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Bahir Dar University

Institute of Land Administration

Department of Land Administration and Surveying

MSc Program in Land Administration and Management

# Assessing Cadastral System Implementation and Service Delivery: The case of Yeka Sub City, Addis Ababa

By:

Mengaw Aytenew

August, 2025

Bahir Dar University, Ethiopia

**BAHIR DAR UNIVERSITY**

**INSTITUTE OF LAND ADMINISTRATION**

**Department of Land Administration and Surveying**

# Assessing Cadastral System Implementation and Service Delivery: The case of Yeka Sub City, Addis Ababa

A Thesis Submitted to the Institute of Land Administration, Bahir Dar University, in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Land Administration and Management

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August, 2025

Bahir Dar University, Ethiopia

## Declaration

I declare that the research work titled "Assessing Cadastral System Implementation and Service Delivery: The case of Yeka Sub City, Addis Ababa, Ethiopia.", submitted in partial fulfillment of the requirements for the degree of Master of MSC in Land Administration and Management, Department of land administration and Surveying, Institute of Land Administration, Bahir Dar University, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The assistance and help I received during the course of this investigation have been duly acknowledged.

Declared by:

Name_____ Signature_____

Date_____

**BAHIR DAR UNIVERSITY**

**INSTITUTE OF LAND ADMINISTRATION**

**Department of Land Administration and Surveying**

**MSc in Land Administration and Management**

## Approval of thesis for defense

I hereby certify that I have supervised, read, and evaluated this thesis titled **"Assessing Cadastral System Implementation and Service Delivery: The case of Yeka Sub City, Addis Ababa, Ethiopia."** prepared by **Mengaw Aytenew**. The thesis is approved for defense.

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# EXAMINERS APPROVAL

A thesis titled "Assessing Cadastral System Implementation and Service Delivery: The case of Yeka Sub City, Addis Ababa" is approved by the under signed members of the examining board.

Name of External Examiner_____ Signature_____

Date _____

Name of Internal Examiner_____ Signature_____

Date _____

Name of Chairperson _____Signature_____

Date_____

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## List of Acronyms

**AACAO:** Addis Ababa City Administration Office

**AACADIS**: Addis Ababa Cadastral Information System

**FDRE:** Federal Democratic Republic of Ethiopia

**FULPRA:** Federal Urban Land and Property Registration Agency

**FIG:** International Federation of Surveyors

**GCP**: Ground Control Point

**GIS:** Geographic Information System

**GPS:** Global Positioning System

**GTZ:** German Technical Support

**LA**S**:** Land Administration System

**MUD**C**:** Ministry of Urban Development and Construction

**STGs:** Sustainable Development Goals

**SRM:** Strategic Road Map

**SPSS:** Statistical Package for Social Sciences

**UN:** United Nations

**RECS:** Real Estate Cadastral System

**RPRS:** Real Property Registration System

**RRR:** Right, Restrictions and Responsibilities

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## Abstract

*Accurate land information is crucial for effective land management, highlighting the importance of a well-maintained cadaster and the registration of legal rights both of which contribute to societal progress and prosperity. An operational cadastral information system is essential for efficient service delivery. However, the status of cadastral system implementation and service delivery in Yeka Sub-City, Addis Ababa, has not been thoroughly studied. Therefore, the main objective of this study is to assess the level of cadastral system implementation and service delivery in Yeka Sub-City.The study adopts a mixed research approach. Primary data were collected through questionnaires and interviews, while secondary data were obtained from document reviews. Quantitative data collected from respondents through questionnaires were analyzed using descriptive statistics, whereas qualitative data were analyzed thematically. The findings reveal that the cadastral system has been somehow implemented in only 6 woredas, with only 61.82% of parcel adjudications and certified out of 18,022 parcels. Respondents reported challenges with the accuracy and sufficiency of the parcel-based organized cadastral data, as well as a lack of security and public awareness. Data inconsistency, political interventions, legal and technical gaps are identified the major barriers to successfully implement cadastral system. Overall, the customers' satisfaction level of service delivery was found to be fair and unsatisfactory, at 66.66%. Cumulative score compared to a high service demand of 84.21%. The study recommends consistent implementation of the cadaster system, across the city, with a focus on political will, well- trained professionals, and information communication technology. Policy, Strategies, standards, and guidelines are also needed to promote transparency, reduce transaction costs, and minimize corruption in land administration.*

**Keywords:** Cadaster system, Parcel, public awareness, Service Delivery.

# Chapter One

## 1. Introduction

### 1.1. Background

Land is a scarce fundamental resource essential for sustaining life on Earth. It is serving as both a physical asset and a conceptual framework tied to ownership and use rights inseparable from the land and its resources. Effective management of this scarce resource is vital for the well-being of present and future generations (UN, 1996). Accurate land information is crucial for effective land management, emphasizing the importance of a well-maintained cadaster and the registration of legal rights, both of which support societal progress and prosperity.

Land data is dynamic, constantly adapting to shifting attitudes and evolving perspectives on land use and ownership (Williamson, 2009). The history has demonstrated that a complete cadaster created for the purpose of a more equitable taxation system was only possible if the mapping was based on sound surveying principles. According to Hampel (1978), Napoleon I soon realized that the surveying work could be utilized for purposes other than taxation. According to the author, Napoleon made two statements: first, "A good cadaster will be the best complement to achieve systematic order in the area of real estate property and The plans developed and made to define and record boundaries of land property limits and to prevent the confusion and second,

"The cadaster just a secure guarantee of land ownership." Generally as the history, cadasters began as tax records requiring accurate surveying, but leaders like Napoleon I quickly saw their broader value in establishing property rights and legal clarity. Over time, many European nations such as Germany, Austria, Denmark, Norway, Sweden, Switzerland, and Yugoslavia expanded these records beyond fiscal use to support secure land ownership through title registration. This evolution marked a shift from cadasters being purely financial tools to becoming essential legal records, emphasizing precise surveying and large-scale mapping for accurate property documentation.

In the current Ethiopian context, the practice of urban cadaster enhances the government's ability to successfully collect taxes by providing relevant information to estimate the value of property, improving land administration and management, and service delivery. Because of this, the Ethiopian government provides financial support for the development of the existing urban Cadastral practice (Solomon. et al., 2018).Urban

land holding registration proclamation No. 818/2014 States the foundation upon which the existing urban legal cadaster can be established. It has been stated that the attribute data regarding the Rights, Responsibilities, and Restrictions (RRR) shall be prepared either in manual or in digital form, and parcel maps that represent the reality of the ground should be prepared, in manual and digital form. This illustrates that the parcel-based cadaster, which incorporates both geographical and attribute data, is the current accepted cadastral technique in the country (FDRE, 2014).

According to different literature, cadasters are categorized into three types: (1) fiscal cadaster, which records data for property tax purposes, (2) legal cadaster, which registers legal ownership and precise land parcel boundaries, and (3) multi-purpose cadaster, which consolidates legal and fiscal data along with land use, infrastructure, environmental factors, and more (Williamson, 1985). Urban cadaster contains information about land ownership interests (e.g., rights, restrictions and responsibilities), parcels and improvements (FIG, 1995). A cadaster is an accurate and up-to-date official register or inventory of all land parcels in a state or jurisdiction, containing information on ownership, valuation, location, area, land use, and any buildings or improvements on the plots (Williamson, 2000).

The FDRE Urban Cadaster Standard No. 03/2015, issued by Ethiopia's Ministry of Urban and Infrastructure (MoUI), also defines these three cadaster types, specifying that the Ethiopian cadastral system focuses on the legal cadaster, which is parcel-based and primarily in 2D. The first modern cadaster practice in Ethiopia was carried out in 2007 in four major cities or selected pilot areas, including the Amhara region's Bahir Dar and Dessie, the Oromia region's Adama, and the Tigray region's Mekele. However, for a variety of reasons, the urban cadaster practice procedures in these pilot areas were unsuccessful. The key reasons were absence of urban land registration institution at federal, regional and city level with legal frameworks. The second revised urban cadaster practice in Ethiopia was initiated by regulation No. 251/2011, and it is still in progress. Although the second revised urban cadaster organization considers urban land registration institution at federal, regional and city level and preparation of legal frameworks, its procedural operation is challenged with lack of political leaders' participation, absence of effective integration between urban land uses provided institution and urban land registry institution, lack of resource allocation for registration institutions and lack of public participation. The developed registry system, which is Cadastral Real Property Registration System (CRPRS), has become functional only at city level and addresses only certain regional cities and it is not as expected. As a result, the implementation process of the current urban cadaster is very sluggish and ineffective (Yehun, et al, 2017).

For instance, there are more than 2,500 cities in the country and 6.5 million pieces of land are planned by the government to adjudicate and register in terms of the 10-years development strategic plan of MoUI. From this, since the implementation of the legal cadastre was started from 2014 up to date, the task has been initiated in 92 cities and it is planned to adjudicate 2,375,000 holdings, and then 1,799,646 holdings are adjudicated and the performance is 75.7% of the plan. In addition, 2,221,458 holdings are expected to be registered, and out of which 1,430,089 holdings are registered, which is 64.3% of the plan is achieved. As a result, in accordance to the Ministry of Urban and Infrastructure's (MoUI) 2024 first half year performance report indicates that across 92 cities the adjudicated and registered parcels not exceeded 22%. Whereas coverage of cadaster in accordance to number of cities have not above 4%. From this report, the researcher has understood that the implementation of existing Ethiopian urban cadaster is very slow and delayed.

According to Daniel (2006), the practice of urban cadaster is functional at the country level for a certain selected cities, most of which are larger cities, and the implementation varies. Most Ethiopian cities, including Addis Ababa, lack a well-functioning urban cadaster system to support good and effective land administration system. Additionally, the lack of reliable information on land holders, land and land related improvements are the most serious barrier in urban areas. As a result, it has a negative impact on revenue collection, tenure security, credit supply, socio-economic growth, and the implementation of long-term urban infrastructure projects (McCarthy, 2014). Because of this, creating an up-to-date and effective urban cadastral practice is critical for resolving these and other associated issues and ensuring potentials or opportunities.

Addis Ababa Landholding Registration and Information Agency was established by proclamation No. 22/2010, which means it was established before the enactment of the federal urban land holding registration proclamation No. 818/2014. Its mission was to adjudicate and register the whole land parcels within the jurisdiction of Addis Ababa and provide cadastral services. It has also been tasked with the design, implementation and administration of integrated land information management and modern addressing systems. The Agency has its own service center office buildings and it is equipped with Addis Ababa Cadastral Information System (AACDIS). AACADIS has three sub systems which are known as RECS, RPRS and LIS (WB, 2016).

The Addis Ababa urban land holding registration and information agency was established before the issuance of Proclamation No. 818/2014. As a result there is some contradiction in the implementation of urban cadaster in the city of Addis Ababa: for instance, the assignment of unique parcel identification code contradicts with FDRE Proc. No. 818/2014 and its enforcement regulations, directive, standards and working manuals.

Therefore, it requires an alignment between Addis Ababa legal frameworks and developed registration systems (AA-CADIS) with federal legal frame works and cadaster Real Property Registration Information System (CRPRS).

Previous studies carried out on the practices of urban cadaster in Ethiopia were reviewed. For instance, the study reviewed the work of World Bank. (2016), Alemie et al., (2015), Asmamaw Y., et al, (2017), and Solomon D., (2019). All these studies focuses on the evaluation of the current practice of Ethiopian urban cadaster in accordance with organization of registry institution, the designation of legal frameworks, an evaluation framework for urban cadastral system policy, the processes of adjudication and registration, surveying and preparation of mapping, and an evaluation of performance of the practice. Therefore, this study aims to assess the cadastral system implementation and service delivery status by taking Yeka Sub-City as a case study area extensively.

## 1.2. Problem Statement

Land management can never be effective without adequate land information system. Documenting land information in support of land management varies depending on each country's circumstance and context (UN, 1996). In addition to this, due to cultural, legal, social, and institutional differences, cadastral systems are interpreted differently in different countries, which results in different levels of comprehension and functioning Chekole, S. D. (2020).

The implementation of a cadastral system in urban areas serves a valuable purpose, benefiting all segments of the public as well as the government, which is responsible for allocating valuable economic and social resources and providing users with land-related information. Theoretically, different researchers have argued that cadaster systems are the foundation and an integral component of parcel-based land information systems that contain a record of interests in land. These systems are core components of the land administration and land management in a state or jurisdiction, although they are different in type. The majority of research articles discuss the significance and challenges of cadaster systems and their various types, such as implementation systems, spatial models, and parcel-based implementation standards. However, research on the assessing of the cadaster implementation system in terms of availability and operability status in Ethiopia.

When we come to Ethiopia's urban cadastral system, it is carried out with the goal of providing a safe and reliable real property registration system in order to foster land management which, in turn, achieves sustainable development goals (Enemark, 2014). Parcel based information's are important for property market & valuation, ease of doing business, environmental management, controlling informality and appropriate implementation of land use planning (Chiemelu, 2014). It is obvious that economic and environmental issues are among the core pillars in planning.

As discussed in different literature legal cadaster has a number of potentials or advantages. First, the legal cadaster would address many pressing issues over lack of clarity in rights, tenure security, support for land market, etc. Second, the legal cadaster would provide the fundamental spatial frame work for other information systems such as the fiscal cadaster and to support other functions such as land management, land use planning and development, public land management and environmental management etc (Burns, 2016). However, these advantages, particularly the use of the legal cadaster as a framework for other functions, would

only be realized if the legal cadaster is implemented well and provides complete or nearly complete cover of the urban centers.

The Ethiopia's urban cadastral system has not been successful so far. In view of this, Alemie et al., (2015) argued that Ethiopia has experienced a poor urban land registration system due to the past land registration laws and strategic directions were not comprehensive. In addition, the operational cadastral information system has a relation with service delivery for the societies and faced a lots of challenges like poor delivery time to give a service for a customer depending on the types of services such as transaction/ title transfer, bank mortgage, court cases, landholding file verification, splitting, merging, etc.), lack of accessing the cadaster system and essentially brings into light the need for a proper and up-to-date land information system for managing land. So far, Yeka sub city has under gone modern archive management based on database and base map for only a certain woredas out of the total woredas. However, the service delivery processes and its status were still noted assessed. Hence aims in assessing the cadastral system implementation and service delivery or provision in the sub-city of Yeka. This research tries to investigate cadastral system implementation challenges and over all potentials in relation to service delivery.

## 1.3. Objective of the Study

### 1.3.1. General objective

The general objective of this study is to assess the level of cadastral system implementation and service delivery in Yeka Sub-City.

### 1.3.2. Specific objectives

- To evaluate status and performance of cadastral system implementation in the study area.
- To identify the major challenges and potentials of cadastral system implementation.
- To identify the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city.
- To assess the performance and quality of service delivery.

## 1.4. Research Questions

The research would answer the following questions: -

- What is the status and performance of cadastral system implementation in the sub-city?
- What are the major challenges and potentials of cadastral system implementation in the sub-city?
- What are the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city?
- What are the performance and quality of service delivery?

## 1.5. Significance of the research

This research will have both theoretical and practical importance in the academic and problem-solving areas of the implementation of the cadaster system and service provision Challenges. Academicians can use it as a springboard to further investigate the importance of implementing parcel-based information systems for economic transactions, service provision, and good governance. Land and land related institutions or municipalities can also refer to the conclusions and recommendations of the research to improve their working schemes and systems, especially in relation to problem solving in cadaster system implementation and service delivery facilitation. Land holders, city administration, policy makers, urban land managers, the land and associated property registration department, valuers, and other researchers can all benefit from the output of this study. It helps the locals more in their quest to resolve the major conflicts involving the use of their land resources to better their socio-economic circumstances. The city administration would use the study's findings to guide the necessary actions toward the region's long-term economic provision or development. By allowing them to draw lessons from experiences around the world, urban cadastral practice was a helpful tool for policymakers to enhance policy development and execution to create a better system for recording land ownership so that sustainable and sufficient data can be used to implement land reforms and enhance systems for managing and administering land for urban land managers. And also this study serves as an input for the Addis Ababa city administration, particularly for yeka sub city, in the effort of improving land administration services. The research provides specific information about the performance of the land administration office in yeka sub city of Addis Ababa city. The findings of the research help the office as an input to improve the service provision to the customers. The intended users of this paper i.e. land administration office of the sub city could use the research output to draw lessons for future improvements in service delivery. Other

practitioners or academicians could also use the research findings for making corrective measure or for triangulation analyses if interested in further research in the subject.

### 1.6. Scope of the Research

The study was conducted in Yeka sub city which is one of the 11 sub-cities located in the North eastern part of Addis Ababa City Administration. Thematically, the study focused on assessing cadastral system implementation and service provision facilitation in Yeka sub city of Addis Ababa City Administration. The study covers major issues of cadastral data collection and management, key problems in relation to service provision, public awareness strategy in place and stakeholder involvement.

### 1.7. Organization of the Study

These research have five main chapters. The first chapter deals with the introduction part of the study, including the background, statement of the problem, objective, research question, organization of the study, scope of the study, significance of the study and limitation of the study. The study includes both theoretical and empirical components in Chapter two. The third chapter presents methodology, approach, sampling, instrumentation, data collection, and data analysis techniques. The fourth chapter presents results and discussion of the study. The final chapter deals the conclusions and recommendations of the study.

### 1.8. Limitation of the Study

Lack of professionals in the particular area to get further interview, lack of data and time constraint in preparing the study are the main limitation of the study.

### 1.9. Definition of Terms

**Cadaster** is normally a parcel-based, up-to-date land information system containing a record of interests in land (i.e., rights, restrictions, and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, the ownership or control of those interests, and often the value of the parcel and its enhancements (I. P. Williamson, 1985)

**Land parcel data**, sometimes used interchangeably with the terms "property and "cadaster," is a geographically referenced or location-based information set of both attribute and spatial data about the use, ownership, and value of real property (NRC, 2007).

**Parcel** is an area of land with defined boundaries, under unique ownership for specific real property rights (Bennet, 2009).

**Property transaction** means the acquisition or disposition of an interest in a real property, such as through an easement of purchase and sale, an option agreement, a lease, a license, etc. (Howell, 2021).

**Service facilitation** means any activity that ensures the consumer receives assessment services, service planning, service delivery, and supportive activities in an appropriate and timely manner.

**RPRS**:-Real Property Registration System which registers rights such as lease, rent, proportion, Condominium, restrictions such as court injunction, bank collateral and responsibilities such as servitude and land use of a parcel all are non-spatial data.

**RECS**: - Real Estate Cadaster System which register the spatial data of parcel /x-y coordinate, Shape, dimension, area…/

**AACADIS**:-Addis Ababa cadaster information system (real property registration and real estate Cadaster system).

# Chapter Two

## 2. Literature review

### 2.1. Concepts and Types of Cadaster

Cadaster is normally a parcel-based, up-to-date land information system containing a record of interests in land (i.e., rights, restrictions, and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, the ownership or control of those interests, and often the value of the parcel and its enhancements (I. P. Williamson, 1985). It is also important to see two key and closely related concepts, i.e., territoriality and land parcel data. Territoriality is the primary expression of social power. Its changing function helps us understand the historical relationship between society and space. Perhaps, throughout history, one of the strongest drivers for territoriality and associated expansionist claims has been the desire for commercial growth (Grant & Dawson, 1997).

As stated by the National Research Council (2007), land parcel data (also known as cadastral data) provides geographically referenced information about the rights, interests, and ownership of land and is an important part of the financial, legal, and real estate systems of society. So, cadastral systems are the foundation and an integral component of parcel-based land information systems (LIS) that contain a record of interests in land. These systems are core components of the land administration and land management in a state or jurisdiction (I. P. Williamson, 2001). The National Research Council (2007) has also defined it as follows: "Land parcel databases, which are also known as cadasters, describe the rights, interests, and value of property." These databases represent the distribution of the real property assets of a community and their ownership, form the basis for all land use and zoning decisions, and represent the location of residences, businesses, and public lands. In other words, almost every aspect of government and business can be associated with a land parcel.

