

**THE IMPACT OF LAND ADMINISTRATION PRACTICES
ON SUSTAINABLE DEVELOPMENT PERFORMANCE OF
ADAMA CITY:**

By

Umer Sani Mohammed



**A Thesis Submitted to Department of Architecture, Urban
Planning and Design
School Of Civil Engineering and Architecture**

**Presented in Partial Fulfillment of the Requirements for the
award of Master's Degree in Urban Planning and Design**

**Office of Graduate Studies
ADAMA SCIENCE AND TECHNOLOGY UNIVERSITY**

June, 2020

Adama, Ethiopia

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ADVISOR: Yared Girma (Ph.D.)



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Approval of Board of Examiners

We, the undersigned, members of the Board of Examiners of the final open defense by Umer Sani Mohamed have read and evaluated his thesis entitled The Impact of Land Administration Practices on Sustainable Development Performance of Adama City. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirement for the award of the Masters Degree in Urban Planning and Design.

By: Umer Sani Mohamed

Approved By a Board of Examiners

_____	_____	_____
Chair Person	Signature	Date
_____	_____	

Internal Examiner	Signature	Date
_____	_____	

External Examiner	Signature	Date

Declaration

I, hereby declare that the thesis entitled “**The Impact of Land Administration Practices on Sustainable Development performance: The Case of Adama City**” is my original work prepared under the guidance of my advisor Yared Girma (ph.d.) and as to the best of my knowledge, it has not been previously submitted to any University. I would also like to confirm that all the sources of Materials used in this study are duly acknowledged.

Declared by:

Name: **Umer Sani Mohamed**

Signature: _____

Date: _____

Confirmation

This is to certify that Umer Sani Mohamed has carried out this thesis on the topic entitled “The Impact of Land Administration Practices on Sustainable Development Performance of Adama city” Under my supervision. Accordingly, I here assure that his work is appropriate and standard enough to be submitted for the partial fulfillment of the requirements for the award of the Masters Degree in Urban Planning and Design.

Yared Girma (Ph.D.)

Signature: _____

Date: _____

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Acronyms/ List of Abbreviations

GGAL: Good Governance in Land Administration

LA: Land Administration

LAP: Land Administration Practices

LRP: Land Registration Practices

LUP: Land Use Practices

TSP: Tenure Security Practices

SDP: Sustainable Development Performance

Abstract

Land administration is one of the most important tools that all urban cities around globe use to develop their performances. The main aim of the study was to examine the impact of Land administration practices on sustainable development performance of Adama city. To study the impact of land administration practices four dimensions of land administration practices were used as independent variables and tests the respondents understanding perspectives on the impact of Land administration practices on sustainable development. The study used a mixture of quantitative and qualitative research approaches and techniques to achieve the intended objectives. From the total target population a sample of 512 employees, residents and informal settlers was taken as a sample based on Carvalho ,1984 sample, using non probability sampling techniques. A questionnaire was used as a research tool for the collection of data. Collected data was analyzed through SPSS version 25 by running descriptive statistics, correlation and regression. From the result of the analysis it is concluded that there is strong relationship between land administration and sustainable development performance. Besides, land registration practices, tenure security practices, land use practice and good governance in land administration practice significantly and positively affected sustainable development performance of the city. In order to maximizing the potential benefit of the city land and build wealthy community, it is better for the land organizations to give due attention on those land administration practices for more improvement of sustainable development performance.

Key word: *Land Administration, Land administration practices, sustainable development, good governance*

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Over the last decade, many influential global development organizations and national governments have moved from seeing urbanization as an economic and social ill towards advocating the view that urbanization can drive growth and development and should be encouraged. According to United Nations, (2010) just over half of urban dwellers (52 per cent) live in urban. These urban centers are projected to absorb 45 per cent of the projected increase in world urban population between 2010 and 2015. The other half (48 per cent) live in 958 cities with more than half a million inhabitants which are projected to absorb the remaining 55 per cent of the projected increase in urban population. If well managed, the interactions between towns and countryside can be the basis for a balanced regional development that is economically, socially and environmentally sustainable (DANIDA, 2000).

Accordingly, the management of land can play an important role in providing conditions for maximizing the potential for a beneficial process of urbanization and minimizing the negative impacts on the poor and vulnerable. As Burns and Dalrymple, (2008) land is a fundamental resource for the economic development of any country in the world. Thus, if managed poorly, processes of administrative reconfiguration and settlement of incoming urban migrants can heighten tension, leading to violence and destabilization. On the other hand, where good management exists, this can facilitate efficient urbanization as land can be made available at affordable costs, facilitating low cost housing and minimizing displacement of households and economic activities (UN HABITAT, 2014). Additionally, effective stewardship of land is necessary to provide the formal utilities, infrastructure and public bulk services (Manuel and Calderon 2015) that underpin inclusive and growth-enhancing urbanizations.

Therefore, Land administration serves as a suite of tools that operationalise the instruments of land policy for economic development. It has been defined as ‘the process of determining, recording and disseminating information about the ownership, value and use of land when

implementing land management policies' (UNECE, 1996:14). This definition encapsulates the relationship between tools and policies very well (van der Molen et al., 2008). Lyons and Chandra (2001) also defined land administration as the regulatory framework, institutional arrangements, systems and processes that encompass determination, allocation, administration and information concerning land. Globally, land governance is about the policies, processes and institutions by which land, property and natural resources are managed. This includes decisions on access to land, land rights, land use, and land development (Deininger et al., 2010:2). As (World Bank, 2009) stated, land governance is basically about determining and implementing sustainable land policies and establishing a strong relationship between people and land.

According to Solomon (2013), different literature demonstrates the importance of adopting good land governance in land administration (as cited in Palmer, et al., 2009). Solomon (20013:26) cited in (Palmer, et al., 2009), stated the benefits of good governance in land administration were to reduce corruption, prevent environmental degradation, increase land tenure and give priority for the poor. In contrast, Solomon (2013) cited in (Wehrmann, 2012) discussed that weak land governance causes insecurity of tenure, high transaction costs, informal land transactions or an informal property market, reduced private sector investment, illegal transfer of state land, limited local revenues, land conflicts, landlessness and inequitable land distribution, social instability, social exclusion and political instability, erosion of ethics and also standards of unsustainable natural resources management.

In Ethiopia under the FDRE, urban land is governed and administrated by the urban land leasehold law which has been amended three times since its first application in 1993. The first urban land leasehold law, (proclamation80/1993) by the Transitional Government of Ethiopia (TGE) and second (proclamation 272/2002a) by FDRE were issued without underlying urban land policy. Third urban land leasehold law (Proclamation No. 721/2011) was also issued following the acceptance of the first urban land management policy (FDRE 2011b) (Alemie, 2015). However, urban governance practice in land administration has not improved. Poor urban governance in land administration is still ongoing.

