and other issues for urban municipality using those documents as a benchmark.

The second re-newed urban cadastre practice in Ethiopia was started in 2011 and still this practice is under progress. The reformed urban cadastre practice has different phases, First phase was capacity building on experts, resource allocation to different regions and different legal framework, legislations, rules, directives were enacted and implemented. The revised urban cadastre has the following new features as compared to the previous cadastre;

1. It gives more awareness on communities, higher officials, expertise,
2. There is a highly legal framework,
3. establishments of base map, Ground control points (GCP),
3. using modern technological instruments,
4. intensive short and long term capacity building trainings.

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The current urban cadastre implemented in Addis Ababa City, as pilot project and all other cities are arranged documentations and other preconditions for implementation.

But there is very delays of documentations, resource allocations, high staff turnovers in major regions except Addis Ababa City. This indicates that revised urban cadastre practice will get failure in the near futures.

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## **1. PROBLEMS**

Most of the city, urban land management, in Ethiopia is finding it increasingly difficult to cope with the demand for registering the process of land transactions as well as the rapidly changing patterns of land use associated with the accelerated urban growth. As a result of this, a number of other problems, such as inability to increase their revenue base, distortion of urban land market and delays in the implementation of urban development projects emerge. Moreover, the absence of reliable information especially land related is the most crucial impediment for the preparation and implementation of urban plans in many urban centers. Thus, the creation of an up-to-date and efficient Cadastre and registration systems can do much to alleviate these and other related problems.

Many restricted access in the land market slow land supply and increasing price. Typical problems include:

- Inappropriate or unaffordable land use, building standards & regulations;
- The amount of revenue collected from property tax is very low as compared to other sources of revenue.
- Cumbersome and expensive procedures for land and property transfer (including site mapping, titling and registration), thus encouraging illegal procedures of transactions.
- Significant proportions of the inhabitants do not have title or certificate of ownership to their property, which inhibit incentive to urban development.
- Land disputes do not get quick and legal solution.
- Squatter settlements or illegal constructions are increasing very alarmingly.
- Planning and implementing development projects is highly affected by lack of sufficient information and resources required.

## **2. OBJECTIVES**

The general objective of this paper is to evaluate the situation of urban land cadastre systems by reviewing its current status in urban centers, identifying the problems, efforts so far exerted to establish the system. In doing so the paper aims at identifying the challenges that existed for establishing the system in urban centers and would to indicate the way forward in a broader dimension in Amhara National Regional State case study areas Bahir Dar, Gondar and Dessie.

Specifically this research was to:

- Examine accuracy and current status of bench marks and base maps
- Evaluate the quality of short and long term capacity building trainings

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- Assess institutional setup of cadastre offices
- Examine the role of cadastre for good governance
- Predict how long the current urban cadastre will be fully functional

### 3. METHODS

Our research was implement an up-close, in-depth, and detailed examination of a subject of study (the **case**), as well as its related contextual conditions.

This research was focused in two main viewpoints:

#### 3.1. Legal viewpoint

Under this viewpoint, the methodology applied to prepare this paper is by reviewing the Federal Democratic Republic of Ethiopia Constitution, Urban Land Lease law and Directives; the draft National Good Governance Package (Urban Land Development & Administration Sub programme) and the project document to establish a national integrated urban land cadastre system and other relevant policy documents.

##### 3.1.2. Technical viewpoint

The researches were used the following facilities and resources:

- Lieca 1200 and 900 GPS Instruments: To establish control points for geo-referencing and detail surveying
- Lieca 1200 and 900 Total Station Instruments: For detail surveying in the pilot project areas.
- Bahir Dar, Dessie and Gondar city ortho photos: To prepare 2D urban cadastre and using this photos as base map in ground surveying.

### 4. RESULT AND DISCUSSIONS

#### 4.1. Economic justification of cadastral systems for developing countries

There has been a great deal of interest and attention given to the economic justification of cadastral and land information systems over the last decade. With regard to cadastral systems in the developing world the emphasis has been on the benefit to the national economy and to the land holder. Within the developed countries where cadastral systems are accepted as basic infrastructure in support of free market economies, the emphasis has been on the economic justification of the provision of land related data in digital form, usually to support or as part of a land or geographic information system.

With regard to developing countries most of the economic analysis has been done by organizations such as the World Bank, with the work of Feder (1987) often cited. In this case security of tenure, agricultural productivity and the value of land are linked. As stated by Feder and Noronha (1987), the justification for the change in land tenure arrangements however will be dependent on the level

of development, the pressure on land and other factors. They argue for a careful analysis of the benefits and costs of different systems, including any equity considerations. They state that the gain in efficiency may or may not outweigh the costs of introducing a new system. However they also point out, unfortunately, that there is still a shortage of rigorous quantitative research that would help to assess the costs and benefits of such policies.