The concept of a cadaster originated in Mesopotamia, which was in Egypt four thousand years ago, from information about the land used for tax purposes, the road, its use, and distribution. During the Great Roman Empire, the Romans recorded the use of added pennies and related symbols. This practice extended to the middle ages, and the famous Doomsday Book was completed in 1086 during the reign of William (Fleming, 1991). Authorities, land farms, land use, number and number of tenants, and animal species are all displayed. The book is only written and has no connection to any map. Various attempts have been made to support records written on maps in the 17th and 18th centuries. At the beginning of the 19th century, Napoleon I introduced the Cadaster I. Several authorities, including McLaughlin (1975), Niall (1975), Larson (1991), and

Williamson (1984, 1983, and 1996), have addressed the importance of legal data and large-scale mapping and cadastral studies on ownership of modern cadaster development. “A cadaster is normally a parcel based, and up-to-date land information system containing a record of interests in land (for example rights, restrictions and responsibilities). It usually includes a geometric description of parcels linked to other records describing the nature of the interests, the ownership or control of these interests, and often the value of the parcel and its improvements”.

## 2.2. Types of Cadasters

Cadastral documents, such as technical data (positioning, taxation, and planning), legal data (ownership data and encumbrances such as mortgages), and other additional data such as street or postal addresses, are used to create different types of cadasters (Navratil & Frank, 2004). Based on such issues, there are three types of cadastral services (sometimes stages). These are legal, fiscal, and multipurpose. The legal cadaster is mainly focused on ownership data. The fiscal cadaster is mainly focused on taxes and revenues. The type of cadastral system that incorporates both the fiscal and legal aspects is known as a "multipurpose cadaster," which is very expensive and time-consuming to establish.

## 2.3. History

The earliest records of land ownership date back to the Royal Registry of Ancient Egypt, which was established around 3000 BC, while the taxation system in China in 700 AD was based on crop yields and land survey records [Larsson, 1996]. The Romans carried out a survey in 300 AD to create a register of what lands the Romans controlled, as well as using it as a basis for fiscal records [Larsson, 1996]. Many European countries, including France and the Netherlands, went through a lot with the establishment of a manual cadastral system in the 16th and 17th centuries. In the case of Ethiopia, the first ownership registration proclamation was made by the year 1900 (Asmamaw, 2009). The first cadastral institution was established in Addis Ababa by the year 2000 for the sake of taxation or revenue collection in the city.

## 2.4. Challenges of Cadastral systems

According to the National Research Council (2007), the major challenges of cadastral system establishment are technical and data challenges (photogrammetry, ground survey, or global positioning system (GPS)), financial challenges, legal challenges, organizational challenges, political challenges, and the unique challenges of creating parcel data for Indian counties (in Ethiopia's case, the traditional land holdings of Afar and Somali or cattle farmers). (Winfried Hawerk, 2016) also stated that some technical options for establishing and maintaining a cadastral system have been described. No single solution can perfectly suit every political or social context. Investing in a cadastral system is only justified when it forms part of a broader framework for securing land ownership one that is socially accepted and supported by government institutions. The system should function as a foundational land information platform. Since land registration and cadaster fall under public sector responsibilities, they should be primarily financed by the government. However, some expenses can be offset through revenue generated from selling data, user-driven updates, and fees for services provided by institutions.

## 2.5. The Importance of Cadaster

Urban land is the most valuable economic and social resource any nation. Although cadastering is a relatively new concept, it has the potential to provide many benefits across all sections of the community, which are promoted both to leaders of government who are responsible for the allocation of resources and to the users of land property-related information.

The modern cadastral system is important to manage the development of urban areas; it also uses it for physical planning, the levy of land-related taxes and charges, legalizing tenure, etc., (Durand-lasserve, 2006). And as Docbe indicated in the Worled Bank study (1985), without adequate information on land development processes, they will be complicated and delayed, and transactions in land and property can be costly and time-consuming.

The establishment of an up-to-date cadastral system is concerned with the political, social, and economic development of society. The wealth of this society is the land, which is the basis for almost all needs. Hence, introducing an improved cadastral system benefits the following: the introduction of a cheap, secure, and effective system of recording and transferring interest in and on lands; the reduction of boundary disputes and expense related to litigation; the ability to establish an efficient and equitable land taxation system; the ability to prepare an up-to-date land registration; and the control of land transactions and ownership. Through

improved security of tenure, improved stewardship of land improves public acquisition of land by assisting in the identification of the persons with whom the government must deal (Chekole et al., 2020).

## 2.6. Basic Component of Cadaster

- **Land registration**

Every land administration system should include some sort of land registration, which most of the time is a process for recording rights on land. Thus, land registration provides a safe and certain foundation for the acquisition, enjoyment, and disposal of rights in land (ECE, 1996). When discussing legal rights to land, (Dale & McLaughlin, 1988) elaborated on this and identified three methods of recording or registering. These are private conveyances, in which the records and transfers of land are handled by private arrangements. Registration of deeds, copies of which are maintained by officials or by the state,and registration of title to land, where a state organization maintains the records of land ownership.

- **Property tax**

Land tax encourages municipalities to develop and improve cadasters similarly, Kenneth Davy (1996) asserts that property tax is a very common domestic tax and requires efficient management, which is essentially a well-established land and land-related information system, or cadaster. Therefore, property taxes serve as a major source of revenue, especially in urban areas. In cities such as Bogota, Bombay, and Nairobi, property tax assessments are freely administered locally, whereas in cities such as Lusaka, Manila, and Seoul, all of the above cities are taxed by the government (Belhaj, 2022).

- **Cadastral survey map**

Cadaster Survey is a research project that aims to provide information on cadaster mapping. It is a term of cadastral survey that is closely related to the cadastral world, which is simply defined as the demarcation of parts of the earth. On the other hand, a map refers to any map on a scale large enough to show every field or plot of land and buildings. A cadastral map is a large-scale map that is sufficiently accurate for exact boundaries and (required) ownership of real property. According to F. Dale and McLaughlin (1988), three sets of complementary techniques of cadastral surveying are common field or ground surveying, photogrammetry, and remote sensing, all of which are concerned with the discovery, recording, and presentation of spatially referenced data.

- **Land related taxes and tutties**

One of the prerequisites for efficient city service is a reliable source of income. Unfortunately, in most developing countries, healthy and stable finances are different from those of the local government. The share of local government in national revenues is often very small and dependent on political preference. Some national governments are trying to further reduce transfers to local authorities and urging them to mobilize local resources following the adoption of a strategy of decentralization based on the idea that land-related taxes and charges would provide a stable income for local government. Unfortunately, most municipalities in developing countries are too weak to levy charges efficiently. Obsolete or incomplete registers and cadasters, clients, and a shortage of qualified staff all render the collection of local revenue extremely difficult (GTZ, 1996).

## 2.7. Empirical Literature

### 2.7.1. Best practices from developing and developed countries

While numerous frameworks and methodologies exist globally to evaluate and analyze cadastral systems, they often fall short in effectively addressing the unique challenges and local contexts of progressive cadastral systems in developing nations (Buveibatar et al., 2022). In these regions, urban cadastral systems play a crucial role in securing land tenure, offering residents the assurance and stability needed to live with confidence and safety on their own land (Silva and Stubkjaerb, 2002). According to,(Becarello & Di Foggia, 2022) to achieve sustainable development goals (SDGs) of 2030, countries require access to an Effective, efficient and modern land administration system (LAS) based on a cadastral system that maps land parcels with precise spatial accuracy and includes associated legal rights, limitations, and obligations.

**Singapore's cadaster System**

The Singapore Land Registry oversees the proper legal registration of land ownership and manages a reliable public system for searching property titles. Since 1993, there has been a gradual effort to transition from a deeds-based system to a titles-based system in accordance with the Land Titles Act (Cap. 157). Currently, two land registration systems operate concurrently. Land registered under the Registration of Deeds Act (Cap. 269) is commonly referred to as common law or deeds land, while land administered under the Land Titles Act is known as titles land. Common law land is about 1.7% (or 3,686 lots) of the total number of land lots. The registry plays an important role to provide an efficient, transparent, accurate and responsive system of

land registration in land scarce country. In terms of Land Titles Act, the processes of examination and registration, its control and monitoring of standards, and its methods of record preservation, serve to provide security of title in the eyes of law, institutions and general public before 1972, the Survey Department began reviewing submissions from private entities and Statutory Boards. In 1999, it attained the ISO9002 certification for its process of inspecting cadastral surveys. It handles the management of survey records, encompassing the review, authorization, and secure storage of all documents associated with survey plans and sectional plans intended for registration. After approval, the survey records deposited in the Department become the property of the Government. Land boundary surveys must be carried out by the Chief Surveyor or licensed surveyors in compliance with the requirements set forth in the Land Surveyors the Act (Cap. 156) of 1991 and the 2001 Directive on Survey Practices emphasize the importance of evolving the cadastral survey system.

To promote sustainable development, this system must incorporate mechanisms for continuous improvement that respond effectively to shifting social and economic demands. Singapore is a good example that her boundary system matches the progress of society, by introducing a new survey reference system and making legislative changes to accommodate a complete and secure cadaster. The Global Positioning System (GPS) technology can establish the geodetic control framework quickly at a minimal cost compared with the traditional techniques. Goh [2000] concludes this network provides the advantages of implementing all survey records to legal coordinated cadaster, as to describe the land titles by coordinates in accordance with the Boundaries and Survey Maps Act (Cap. 25) (Nga-fong et al., 2002), the Land Surveyor Act and its rules.

The latest revision of the Boundaries and Survey Maps Act establishes the legal basis for implementing a unified cadaster system. It is certainly a brilliant display of constant government policy and system improvement. The conversion of the current coordinates to the new system caters for the future process of electronic retrieval and submission of survey plans.

**South Africa's cadaster system**

The history of South Africa is long and complex, but well documented. As the establishment of South Africa's first democratic government experiences the land reform program me in 1994, the new government had to take reasonable legislative measures for the citizens to contend the extremely unequal land distribution, and to gain access to land on an equitable basis. The legal certainty associated with each land parcel has long provided the basis for the private sectors' investments in housing, and for the government under the recent land reform program me. Indeed the great advantage of cadastral survey system is that it accurately identifies the position and the extent of rights of every land parcel (James, 2006).

All registration of the definition of land rights is essential for a deed to be legally recognized, which falls under the umbrella of the Deeds Registries Act No. 37 of 1937. The Act in effect makes the transfer of any right in land compulsory and was modeled after Roman-Dutch law, introduced in colonial times when any transfer of land was required to take place before a judge, and reliable and accessible registers were kept to record all transactions. Also, registration is impermissible without a diagram approved by the Surveyor General, so as to ensure the record is generally accurate and few challenges to the deed's correctness [Radloff, 1996]. The entire system is marked by a high degree of reliability and security. Besides, South Africa has been implementing a coordinated cadaster over fifty years. The Surveyor General Office of Department of Land Affairs is a national government to carry out the survey and convincing services. The storage, collection, and distribution of cadastral data can be unified into a comprehensive information infrastructure that supports continuous operations. This data functions as a foundational map for land administration systems used by other authorities. The Land Survey Act No. 8 of 1997 as well as the new Survey Regulations namely Manual of Procedures in respect of survey submitted under Land Survey Act, did much to streamline the survey-related Land surveyors working in both private practice and government roles are responsible for conducting and documenting cadastral surveys in accordance with established regulations. These duties are governed by legislation that dictates the standards and procedures for preparing and maintaining survey records. The foundation of this legal framework traces back to the original Land Survey Act 9 of 1927, which was designed to reduce ambiguity and disputes related to land boundaries. In terms of the Act, boundary surveys have to be carried out under the supervision of a professional land surveyor. It also governs the professional roles among various institutes of land surveyors. (Bethlehem et al., 2022).

### 2.7.2. Land administration and registration practices in different countries

The practices and functional components of land administration have been differing among countries. As Subedi (2016) cited Bogaerts (1999) the main practices of land administration in different countries are briefly discussed below from the political, legal, organizational, financial and technological aspects (Subedi, 2016) .

I. **Political Perspective:**

Distribution of land and land-related benefits is determined by the land policy of a country. It may be influenced from the political ideology adopted by that country. For instance, Western democratic countries have provided private property rights whereas countries like China and North Korea still adopt a state ownership system. The private ownership of land was abolished and all private land was nationalized in the former Soviet Union and Eastern European countries during the communist regimes. After the fall of the Soviet Union and the end of communism, all of these countries de-collectivized the land tenure pattern and restored private property rights. Colonialism also influenced the system of land administration. In countries with a colonial background there is often a dual land administration system; imported systems based on western models operate in urban areas and areas formerly occupied by colonial landholders, and customary systems operate elsewhere (Burns et al., 2006).

II. **Legal Perspective**

The system of land administration also depends on the nature of the legal regime adopted by a country. In some Western societies land is considered as having bundles of rights, each stick of which represents one form of right, such as the right to sell, build, sub-let, take minerals, draw water, cut down trees and keep animals (Dale and Mahoney et al., 2009). These rights can be used jointly or separately. The type of rights offered to landowners depends mainly on the type of tenure system adopted by the country. It is either statutory or customary tenure system (Subedi, G. P. 2016). A land registry registers the legal rights and rightful applicants to land but the consequences of registration and the level of security depends on the nature of

registration. For instance, in some countries, the transfer of a property becomes legally effective after it has been registered (e.g. Germany, the Netherlands) whereas in other countries the legal registration is only needed to get priority against others (e.g. France). Similarly, some countries (e.g. Nepal, the Netherlands, and South Africa) are adopting a deed registration system in which the registered deeds take priority over unregistered or subsequently registered deed but it does not prove the title. Whereas other countries (for example, the UK and many of the Commonwealth and central European countries) have title registration systems in which the rights are registered in a land register and are normally warranted by the state (Subedi, G. P. 2016).

III. **Organizational Aspects**

Land administration functions are usually administered by the central and local governments. In many countries, the cadastral and land registration functions are operated by different government agencies; they may be structured under different departments of the same ministry (for example, in Nepal) or even in separate ministries. In some countries, such as the Netherlands and Sweden, both the land registry and the cadaster are unified under a single organization. In much of Europe and Latin America, registry offices and cadastral offices are separated, with the former usually linked to local courts or administrative districts (Burns et al., 2006).

IV. **Technological Aspects**

The tasks of land registration, cadastral surveying and mapping, and land information dissemination are decentralized to the local level. Land transactions in Sweden are recorded in the district court. Cadastral information may also be provided through municipalities, as in the Netherlands, which gives a closer connection to the end-users. Local property shops also provide some property information. Many countries now provide online information, and online registration of land transactions has also been introduced in some countries (e.g., Denmark and the Netherlands).

### 2.7.3. Preparation and implementation land tenure registration in Rwanda

To undertake the LTR program in Rwanda, pilots were carried out in 2007 in four areas using ortho-images and Quickbird satellite images (Rugema, 2011, Nkurunziza, 2015). Following the completion of the LTR trial phase, a strategic road map (SRM) was prepared. This included the analysis of process and results and calculations of the requirements, including, but not limited to, work rates and costs (Sagashya & English,

2009; Nkurunziza, 2015). The analysis from the trial phase showed that countrywide implementation could run at the highest speed in more than 10 years for the estimated 7.9 million parcels using ortho images (Republic of Rwanda, 2007). However, at a later stage, the implementation plan was changed to 5 years (Government of Rwanda, 2008), and on the ground, more than 10 million parcels were mapped and registered (Sagashya, 2013a; Sagashya, 2013b).

Using mainly aerial photos and satellite images in the remaining areas, the countrywide implementation started in June 2009, and a support team joined in July 2010 (Sagashya, 2013a; Sagashya, 2013b). The demarcation and adjudication of parcel boundaries was completed in June 2012, with 10.3 million parcels (Rwanda Natural Resources Authority, 2012a). The LTR pilots and national roll-out were primarily supported by the UK Department for International Development (DFID)-funded project, the National Land Tenure Reform Program (NLTRP) (Sagashya & English, 2009; Nkurunziza, 2015); however, other donors, as well as some contributions from land owners, also contributed during country-wide implementation (Sagashya, 2013a, 2013b).

To respond to the urgency of land tenure challenges, the government insisted on the necessity of accelerating the nationwide LTR program by registering 50% of plots by the end of the first year. This required reviewing the initial draft of the SRM, which was proposed to start with hotspots and gradually extend the program nationwide over a period of 15 to 20 years (Nkurunziza, 2015). The SRM was adjusted for a one-off investment with optimum conditions to speed up and complete the LTR in the shortest time possible to avoid inequalities for citizens in accessing the new system (Sagashya & English, 2009). Having the LTR completed in a short time, the number of parcels registered was far greater than what was expected to be met in a longer period using the same methods and techniques. This raises the question of how efficiently the process was carried out during national implementation (I. Williamson, 2000) (Ahsan et al., 2017).

### 2.7.4. Cadaster in Ethiopia

**During the regime of Menelik II**

Looking back at history, it was in 1907 that Minillik II promulgated the country's first urban land-related registration (cadastral manual, 2008). The legislation consisted of three articles, which included, among other things, procedures for the sale and registration of land holdings. It was possible to say that the former

proclamation was a pioneer in the operation of cadaster in Ethiopia for corporate urban land registration and ownership (Ermias T, 2005).

**During the Regime of Hailesellasie**

The Haile Sellassie regime tried to make some land reforms and introduced a constitution and modern civil code, among other things, to address the land issue, although without success. Land registration and ownership, as well as tax payment procedures, were included in the proclamation, as they could from the early people of that time, and land information was kept by a select group of loyal people who were clandestine, responsible, and accountable. (Daniel W., 2013)

**During the Regime of Derg**

The proclamation number 47/1975 enacted on urban land and extra houses imposed restrictions on the right to sell, rent, or transfer land. Thus, there was a cadastral change from the previous one, and the majority of the houses do not pay tax. The government had no mechanism to follow up on and control the payment performance of the residents. Cadastral rights ration was performed when the state provided tenure security assurance or when the person came to perform a personal case like a transfer, gift, or bank collateral, etc. As a result, there was no complete information on land and houses (Ermias T, 2005).

### 2.7.5. Urban cadastral system policy of Ethiopia

Ethiopia's urban cadaster system policy is enshrined in its urban land development and management policy. This policy aims to create an efficient cadaster system in which urban land can be used as a force for political, social, economic, and environmental change. To achieve this vision, the federal government has formulated policies related to urban cadaster systems to modernize the land administration system. Proclamation No. 818/2014, which describes urban land holding adjudication and registration, is ratified in order to implement the country's urban cadastral system. In line with this proclamation, regulations, directives, and manuals have been prepared. The overall objective of the scheme is to accelerate the social-economic and environmental development of urban centers by ensuring landholders' security of holding and recognition of title to immovable property by certifying their rights, restrictions, and responsibilities through adjudication and

registration. In line with this proclamation, Regulation Nos. 323/2014 and 324/2014 are issued to enact the proclamation.

## 2.8. Lessons Learnt From Review

According to researchers, a cadaster system improves the overall economic and social benefits of valuable urban land. The cadaster system organized with parcel-based information can improve the complicated and delayed delivery of services on property and land by reducing the cost and time. Implementation of the system encountered a lot of challenges, and empirically, different countries experience different challenges, but the problem is identifying the degree and extent of those challenges. In addition, evaluation of the cadaster system's implementation has its own role in improving the efficiency and effectiveness of the system.

Through empirical observation, the legal cadastral system's implementation in Ethiopia takes more than 10 years following Proclamation No. 818/2014. The consistency and timely implementation of the system are not sufficient and must become available in in-service delivery operations. An assessing of the overall implementation of the cadastral system data organization was required to justify how much the status and availability of accurate and secured parcel-based information are needed to deliver service to the community.

# Chapter Three

## 3. The Research Methodology

### 3.1. Description of the study Area

This study was conducted in Addis Ababa city administration Yeka sub city. Yeka sub city is one of the sub- cities located in the North eastern part of Addis Ababa. It is one of the eleven sub cities of Addis Ababa and it has 14 woredas and nearly covers an area of 85.98 km².