According to my observation, this is true at local level at Adama town. Therefore, the study has intended to investigate the impact of urban land administration system on sustainable development of Adama City.

1.2. Statement of the Problem

The rapid growth of many cities in the developing world as a result of urbanization, population migration, and economic development produces numerous challenges. This rapid growth creates a demand of the scarce land resource for the construction of different commercial, industrial, and residential buildings as well as infrastructure development (Pierre, 2014). This change has brought different impacts including social, economic & environmental. For instance, according to Gaylan (2017), the changes in land use have a significant role in the escalation of land surface temperature. Accordingly, land use changes mainly driven by population growth and economic development through infilling of areas and clearing of vegetation resulted in a wide range of environmental impacts (Ashraf and Yasushi, 2009). As a result, the development process of urban areas needed proper Land Administration system and sustainable urban planning. Arguably sound land administration is the key to achieve sustainable development and to support the global agenda set by adoption of the Millennium Development Goals (MDGs).

In developing country, urban land reform experts claim that the main obstacle to promote sustainable development by improving benefits obtained from the urban land is outdated management system of the land. However, it is not the management system alone, which affects the different benefits obtained from the urban land, which is very crucial to promote sustainable development; it is the structure of land tenure, the lack of proper land ownership as well as lack of improved land delivery system and institutional bureaucracy. This is predominantly the major problem particularly in most of sub-Saharan African countries.

Ethiopia is one of the few countries in Sub Saharan African with great challenges of managing the urban land properly. In Ethiopia, lack of institutional, legal and technological frameworks, rampant rent seeking behavior and lack of skilled manpower in the institutions have affected the service delivery and management system of the urban land. As a result, a number of problems, such as inability to increase their revenue base, inequitable distribution of the resources, unsecure tenure practices, distortion of urban land market and delays in the implementation of urban development projects and environmental degradation emerge, which have direct impact on the sustainable development of the country.

In Adama city, due to poor land administration system, the registration of land transactions are not properly treated, land supply is not efficiently practiced, the natural environment has

highly degraded, the natural resources like land has not fairly and equality distributed to the community and there is a failure to protect public lands from informal settlements and speculation. The challenges occurred due to poor urban land administration has hindered the achievement of the sustainable development goals in terms of economic, social and environmental dimensions in Adama city.

Different researches have been done about good governance in land administration system frameworks in Ethiopia but there has been limited academic effort about the issue of the urban land administration practice and sustainable development (in terms of economic, social and environmental). For instance, Zevenbergen, et al., (2015) have conducted studies involving Bahir Dar, Dire Dawa and Hawassa cities and stated that “land administration and land governance was generally weak and surrounded by a growing number of weaknesses and threats. Similarly some studies have been conducted on land in Ethiopia among which are the following; Desalegn Rahmato(1994), (2004), Samuel Gebresellasie (2006), Berhanu and Feyera (2005), Crewett& Korf (2008), Solomon and Mansberger (2003), Haimanot (2009), Melkamu(2009), Gondo (2009), Daniel (2009), Asefa (2011), Asmachew (2011), Gebresellasie (2011). All the above individuals emphasized on land policy, the impact of land policy on people’s mobility, urban land lease policy, tenure security, urban land informality, land rights, Land valuations for expropriation, land registration, compensation, land use and management, and land certification in rural and urban land. Nonetheless, studies have not been covered on the relationship between urban land administration practice and sustainable development, which quite necessitate the conduct of a research to relate urban land administration and sustainable development.

Similarly, previous researches done on Adama city are focused only on assessing the existing condition of the land management system. However, the studies did not investigate the relationship between effective and efficient land administration systems and sustainable development in the city.

Observing these problems, the researcher have been interested to undertake research on the impact that the urban land administration system have on sustainable development of Adama city’ focusing mainly on four areas which are assessing the urban land registration practice on sustainable development, determining the impact of tenure security practice on

sustainable development and examine the impact of land use planning practice and good governance on sustainable development of the city.

1.3. Objectives of the Study

1.3.1. General objective

The general objective of the study is to examine the impact of Urban Land Administration practices on sustainable development of Adama city.

1.3.2. Specific Objectives

The specify objective of the study are:

- To assess the impact of urban land registration practice on sustainable development
- To evaluate the impact of tenure security practice on sustainable development
- To examine the impact of land use planning practice on sustainable development
- To assess the impact of good governance in land administration practices on sustainable development

1.4. Research Questions

The following research questions are formulated based on the specific objective of the study.

1. What is the impact of urban land registration practice on sustainable development of Adama city?
2. What is the impact of land tenure security practice on sustainable development of Adama city?
3. What is the impact of land Use planning practice on sustainable development of Adama city?
4. What is the impact of good governance in land administration on sustainable development of Adama city?

1.5. Significance of the Study

As (Dale and MacLaughlin, 1988) stated, urban land is a scarce natural resource and it is required for all economic, social and cultural activities in any society. This scarce natural resource needs to be properly managed in order to maximize its benefits and minimize any

environmental and different social problems that may be caused due to improper management of urban land (Dale and MacLaughlin, 1988). Therefore, urban land administration is the crucial issue for sustainable development of cities.

The study has a great role in bringing efficient and effective land administration system that promote sustainable development in the city by recommending appropriate measures that should be taken by the municipality. The finding of the study has provided information to make decision makers and responsible bodies aware of on how to achieve sustainable development goals in the city by improving the land administration system. In addition, the studies also serve as a stepping-stone and make the modest contribution for those who are interested to conduct research on urban land administration issues and sustainable development.

1.6. Scope of the Study

Land administration system encompasses vast areas of practices. However, it is difficult and unmanageable to conduct the study in all areas that summarizes LAS in terms of time, finance, and research manageability. Therefore, thematically the scope of the study was delimited to an assessment of the impact of urban land Administration practice (Urban land registration practice, Tenure securing practice , Land use and good governance in Land administration practice) on sustainable development of Adama city. And also the study is delimited to three kebeles of Adama city which has high density of informal settlement and population size out of the total eighteen Adama city kebeles.

1.7. Limitation of the Study

While these results are valuable, the limitation of this study must also considered. Potential limitations of this research are not considering the responses of the other tier of community members that are residents and informal settlers of other kebele members, only taking the sustainable development performance as the performance measures and not considering the other contextual factors i.e. type of industry.

1.8. Description of study Area

1.8.1. Geographical location

Adama city is located in central Ethiopia and Oromia regional state. Adama city is a special zone of Oromia and is surrounded by east Shewa zone. It is located at 8.54°N 39.27°E at an elevation of 1712 meters, 99 km southeast of Finfine. The city sits between the base of an escarpment to the west, and the Great Rift Valley to the east.