Also as pointed out by Falloux (1987), "social benefits of a land titling/cadastral project are reflected by the increase in land values due to titling. Recent computations, particularly in the Thai case, show an extremely high return, which indicates that titling may be one of the best investments in the agricultural sector." He also suggests "some quantitative estimates can be made such as the possible increase in public revenue due to better tax collection,..., equally, public savings can be expected from a better institutional organization in the cadastral and cartographic field."

In the book "Searching for land tenure security in Africa", edited by John Bruce and Shem Migot-Adholla (1993), eight case studies from Sub-Sahara Africa are documented. The objective of the research was to assess the relative efficiency of indigenous customary land use arrangements and state-imposed tenure in promoting agricultural production in Africa. It claims that the vast majority of African farmers still hold their land under indigenous, customary land tenure systems, whatever the formal legal position might be under national law.

#### **4.2. The need for an improved cadastral system in Ethiopia**

Prevailing high rate of urbanization, which is mostly manifested in higher growth of urban population and its expected continuation, are to aggravate the problem of urban land use from time to time. The pattern of growth of Ethiopian towns is irregular, uncontrolled and often leads to the emergence of slums. As a result of the absence of proper registration, taxes related to property could not be collected efficiently in most of the towns. Moreover, without having sufficient knowledge and information about the base, the land itself, urban planning in these towns is unthinkable.

Because of the above fairly obvious reasons, the need for land information system has become an urgent necessity. A land information system is a tool for legal, administrative and economic decision making and could also be used as an aid for planning and development activities. Therefore, many cities are currently considering surveying, mapping, database system developments as a vital tool in their strategy to improve the quality and control of urban planning and management. Land registers; tax registers, building registers, population data, physical planning and development control need current information about geographic location. A parcel based system, which is the basic unit of a cadastre, seems to offer many advantages for the undertaking of these different tasks.

#### **4.3. Rehabilitated cadastre Preparation Phase ( 2003 E.C since now)**

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#### 4.3.1. Ethiopia prepares for implementation of Urban Land Information System

**The Ministry of Urban Development, Housing and Construction (MUDHCo) prepares** to launch the implementation of Urban Land Information System project. One of the objectives of the Ministry of Urban Development, Housing and Construction (MUDHCo) is to curb the problems of mismanagement and rent seeking in urban sector through establishment of the Cadastre and Real Property Registration System.

The assessment of the existing situation clearly shows that the data formats used to store the cadastral and real property records as well as the data models are not consistent to make integration of the data at regional and federal level and that there is no clear definition of when and which data format is applicable. Moreover, the lack of well trained personnel to carry out cadastral and real property registration activities is another characteristic of the existing system.

In July 2014, the international Consortium led by IGN France International was awarded 2 years project for supervision of implementation of the Cadastral and Real Property Information System. IGN France and GeoMark Plc are members of implementing consortium together IGN France International.

The main objective of the project is to assist and support the MUDHCo in successfully accomplishing the design, development and deployment of the Cadastral and Real Property Information System through this supervision project. The activities taken in charge by the consortium include the following tasks:

- finalization of specifications for system development,
- elaboration of the standards,
- gathering and formalization of user requirements,
- elaboration of general system architecture,
- supervision of system development and deployment,
- and training and capacity building activities implementation.

The system will be deployed in six pilot regions (Addis Ababa, Harar, Oromia, SNNP, Amhara, and Tigray). In the perspective of land and real estate property management with up-to-date technologies, the MUDHCo will ensure the implemented system is reliable, effective, secure and easy for use (IGN France home page, <http://www.ignfi.fr/en/content/ethiopia-prepares-implementation-urban-land-information-system> ).

#### **4.4. Regional Institutional capacity to address cadastre issues**

In Ethiopia human resource development is the weakest link. Another weakness is the lack of emphasis on building institutional infrastructures with clear responsibilities. Responding to these problems is not simple mainly because of lack of emphasis on the long-term capacity building measures towards developing sustainable institutional infrastructures. It is generally understood that security of land tenure, efficiency of land markets, and effectiveness of land use control are crucial components in any land policy. The activities relies on some form of cadastre infrastructure which permits the complex range of rights, restrictions and responsibilities to be identified, mapped and

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managed as a basis for policy formulation and implementation. The establishment of the appropriate urban land administration system (Cadastre) itself; and ensuring sustainable long-term capacity of educated and trained personnel to operate the system are the two important aspects of capacity building.