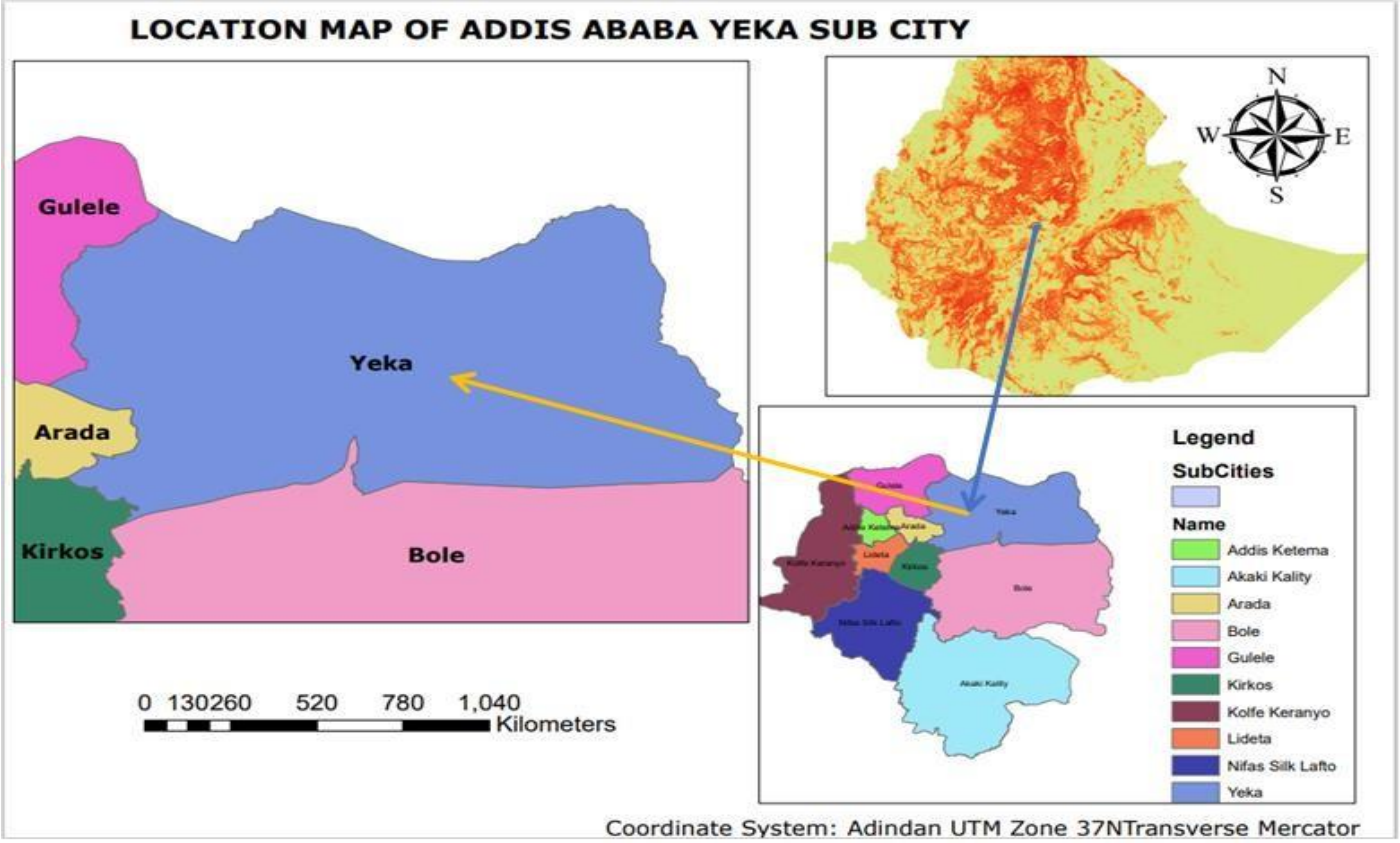



**Figure 1: Location map of study area**

## 3.2. Research Approach and Design

### 3.2.1. Research Approach

The assessment of cadaster implementation and service delivery status requires both quantitative and qualitative data. Therefore, this research used mixed research approach, a mixed research approach is a kind of analytical research that uses both qualitative and quantitative data. Qualitative data about the land use of the city, the challenges of parcel data organization, and customer service and other related data were utilized. Quantitative data like the number of available land parcels, property transaction rates, number of organized landholding files in relation to parcels, and number of adjudicated and registered parcels or reports were also used to effectively answer the research questions. Mixed research approach serve the purposes of triangulation, complimentary, offsetting weaknesses, and providing stronger inferences; employing such an approach can also allow for the limitations of each approach to be neutralized while strengths are built upon, thereby providing stronger and more accurate inferences (Bryman, 2012; and Creswell, 2014).

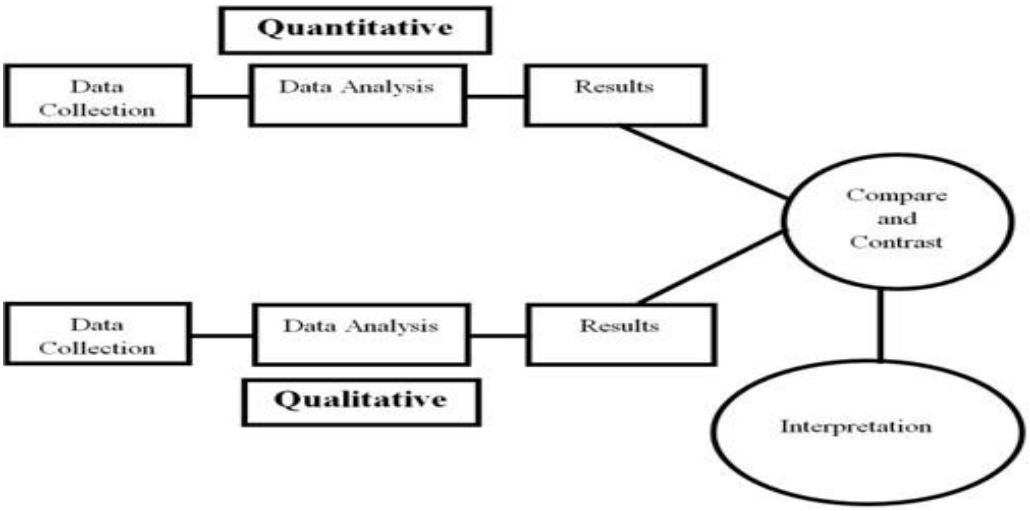



**Figure 2: Mixed research approach**

### 3.2.2. Research design

Research design is the plan and structure of an investigation so conceived as to obtain answers to research questions. It is the overall scheme or program of the research (Robson, 2002). A survey research design was used in this study. The major purpose of survey research design is to describe and provide information on the characteristics of a population or phenomenon (Mugenda, 2003). As show the following design or operational framework.

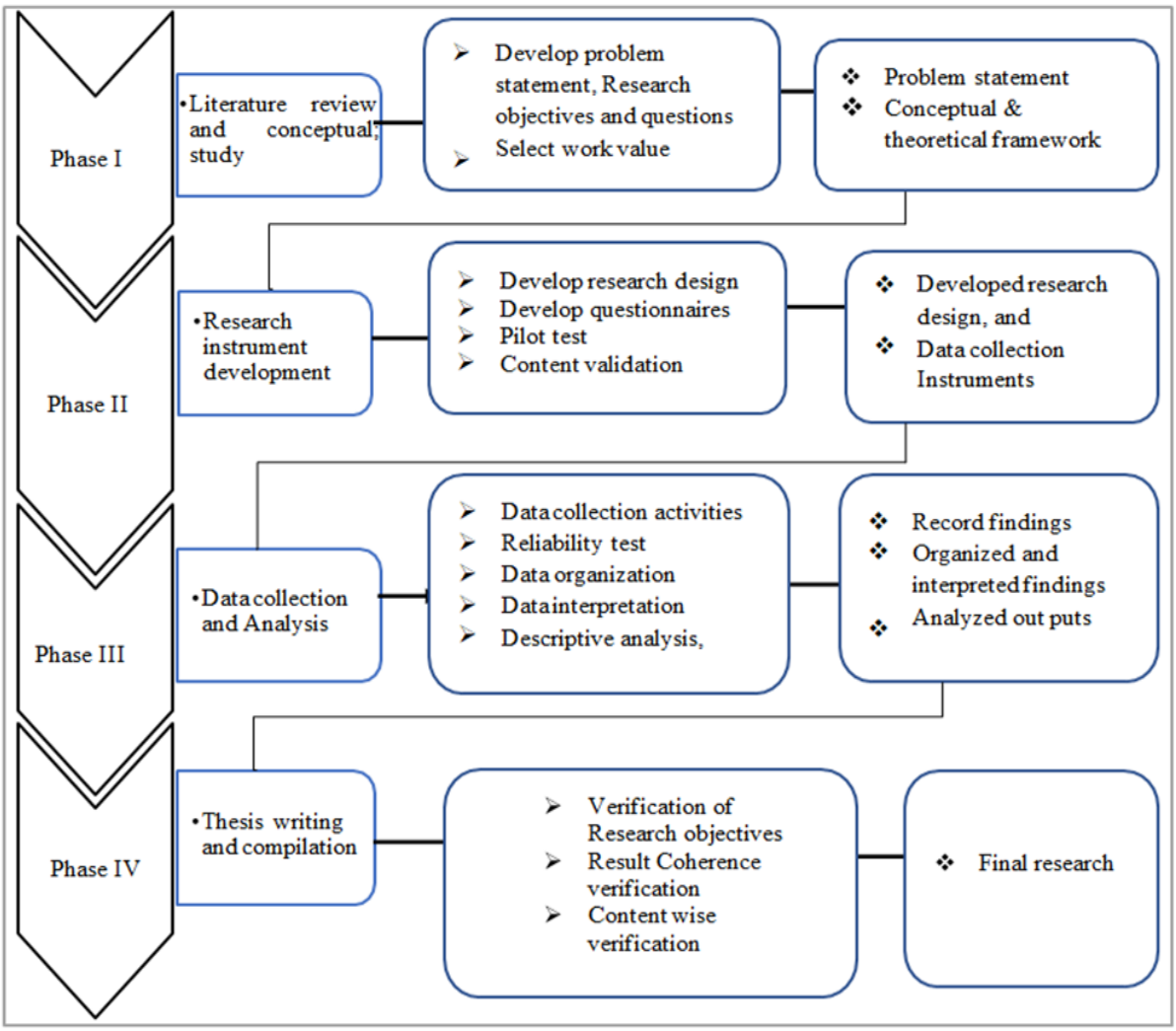



Figure 3: Research of operational framework

### 3.3. Type and Sources of Data

To undertake this research, both qualitative and quantitative data types were deployed. Spatial data also employed to assess the status of cadastral system implementation. The data were collected from two sources such as primary and secondary sources, Primary data were utilized for assessing of cadaster system implementation and service delivery condition of land and land-related sectors, Primary data were collected using questionnaire, key informant interview, and field observations. The secondary data including the number of sample available land parcels, property transaction rates, the number of organized landholding files in relation to parcels, and the number of adjudicated and registered parcels were collected from the 2024 from Yeka sub city administration urban land holding registration reports.

### 3.4. Sampling Design

#### 3.4.1. Population and Sampling Frame

Choose yeka Sub-City from the Land Registration Offices under the Addis Ababa City Administration because data about the study can be obtained, it is working extensively and intensively while also facing challenges with its cadastral implementation and service delivery. In order to gather the required information for this study, participants were chosen from the Addis Ababa City Administration, specifically from the Land Registration Professionals and Leaders of Yeka Sub-City, along with experts and leaders from the Addis Ababa City Land Registration Agency, as well as individual clients or customers who have received cadastral services from the Cadastral System Implementation Institute.

#### 3.4.2. Sampling Unit

The sampling unites of this research were individual members of customer who received landholding related services from cadaster system implementation institution. These customers had adjudicated and registered their landholdings in the sample area. Additional sampling units included individual experts and office leaders

in the sector. Furthermore, parcel-based spatial datasets were also considered as sampling units for the analysis of spatial data management.

**Table 1: Target group of the study**

| **Name of sectors** | **Number of experts** | **Number of leader** | Land holding and customers **(Household units.)** | **Sum** |
|---|---|---|---|---|
| Addis Ababa city administration particularly Yeka sub city urban land holding registration experts and leaders | 128 | 5 | | 131 |
| Addis Ababa city administration urban land holding registration agency central level experts and leaders | 34 | 5 | | 40 |
| from all total parcel register land holding dwellers,( household units) | | | 48,816 | 48,816 |
| Total | 163 | 10 | 48,816 | |

**Sources:** Addis Ababa land registration agency central level, yeka sub city land registration office human resource data and total parcel scanning and registered land holding or Service deliver for customers.

### 3.4.3 Sample size Determination

This study was conducted using a sample size from the Yeka Sub-City Land Registration office and the Addis Ababa Land Registration Agency, which included 163 general experts involved in cadastral implementation and service delivery. From this group, 62 were expected to respond to the survey questionnaire, and 10 leaders were interviewed. Additionally, there are 48,816 registered land holdings in the Yeka sub-city, and a questionnaire was given to 100 landowners to respond to regarding the provision of land services.

The research used purposive sampling techniques, in which the researcher relies on his judgment when selecting members of the population to participate in the study. For the sake of precision inference and the power of the study to draw the conclusion, the size of the sample was determined using Yamane (1967) sample size formula.

$$n = \frac{N}{(1 + N(e)^2)}$$

Where, n = the sample size to be determined, N = Population size, which in this case 48,816

e = Level of precision or marginal error, which is 10% e = Error tolerance; Standard confidence level is 90% - 95%. The researcher used a confidence of 90 % for a better accuracy, which would give a margin error of 0.1. Therefore, based on this formula sample size was determined as flows.

- $n = \frac{48{,}816}{(1+48{,}816(0.1)^2)}$

$$n = 100$$

In addition, to determine the sample size for sample research participants or respondents for qualitative key informant interviews, purposive sampling methods were used as recommended by (Cresswell, J. W., and Plano Clark, V. L., 2011).

- $n = \frac{163}{(1+163(0.1)^2)}$
- $n = 62$

This sample size was proportionally allocated in each of the Yeka sub city land registration office and Addis Ababa Land Registration Agency 10 leaders were interviewed.

### 3.4.4. Sampling techniques and procedures

The sample sub city was chosen purposefully. The sample city currently contains 14 Woredas, from those woredas cadastral implementation and service delivery completely applied only 6 Woredas. Then, the total parcel-based cadastral adjudication information registered in 6 weredas of the study site was taken as the total parcel population for the spatial and non-spatial sample data, which is 48,816 holdings. In addition, from 48,816 total parcel register landholding dwellers, 100 respondents (representatives from the local public) were selected in a random' sampling technique (i.e., about 17 respondents for each 6 woredas) and addresses with questions about the cadaster system implementation, focusing mainly on the availability, operational aspects, and service delivery.

### 3.4.5. Data Collection Instruments

To achieve research objectives, data about Parcels, Landholding files, property transactions, customer services, about challenges and potentials of cadastral system implementation and service provision were collected using both open and closed questionnaire and interview using semi structured questionnaires. The data were obtained from cadastral office experts, process owners and customers.

## 3.5. Data reliability

When creating and evaluating a new survey or evaluation tool, analysts commonly employ Cronbach's alpha. Before implementing the technology completely, this statistic aids in their assessment of its quality throughout the design stage. It is common for surveys and evaluation tools to ask several questions concerning the same idea, trait, or construct. The exam can create a more nuanced evaluation of the phenomenon by providing multiple items on the same aspect. The validity and consistency of the data were tested using Cronbach's alpha reliability coefficient following the recommendation of Rovai et al. (2014).

### 3.6. Methods of Data Analysis

Both qualitative and quantitative data analysis techniques were used to analyze the data. Quantitative data collected from respondent through questionnaires were analyzed using descriptive statistics using SPSS software version 22 (Statistical Package for the Social Sciences version 22.) Qualitative data were analyzed qualitatively in a content-wise. To label data acquired through observations and key informants' interviews descriptive qualitative data analysis technique were used. The result presented using tables, images, and pie charts.

# Chapter Four

## 4. Result and Discussions

### 4.1. Introduction

This chapter presents the main findings and discussions of study. Both qualitative and quantitative data obtained from primary and secondary sources were organized and presented in tables and pie charts, followed by subsequent analysis and interpretation to come up with findings. The findings were put based on the specific objectives of the research and questions. The results include status and performance of cadastral system implementation, the major challenges and potentials of cadastral system implementation, the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city and the performance and quality of service delivery from cadastral system implementation and service delivery.

#### 4.1.1. Response Rate

One hundred (100) questionnaires were distributed to landholder, of which 100 questionnaires were correctly filled and returned. Additionally, 62 questionnaires were distributed for expertise's side based on their job discretion variety and 57 questionnaires were returned and 10 respondents were interview. The researcher has collected 97.09% response rate from the total respondents.

## 4.2. Background of Respondents

### 4.2.1. Gender of the Respondents

Concerning the gender distributions of respondents, 65.8 percent were males and 34.1 percent were females (see Table 2 below). This shows that most landholding certificate holders are males and landholders mostly represent males to operate their services. Even most of the expertise of landholding registration office is males in Yeka sub city. As the result shown, female's participation was low in employee's side in the cadastral implementation or landholding registration process.

**Table 2: Gender of the Respondents**

| Respondents | Categories | Frequency | Percent | Valid percent | Cumulative percent |
|---|---|---|---|---|---|
| Expertise | Male | 43 | 53.1 | 64.2 | 64.2 |
| | Female | 24 | 29.6 | 35.8 | 100.0 |
| | Total | 67 | 82.7 | 100.0 | |
| Landholders | Male | 67 | 67.0 | 67.0 | 67.0 |
| | Female | 33 | 33.0 | 33.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |
| Total respondent | Male | 110 | 65.8 | 65.8 | 65.8 |
| | Female | 57 | 34.1 | 34.1 | 100.0 |
| | Total | 167 | 100.0 | 100.0 | |

Source: (Field Survey, 2025)

### 4.2.2. Age of the Respondents

The age of respondents can affect their views in a particular problem; typically, age can indicate the level of maturity of an individual. In that sense, age becomes more important to examine the response. As show in table 3 below, 9.0% of the respondents are within the range of 20–30 years old, 46.7% are within the range of 31–40 years, 36.0% are within the range of 41–50, and 8.4% of the respondents are older than 50 years old. This result indicates that the majority (51.40%) of the respondents are professionals or employees within the age of 31–40 years. Likewise, also, the result indicates that the majorities (41.0%) of the respondents were certified or registered landholders within the age of 31–40 and 41-50 years.

**Table 3: Age of the Respondents**

| Respondents | Categories/year | Frequency | Percent | Valid percent | Cumulative percent |
|---|---|---|---|---|---|
| Employees | 20-30 | 9 | 12.5 | 13.4 | 13.4 |
| | 31-40 | 37 | 51.4 | 55.2 | 68.7 |
| | 41-50 | 19 | 26.4 | 28.4 | 97.0 |
| | >50 | 2 | 2.8 | 3.0 | 100.0 |
| | Total | 67 | 93.1 | 100.0 | |
| Landholders | 20-30 | 6 | 6 | 6 | 6 |
| | 31-40 | 41 | 41 | 41 | 47.0 |
| | 41-50 | 41 | 41 | 41 | 88.0 |
| | >50 | 12 | 12 | 12 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |
| Total respondent | 20-30 | 15 | 9.0 | 9.0 | 9.0 |
| | 31-40 | 78 | 46.7 | 46.7 | 46.7 |
| | 41-50 | 60 | 36.0 | 36.0 | 36.0 |
| | >50 | 14 | 8.4 | 8.4 | 8.4 |
| | Total | 167 | 100.0 | 100.0 | 100.0 |

Source: (Field Survey, 2025)

### 4.2.3. Marital Status of the Respondents

According to the findings, 114 (68.3 percent) of the respondents are married, 35(21%) of the respondents are single, and 18(11.0 percent) of the respondents are divorced (Table 4). The respondents' marital status shows degree of taking responsibility as most of landholders are married.