Figure 1.1: Location of Study Area



Source: From Adama structural plan

1.8.2. Formation/Establishment

It was in 1916 that the city of Adama was established with the introduction of the Finfinne/Addis Ababa-Djibouti railway line. The name of the city was derived from "Adaamii" (in Afan Oromo) which refers to 'a generic milky small plant with thick fleshy stems bearing spines called cactus/euphorbia tree'. According to the local people, there were plenty of "Adaamii" trees in the vicinity.

Recently, the city has celebrated its hundredth anniversary demonstrating a continuous progress and significant developmental achievements in the last a couple of decade since democratic and developmental government of Ethiopia designed new urban policy to enhance the transformation from lower income society to middle income society.

1.8.3. Demography

Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia this city has a total population of 220,212, an increase of 72.25% over the population recorded in the

1994 census, of whom 108,872 are men and 111,340 women. With an area of 29.86 square kilometers, Adama has a population density of 7,374.82; all are urban inhabitants. A total of 60,174 households were counted in this city, which results in an average of 3.66 persons to a household, and 59,431 housing units (CSA 2007)

1.9. Operational Definitions

Land administration: is the process of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies. It is considered to include land registration, cadastral surveying and mapping, fiscal, legal and multi-purpose cadastres and land information systems.

Sustainable development: the *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*(Brundtland, 1987).

Have three perspectives:

Economic sustainability: the ability of cities to attract profitable businesses and grow as centers of production to attract investment, create jobs, facilitate efficient communications and linkages, and enable continuing improvements in productivity and standards of living.

Environmental sustainability: the ability of cities to provide resilient habitat – shelter, safe water, air quality, waste management, energy efficiencies, climate change adaptation and mitigation measures - necessary for healthy, productive satisfying lives for their citizens now and into the future; and

social sustainability - the ability of cities to provide a safe, vibrant community where the opportunities and benefits of economic growth are equitably shared, broad community views are incorporated in decision-making, community leaders are accountable, laws are applied impartially and which is inclusive of women, marginalized, vulnerable and diverse ethnic and religious groups. Cities must create opportunities and vertically bridge different sectors of the population, enabling individuals and groups to interact, thereby strengthening social cohesion.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1. Theoretical Review

2.1.1. Concept of Land Administration

Land administration is not a new discipline but has evolved out of the cadastre and land registration areas providing information systems with specific focus on security of land rights (Dale and McLaughlin, 1999; Zevenbergen, 2002). The term land administration has been introduced in the 1990's and has probably the first time been given 'official' status by the UN-Economic Commission for Europe (UNECE) in 1996 by setting up an ad hoc group of experts named 'Meeting of Officials in Land Administration' (MOLA) with representatives from 58 countries. According to its web site (UNECE, 2002), the aim was "to promote land (immovable property) administration through security of tenure, establishment of real estate markets in countries in transition, and modernization of land registration systems in the market economies". In 1999, the UN-ECE granted a standing status to MOLA and transferred it into the 'Working Party on Land Administration' (WPLA).

Land governance is about the policies, processes and institutions by which land, property and natural resources are managed. Sound land governance requires operational processes to implement policies in sustainable ways. Land administration systems provide a country with an infrastructure for implementation of land policies and land management strategies in support of sustainable development (Williamson et al., 2010).

Land administration has further been consolidated as a term by the 'Land Administration Guidelines ' that MOLA published in 1996 (UN-ECE, 1996). In these guidelines, land administration was strongly connected with the cadastre and the 'benefits of a good land administration system' were described through the term 'modern cadastre', which was concerned with detailed information at the individual land parcel level. As such, it should service the needs of the individual and of the community and benefits arise through its application to: asset management; conveyance; credit security; demographic analysis; development control emergency planning and management; environmental impact assessment; housing transactions and land market analysis; land and property ownership; land and property taxation; land reform; monitoring statistical data; physical planning;

property portfolio management; public communication; site location; site management and protection.

The guidelines provide a definition for the term land administration, which has since been used by many others: *Land administration is the processes of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies. It is considered to include land registration, cadastral surveying and mapping, fiscal, legal and multi-purpose cadastres and land information systems. (UNECE, 1996)*

Authors of many recent publications referred to this definition of land administration: among them Dale and McLaughlin (1999), Williamson (2001), Bogaerts et al. (2002), Fourie et al. (2002). Bogaerts et al. (2002) consider the cadastre as being the core or basis of a land administration system and emphasize that the establishment of modern land administration systems is not possible without an effective cadastre.

Dale and McLaughlin (1999) define land administration as "the process of regulating land and property development and the use and conservation of the land; the gathering of revenues from the land through sales, leasing, and taxation; and the resolving of conflicts concerning the ownership and use of the land." They also identify the three key attributes of land that jurisdictions are concerned with and of which land administration has to take care of: ownership, value, and use of land (compare Figure 2.1).



Figure 2.1: The three key attributes of land (Dale and McLaughlin, 1999).

The operational component of the land management concept is the range of land administration functions that include the areas of land tenure (securing and transferring rights in land and natural resources), land value (valuation and taxation of land and properties), land use (planning and control of the use of land and natural resources) and land development (implementing utilities, infrastructure and construction planning). These four functions ensure the proper management of rights, restrictions and responsibilities in relation to property, land and natural resources. As such, these functions are different in their professional focus, and are normally undertaken by a mix of professionals, including surveyors, engineers, lawyers, valuers, land economists, planners and developers.

Furthermore, the actual processes of land valuation and taxation as well as the actual land-use planning processes are often not considered part of land administration activities. However, even if land administration is traditionally centered on cadastral activities in relation to land tenure and land information management, modern land administration systems designed as described in Figure 2.2 deliver an essential infrastructure and encourage integration of the four functions. Ultimately, the design of adequate systems of land tenure and land value should support efficient land markets capable of supporting trading in simple and complex commodities. The design of adequate systems to deliver land-use control and land development should lead to effective land-use management. The combination of efficient land markets and effective land-use management is then seen as a key component