The Ministry of Urban Development and Construction (MoUDC) signed in 2006-2007 an agreement with Bahir Dar University the Institute of Land Admiration (ILA) to deliver short term training in surveying and GIS aspects for the regional surveyors and GIS experts. ILA delivered short term trainings for 120 trainees within three rounds and all experts were certified in surveying and mapping. The following pictures were taken during the training,



Figure 4-0-1 GPS training, 2016



Figure4-0-2Trainees during land adjuration, 2016





Figure 4.5 Camera picture taken 2008 during data collections

Dessie is one of our study areas and many files are damaged because of lack of proper storage and shelving. In this study, the files are now well organized and put in safe places.

## 5. CONCLUSIONS

### 5.1. Challenges

The most challenge faced in establishing legal cadastre in the region and in Bahir Dar includes:



- The most challenge encountered in establishing legal cadastre is lack of awareness among political leaders not only in the city but also in the regional leaders and federal level. Gondar is one of the good case to study area to confirm this issues. Gondar sub-city 18 land management and cadastre office experts and higher official didn't had any awareness regarding legal cadastre directives, regulations, standards. The sub-city administration work using their procedures without following federal legal cadastre standards and directives. Dead and active files are put in the same room and arranged in alphabetical orders without file and block numbers.
- Lack of advanced surveying instruments and skilled man power to operate surveying instruments.
- After capacity building training was taken, experts are not practiced their skill in actual cadastral work and they stay for long time. After long time they forget the skill or they will joins other institutions.
- Appropriate institutions and necessary manpower is not established. In Bahir DarAt city administration level, only 13 experts and including business owners were allowed to implement the system, which is not imaginable to hand over this huge tasks.
- High turnover of professionals because of inequality of salary, institutional setup, working environment.
- Regional city administrations did not allocate reasonable budget for cadastral works.
- Lack of integration between right creator and right registration department in the city administrations.
- In most city and sub-city levels, file are put insecure, has no backups.
- 9.Establishing the system and preparation phase take too much time. it was started in 2003 E.C (2011 in G.C) and the preparation phase take 6 years and still we are in preparation phase.
- Because of urban expansions, road constructions and intentionally GPS benchmarks are destroyed and demolished. These and others challenges are facing the current legal cadastre. But there are also opportunities.

## 5. 2 OPPORTUNITIES

- In Bahir Dar city administration, files are re-organized which is pre- adjudication tasks is already done in 9 sub-cities. Land holding adjudication will be done by systematic and sporadic ways of adjudication . Land holding adjudication work will be very easy since files are organized based on cadastral base map, identification, neighborhood, blocks and parcel codes.
- The previous cadastre work was failed because lack of legal frame work and the current cadastre give more emphasis on legal frame works. This create more awareness on experts, higher officials and to people.
- Even though, there is high expert turnover, remaining experts get capacity building trainings and create team works.
- The establishment of ground control points brings high quality of ground surveying data.
- Establishment of the system minimized informal settlements, speculations in the city.
- It creates good governance, responsible and accountable experts and higher officials
- It increases the awareness of tax payers to pay their taxes on time and properly.

- it reduce rent seekers, corruption and facilitate efficient land administrations system.

## 6. RECOMMENDATIONS

The researcher would like to recommend and give strong attention the following point:

- As compared to previous cadastre, the current cadastre brings many opportunities such as , capacity building trainings, recourse and technology transfers, legal frame work and higher official commitments. Even though, the preparation phase is very slow and in some zone and woredas levels there is no any preparation to implement legal cadastre . Therefore, the federal urban development and construction Minster should give more attention to follow up regions, zone and woreda level and allocate budget for resources and technology transfer trainings.
- Base map preparation and ground control point establishment was done at national level, but many of control points are become disappear and demolished by urban expansion and intentionally.
- At Bahir Dar city, files are organized very well but in other zone and wordas files are found in insecure places, files are damaged, corrupted and disappears such as in Dessie and Gondar.. Therefore, the regional concerned body should take action in order to secure the files.
- There is very intensive short and long term trainings related with land management and cadastre which is delivered in all regions, but after the training. trainees leave their home institutions, stay without implementing their skills to the actual work. Therefore, there should be good working environment, attractive and get intensives to keep their high turnovers.
- There are different institutional setup in different regions. This brings different salaries, working environments and better opportunities. There should be established the same institutional setup in order to keep high expert and higher official turnovers.
- During ground surveying measurement, many regions using low cost instruments with bad accuracy levels. The researchers recommend to apply and use very accurate surveying instruments since this legal urban cadastre expected to bring good governance and minimized land related conflicts.

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