**Table 4: Marital status of the Respondents**

| Respondents | Categories | Frequency | Percent | Valid percent | Cumulative percent |
|---|---|---|---|---|---|
| Expertise | Single | 17 | 23.6 | 25.4 | 25.4 |
| | Married | 38 | 52.8 | 56.7 | 82.1 |
| | Divorced | 12 | 16.7 | 17.9 | 100.0 |
| | Total | 67 | 93.1 | 100.0 | |
| Landholders | Single | 18 | 18 | 18 | 18 |
| | Married | 76 | 76 | 76 | 94.0 |
| | Divorced | 6 | 6 | 6 | 100. |
| | Total | 100 | 100.0 | 100.0 | |
| Total respondents | Single | 35 | 21.0 | 21.0 | 21.0 |
| | Married | 114 | 68.3 | 68.3 | 68.3 |
| | Divorced | 18 | 11.0 | 11.0 | 100.0 |
| | Total | 167 | 100.0 | 100.0 | |

Source: (Field Survey, 2025)

### 4.2.4. Level of Education

Concerning the level of education, 46 (28%) of respondents have diploma, 10 (6%) have first degree, 7 (4.2 %) of respondents have second degree, 7 (4.2%) of the respondents have PhD. The remaining 16 (10%) of the respondents have completed grade 12 (Table 5). The result shows that landholders' level of education is enough to fill the questionnaire with some explanation. Employees' levels of education are very good to cadastral implementation and service delivery or implement landholding registration.

**Table 5: Level of Education of the Respondents**

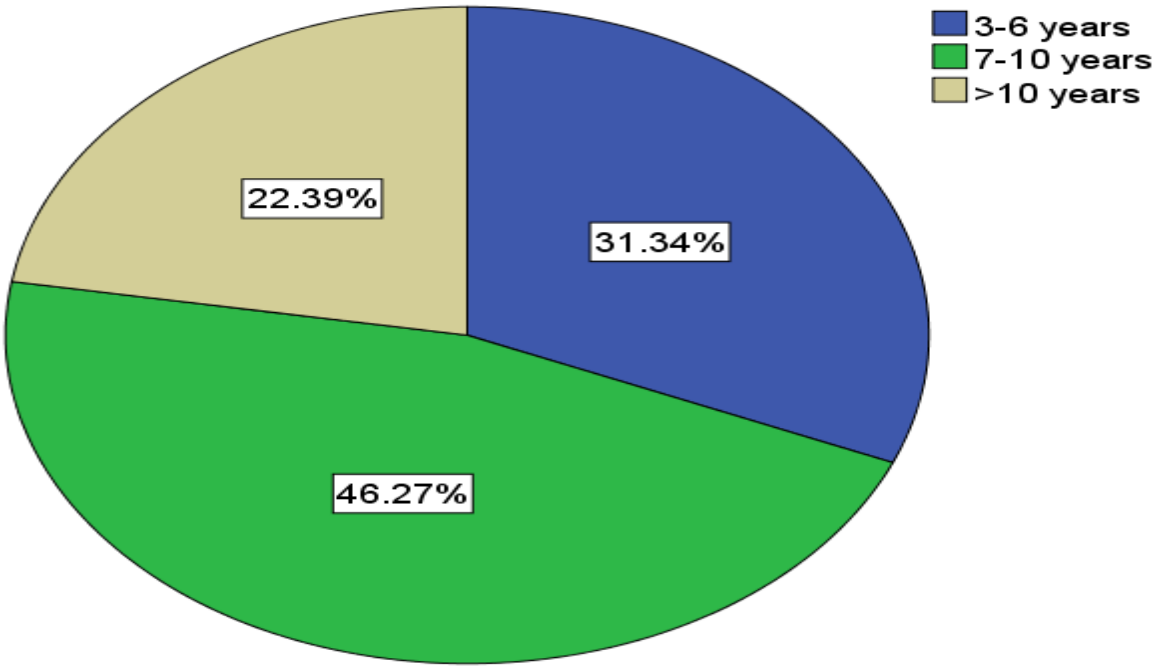
| Respondents | Categories | Frequency | Percent | Valid percent | Cumulative percent |
|---|---|---|---|---|---|
| Expertise | Diploma | 10 | 13.9 | 14.9 | 14.9 |
| | BSc | 38 | 52.8 | 56.7 | 71.6 |
| | MSc | 19 | 26.4 | 28.4 | 28.4 |
| | Doctor( PhD) | 0 | 0 | 0 | 100.0 |
| | Total | 67 | 93.1 | 100.0 | |
| Landholders | Grade 12 | 16 | 16.0 | 16.0 | 16.0 |
| | Certificate | 46 | 46.0 | 46.0 | 46.0 |
| | Diploma | 14 | 14.0 | 14.0 | 14.0 |
| | BSc | 10 | 10.0 | 10.0 | 10.0 |
| | Msc | 7 | 7.0 | 7.0 | 7.0 |
| | Doctor( Phd) | 7 | 7.0 | 7.0 | 7.0 |
| | Total | 100 | 100.0 | 100.0 | 100.0 |
| Total respondent | Grade 12 | 16 | 10.0 | 10.0 | 10.0 |
| | Certificate | 46 | 28.0 | 28.0 | 28.0 |
| | Diploma | 14 | 8.4 | 8.4 | 8.4 |
| | BSc | 10 | 6.0 | 6.0 | 6.0 |
| | MSc | 7 | 4.2 | 4.2 | 4.2 |
| | Doctor( Phd) | 7 | 4.2 | 4.2 | 100.0 |
| | Total | 167 | 100.0 | 100.0 | |

Source: (Field Survey, 2025)

### 4.2.5. Work Experiences of Expertise's

The cadastral system implementation and service delivery of land and land related administration sector needs more qualified and experienced leaders and experts. As shown in the figure 4, the majorities of the respondents 46.27% have within the range of 7-10 years of experience, while 31.34% of the respondents fall within the range of 3–6 years, and 22.39% of respondents have experiences, greater than 10 years. It was ensured that the respondents were all very experienced staff members who are involved in any aspects of land administration activities. The collective responses can thus be considered significant. This result indicates that, 78% of the experts have more than 7 years' experience.

Figure 3: Work experiences of expertise

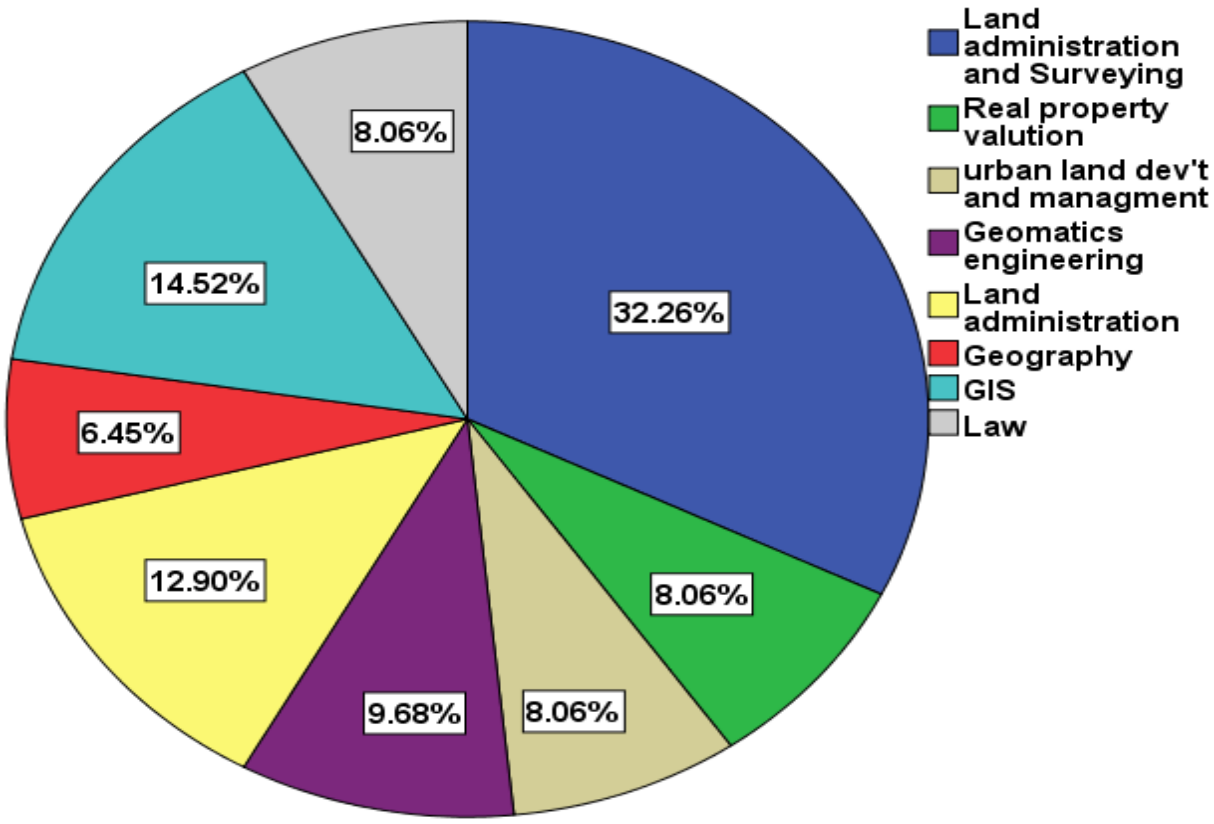



Source: (Field Survey, 2025)

### 4.2.6. Field of Specialization

In relation to the field of specialization shown in figure 5, around 32.26% of respondents are experts in land administration and surveying, 14.52% of experts in GIS, 12.9% of experts in Land administration, 9.68% of experts geomatics engineering and 30.63% the respondents are experts in urban land development and management, real property valuation, geography and laws.

**Figure 4: Field of specialization**

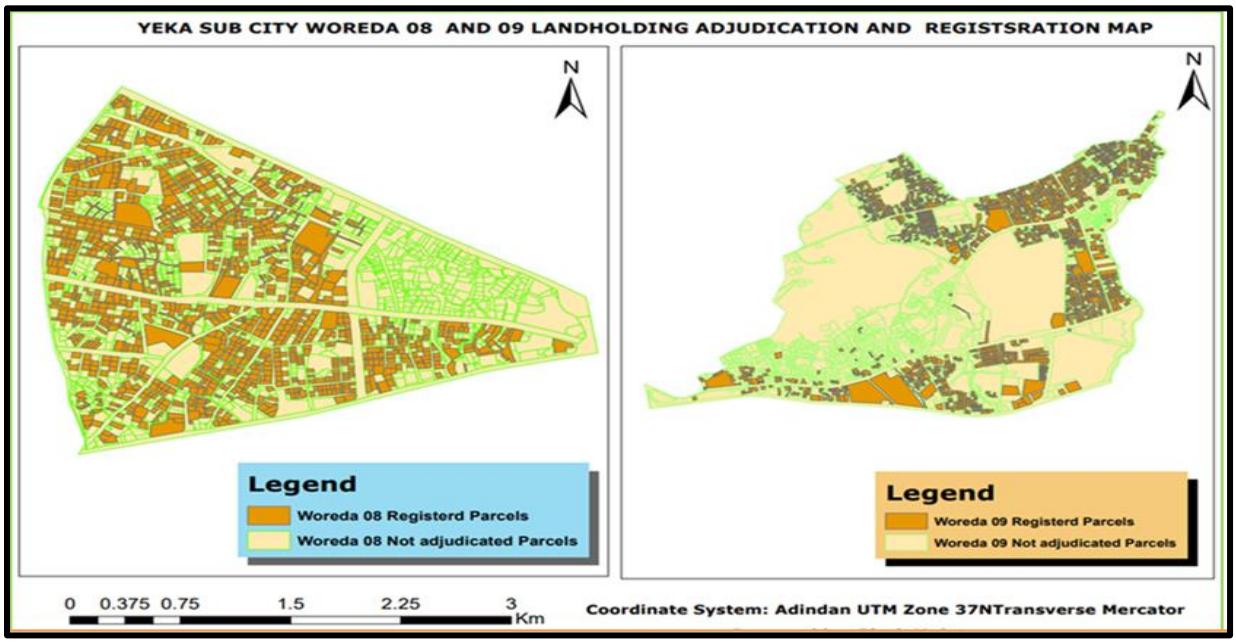


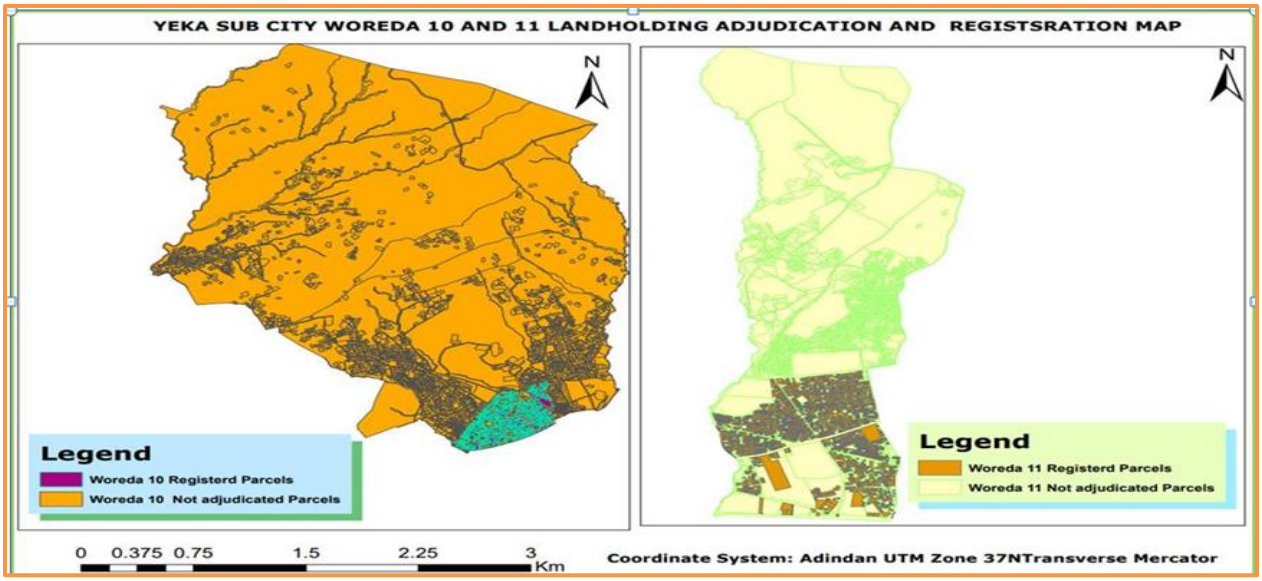

Source: survey, 2025

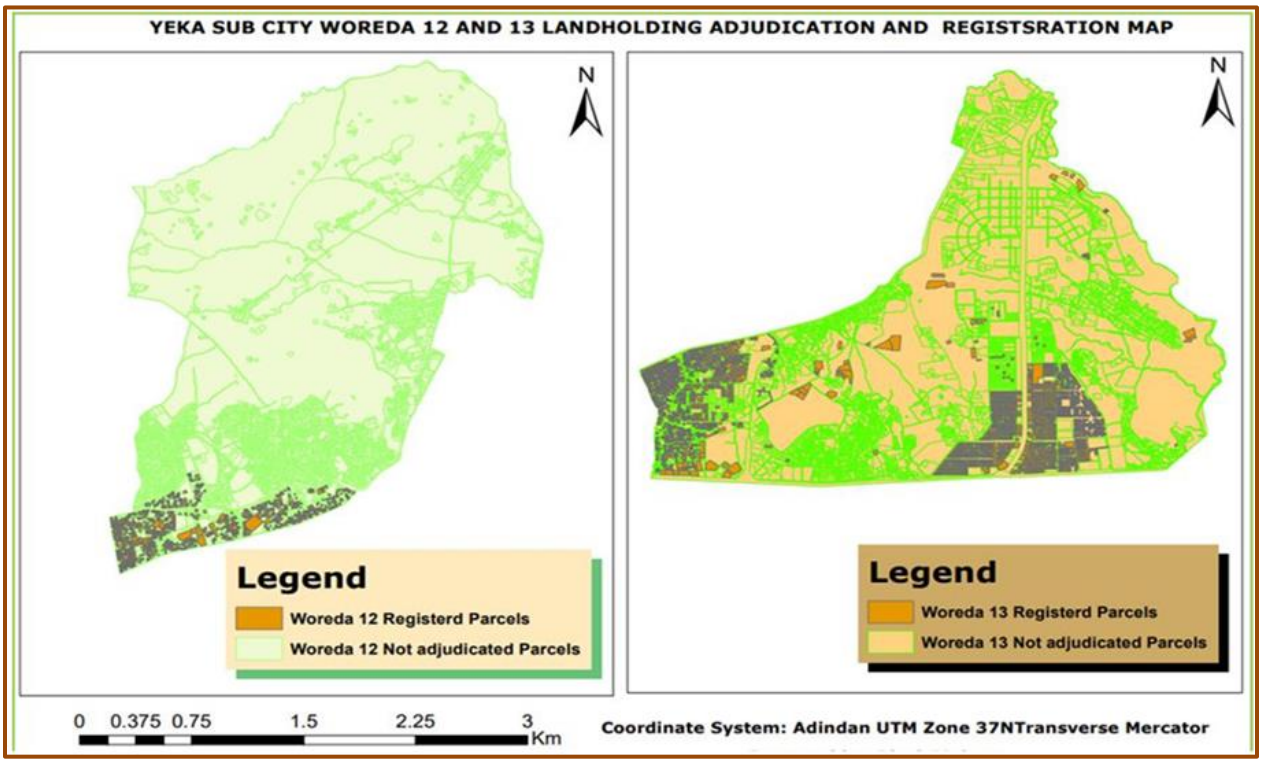
## 4.3. The status and performance of cadastral system implementation in Yeka sub-city

In the Yeka sub-city, extensive cadastral work has begun in14 wordas, specifically in Woredas 8, 9, 10, 11, 12, and worda 13. The adjudication and registration work is being implemented as broadly in woreda 8, 13, 11, 12, 9, and 10, respectively, and the cadastral implementation has been initiated earlier and more extensively by these worewdas. In this context, the application of the cadaster and its implementation are illustrated in Figure 6.

**Figure 5: Performance of cadastral system implementation**






Source: Yeka sub-city shape file

The empirical data also shows significant difference in the implementation of cadaster among the Woredas (See Table 6 below). Among the total numbers of landholdings which were adjudicated, the tenure system (35.97%) is lease, 28.88% of are permit hold.