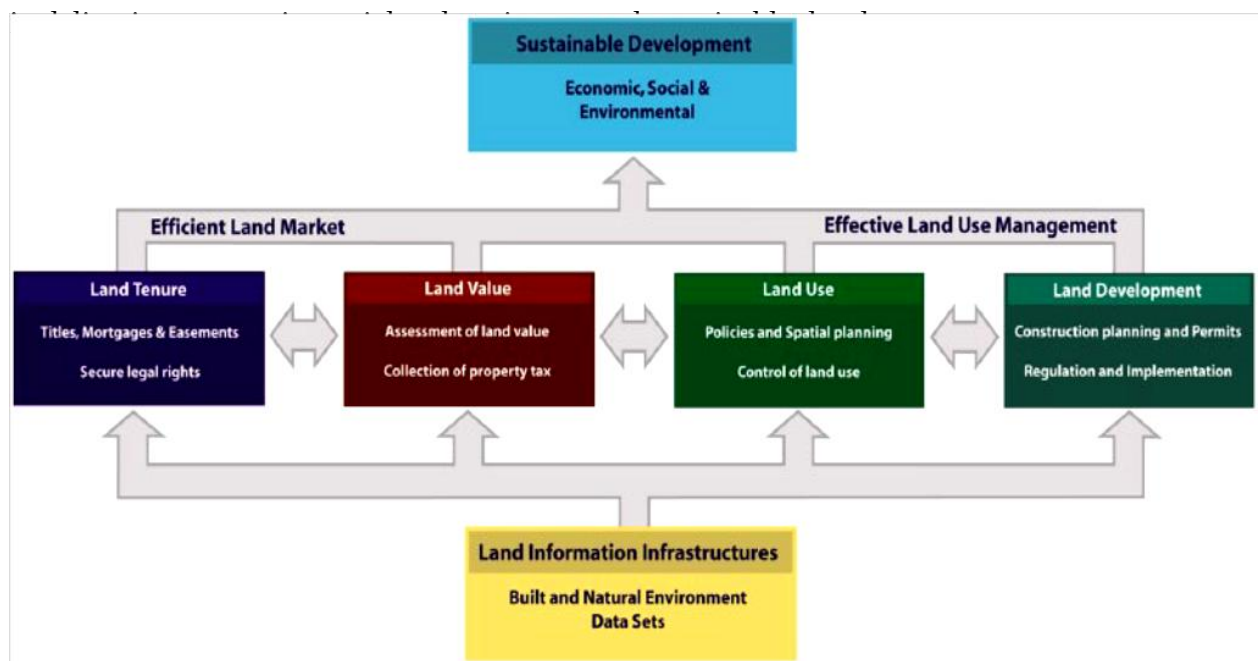


Figure 2.2: A global land administration perspective (Enemark et al., 2005; Williamson et al., 2010).

From this global perspective, land administration systems act within adopted land policies that define the legal regulatory pattern for dealing with land issues. They also act within a country's specific institutional framework that imposes mandates and responsibilities on the various agencies and organizations. Land administration systems should, then, service the needs of individuals, businesses and the community at large, as they contribute to deliver detailed information and reliable administration of land from the basic level of individual land parcels to the national level of policy implementation (Williamson et al., 2010).

Sound land management requires operational processes to implement land policies in comprehensive and sustainable ways. Many countries, however, tend to separate land tenure rights from land-use opportunities, thereby undermining their capacity to link planning and land-use controls with land values and the operation of the land market. These problems are often compounded by poor administrative and management procedures that fail to deliver required services. Investment in new technology will only provide limited solutions in the major task of solving a much deeper problem, namely, the failure to treat land and natural resources as a coherent whole (Williamson et al., 2010).

2.1.1.1. Distinction between Cadastre and Land Administration

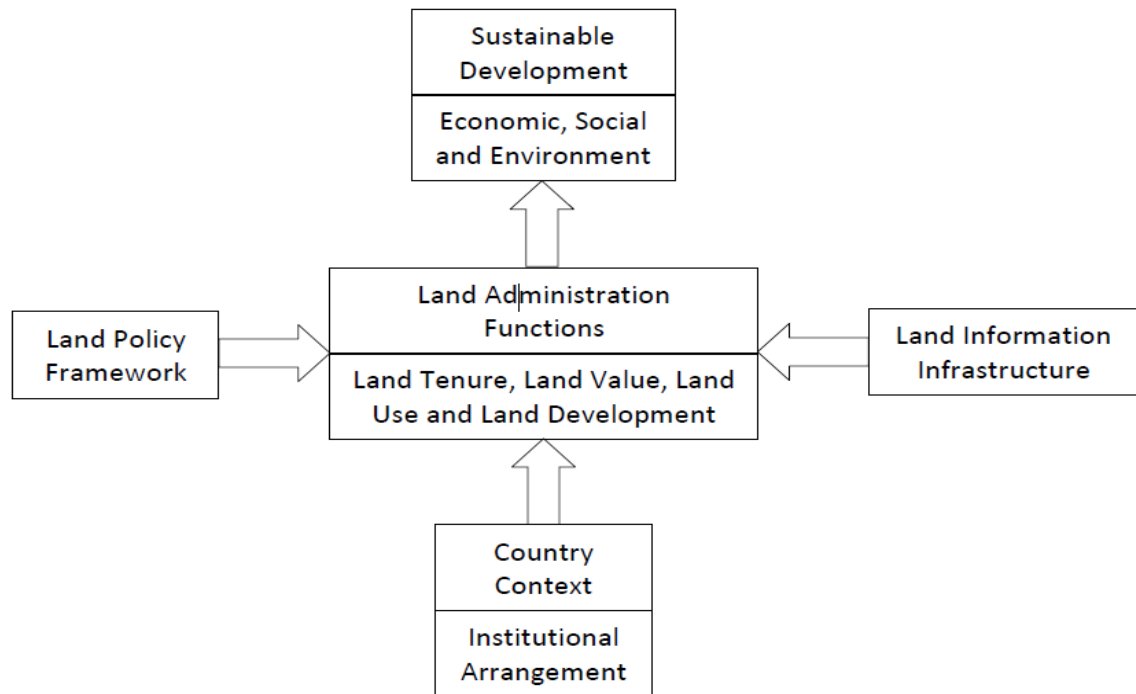
To emphasize the distinction between cadastre and land administration, the above given definitions of the terms are again summarized and highlighted:

- **Cadastre:** is one or many data collections that are based on land parcels; land parcels can either be property, tax, or use areas.
- **Land Administration:** are the processes that deal with information about tenure, value, and use of land. These processes include data collections, the most important one being the cadastre.

2.1.1.2. Land Administration as a Means for Sustainable Development

Land administration as a discipline gained popularity after the publication of Land Administration Guidelines in 1996 (UNECE, 1996), though the intellectual root of the discipline in the management of the people-to-land relationships and the specialised tool of surveying are much older (Williamson et al., 2010:71). Writings of various scholars,

researchers and reports of international organizations and academic institutions, and conference presentations supported to conceptualize this discipline. Williamson et al. (2010) incorporate the views expressed in earlier literature and conceptualize the modern theory of land administration. The cornerstone of their theory is the land management paradigm, which asserts that proper design of land management components and their interaction will lead to sustainable development (Figure 2-3). They argue that the land management paradigm makes possible to design systems capable of undertaking the core functions of land administration to achieve the goal of sustainable development.



Source: Enemark et al. (2005)

Figure 2.3.land administration as a means of sustainable development

The Bathurst Declaration on Land Administration for Sustainable Development declares that ‘sustainable development is not attainable without sound land administration’ (FIG, 1999). It calls for a commitment to provide effective legal security of tenure and access to property for all men and women, including indigenous peoples and those living in poverty or other disadvantaged groups, identifies the need for the promotion of institutional reforms to facilitate sustainable development, and for investing in the necessary land administration infrastructure which gives people full and equal access to land-related economic opportunities.