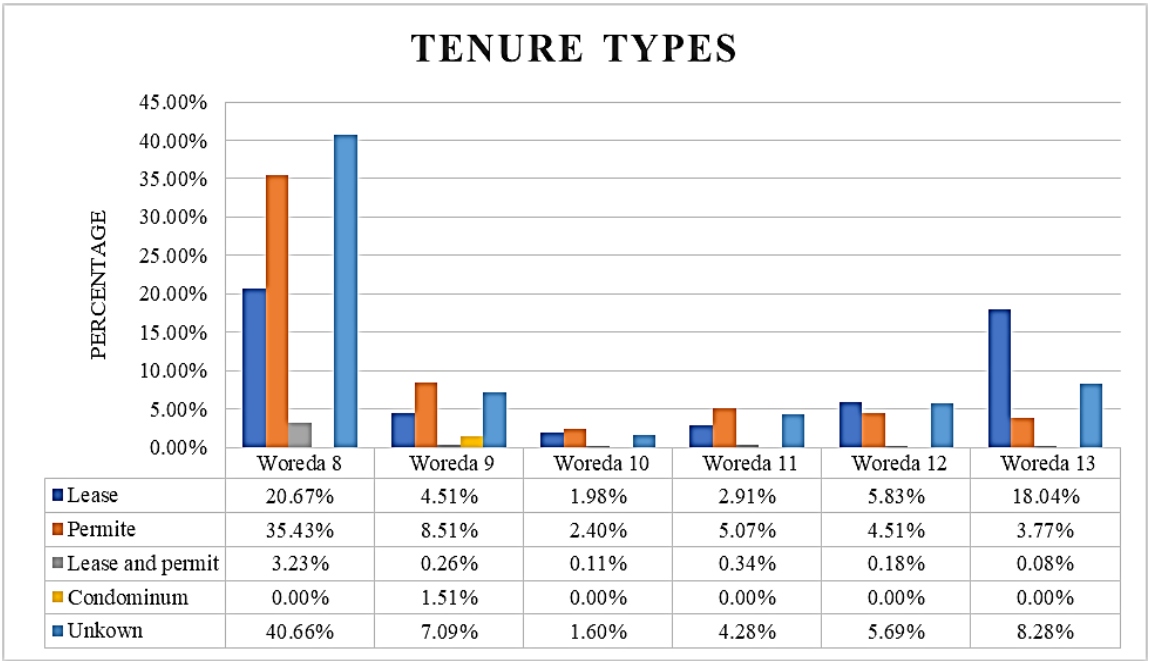
**Table 6: Performance and status of non-spatial information organized in Yeka sub city**

| Woreda | Numbers of Ketena | Total Parcels | Pre adjudication | | Adjudication | | Tenure Types | | | | | Ownership | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Requested | Not Requested | Qualified | Not Qualified | Lease | Permit | Lease and permit | Condominum | Unkown | Private | Government | Organization | Comparable( | Unknown |
| 8 | 3 | 2351 | 841 | 1510 | 1526 | 825 | 486 | 833 | 76 | 0 | 956 | 1237 | 342 | 1 | 142 | 629 |
| 9 | 4 | 3942 | 1935 | 2007 | 1345 | 2597 | 812 | 1534 | 46 | 272 | 1278 | 2733 | 522 | 2 | 0 | 685 |
| 10 | 1 | 2096 | 615 | 481 | 595 | 501 | 357 | 432 | 19 | 0 | 288 | 914 | 152 | 3 | 7 | 20 |
| 11 | 3 | 2271 | 1175 | 1096 | 1815 | 456 | 524 | 914 | 61 | 0 | 772 | 1754 | 242 | 0 | 0 | 275 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 2922 | 1248 | 1674 | 1801 | 1121 | 1051 | 812 | 33 | 0 | 1026 | 1677 | 826 | 5 | 9 | 405 |
| 13 | 7 | 5440 | 1825 | 3615 | 4059 | 1381 | 3252 | 680 | 15 | 0 | 1493 | 4076 | 316 | 5 | 6 | 1037 |
| **Grand Total** | **20** | **18022** | **7639** | **10383** | **11141** | **6881** | **6482** | **5205** | **250** | **272** | **5813** | **12391** | **2400** | **16** | **164** | **3051** |
| | | | | 18022 | | | | | | | | | | | | |

| **Woreda** | **Numbers of Ketena** | **Total Parcels** | **Pre adjudication** | | **Adjudication** | | **Tenure Types** | | | | | **Ownership** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Requested** | **Not Requested** | **Qualified** | **Not Qualified** | **Lease** | **Permit** | **Lease and permit** | **Condominum** | **Unknown** | **Private** | **Government** | **Organization** | **comparable** | **Unknown** |
| Woreda 8 | 3 | 13.05% | 35.77% | 64.23% | 64.91% | 35.09% | 20.67% | 35.43% | 3.23% | 0.00% | 40.66% | 52.62% | 14.55% | 0.04% | 6.04% | 26.75% |
| Woreda 9 | 4 | 21.87% | 10.74% | 11.14% | 7.46% | 14.41% | 4.51% | 8.51% | 0.26% | 1.51% | 7.09% | 15.16% | 2.90% | 0.01% | 0.00% | 3.80% |
| Woreda 10 | 1 | 6.08% | 3.41% | 2.67% | 3.30% | 2.78% | 1.98% | 2.40% | 0.11% | 0.00% | 1.60% | 5.07% | 0.84% | 0.02% | 0.04% | 0.11% |
| Woreda 11 | 3 | 12.60% | 6.52% | 6.08% | 10.07% | 2.53% | 2.91% | 5.07% | 0.34% | 0.00% | 4.28% | 9.73% | 1.34% | 0.00% | 0.00% | 1.53% |
| Woreda 12 | 2 | 16.21% | 6.92% | 9.29% | 9.99% | 6.22% | 5.83% | 4.51% | 0.18% | 0.00% | 5.69% | 9.31% | 4.58% | 0.03% | 0.05% | 2.25% |
| Woreda 13 | 7 | 30.19% | 10.13% | 20.06% | 22.52% | 7.66% | 18.04% | 3.77% | 0.08% | 0.00% | 8.28% | 22.62% | 1.75% | 0.03% | 0.03% | 5.75% |
| **Grand Total** | **20** | **100.00%** | **42.39%** | **57.61%** | **61.82%** | **38.18%** | **53.94%** | **59.69%** | **1.39%** | **1.51%** | **32.26%** | **68.75%** | **13.32%** | **0.09%** | **0.91%** | **16.93%** |

Sources: Secondary data analysis from Yeka sub-city



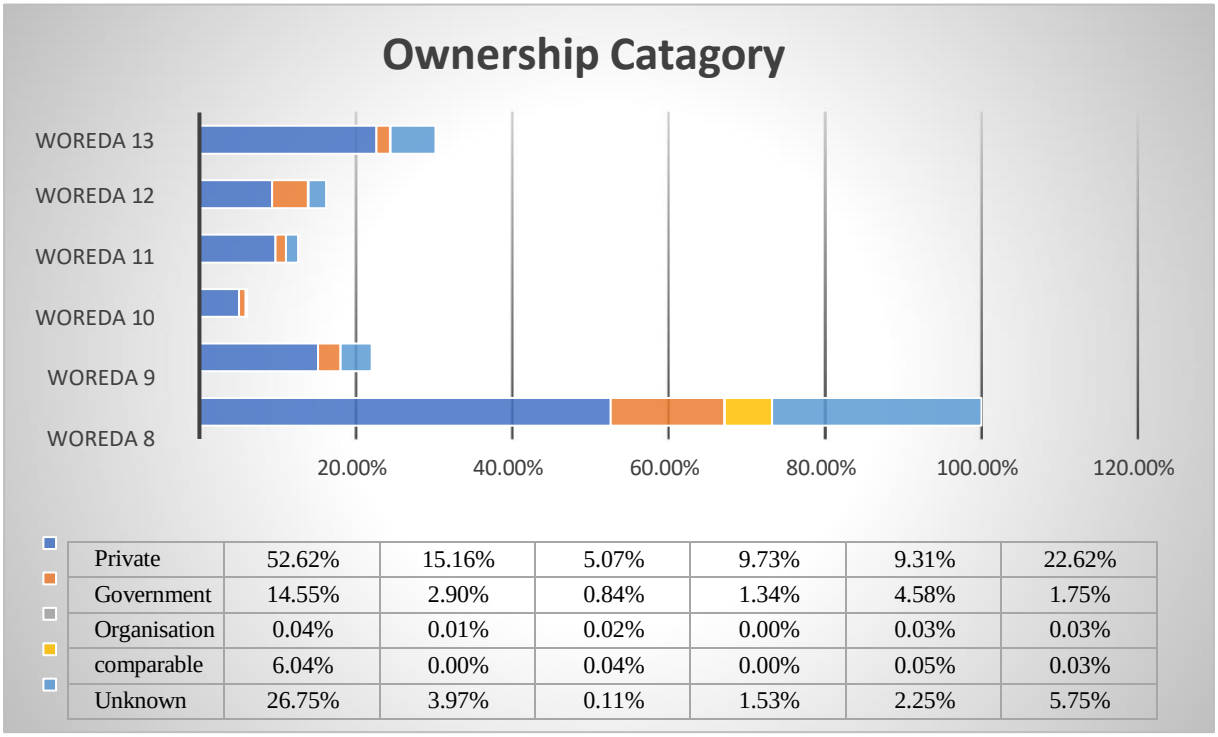

| | Woreda 8 | Woreda 9 | Woreda 10 | Woreda 11 | Woreda 12 | Woreda 13 |
|---|---|---|---|---|---|---|
| Lease | 20.67% | 4.51% | 1.98% | 2.91% | 5.83% | 18.04% |
| Permite | 35.43% | 8.51% | 2.40% | 5.07% | 4.51% | 3.77% |
| Lease and permit | 3.23% | 0.26% | 0.11% | 0.34% | 0.18% | 0.08% |
| Condominum | 0.00% | 1.51% | 0.00% | 0.00% | 0.00% | 0.00% |
| Unkown | 40.66% | 7.09% | 1.60% | 4.28% | 5.69% | 8.28% |

**Figure 6: Summary of tenure types which is adjudicated and registered in Yeka subcity of pilot woredas.**

As shown in Figure 7 above, permit hold and lease hold tenures are dominant tenure system in woreda 8 which accounts 35.43%, 20.67% respectively. Around 40.66 % of parcels are unknown tenure type shown in woreda 8, 4.5% of parcels are lease, 8.51% of parcels are permit, 0.26% of parcels are lease and permit, 1.51% of parcels are condominium and 7.09% % of parcels are unknown tenure type in woreda 9,1.98 % of parcels are lease,2.4.% of parcels are permite,0.11% of parcels are lease and permit and 1.60% of parcels are unknown tenure type in worda 10,2.91% of parcels are lease,5.07% of parcels are permite,0.34% of parcels are lease and permit and 4.28% of parcels are unknown tenure type in woreda 11,5.83% of parcels are lease,4.51% of parcels are permit ,0.18% of parcels are lease and permit and 5.69% of parcels are unknown tenure type in worda 12 while as 18.04% of parcels are lease,3.77% of parcels are permite,0.08% of parcels are lease and permit and 8.28% of parcels are unknown shown in worda 13.

According to the study and report indicate that the institution's cadastral implementation work is being carried out extensively, with each piece of information being separated, adjudication, and registration accordingly. But the study shows that availability of non-spatial information is not neat and complete.

Therefore, it is expected from the registration institution to adjudicate that the spatial data and the descriptive information related to this land are appropriate or complete at the time of registration, and that the information is held in this manner




| | | | | | | |
|---|---|---|---|---|---|---|
| Private | 52.62% | 15.16% | 5.07% | 9.73% | 9.31% | 22.62% |
| Government | 14.55% | 2.90% | 0.84% | 1.34% | 4.58% | 1.75% |
| Organisation | 0.04% | 0.01% | 0.02% | 0.00% | 0.03% | 0.03% |
| comparable | 6.04% | 0.00% | 0.04% | 0.00% | 0.05% | 0.03% |
| Unknown | 26.75% | 3.97% | 0.11% | 1.53% | 2.25% | 5.75% |

**Figure 7: Summary of Ownership (Land holder) category which is adjudicated and registered in Yeka subcity of pilot woredas.**

As Shawn figure 8,52.62% of parcels are private land holders,14.55% of parcels are governmental land holders ,0.04% of parcels are comparable land holders and 26.75% of parcels are unknown land holders in woreda 8, 15.16% of parcels are private land holder, 2.90% of parcels are governmental land holder, 0.01% of parcels are private organization land holder and 3.97% 0f parcels are unknown lad holders in worda 9, 5.07% of parcels are private land holder,0.84% of parcels are governmental land holder,0.02% of parcels are private organization land holder, 0.04% of parcels are comparable land holder and 0.11% of parcels are unknown land holder on worda 10, 9.73% of parcels are private land holder, 1.34% of parcels are governmental land holder and 1.53% of parcels are unknown land holder shows in worda 11, 9.31% of parcels are private land holder,4.58% of parcels are governmental land holder, 0.03% of parcels are private organization land holder,0.05% of parcels are comparable land holder and 2.25% of parcels are unknown land holders in woreda 12 while as 22.62% of parcels are private land holders, 1.75 % of parcels are governmental land holder,0.03% of parcels are private organization land holder, 0.03% of parcels are comparable land holders and 5.75% of parcels are unknown land holders. So the objective of the cadastral implementation is to collect comprehensive information or data about land. This process is currently being carried out in the woredas within the city. Based on this, and as indicated by the study, the work is being conducted in selected woredas to adjudication and register land holding rights.

The study shows that the cadastral performance in selected woredas in each sub-city is lower in terms of the total land area in the woredas that is eligible for the process of adjudication and registration than in terms of the total land holdings.

The quantitative data were also obtained to assess the status and availability of organized parcel data in the study area. Accordingly, 23.88% of respondents, agreed on the availability of clearly organized parcel data in the sub city with accurate result to identify and delineate the individual claims of all land owners and claimants which will serve as basis for the issuance of title. While 38.81% of respondents disagreed on the availability of clear and organized parcel data. Around 11.94% of respondents were not in a position to decide whether there are clearly organized data or not. . This implies that those experts and stockholders are not confidential or didn't know on the availability of organized parcel- based data that will help to provide accurate information for clients. In addition, only 17.00% of respondents replayed that the availability and status of parcel-based data organization and information is operable in secured, responsible and accountable manner with legal frame work and 33.33% of respondents are oppositely stand and disagreed on this response while 21.05% of respondents are free from providing their argument. From this result since 74% of the aggregate respondents (including 33.33% disagree, 14.04%strongly disagree and 21.05% of neutral respondents) are debating with such argument gap, we can understand that the existing availability of parcel based organized cadastral data encountered a challenge in providing an accurate and sufficient information's for different purpose to stakeholders, policy and decision makers, land and property owners. And also, there is lack of security in responsive and accountable manner. As a result of the lack of such Proper data collection, organization and storage in the processes of proper adjudication and registration, land and land related information's, and taxes related to property could not be collected efficiently and utilizing in the cities.

In addition, although 45.61% of respondents differ in degree of argument, they disagree with the existing condition of cadastral implementation. It's not fully supported by information and communication technology (ICT) network, sufficient space, or the required logistics that will access the parcel data in hard copy and soft copy from centralized information storage, while the remaining 26.31% and 28.07% are agreed and neutral, respectively. On the other hand, the cadaster system sector, for implementation and full operation, should have been supported with sufficient financial sources. Installation of an information communication network needs a lot of software, hardware, system operators, and sufficient space. In addition, 22% of respondents do not have a clear understanding of whether the cadastral system center has an independent quality control board at the sub-city level and has become a leading provider of cadastral survey services or

not, while 20% of respondents acknowledge the existence of an independent quality control board at the sub-city level. According to 59.71% of respondents' arguments, in the process of data collection, organization, and storage, the current cadastral system information lacks consistency and is not up-to-date, while 39.8% respond the opposite.

Since parcel data are dynamic, many of the challenges in the sub city are related to the data themselves and the technology used to create and maintain them. It is difficult to ensure that they are consistently accurate and up-to-date. Because land and land-related transactional and parcel-based landholding services are highly demanded in urban centers, the overall availability and accessibility need a system supported by an information communication network, sufficient space, and required inputs, including finance, and working every day to improve the consistency and up-to-date of the information.

The legal cadastral data collection and storage system is based on Proclamation 818/2014 and regulations, directives, and standards to support the implementation of Proclamation 818/2014.

The legal frameworks play a leading role in the overall establishment, implementation, and operation of the legal cadaster system, which has a number of advantages. First, the legal cadaster will discuss many pressing issues on clarity in rights, tenure security, and support for land transactions. Second, it provides the fundamental spatial framework or acts as a base for other information systems like fiscal or multipurpose cadasters to support additional functions such as land management, land use planning and development, public land management, environmental management, etc. Third, it also helps to focus on a limited set of information requirements that will reduce, for example, the level of effort, time, and cost required to complete the stated objective. However, these advantages, particularly the use of the legal cadaster as a framework for other functions, will only be realized if the legal cadaster is implemented well, especially with sufficient spatial and non-spatial information (information in support of clarity in rights, tenure security, and support for land transactions) and provides complete or nearly complete coverage of the urban centers with a consistent workflow.

**Table 7: Summary of questioner respondents on the status and performance of the cadastral system implementation (experts).**

| No. | Questions | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | The current status and availability of organized parcel data in the sub city efficiently satisfying the modern cadaster System. | 8.96% | 38.81% | 11.94% | 23.88% | 16.42% |
| 2 | Cadastral surveying activities have been strongly ruled by workflows to gain strong accuracy starting from checking accuracy of surveying instrument. | 13.43% | 37.31% | 11.94% | 28.36% | 8.96% |
| 3 | The importance of cadastral and land information systems has been clearly enunciated by stakeholder officials and Experts. | 17.91% | 38.81% | 7.46% | 26.87% | 8.96% |
| 4 | The organizational structure and staff of cadastral system implementation fully organized with strong workflow and disciplined Professional involvement. | 7.02% | 19.30% | 17.54% | 42.11% | 14.04% |
| | Producers and acts are influenced by unmanaged | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | political leadership interventions. | 8.77% | 21.05% | 17.54% | 40.35% | 12.28% |
| 6 | The availability of organized parcel data in the sub city serves with accurate result to identify and delineating the individual claims of all land owners and claimants. | 18.00% | 34.00% | 18.00% | 22.00% | 8.00% |
| 7 | The current parcel-based data organization information is operable in secured, responsible and accountable Manner. | 14.04% | 33.33% | 21.05% | 17.00% | 5.26% |
| 8 | Existing organized cadastral data and information can clearly provide appropriate information to stakeholders, policy and decision makers, and land and property owners. | 12.28% | 31.58% | 28.07% | 21.05% | 7.02% |
| 9 | The cadastral system is fully supported ICT network, Sufficient space and logistics. | 12.28% | 33.33% | 28.07% | 17.54% | 8.77% |
| 10 | The cadastral system center Has an independent quality control board at sub city. | 15.00% | 35.00% | 22.00% | 20.00% | 8.00% |
| 11 | The cadaster system sector has different funding opportunities. | 12.28% | 38.60% | 28.07% | 15.79% | 5.26% |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | The parcel-based data are difficult to ensure that they are consistently accurate and up-To-date. | 7.02% | 8.77% | 15.79% | 52.63% | 15.79% |

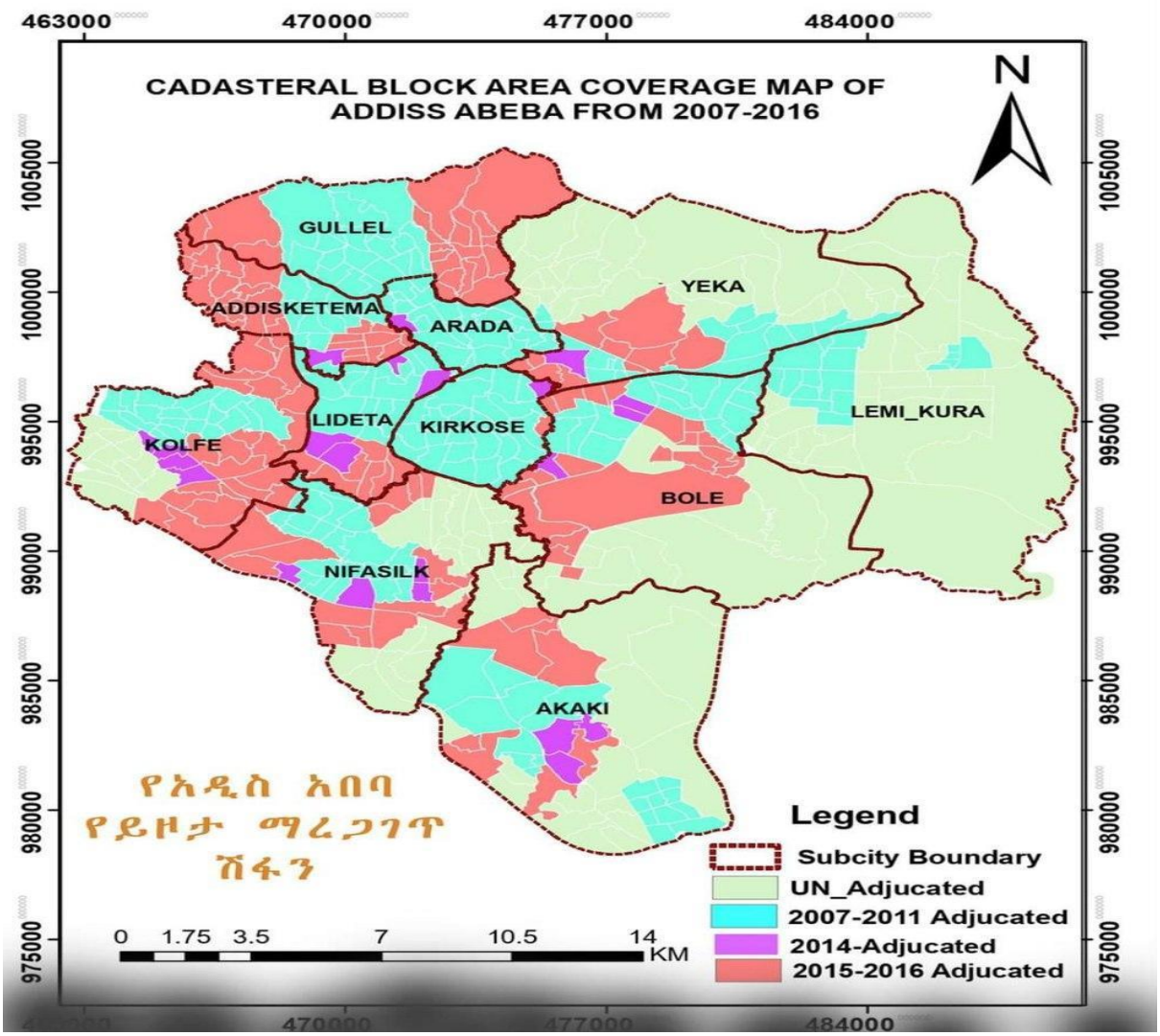
Source: own survey, 2025

According to the key informant interview and Addis Ababa city land holding registration and information agency, the Government proceeded quickly to establish the Landholding Registration and Information Agency (AACGLRIA) following the execution of the Urban Landholding Registration Proclamation No. 818/2014. Ensuring the development of a safe, dependable, and effective legal cadaster registration and information system inside Addis Ababa's borders is the main goal of the government.

A reliable land registration system and all land parcel adjudication in Yeka sub-city are under the purview of the Addis Ababa city government land registration information agency (AACGLRIA). Assisting with land management, land use planning, and property valuation; offering transparent and accountable landholding adjudication and registration services; and promoting the city's social, environmental, and economic development are just a few of its goals. Proclamation No. 45/2015 of the Addis Ababa City Government Landholding Registration and Information Agency Re-establishment states that in addition to the AACGLRIA, there is another institution called the Land Administration Office. For parcels for which the registration office has not yet finished the adjudication and registration process, this office is in charge of providing landholding services. It packages, checks, and delivers these packages to the registration office.

According to the report of the Addis Ababa City Landholding Registration and Information Agency in 2024, 337 ketenas are adjudicated over a period of several years. Furthermore, the report shows that 219,722 title deeds were registered for private holdings and 173,136 title deeds were registered for communal holdings out of the total of 493,115 parcels. Additionally, of the 43,276 hectares of overall land covering, 23,560 hectares, or 54%, had undergone adjudication.

Figure 8: Status of cadastral implementation or adjudication and registration




Source: (2024 Addis Ababa land holding and registration agency report)

According to the key interview from respondents, the Land Holding Registration and Information Agency (LHRIA) was established in 2015 G.c. The LHRIA report to a board chaired by the mayor and is separate from the Land Management Bureau in the City Administration.

A key step in the adjudication process is the reconciliation of information gathered and measurements taken in the field with information recorded in property files in the city and sub-cities. Any discrepancies between the two sets of information cannot be resolved by LHRIA and need to be referred back to the right creator, which is the Land Management Bureau. As shown in Table 6, Yeka sub-city has adjudicated and registered

18,022 land holding parcels in six selected woredas for the last 9 years, which means that the annual and daily average efficiency are 2,675 and 7.16 parcels, respectively.

## 4.4. The major challenges and potentials of cadastral system implementation in Yeka sub-city.

### 4.4.1. Challenges of cadastral system implementation

The cadastral system implementation was evaluated based on the proposed evaluation framework (Chekole S.D, 2016). The evaluation framework has four components: These are the level, which indicates focus of the program. I.e. the policy; the dimension, which indicates the evaluation aspects; the indicators/ variables that can measure quality, and good practices, which indicate successful achievements. As it is explained in (Table 8), there are different dimensions which is stated under the policy level and needs to be incorporated as Political, Policy, Legal and institutional, Social, Economic, Environmental, Technical, and Public-Private Partnership and cumulative aspects.

**Table 8: Evaluation of Policy level cadastral system implementation based on the proposed evaluation dimension and performance indicators.**

| Level | Dimensions | Performance Indicators | Practices result (Respondents argument from Key informant Interview) |
|---|---|---|---|
| | Political aspect | The political will in support of the cadastral system (y/n) | Lack of political will and commitment from the government.<br>unhealthy Data politics and Political interference<br>Corruption, deliberately abuse and Carelessness among leaders |
| | Policy aspect | Existence of a government policy for cadastral system (y/n)<br>Are the identified visions and objectives SMART? (y/n)<br>Existence stakeholder focused strategy(y/n),<br>Frequency of revisiting objectives and strategies | There is an urban development policy but hasn't their cadastral system policy.<br>The visions and objectives of establishment and implementation of legal cadaster is not SMART enough.<br>Absence of stakeholders focused strategy for awareness creation<br>Very limited (the implementation is inconsistent)<br>Poor monitoring mechanisms |

| | | | |
|---|---|---|---|
| Policy level | Legal and institutional aspect | Existence of legal basis, (y/n)<br>Uniformity of cadastral system policy throughout the country?<br>Do regulations of cadastral system involve institutions with clear mandates as well as policy processes that are transparent and equitable? (y/n) if yes, explain. | Yes, Proclamation 818/2014, regulations, directives, standards and manuals.<br>Absence of cadastral system policy<br>Absence of Unregulated timeframe for the activities<br>Relative holdings are not considered in the cadaster legal framework<br>The Regulations of cadastral system lacks with a clear institutional mandates, duties and responsibilities.<br>Poor System infrastructure in relation to internet network in the institution<br>Poor organizational status and File misplacement in the archive<br>week operational capability of the system and System owners' failure problems |
| | Social aspect | Does participation ensure in the cadastral system policy development? (y/n) if not, why?<br>Does the society benefited and acknowledge the policy?<br>Is there any mechanism for resolving disputes? | No, gaps in Communication barrier among stakeholders<br>Week stakeholders' coordination and integration<br>Societies doesn't provide sufficient information and their landholding files due to lack of understanding.<br>Resolving disputes mechanisms are not sufficiently sated at different jurisdictional level for arising among landholders.<br>Boundary and information conflicts during field data collection in the adjudication processes. |
| | Economical aspect | Is the cadastral system policy cost recovery? (y/n) if yes, how and in what mechanisms?<br>Is there a well-functioning land and property market as a result of the cadastral system | No, the way to collect income from the services is highly susceptible to corruption.<br>No, due to week operational capability, property market is not well functioning<br>Large number of informal settlements there with no title deed and Incomplete landholding files which are not included in the cadaster |

| | | | |
|---|---|---|---|
| | | policy? (y/n) | Week economical cost recovery and financial sources |
| | Environmental aspect | Does the cadastral system policy ensure sustainability of the environment? (y/n), if yes, in what Aspects? | No, Absence of their own cadastral system policy |
| | Technical aspect | Does the cadastral system policy follow international technical standards? (y/n), if not why? | The implementation follows (ELADM) standards. But, lots of problems there: like: difficult to get files in simple way, parcel overlaps and boundary sharing conflicts, Inaccurate input data, distortion of cadastral data due to technical error and poor GCPs |
| | Other | | Lack of skill and knowledge<br>Lack of parcel based non spatial data from owners<br>Lack of capacity building trainings and bad working environment |

Source: An evaluation framework for urban cadastral system and the result (Respondents argument from Key informant Interviews).

Currently, the cadaster system implementation in urban area is increased in demand because it supports the economic development, environmental management and social stability. In-line with this increment, there is a necessity for performance measurement to assure the quality of cadastral system implementation and operation. The dimensions listed in the table showing in above (Table 8) are indicators for the evaluation of urban cadastral system performance. The findings of these dimensions with corresponding indicators are explained below.

- **Political Dimensions**

Accordingly the key informant interviews the current cadastral system implementation in Yeka sub city is highly characterized by lack of political will and commitment from the government, unhealthy data politics, corruption, political interference and carelessness among leaders. The context of the findings supports previous studies. For instance, Murunga et al., (2013), argued that, the cadastral system implementation and its operation success is determined by the level of political will and commitment which consider the socio-economic, cultural contexts and makes the necessary resources available. Therefore, effective urban cadastral system can never be achieved without positive political will, good project management performance and leadership. This is a fundamental requirement at national level. The good practice is thus, the political situations of the country under investigation demonstrate its will and commitment to accomplish the objectives envisioned.

- **Policy, Legal and Institutional Dimensions**

According to the result depicted in the (Table 8), the cadastral system has not their own policy at national level it's generalized in urban development policy. The visions and objectives of establishment and implementation of legal cadaster are not SMART enough. It's characterized by absence of stakeholders focused strategy for awareness creation, limited revisiting frequency of objectives, inconsistent implementation and Poor monitoring mechanisms.

The federal government of Ethiopia has issued a proclamation 818/2014 and the respective subordinate laws (regulations, directives, standards and manuals) to make a guarantee that the boundaries of real property are accurately marked, measured and mapped. In the contrary, inadequate policy formulation and implementation hinder the well-functioning of cadastral systems and are not sufficiently bending the system implementation, operation and integration. Based on the respondents from key informant interviews shown in (Table 8), The current availability and organization of cadaster system legally and institutionally characterized by, absence of regulated timeframe for the activities, relative holdings are not considered in the cadaster legal framework, Poor System infrastructure in relation to internet network in the institution, System owners' failure problems, Poor organizational status and File misplacement in the archive and week operational capability of the system. In addition, The Regulations of cadastral system lacks with a clear institutional mandates,

Duties and responsibilities especially in landholding files information sharing from land development and management bureau. In this case, although dependent on policy and legal dimensions matters, Pienaar, 2009 argued that unsuitable institutional arrangements are usually a severe limitation in any cadastral system (Pienaar, 2009). So, it is important to integrate all of the different cadastral system and land related activities

with manageable and operational arrangement. Social, Economic and Environmental Dimensions Formulation of their own urban cadastral system implementation policy plays significant roles in improving the social and economic dimensions of a country. In terms of social dimension, a well-functioning cadastral system is the basis of national stability and social welfare. The basic social performance indicators shown in (Table 8), that inappropriate participation strategy makes gaps in communication barrier among stakeholders, week stakeholders' coordination and integration. Societies don't provide sufficient information and their landholding files due to lack of understanding so that boundary and information conflicts during field data collection in the adjudication processes become obvious. To reduce such conflicts resolving disputes mechanisms are not sufficiently sated at different jurisdictional level for arising among landholders.

As shown in the (Table 8), the economic performance indicator was characterized by the way to collect income from the services is highly susceptible to corruption and malfunctioning land and property market transaction. This is due to week operational capability and large number of informal settlements there with no title deed and incomplete landholding files which are not included in the cadaster thus cumulatively to score week economical cost recovery and financial sources.

- **Technical Dimension**

The technical aspect of cadastral system implementation was follows the ELADM standards. According to the result shown in the (Table 8), lots of challenges or problems there: like: difficult to get files in simple way, parcel overlaps and boundary sharing conflicts, inaccurate input data, distortion of cadastral data due to technical error, parcel overlap and poor GCPs.

The findings of quantitative data analysis also signify that legal and institutional challenges which account 21.05% is the most important challenging factor for the implementation of effective cadaster system. The technical and data related challenge which contributes 15.79% is the second major challenge (Figure 10).

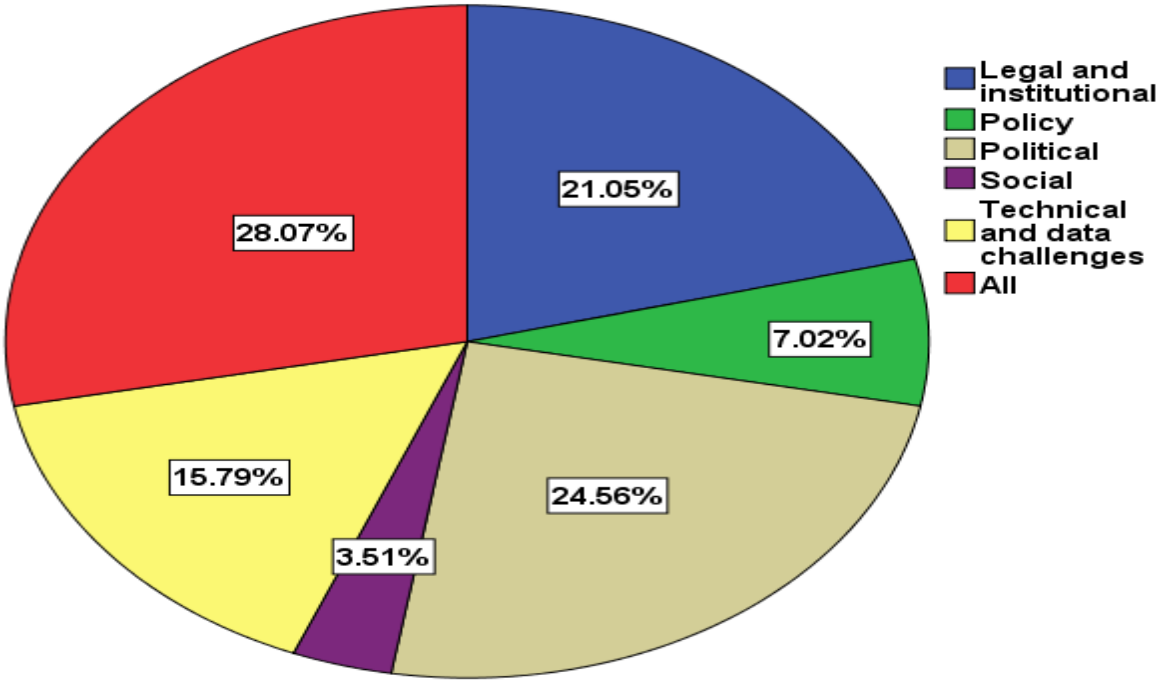



**Figure 9: The Challenges of urban cadaster system implementation**

Source: own survey, 2025

According to the result shown in the (Figure 10), political issues, legal and institutional, and Technical and data challenge, aspects at higher level scores 28.07%, 21.05% and 15.79%, respectively in descending order. While Policy, and social aspect at lower-level scores 7.02%, and 3.51% respectively in reducing order. This result indicated that, the overall challenges of cadastral system implementation in the sub city are as a result of cumulative aspect which was accumulated from those the indicated dimensions. Cumulative aspect is the result of each dimensions challenge which serves to reduce the overall cadaster system implementation or performance. Since the challenges aggregate and accumulative, cumulative challenges are difficult to solve in a simple way.

### 4.4.2. Potentials of urban cadaster system implementation

The study shows that the human resource is one of the potential in the sub city, that certain tasks are fulfilled, that certain professionals are committed and experienced to their work, that certain leaders are committed to their work, and that there are various possibilities for establishing or creating a cadaster, and that the cadaster is very important and that the potential or benefit it provides is to have digital organized information. To streamline and make service delivery more efficient, to regulate and control illegal occupation, to ensure the implementation of planning, to ensure ownership and security of tenure, to reduce corruption in land, The study found that the establishment or implementation of a cadaster reduces land conflicts, creates job opportunities, enables timely and efficient services, and accelerates urban growth and productivity. In general, the establishment or implementation of a cadaster leads to an efficient and effective modern land management system

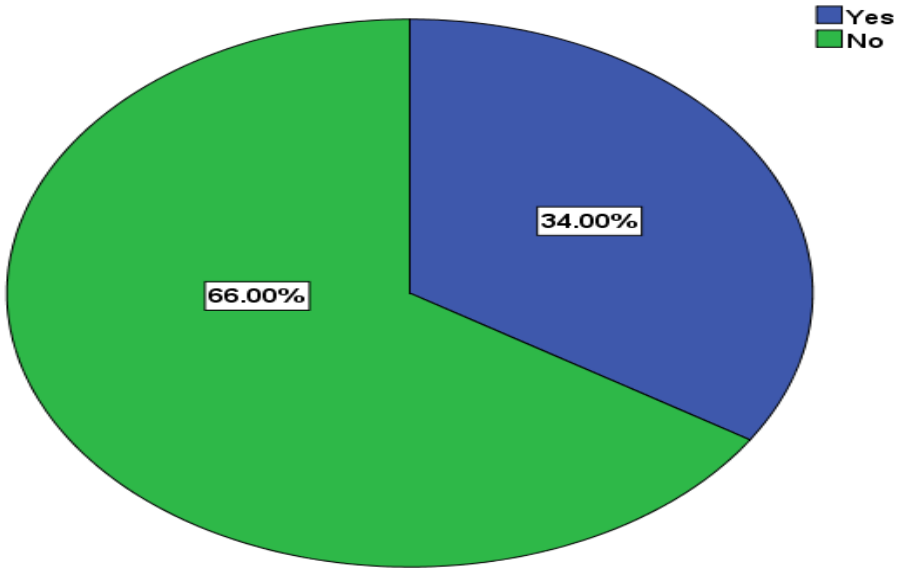



**Figure 10: Public participation and awareness in cadastral implementation and service delivery**

Source: survey, 2025

The cadaster system implementation should have to be supported with a comprehensive public awareness strategy, working standards and manuals. Then after, a continuous capacity building, public awareness and

participatory opportunities are needed for effective implementation of the cadaster system and service delivery or goal achievement.

Also, for the effectiveness and coverage of cadaster implementation and service delivery, creating awareness among the community or society is very important. According to the responses of land owners, most landowners have not been informed by the institution about the implementation and service delivery of cadaster, and the land owners themselves are not aware of it. Therefore, the study shows that the lack of awareness among land holders reduces or impacts the performance and quality of cadastral implementation and service delivery.

According to the result shown in figure 11 above, 66% of the respondents are unaware of the implementation and service delivery of the cadaster, while 34 percent of the respondents are aware of the cadaster process

## 4.5. Land-related service delivery performance evaluation

According to FAO (2007), good governance as a measure of service delivery in land administration involves more participatory and transparent processes and aims to protect the property rights of individuals and enterprises based on a set of commonly held principles. These principles can be made operational through equity, efficiency, transparency and accountability, public participation, and security, as defined below.

**Table 9: Summary of key informants' interview on land-related service delivery of cadaster system.**

| No- | Elements | Strength | Weakness |
|---|---|---|---|
| 1 | Efficiency | It's improved from time to time as compared from previous<br>The archive management and case tracking system make improve the service delivery | Miserable type of service delivery because of decentralization workflow.<br>lagging the implementation limited to the pilot woredas<br>Much more difficult as compared to the demand of customers<br>System failures and dependent on internet network<br>Shortage of instruments to provides surveying services for customers for adjudication |

| | | | |
|---|---|---|---|
| 2 | Equitability | Reducing inequalities or improved as compared from the previous service delivery | Subjected to corruption<br>Full of appointment their based on economic class<br>Ethical problems in both leaders and experts as well as clients |
| 3 | Accountability | Relatively from the previous the current service delivery is subjected | Lack of coordination and integration among stakeholders' organization<br>Lack of willingness to the system implementation<br>Lack of training Lack of finance and man power to operate in full-fledged |
| 4 | Transparency | The current Availability of parcel data improved with compared the previous. | The service is not that much transparent and manageable<br>Shortage of necessary input data<br>Missed files from archive<br>The way to resolve any objection rose from land related issues is minimal. |
| 5 | Public participation | Participation of local communities, compared from the previous | Public awareness in relation to the Cadastral system delivery is being apart.<br>Understanding of offices and workflow by the customers are minimal |
| 6 | Security | | Lack of modernized system for reducing services delivery time in addition to the availability of digital data and security.<br>The system is not locally customized as per the reality of the sub city |

As shown in the (Table 9), the land and land related service delivery of cadaster system and land management sectors are assessed based on the principles guided in FAO (2007). The result shows that, the efficiency of service delivery encountered lots of challenges and resulted a miserable type of service delivery. This is due to the lagging of implementation and limited to a certain woredas, shortage of instruments for adjudication and failure of system network. In addition, the services demand is also high as compared with the service

delivery given by the cadaster and land institution and cumulatively reduce the efficiency.