The role of land administration in economic development has been emphasized by some other writers on many grounds. For instance, de Soto (2001) considers the representational process of recording property information connects the land assets to the rest of the economy in Western countries; however, the poor inhabitants of the Third World and the former communist nations lack the process to represent their property and create capital. That is, registration of land in the Western countries has made it possible to obtain loans using land as collateral and it has supported the economy in an invisible way which is not the case in many developing countries the land is not registered yet. Thus, the process of land administration has been considered as a means of generating capital from land.

- A good land administration may contribute to the economy in other ways too. Dale and McLaughlin (1999) argue that good land administration provides security to investors and permits real estate to be traded in the market place, allowing government to raise taxes on the basis of the value of land and property. Likewise, Zakout et al. (2006) consider secure property rights to be a means of linking land administration with economic development and argue that secure tenure and access to land alone is not sufficient for attaining the objectives of economic growth; however, a good land administration system is required to protect property rights and hence achieve these goals. Similarly, van der Molen (2003) identifies and quantifies the importance of land administration from a macro-economic perspective. He uses the income approach to measure the contribution of secure tenure, land market, land use planning and land taxation on gross domestic product. The study concludes that the presence of good land administration (or security of land tenure) is responsible for a growth of 5.9 per cent of the gross domestic product in the Netherlands. Thus, good land administration provides security to land related investment and income, which increases the gross domestic product of a country. It also facilitates land transactions and generates revenue which may be utilized for development purposes.

2.1.2.Components of Land Administration

As the historical context and the previous sections outlined, three processes or components summarize the objectives that land administration serves, namely land registration, land valuation, and land-use planning.

2.1.2.1. Land Registration

Different authors elaborate historical background of land registration system in different ways. Marquardt (2006) defines land registration as the official recording of legally recognized interests in land. The guideline for real property of UNECE (2004) also defines land registration as the process of recording rights in land either in the form of a register of deeds and other documents associated with the ownership of the land rights or else in the form of a register of titles to land. Another definition is that land registration is a process of recording rights on land which provides safe and certain foundation of acquisition and disposal of right in land (Solomon, 2006).

Land registration provides the framework and means for recognizing formalized land ownership rights and for regulating the transfer of these rights (Dale and McLaughlin, 1999). Land registries document certain interests in the land, including information about the nature and spatial extent of these interests and the names of the individuals to whom these interests relate. In addition, land registries provide documentary evidence that is necessary for resolving property disputes as well as information for a wide variety of public functions, such as for example land valuation.

There are multiple benefits from a reliable land registration system providing secure land ownership. According to a UNECE report on Social and Economic Benefits of Good Land Administration (UN-ECE, 1998b), the following parties have an interest in an effective land registration system:

- **National governments:** for their administration, taxation, economic development, market information, and international harmonization;
- **Local governments:** for spatial planning, land valuation, land use, land management and land information;
- **Companies and citizens:** for security of rights, social stability, access to housing through mortgage finance, market opportunities and potential for investments and development, mobility and property transfer.

Besides a very basic oral agreement system, at least three basic types of land registration systems can be distinguished depending on the manner in which a transaction of land ownership rights is confirmed and documented: (i) private conveyance; (ii) registration of deeds; and (iii) registration of title (compare Figure 2.4).

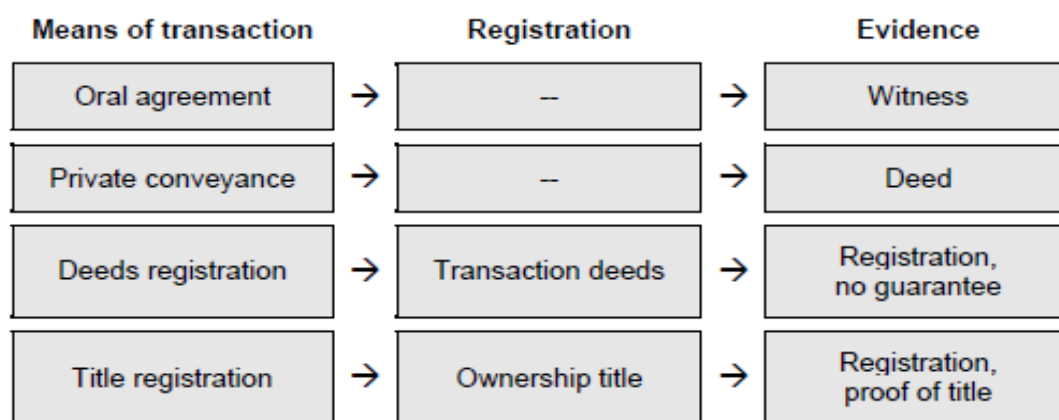


Figure 2.4: Types of transactions and evidence (adapted from Zevenbergen, 2002).

Under a **private conveyance** system, land transactions are handled through private arrangements. Interests in land are transferred by the signing, sealing, and delivery of documents between private individuals with no direct public notice, record, or supervision. The relevant documents are held either by the individuals to a transaction or by an intermediary such as a notary. In such a system, the state has little control over the registration process (apart from regulating the intermediaries), there is little security against errors or fraud, and private conveyancing systems are invariably slow and expensive. Despite these serious limitations, notaries' versions of private conveyance are still found in many parts of Latin America (Dale and McLaughlin, 1999).

Under a system of **deeds registration**, a public repository is maintained for registering documents associated with the property transactions, such as deeds, mortgages, plans of survey, etc. There are three basic elements in deeds registration: the logging of the entry time of a property document; the indexing of the document; and the archiving of the document or a copy thereof. There are some limitations of the deeds registration system, which have been documented by authors such as Simpson (1976). Deeds registration provides a means for registering legal documents only; it does not register title to a property. Registration is often not compulsory and some rights are not registered. Reviewing and assessing all the documents required to determine the validity of a claim to ownership (the so-called chain of title) can be extremely tedious and expensive to undertake and is always open to dispute (Simpson, 1976). However, there are many ways of improving deeds registration systems (Dale and McLaughlin, 1988). These include the automation and computerization of records management, the improvement of administrative and accounting

standards, more appropriate use of surveying and mapping possibilities, and compulsory registration.

Title registration was designed to overcome the defects of deeds registration and to simplify the process of executing property transactions. In such a system, the register describes the current property ownership and the outstanding charges and liens. Registration is normally compulsory and the state plays an active role in examining and warranting transactions. There are various types of title registration systems, the best known is that introduced by Robert Torrens in Australia in the 1850's. The Torrens registration system is based on three principles:

- *Mirror principle* – the register reflects accurately and completely the interests in the land; hence there is no need to look elsewhere for proof of title.
- *Curtain principle* – the register is the sole source of title information. In effect a curtain is drawn blocking out all former and unregistered transactions; there is no need to go beyond the current record to review historical documentation (as is necessary in a deeds registrations system).
- *Insurance principle* – the state is responsible for the reliability of the register and for providing compensation in the case of errors or omissions, thus providing a degree of financial security for the owners.

In spite of the differences between the systems of the numerous countries operating a land registration system (either deeds or titles), there are four basic legal principles that can generally be recognized (Henssen, 1995):

- a. The **booking principle** implies that a change in real rights on an immovable property, especially by transfer, is not legally effected until the change or the expected right is booked or registered in the land register.
- b. The **consent principle** implies that the real entitled person who is booked as such in the register must give his consent for a change of the inscription in the land register.
- c. The **principle of publicity** implies that the legal registers are open for public inspection, and also that the published facts can be upheld as being more or less correct by third parties in good faith, so that they can be protected by law.

- d. The **principle of specialty** implies that in land registration, and consequently in the documents submitted for registration, the concerned subject (man) and object (i.e. real property) must be unambiguously identified

De Soto (2000) argues that the lack of a reliable and efficient land registration system can have serious implication for the social and economic welfare of a country. He points out that system in developed Western countries are advanced and provide sufficient security for mortgage lending. Systems in developing countries can be compared with systems in the same Western countries of 150 years ago, when things were at the beginning. De Soto highlights the rule of law, documentation (registration), efficiency, and transparency as the crucial factors of the successful land registration systems.

2.1.2.2. Cadastral Surveying

Cadastral is an inventory of land and property information based on a survey of land parcel boundaries (Wyatt and Ralphs, 2003). Cadastral surveying has been defined as the definition, identification, demarcation, measuring and mapping of new or changed legal parcel boundaries (FIG, 1995). It provides information about the location, area and boundary of a land parcel usually in the map form.

Cadastral surveying is the initial process of land administration. Adjudication and definition of property boundaries and their legal delineation and documentation, surveying relevant data and preparing descriptions of the properties are the basic processes of initial property formalization and the subsequent use and transfer of formal property (Dale and McLaughlin, 1999). These processes provide information required in initial registration of title and delimitation and registration of boundaries. The information thus provided can also be used in land market activities, land valuation, taxation, planning and policy-making, and dispute resolution

2.1.2.3. Land Valuation

Land is regarded as one of the basic elements from which a nation can derive wealth. It is natural and is not created by humankind even though its use can be changed by human activity. Land together with capital and labor is considered by classic economic theories as a major generator of wealth in a national economy and the management of land has social, political, and economic dimensions. Land and property are important components in market

driven economies and their value is a measure of wealth of any society and are estimated to account for more than 20% of the national GDP (UNECE, 1996).

Land taxation has been promoted for centuries as a mean of generating state income. As is suggested by many and unlike other taxes, a tax on land neither distorts economic decision-making nor lowers the efficiency of using market forces to allocate resources. Land and property taxes have a number of advantages, both in terms of providing revenues to government (especially local government) and as a tool for guiding land use and development. Any taxation system needs to be seen to be fair and to serve social objectives that are understood and accepted by those who pay the taxes. It should raise significant revenue by an amount that is substantially in excess of the cost of its collection.

Taxes on land and property take two basic forms – an annual levy based on an estimate of the value of the land or property, or a levy on their transfer. Some countries use both approaches. The annual levy may be based on the estimated market value for which the property would sell under normal circumstances, or the assessed rental value of the land or property, or in some countries on the cadastral value. The latter may be calculated on the basis of number of parameters such as the area, soil type, distance from markets, etc. A number of eastern European countries are introducing taxes on this basis since, at present, the market data are insufficient and unreliable. The levy on the land transfer, sometimes called Stamp Duty, is normally based on a sale fee that relates to the value of the land or property being transferred. The tax should be paid every time the transfer takes place, the amount being dependent on the value of the transfer.

Ideally, the levy of land taxes is based on land information for mainly two reasons.

Firstly, only comprehensive, trustworthy parcel-based land information can provide the overview that is needed for a fair and complete land tax system. Secondly, an annual land tax is based on land valuation based on the above-mentioned parameters, which depend themselves on reliable land information (Larsson, 1991).

2.1.2.4. Land Tenure Security

Secure tenure is the right of all individuals and groups to effective protection by the state against forced evictions, i.e. under international law, —the permanent or temporary removal against their will of individuals, families and/communities from the home and/or the land they occupy, without the provision of, and access to, appropriate form of legal or other

protection¹⁵. According to UN-Habitat (2004), security of tenure describes —an agreement between an individual or group to land and residential property, which is governed and regulated by a legal and administrative framework (the legal framework includes both customary and statutory systems). Security of tenure derives from the fact that the right of access to and use of the land and property is underwritten by a known set of rules, and that this right is justifiable. The tenure can be affected in a variety of ways, depending on constitutional and legal framework, social norms, and cultural values and, to some extent, individual preference. In summary, a person or household can be said to have secure tenure when they are protected from involuntary removal from their land or residence by the State, except in exceptional circumstances, and then only by means of a known and agreed legal procedure, which must itself be objective, equally applicable, contestable and independent¹⁶. In order to take into account the perception of tenure security by people and communities, UN-Habitat expands the definition of tenure security by incorporating in the definition the degree of confidence that land users will not be arbitrarily deprived of the rights they enjoy over land and the economic benefits that flow from it (Bazoglu & UN-Habitat 2011).

Insecure tenure covers a wide range of situations, from illegal occupation to various forms of tolerated occupation, as well as occupation legitimized by customary practices but not considered as legal by government or local authorities. In extreme cases, it may include land or property which could be subject to claims for legal recognition, but where such status has not been officially recorded or where the adjudication of claims has been denied. It also affects vast numbers of people. —Estimates suggest that between 30% and 50% of Asia's urban residents lack any kind of legal tenure document which entitles them to occupy that land. In cities like Mumbai, Karachi, Manila and Dhaka, the proportion of people living without any form of tenure security in informal settlements is already much higher than the proportion of those living on formally-accessed land¹⁷ (UN-Habitat 2008).

Land tenure is the way land is held or owned by individuals or groups (Knights, 2010). It defines how the land is allocated, managed, used and transferred in a society (FAO, 2002). It has also been described as a social construct that describes the relationships between individuals and groups of individuals by which rights and obligations are defined with respect to control and use of land (Economic Commission for Africa, 2004). A more comprehensive definition is given by Dekker (2005), who considers land tenure the 'perceived institutional arrangement of rules, principles, procedures, and practices, whereby

a society or community defines control over, access to, management of, exploitation of, and use of means of existence and production.' This definition serves as a working definition for this research.