The equitability is eroded due to corruption and abuse of power. The institution transparency is limited and its accountability is limited to lack of coordination and integration among stakeholders' organization, willingness to the system implementation and lack of training, finance and man power to operate in full-fledged. In addition to theses, public participation and awareness is minimal so that most customers are confused the workflow of institutional service delivery standard.

According to the assessment of land related cadastral service delivery shown in (Table 4.9), 47.37% of respondents argued that the service delivery of land related cadaster system is it's highly supported by a strong data security while 33.33% of respondents are not and 19.30% of other respondents are not able to give their argument. This shows that the availability of cadaster system security has a limitation and susceptible to hack and abuse. One of the systems of implementing cadaster is the establishment and support of strong security which improves the accountability and responsibility among the institution, experts and leaders and reduces corruption, miss used of landholding files etc. Because, challenge land tenure security, adversely affecting the confidence of the private sector in securing property rights, leading to underutilization of land.

**Table 10: Assessment of land related cadastral service delivery (experts)**

| No. | Indicators and Arguments | Strongly Disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| 1 | The cadaster staffs are working on continuous professional development to improve the service delivery. | 14.04% | 40.35% | 17.54% | 21.05% | 7.02% |
| 2 | The service delivery of land related cadaster system is highly supported by data security | 8.77% | 24.56% | 19.30% | 36.84% | 10.53% |
| 3 | The data consistency and | 5.36% | 7.14% | 17.86% | 41.07% | 28.57% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | reliability of parcel based information of the cadaster system makes improving the efficiency of service delivery in the sub city. | | | | | |
| 4 | The cadaster system implementation land related services are full integrated with information communication technology (ICT) for better service delivery. | 14.04% | 22.81% | 17.54% | 40.35% | 5.26% |
| 5 | The services delivery condition of cadastral system has much more operable, transparent and improved than that of the previous traditional service delivery. | 9.09% | 30.30% | 16.67% | 31.82% | 12.12% |

Source: own survey, 2025

Regarding human resource development, 71.93% of respondents are argued that due to intermittent of professional development, the overall efficiency and effectiveness of cadastral system implementation and service delivery is not that much satisfactory. In addition, 69.64% of respondents replied that, the data consistency and reliability of parcel-based information of the cadaster system has their own role in improving the efficiency of service delivery in the sub city. Not only this, 45.61% of respondents also support on the availability and deliverability of services in land and land related sector with full integration of information communication technology (ICT).

The result shows that, even though the land related services delivery condition of cadastral system has much more operable, transparent and improved than that of the previous

Traditional service delivery as 43.94% of respondents replied, but it has limitations in consistency, reliability, in support of information communication technology (ICT).

Professionals under cadaster system sectors act as brokers between the cadaster and land administration service providers and the beneficiaries of the services provided. These professionals perform juridical functions during land registration when land ownership disputes need to be fixed. And also assist landowners to register deeds, mortgages, and easements and to assign and convey land and property. In doing so, the cadaster system should be supported with skilled professionals and continuous capacity building activities.

## 4.6. Performance and quality of service delivery.

According to the key informant interview, the performance and quality of service delivery is weak due to poor coordination and cooperation between the landholding registration office and the land development and management office in Yeka sub-city and the lack of well-documented and functional cadastral information system. According to the landholding registration proclamation 818/2014, there is a requirement for smooth cooperation and integration between these two offices to achieve the objectives of cadastral implementation and service delivery or landholding adjudication and registration.

One aspect where poor coordination is evident in the transfer of landholding titles. The land development administration office is conducting transfers of landholding titles while landholding adjudication is still ongoing. However, according to the law, the land administration office should suspend such transfers until the completion of landholding adjudication, which typically takes five months.

Another indication of the lack of cooperative working relationship is the slow response of the land development administration office in correcting parcels that are not qualified for adjudication. When parcels are deemed ineligible for adjudication, they are supposed to be returned to the land development administration office for correction, which should be done within 15 working days as per the landholding registration proclamation, regulation, and directive. However, the response from the land development administration office in making these corrections was significantly delayed.

Furthermore, when we look at the performance and quality of service delivery, the study shows that there are many gaps or challenges in the city in terms of following legal procedures, institutional organization, working in accordance with the law, attending to the client or service requester in a timely manner, attitude and skills, and updating the required service delivery and making it effective and efficient.

The study found that the main problems or challenges that hinder the implementation of the cadaster and the quality of service delivery in the city include legal gaps, institutional organization, lack of capacity building, political interference, technical and data challenges, and lack of awareness among the majority of the community or society about the nature and benefits of the implementation of the cadaster and service delivery.

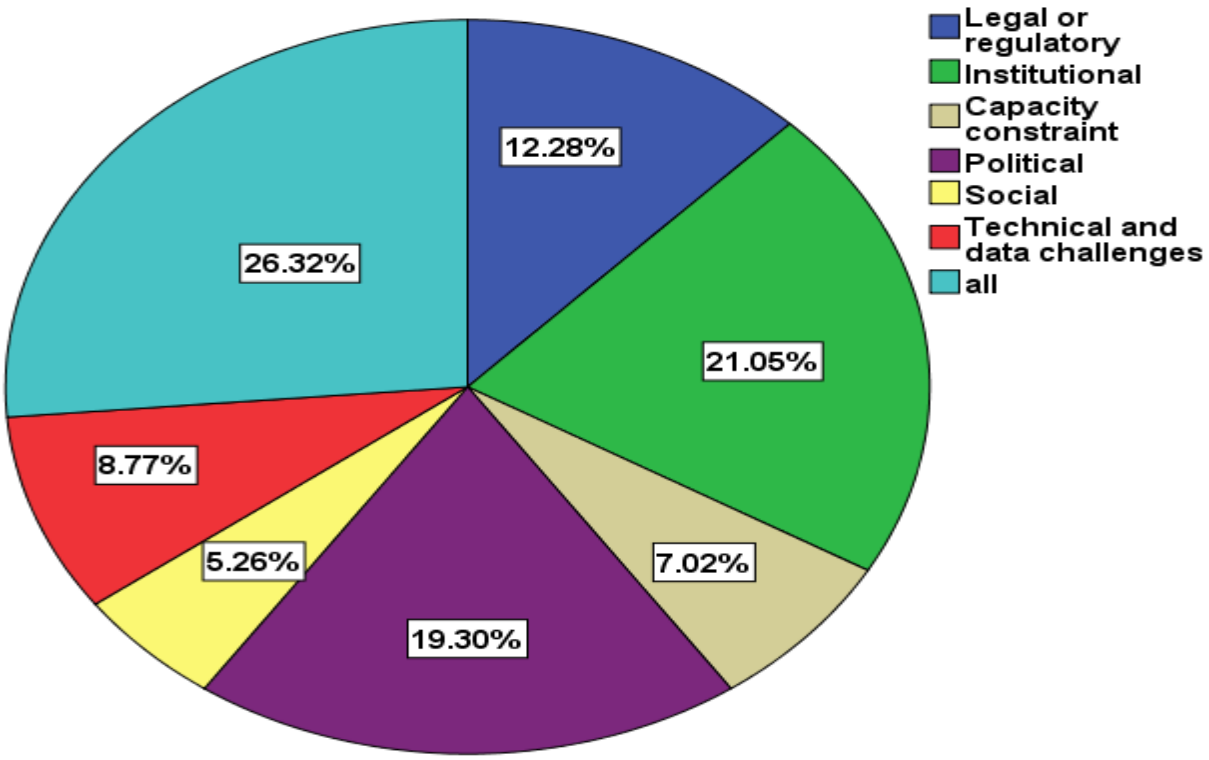



**Figure 11: Summary of challenges encountered in cadastral system service delivery processes.**

Source: survey, 2025

Based on the policy level and evaluation of performance dimension of cadastral system implementation shown in (Figure 12), the challenges encountered in cadastral system services delivery processes are weighted in percent. According to the result, from those performance dimension cumulative, institutional, political, and technical and data challenges, legal or regulatory has relatively highly weighted of 26.32%, 21.05%, 19.03%, and 12.28% respectively. Based On the respondent's argument, the major institutional challenges are unmanaged organizational structure, miserable workflow, unconducive work space, lack of integration and coordination with other stakeholder institutions. While political challenges are uncontrolled interference, unlawful decisions, lack of political commitment for good governance in service delivery and lack of combating corruption. The other challenges are related to technical and parcel-based data information like parcel overlapping, gaping, surveying errors, lack of sufficient ground control points (GCPs) and lack of non-spatial information collected from the owners and those challenges create a complex cumulative challenge. Land registration systems like the cadaster to be uniform in the implementation, there should be regulated by laws, administrative rules and guidelines. These regulations should content as well some technical demands and rules for using the system and for maintaining it.

As shown in the Figure 13 below, the demand of land and land related service

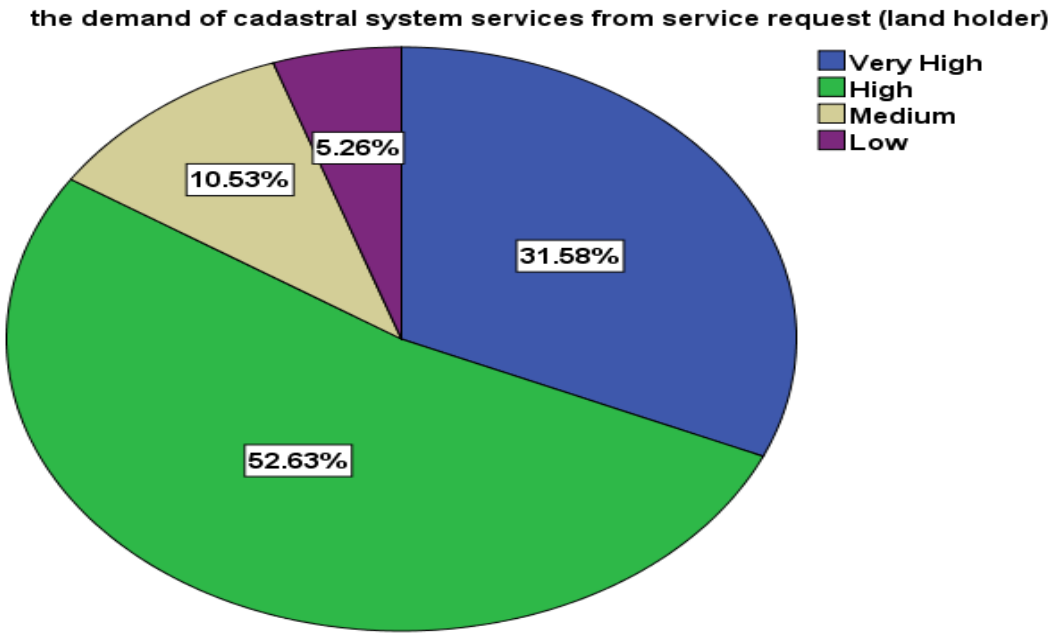



**Figure 12: Demand of cadastral system service delivery**

As argued by the most of the key informant respondents the demand of land related service from the publics are shows the above figure4.10 31.58% of respondents are very high, 52.63% of respondents are high,10.53% of respondents are medium and 5.26% of respondents are low. Depending on the respondents argument more than 84.21% of respondent's response are high.

According to the findings of the study, if they are accurate, it indicates that the institution has a high and diverse demand for services. Therefore, in order to accommodate this high demand and provide effective service delivery, the land registration institution needs to strengthen and improve its systems meaning its organizational structure and service mechanisms so that services can be delivered efficiently and accurately.

Accordingly figure 14 shows that the cadastral system service delivery existing satisfaction of publics.

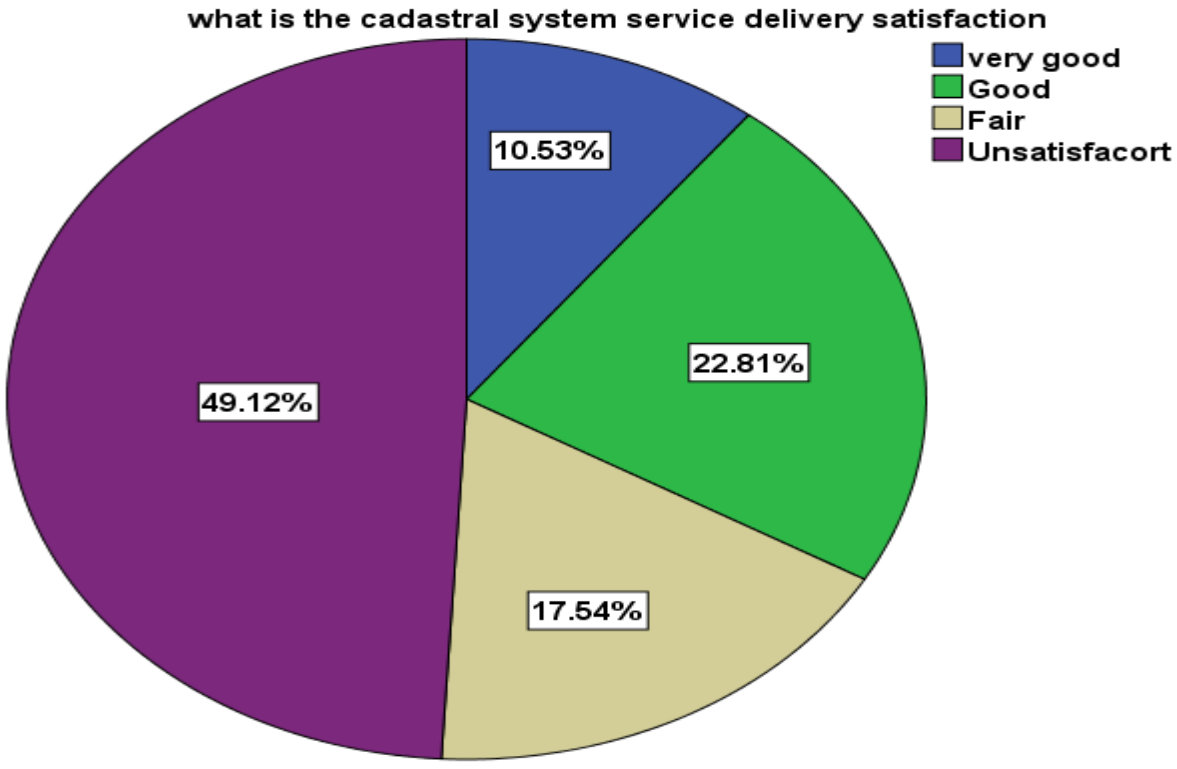



**Figure 13: cadastral system service delivery satisfaction of publics.**

Source: survey, 2025

According to the respondent's argument about cadastral system service delivery shows the above figure 14, 10.53% of respondents are very good, 22.81% of respondents good, 17.54% of respondents are fair and 49.12% of respondents are un satisfaction. Depending on the respondents argument 66.66% of respondent's response are cumulatively fair and unsatisfactory.

The study indicated that the two figures which mean figure4.10 and 4.11 based on cadastral land related services demand and cadastral system services satisfaction based on respondents' argument 84.21% of respondents service demand high while the response to providing proper services from the institution is 66.66% cumulatively fair and unsatisfactory. That means, only 33.34% of service delivery was satisfied by the customers. This result shows that, the demand and supplies of service delivery has a gap and are not equivalently tracked.

According to key informant interviews of the respondents about cadastral system service delivery indicated that there are currently numerous issues in the sub city related to service delivery, including slow service handling, the absence of a robust system or a weak system, and the challenge of Maintaining or repairing the existing system by the institution's professionals. It is evident from the interview or study that these combined problems have made the service delivery neither simple, efficient, nor effective, as shown through the interview or the study.

Accordingly Belete et al (2008) has discussed that the Ethiopia's public sector faces challenges due to insufficient emphasis on establishing robust institutional structures with clearly defined roles and responsibilities. Alongside this, there is a lack of focus on streamlining operational processes and investing in human resource development. Tackling these issues is complex, largely because long-term capacity-building efforts aimed at creating sustainable institutional reforms have been overlooked. Effective institutional frameworks are essential for delivering and coordinating public services, and incorporating principles of transparency and accountability is crucial to curbing unethical practices.

So the study shows that the registration institution needs to modernize its procedures around service delivery, identify problems, find solutions to problems, and strengthen the institution by creating various procedures to make service delivery effective and efficient. And also as the study indicates, by improving or restructuring the institution, it is possible to fulfill the intended goal of service delivery. Additionally, to make service delivery simpler and more efficient, preparing a

standardized, transparent operational manual is essential. Moreover, if the service delivery system is based on a well-structured foundation, it can lead to faster service times, accurate cost management, and more transparent and accessible processes. This, in turn, allows for the expansion of a better land administration system.

# Chapter Five

## 5. Conclusions and Recommendations

### 5.1. Conclusions

The main objective of this study is to assess the level of cadastral system implementation and service delivery in Yeka sub-city. The study is conducted to assess the overall cadastral system operation and challenges encountered during the implementation process. The implementation and performance of the cadastral system is somehow good, with significant increments from time to time, the coverage, quality, understanding and attitude towards its work as an institution have been improved. The study shows that the total number of adjudication and registered land titles in the 14 woredas of the sub-city at the time of data collection and interviews are 48,816, of which the number of adjudication land titles in the six woredas selected for the study is 18,022 plots of land. The study identified many basic challenges encountered during the implementation that prevent the implementation of the cadastral system from continuing on schedule and the cadastral coverage from continuing to the planned and desired extent. Among these main challenges lack of material access, finance, lack of awareness among the community or society about the work, lack or incompleteness of data when adjudicated tenure or land parcels, technical knowledge problems, the lack of coordination between the right creator institution and cadastral registration office, the system used by the institution to register the parcels has a limitations in terms of registering all tenure or parcels, the organization of the institution, the low attention of the political leadership to the work in the implementation of the cadaster, the lack of awareness of the leadership and the experts about the work are identified as the main challenges and in addition, as the study has shown, in order to facilitate and update the services provided by the institution regarding the cadastral services, a case tracking software has been created. This software scans the tenure information or data and provides this information to the service provider without touching the hands when the service request is submitted. Although the transfer of the host body or professional is seen as a positive aspect, the study found that the level of service delivery in the city needs improvements in terms of fairness, equity, transparency, and accountability. In general, following the cadastral system is very important for both the country and the city, so it is important to conduct periodic studies, evaluate its operation, implementation and performance.

## 5.2. Recommendations

The following recommendations are forwarded based on the results and discussion of the study.

- A cadaster system as an effective tool for the sustainable administration and management of essential land resources. The role of cadastral systems has been functioning as an engine for sustainable land administration system though their systematic performance evaluation mechanisms seemed to be poor. This can only be achieved when the cadaster system implementation is implemented in full-fledged. Therefore, the performance and status of parcel-based cadaster system information should have to be implemented consistently and realized throughout the city of Addis Ababa in General and Yeka sub city in particular without limiting as a pilot.
- The success of cadastral system is determined by the willingness of politicians, commitment and well professional staff which take into account the social, economic, and cultural contexts. Although all dimensions (Table 8) have their own contribution to the fruitful execution of cadastral system, a well-functioning urban cadastral system can never be achieved without positive political will, and leadership as a fundamental requirement at national level in general, city and sub city level in particular. Therefore, at national level the government should give more attention to support and follow the overall cadaster system implementation by formulating their own national cadastral system policy, strategies (to achieve mission, vision and targets prepared in smart way) and legal frameworks. In the main while, the government of Addis Ababa city administration should organize the institutional arrangement and workflow that will reduce the bureaucratic and duplicative processes of institutional challenges and allocate budget for resources and technology transfer trainings to reduce technical challenges.