Different types of land tenure system exist in different parts of the world. They can be classified as formal (freehold, leasehold, public and private rental, shared equity and cooperative tenure), customary, religious or informal (UN-HABITAT, 2008). Formal land tenure is documented and provides high degree of security. Customary tenure normally includes the right to use or to dispose of use rights over land within their community. This type of property is neither recorded nor guaranteed by law but is recognized as legitimate by the community (United Nations, 1966). None of the legal rights are available on land under informal tenure systems. A concept known as legitimate tenure is also emerging which states that individuals and communities occupying land or property to fulfill their right to adequate housing, and who have no other adequate option, have legitimate tenure rights that should be secured and protected. This concept is underlying in the guiding principles of the security of tenure for the urban poor and extends beyond mainstream notions of private ownership and includes multiple tenure forms deriving from a variety of tenure systems (Rolnik, 2013).

Some writers consider tenure security as a perception of landowner towards continuity of his rights and eviction from outside sources. For example, Place et al. (1994) define land tenure security as when an individual perceives that he or she has rights to a piece of land on a continuous basis, free from imposition or interference from outside sources, and the ability to reap the benefits of his investment. Likewise, Knights (2010) considers it as the degree of confidence that land users will not be arbitrarily deprived of the bundle of rights they have over particular lands. Dekker (2005) also regards tenure security as the perceived certainty of having rights to land for a certain period of time. Thus, the perceived tenure security refers to the perception of a landowner towards the risks of eviction or losing his land by third party and the ability to reap the benefits from it.

Land tenure security has been measured in different ways. Simbizi et al. (2014) identify three schools of thought related to land tenure security as the economic or market oriented school, legal based school and adaptation paradigm oriented school. According to them, these schools regard land tenure security as the individual full ownership of land supported

by titles, protection and enforcement of someone's rights or interests in land, and transferable and legally recognized land rights and the assurance of the right holder that his or her land rights are recognized and enforced within the community norms and values respectively. This research aims to analyze the economic role of land tenure security and hence views tenure security more from an economic viewpoint. The legal viewpoint is also considered as the protection and enforcement of land rights also matters in obtaining benefits from land.

2.1.2.5. Land-Use Planning

Land-use planning has some fundamental objectives that in consequence benefit the land administration system. The several objectives and their benefits are as follow (Dale and McLaughlin, 1999):

Land Use and Sustainability: All landscapes change over time, either through human interference or by natural processes. It is essential that these changes are monitored and understood and that the uses to which the land is put are sustainable and that development: 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland, 1987). To be sustainable, development must meet not only the economic and social objectives, but also be ecologically sustainable (Dalal-Clayton et al., 1994).

In 1992, virtually all the nations of the world signed up to the UN Agenda for the twenty-first century, known as Agenda 21 (UNCED, 1992) and committed themselves to develop national strategies for the good management of the environment. Since then there has been a growing awareness of the need for sustainability.

Land Use Control: Governments determine how land is to be developed and used in a variety of ways, including direct acquisition, the provision of incentives, and through regulations.

Land Consolidation: is designed to improve land where the ownership has become uneconomic due to the small size of the holdings. The fragmentation is often the consequence of an inheritance system in which the land is divided between heirs. It can result either in many scattered parcels of land belonging to one person (multiplicity of parcels) or many shares being held by different people in one piece of land (multiplicity of owners). To manage the land more efficiently, land consolidation may need to be carried

out. The owners surrender all their small parcels or shares in the land and are allocated one or more larger parcels that are approximately equivalent in value to their original holding but which can be used more economically.

Monitoring Environmental Impact: During the 1970s, as people became more concerned about the environmental damage, techniques such as Environmental Impact Assessment (EIA) became fashionable. Prior to this time, development was assessed mainly on the basis of engineering and economic feasibility often through the use of cost-benefit analysis with limited concern for the impact on the environment.

Regional Perspectives: While much of the focus of land use planning and control has related to urban areas, increasing attention is being given to both the rural environment and to the broader regional context. The concept of regional planning emerged over the past three decades giving attention also to the people, the economy, and the geographical dimension of a region addressing two sets of concerns: the growth and spread of cities into the countryside; and preserving and enhancing rural economies.

Public Participation: Since the 1970s there has been an increasing emphasis on engaging the public in the land use decision-making process. This has occurred mainly because of an increased criticism of the remoteness of big government, a growing awareness of the importance of non-economic values in making decision, and a heightened demand for more participatory democracy. In response, the role of planners is gradually changing from that of arbiter of the public interest to one of facilitating amongst the different interest groups that collectively define the public interest.

Managing Land Use in Developing Countries: The developing world has had to face immense land use planning and regulatory challenges in response to rapid population growth, industrialization, and urbanization. Governments have largely failed to meet these challenges, in part because land use planning and regulations have been rigid and cumbersome, imposing high costs on the builder or developer, and rarely being effectively enforced.

Most regulations are based on outdated and inappropriate planning legislation, with a heavy emphasis on centralized control:

- Master plans take too long to prepare and rarely address the financial implications associated with their implementation.

- Land-use planning and administration functions are often institutionally fragmented across a number of ministries; also, these functions have traditionally been isolated from their economic counterparts.
- Control over development is enforced primarily by extensive bureaucratic approval procedures.

2.1.2.6. Good Governance in Land Administration

The "Global Campaign on Urban Governance" (UN-Habitat, 2002) proposes that good urban governance is characterized by the norms sustainability, subsidiarity, equity, efficiency, transparency and accountability, civic engagement and citizenship, and security, and that these are interdependent and mutually reinforcing. The report of the global campaign describes the norms as follows, while some of them affect land administration directly:

Sustainability in all dimensions of urban development: Cities must balance the social, economic and environmental needs of present and future generations. This includes long-term strategic visions using tools such as development strategies, environmental planning and management.

Subsidiary of authority and resources to the closest appropriate level: Responsibility for service provision should be allocated on the basis of the principle of subsidiarity, that is, at the closest appropriate level consistent with efficient and cost-effective delivery of services. *Decentralization and local democracy should improve the responsiveness of policies and initiatives to the priorities and needs of citizens.*

Equity of access to decision-making processes and the basic necessities of urban life: The sharing of power leads to equity in the access to and use of resources. Women and men must participate as equals in all urban decision-making, priority-setting and resource allocation processes. Inclusive cities provide everyone – be it the poor, the young or older persons, religious or ethnic minorities or the handicapped – with equitable access to nutrition, education, employment and livelihood, health care, shelter, safe drinking water, sanitation and other basic services.

Efficiency in the delivery of public services and in promoting local economic development: Cities must be financially sound and cost-effective in their management of revenue sources and expenditures, the administration and delivery of services, and in the enablement, based on comparative advantage of government, the private sector and communities to contribute

formally or informally to the urban economy. A key element in achieving efficiency is to recognize and enable the specific contribution of women to the urban economy.

Transparency and Accountability of decision-makers and all stakeholders: The accountability of local authorities to their citizens is a fundamental principle of good governance. Similarly, there should be no place for corruption, which can undermine local government credibility and deepen poverty. Access to information is fundamental for good governance. Citizen participation is a key element in promoting transparency and accountability.