  The establishment of an urban cadastral system in developing countries like Ethiopia is a way to provide security of tenure and ensure people can live with certainty and safety on their ownership right. For land administration to function efficiently, systems like GIS and LIMS need to be implemented. To enhance the effectiveness and efficiency of land and land related cadastral system service delivery, consistent and well-functioned cadaster system implementation should be applied with procedurally accurate data collection and organization scheme supported by ICT. This will enhance transparency, lower the costs associated with transactions, and significantly reduce or potentially eradicate unofficial payments and corrupt activities within land management processes.
- The implementation of well functioned cadastral system requires a skilled professional leaders, experts and stakeholders. In addition to this, public private partnerships and participation of publics are mandatory in the processes. To do so, the institution should have to prepare cadaster implementation strategies, working manuals, standards and guidelines that will help the institution to enhance the public awareness

for the effective implementation of the cadaster system. This enhances committing public resources to awareness creation campaigns and public sensitization about the legal and procedural aspects of land and land related cadastral system implementation and service delivery likely would be a sufficient and economically viable option to reinforce efforts to reform and maintain good land governance.

- To improve the cadastral operational system and service delivery, it is essential to implement it properly and in a structured manner. Likewise, for the system to function correctly and to establish a modern land administration system that ensures accurate information and reliability, it is necessary to adopt advanced technological tools that align with the up to date. These tools will support the cadastral operational system effectively.
- Generally, further effort will consider incorporating spatial variables like detail evaluation of spatial data, accuracy assessment of cadastral system implementation, and related issues needed to be studied

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# Appendix

Bahir Dar University

Institute of Land Administration

## Research Questionnaires to Respondents

Dear respondent:-

This questionnaire is designed for titled **"Assessing cadastral system implementation and service delivery in Addis Ababa city administration particularly in Yeka sub-city".** The general objective of this study is to assess the level of cadastral system implementation and service delivery in Addis Ababa City Administration taking Yeka Sub-City.As a case study. The data will be used only for a research purpose and it confidential. Hence, I kindly requested you provide accurate and reliable information to improve the quality of the research results. Thank you in advance for your time to fill out the questionnaire honestly. It really much appreciated.

PART II: Background of Respondents

Name of Working Institution_____

City _____Sub city_____

Put a tick (✓) in the answer box that you agree is the correct answer to the question.

1. Gender: Male ☐ Female ☐

2. Age category: 20-30 ☐ 31-40 ☐ 41-50 ☐ >51 ☐

3. Marital Status: Single ☐ Married ☐ Divorced ☐

4. Education Level: Diploma ☐ BSc /BA ☐ Msc/MA ☐ PhD ☐

5. Field of Specialization _____.

6. Work Experience: <2 years ☐ 3-6 years ☐ 7-10 years ☐ >10 years ☐

Part III: Questionnaires for urban land holding registration and information experts.

**A) To assess the Performance of Current status and implementation of cadastral system, and Service Delivery**

7. How do you evaluate/assess the status and implementation of cadastral system in the sub-citys using the indicators and arguments indicated in the following Table? Use a tick (✓) symbol.

| No | Indicators and Arguments | Strongly Disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| 1 | One of the necessities of modern cadaster System implementation is good land governance which catalyzes economic development, for creating sustainable growth and a better outlook for future generations. The current status and availability of organized parcel data in the sub city efficiently satisfying the modern cadaster System. | | | | | |
| 2 | During the implementation of cadastral system in the sub city, cadastral surveying activities has been strongly ruled by workflows to gain strong accuracy starting from checking accuracy of surveying instrument. | | | | | |
| 3 | The importance of cadastral and land information systems in support of effective land markets and urban land management has been clearly enunciated by stakeholder officials and experts. | | | | | |
| 4 | Cadaster officials, stakeholders and experts sufficiently understand the benefits of implementation of cadaster system that supports the property tax system, | | | | | |
| 5 | The availability and status of parcel-based data organization and information is operable in | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | secured, responsible and accountable manner with legal frame work | | | | | |
| 6 | Existing organized cadastral data and information can Cleary provide sufficient information to stakeholders, policy and decision makers, and land and property owners. | | | | | |
| 7 | The archiving of cadastral information is fully supported by information communication technology (ICT) network, sufficient space, required logistics that will access the parcel data in hard copy and softcopy from centralized information storage. | | | | | |
| 8 | The cadaster system sector has different funding opportunities and supported by different financing organization. | | | | | |
| 9 | The organizational structure and staff of cadastral system implementation fully organized with strong workflow and disciplined professional involvement | | | | | |
| 10 | The cadaster staffs are working on continuous professional development to improve the overall efficiency and effectiveness of cadastral system implementation and service delivery. | | | | | |
| 11 | Since parcel data are dynamic, many of the challenges in the sub city are related to the data themselves and the technology used to create and maintain them. It is difficult to ensure that they are consistently accurate and up-to-date. | | | | | |
| 12 | The cadaster system implementation producers and acts are influenced by unmanaged political and leadership interventions. | | | | | |
| 13 | In cadaster sector, there is a comprehensive public awareness strategy, working manuals, and | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | guide lines to deliver a continuous awareness creation to enhance the participation of public. | | | | | |
| 14 | The most challenge encountered in implementing effective legal cadaster in the sub city is lack of awareness among political leaders, experts and publics. This is the major problem which has been seen in the sub city. | | | | | |
| 15 | The cadaster staffs are working on continuous professional development to improve the service delivery. | | | | | |
| 16 | The land related services delivery condition of cadastral system has much more operable, transparent and improved than that of the previous traditional service delivery. | | | | | |
| 17 | The cadaster system implementation related services and land related service provided by land management sector are full integrated with information communication technology (ICT) for better service delivery | | | | | |
| 18 | The data consistency and reliability of parcel based information of the cadaster system makes improving the efficiency of service delivery in the sub city | | | | | |
| 19 | The service delivery of land related cadaster system is highly supported by a strong data security in responsive and accountable manner. | | | | | |

1. There is a comprehensive service delivery charter and legal framework in using the cadaster system for service delivery.

   A) Yes B) No C) I don't Know

   If yes. What are the indicators? If no why?

   _____

   _____.

2. What are the main challenges encountered related to cadaster system service delivery? Select all that apply in a chronological one

A) Legal or regulatory B) Institutional C) Capacity constraint D) Political E) Social F) Technical and data challenges G) Finance related H) all

3. In your opinion what is the demand of cadastral system services from service request (land holder)

A) Very High B) High C) Medium D) Low E) Very Low

4. In your opinion what is the demand of cadastral system services delivery from service request (organization)?

A) Excellent B) Very good C) Good D) Fair E) Unsatisfactory

5. In your opinion, which challenges characterize the implementation of cadaster system in Yeka sub city? (You can select more than one in a chronological order)

A) Legal and institutional B) Policy C) Political D) Social E) Technical and data challenges

F) Financial G) all

1. How do you evaluate the current status and performance of cadastral system implementation in the sub city?

_____

_____

2. What are the major challenges and potentials of cadastral system implementation in the sub-city?

   **a.Challenges**_____

   _____

   _____

   _____

   **b**.**potentials**_____

   _____

   _____

   _____

3. How do you describe the integration of adjudication and registration, cadastral surveying, and mapping preparation activities in accordance with legal frameworks?

_____

_____

4. Is there successful integration with right creation institutions in providing reliable urban landholding information and settling dispute cases during adjudication? If not, why? And what would you propose to be improved?

_____

_____

5. Are there limitations in the legal provisions affecting the implementations?

_____

_____

6. In your opinion what is the participation of public and private sectors during the implementation of urban cadaster?

_____

_____

7. Do you think the existing political situation is affecting to implement the practice of urban cadaster efficiently in the sub city? a) Yes b) no

a) If you ‘yes’ list out your reasons?

_____

_____

8. Do you think there are adequate skilled man powers to implement urban cadaster in the sub city?

_____

_____

9. What do you think about the current availability and status of parcel-based data organization in the cadastral system implementation?

_____

_____

10. What are the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city?

_____

_____

11. How do you express the current land related service delivery conditions in cadastral Services?

_____

_____

12. What are the performance and quality of service delivery?

_____

_____

13. What are the major challenges of cadaster system land related service delivery in the Sub city?

_____

_____

14. Do you think that the cadaster system implementation has a comprehensive public awareness strategy, working standards and manuals? A) Yes B) No

15. If your answer is ‘Yes’ for Question number 15, what is the status, gaps and Challenges

_____

_____

17. If your answer is 'No' for Question number 15, how do you see the way that they create awareness and public participation in implementing of the cadaster System?

_____

_____

18. What is your recommendation to improve the implementation of cadaster system and Cadastral service delivery?

_____

_____

_____

**Part VI**: **Interview for Leaders of Urban Landholding Registration at Yeka Sub City**

1. What do you think about the current status and performance of cadastral system implementation in the sub city?
2. How do you evaluate the current availability and status of parcel-based data organization in the cadastral system implementation?
3. Do you recognize the major challenges faced during the implementation and Operational processes of cadaster system development?

a. Could you list out the major challenges of cadastral implementation or Process?

4. What are the major potentials of cadastral system implementation in the sub-city?

b. Could you list out the major potentials of cadastral implementation currently?

5. What do you see the availability and status of cadastral implementation for service delivery?

6. What are the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city?

a. Could you list out performance evaluation indicators of land-related service delivery?

7. What are the performance and quality of service delivery?

a. Could you list out the performance and quality of service delivery?

8. What is the level of service delivery? Is that possible to get a service in short responsive manner using the system?

9. What is your observation on land related services delivery conditions in Cadastral office?

10. Based on your point of view, what are the major challenges faced in service delivery of cadastral system?

11. What do you think that the availability of comprehensive public awareness strategy in Cadaster system development sector?

a. Yes! How do you express?

b. No why the reason pls explain?

12. How could you see the status, Gaps and challenges of public awareness activities?

13. What is your suggestion to improve the cadastral system implementation and service Provision in land related issues?

**Part VII: Interview for Leaders of Addis Ababa City Administration Urban Landholding Registration and Information Agency:**

4. In your opinion what is the current status and performance of cadastral system implementation in the sub city?
5. How do you evaluate about the current availability and status of parcel-based data organization in the cadastral system implementation?
6. Do you recognize the major challenges faced during the implementation and operational processes of cadaster system development?

b. Could you list out the major challenges of cadastral implementation or process?

4. What are the major potentials of cadastral system implementation in the sub-city?

b. Could you list out the major potentials of cadastral implementation currently?

5. What do you see the availability and status of cadastral implementation for service delivery?

6. What are the performance evaluation indicators of land-related service delivery in relation to cadastral service in the sub-city?

a. Could you list out performance evaluation indicators of land-related service delivery?

7. What are the performance and quality of service delivery?

a. Could you list out the performance and quality of service delivery?

8. What is the level of service delivery? Is that possible to get a service in short responsive manner using the system?

9. What is your observation on land related services delivery conditions in Cadastral office?

10. Based on your point of view, what are the major challenges faced in service delivery of cadastral system?

11. What do you think that the availability of comprehensive public awareness strategy in Cadaster system development sector?

a. Yes! How do you express?

b. No why the reason pls explain?

12. How could you see the status, Gaps and challenges of public awareness activities?

13. What is your suggestion to improve the cadastral system implementation and service Provision in land related issues?

ይህን ምልክት ይጠቀሙ (✓)

ጾታ: ወንድ ☐ ሴት ☐

እድሜ: 20-30 ☐ 31-40 ☐ 41-50 ☐ >51 ☐

የጋብቻ ሁኔታ : ያላገባ ☐ ያገባ ☐ የፈታ ☐

የትምህርት ደረጃ: 12ኛ ☐ ሰርተፍኬት(ሌቭል) ☐ዲፕሎማ ☐ድግሪ ☐ ማስተር ☐ ዶክትሬት ☐

**ክፍል 8(VIII) በምዝገባ ተቋሙ የመሬት ይዞታቸዉ ለተመዘገበላቸዉ ባለይዞታዎች የተዘጋጀ መጠይቅ ወይም ጥያቄ**

1. **በህጋዊ ካዳስተር አተገባበር ላይ ግዛቤዉ አለዎት? ሀ/ አዎ ለ/ የለም**
   **መልስዎ ግንዛቤ የለኝም ከሆነ ምክንያቱ ቢገለጽ**

……

……

2. **በመሬት ይዞታ ማረጋገጥና ምዝገባ አተገባበር ላይ ተሳትፎ ያደርጋሉ?ሀ/ አዎ ለ/ ተሳትፎ አላደርግም**

**መልስዎ ተሳትፎ አላደርግም ከሆነ ምክንቱ ቢገለጽ**

……

……

3. **በምዝገባ ተቋሙ ተረጋግጠዉ በተመዘገቡ የመሬት ይዞታዎች ላይ ከወጭ፣ከጊዜ እና ከአገልግሎት እርካታ አንጻር ግልጽና ቀልጣፋ ነዉ ብለዉ ያስባሉ ሀ/ አዎ ለ/ አይደለም**

**መልስዎ አዎ ከሆነ አገልግሎት አሰጣጡ ምን እንደሚመስል ቢገለጽ**

……

……

መልሰዎ አይደለም ከሆነ ምክንያቱ ቢብራራ

……

……

4. በምዝገባ ተቋሙ ባገኙት አገልግሎት ያልዎት እርካታ ምን እንደሚመስል ቢገልጹ?

   ……

   ……..

5. በምዝገባ ተቋሙ ስለምትፈልጉት አገልግሎት ምን ምቹ ሁኔታ አለ?

   ……

   ……

6. በአጠቃላይ የካዳስተር አተገባበሩንና የመሬት ይዞታ አገልግሎት አሰጣጡን እንዴት ይገልጹታል?

   ……

   ……

   ……

   ……

*Non-Spatial information summery of adjudication and registration result in Yeka sub city pilot woreda*

| Woreda | Ketena | Total Parcels | Pre adjudication application | | Adjudication Status | | Tenure Types | | | | | Ownership | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Requested | Not Requested | Qualified | Not Qualified | Lease | Permit | Lease and permit | Condominium | Unknown | Private | Government | Organization | comparable | Unknown |
| 8 | 1 | 1120 | 358 | 762 | 730 | 390 | 172 | 363 | 40 | | 545 | 605 | 214 | 1 | 80 | 220 |
| | 2 | 760 | 372 | 388 | 502 | 258 | 173 | 325 | 32 | | 230 | 456 | 128 | | 53 | 123 |
| | 3 | 471 | 111 | 360 | 294 | 177 | 141 | 145 | 4 | | 181 | 176 | | | 9 | 286 |
| | **Sub total** | 2351 | 841 | 1510 | 1526 | 825 | 486 | 833 | 76 | 0 | 956 | 1237 | 342 | 1 | 142 | 629 |
| 9 | 1 | 1122 | 497 | 625 | 443 | 679 | 277 | 373 | 15 | | 457 | 709 | 143 | | | 300 |
| | 2 | 1029 | 637 | 392 | 440 | 589 | 261 | 531 | 16 | | 221 | 810 | 110 | | | 109 |
| | 4 | 1049 | 501 | 548 | 221 | 828 | 101 | 358 | 6 | 272 | 312 | 736 | 144 | 1 | | 168 |
| | 5 | 742 | 300 | 446 | 241 | 501 | 173 | 272 | 9 | | 288 | 478 | 125 | 1 | | 138 |
| | **Sub total** | 3942 | 1935 | 2011 | 1345 | 2597 | 812 | 1534 | 46 | 272 | 1278 | 2733 | 522 | 2 | 0 | 715 |
| **10** | 5 | 1096 | 615 | 481 | 595 | 501 | 357 | 432 | 19 | | 288 | 914 | 152 | 3 | 7 | 20 |
| 11 | 3 | 53 | 18 | 35 | | 53 | 3 | 15 | | | 35 | 33 | 7 | | | 13 |
| | 4 | 1059 | 428 | 631 | 902 | 157 | 154 | 542 | 20 | | 343 | 854 | 115 | | | 90 |
| | 5 | 1159 | 729 | 430 | 913 | 246 | 367 | 357 | 41 | | 394 | 867 | 120 | | | 172 |
| | **Sub total** | 2271 | 1175 | 1096 | 1815 | 456 | 524 | 914 | 61 | 0 | 772 | 1754 | 242 | 0 | 0 | 275 |
| 12 | **7** | 1323 | 674 | 649 | 906 | 417 | 483 | 562 | 25 | | 253 | 799 | 308 | 5 | 9 | 202 |
| | **8** | 1599 | 574 | 1025 | 895 | 704 | 568 | 250 | 8 | | 773 | 878 | 518 | | | 203 |
| | **Sub total** | 2922 | 1248 | 1674 | 1801 | 1121 | 1051 | 812 | 33 | 0 | 1026 | 1677 | 826 | 5 | 9 | 405 |
| 13 | 5 | 991 | 371 | 620 | 908 | 83 | 688 | 177 | | | 126 | 857 | 122 | | 4 | 8 |
| | 6 | 887 | 488 | 399 | 805 | 82 | 763 | 7 | | | 117 | 782 | 97 | 1 | | 7 |
| | 8 | 221 | | 221 | | 221 | 221 | | | | | 221 | | | | |
| | 9 | 932 | 162 | 770 | 623 | 309 | 534 | 41 | 1 | | 356 | 579 | | | | 353 |
| | 10 | 553 | 318 | 215 | 471 | 82 | 99 | 220 | 12 | | 222 | 422 | | | 2 | 129 |
| | 11 | 986 | 213 | 773 | 613 | 373 | 466 | 34 | 2 | | 484 | 474 | 1 | 4 | | 507 |
| | 12 | 870 | 273 | 597 | 639 | 231 | 481 | 201 | | | 188 | 741 | 96 | | | 33 |
| | **Sub total** | 5440 | 1825 | 3595 | 4059 | 1381 | 3252 | 680 | 15 | 0 | 1493 | 4076 | 316 | 5 | 6 | 1037 |
| | **Grand Total** | **19022** | **7639** | **10367** | **11141** | **6881** | **6482** | **5205** | **250** | **272** | **5813** | **12391** | **2400** | **16** | **164** | **3081** |

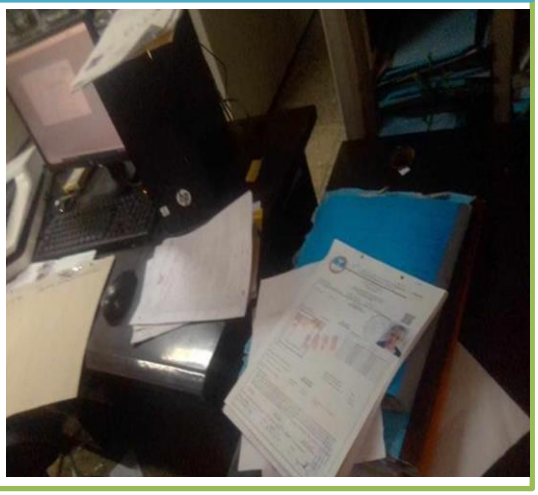
Sources: Analysis result from secondary data sources, 2025.

**Summary of field observation sample images collected from the field**

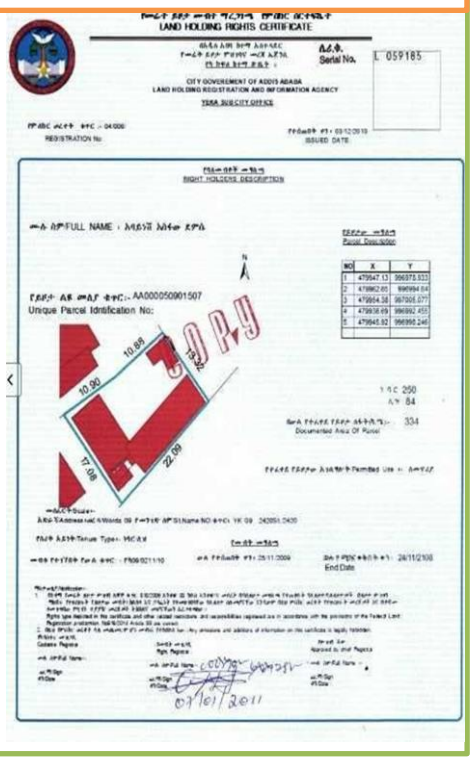
Hard copy file storage



Soft copy database & Land holding right certificate printing



Land holding right certificate




Provision of cadastral service delivery