Civic Engagement and Citizenship: People are the principal wealth of cities; they are both the object and the means of sustainable human development. Civic engagement implies that living together is not a passive exercise. Citizens, especially women, must be empowered to participate effectively in decision-making processes. The civic capital of the poor must be recognized and supported.

Security of individuals and their living environment: Every individual has the inalienable right to life, liberty and personal security. Insecurity has a disproportionate impact in further marginalizing poor communities. Cities must strive to avoid human conflicts and natural disasters by involving all stakeholders in crime and conflict prevention and disaster preparedness. Security also implies freedom from persecution, forced evictions and provision of land tenure security.

Most of these norms deal with empowerment, access to information, and decision making. The developments in land administration and the aspects of land in general are directly affected by these features in respect that e.g. equal and secure land tenure needs a sound, efficient and trustworthy cadastral system; sustainable development based on economic, social and environmental factors needs reliable and accountable land ownership information; and civic engagement is possible only with access to transparent and reliable land information of all aspects.

Good governance in land administration aims to protect the property rights of individuals and enterprise as well as of the state by introducing principles such as transparency, accountability, rule of law, equity, participation, effective and efficiencies in to land related administration (Burn and Dalrymple, 2008). Governance in land administration is becoming

an important issue in many countries, as land management, particularly in developing countries, where corruption and rent-seeking grows increasingly. Corruption and rent-seeking are much linked to bad governance in developing countries where control over land rights is used as a means of accumulating and dispensing political and economic power and privilege through patronage, nepotism and corruption (FAO, 2007). Poor land governance is also related to growing insecurity in property rights and a high level of bribery and corruption in land administration activities, especially in the developing world.

2.1.3. Sustainable Development

According to the European Commission (EU, 2003), the term and idea of "sustainable development" can be traced back to the 1972 Stockholm Conference on the Human Environment. Under the leadership of Gro Harlem Brundtland, the UN-World Commission on Environment and Development established the link between sustainable development and environment in their report "Our Common Future" (Brundtland, 1987). The report referred to "sustainable development" as the *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*. This report also expressed that the policies for sustainable development contain three pillars of equal importance:

- protecting the natural environment;
- improving the social situation for the poor;
- Combating poverty.

This three-pillar framework is often referred to as the economic, social, and environmental aspects of sustainable development.

Based on the Brundtland Report, the United Nations 1992 Rio Conference on Environment and Development identified and listed several main challenges that the world is facing:

- large increase of the world's population over the last century; massive migration to urban areas in developing countries;
- urban growth is mostly informal and unplanned;
- one-third of world's population is at high risk from degradation brought about by human activity;
- fresh water availability is approaching crisis point in many countries;

- Large areas of land for food production are lost annually to erosion and urban growth.
- human-induced depletion of ozone layer and climate change has the potential to cause major problems to health and settlements in many parts of the world;
- growing understanding that the earth cannot sustain current levels of pollution and utilization of natural resources;

A number of international events have deepened and widened the understanding of the importance of achieving sustainability. The report from the 1996 UN Conference on Human Settlements (Habitat II) focuses, *inter alia*, on the major challenge of fast growing cities in developing countries – a challenge to be mastered through proper planning and land management, as well as through security of tenure as an engine for social and economic improvements. The World Food Summit in Rome in 1996 under lined the importance of good management of land in providing food for the rapidly growing world population. The World Summit on Social Development in Copenhagen and the World Women's Conference in Beijing, both in 1995, refer, *inter alia*, to the importance of giving women, indigenous people and vulnerable groups equal access to land and security of tenure (FIG, 2001).

2.1.4. Development of Evaluation Aspects and “Good Practice”

Land tenure and legal aspects

- **Land tenure aspect:** Every country – particularly developing countries – exhibits a range of land tenure arrangements requiring different land administration strategies. The formal recognition of land tenure is particularly relevant where indigenous or informal tenure relationships are being addressed. A range of responses from the land administration "toolbox" that can be applied to these circumstances needs to be recognized. This includes an understanding of such concepts as adverse possession, qualified or limited titles and flexible cadastral boundaries (Williamson, 2001). *Good practice* would be when such land tenure aspects are formally acknowledged and suitable to circumstances.
- **Humankind to land relationships:** are dynamic and have a direct impact on the land administration system itself. The understanding of the humankind to land relationships is vital for a sound land administration system. *Good practice* would be

when the humankind to land relationships are recognized within the government and are suitable to circumstances.

- **Legal aspects:** The main function of a land administration and cadastral system is to protect ownership rights that people have on land and property; details and the structure of the cadastral law are therefore important and if e.g. legal reforms are on-going. *Good practice* would be when the legal aspects are suitable to circumstances.

Financial and economic aspects

- **Land market aspects:** One of the main purposes for operating a land administration system is to support a well functioning land market. Metrics such as number of land sales, total value of land sales, total value of real estate, and total value of mortgages are just a few indicators that may hint at a well operating land market. A few studies have investigated the economic benefits of a sound land market (Dale and Baldwin, 1999). *Good practice* would be when the land market is suitable to circumstances.
- **Funding aspects:** The funding of different components of the land administration system can be crucial for its affectivity. The establishment of land administration systems tends to be very expensive, while the benefits are more long-term. It is therefore crucial how the funding is organized and which institutions at what administrative levels are involved. *Good practice* would be when the funding supports an efficient establishment of land administration systems.
- **Direct revenue:** Land administration systems are capable of generating considerable revenue through transaction and registration fees, stamp duties, or direct land taxes. These revenues however often disappear in the general treasury, while the land administration agencies then have to battle for their budgets through the political processes. *Good practice* would be when there is reasonable direct revenue from the land administration operations, and when the land administration agencies can benefit in a direct way suitable to circumstances.
- **Cost recovery:** In this same context, awareness of the political tendency for full or partial cost recovery in land administration must be maintained. The system should be operated in such a way that costs can be recovered fairly. Development costs, such as the cost of the adjudication and initial survey, should not have to be absorbed entirely by initial users, but be spread over a medium- to long-term period. Cost recovery should not preclude the introduction of new information technologies, as

long as the technology and its use is appropriate. Cost recovery is often impeded by the isolation of the land registry offices; while they obtain sufficient income through the transaction fees, the spatial data component – cadastral surveying and mapping – has to "battle" for the money through budgetary institutions again. When there is sufficient direct income, full cost recovery may be possible, although this depends on whether this is a real objective at all. *Good practice* would be the announcement of a clear policy for either partial, full or no cost recovery for land administration agencies.

Environmental sustainability aspects

- **Environmental sustainability:** With the increasing pressure on land as a "community scarce resource" and with the increasing encroachment of humankind on environmentally sensitive areas, the land administration system needs to support more and more duties such as environmental protection, monitoring of land resources, zoning for certain restrictions, etc. *Good practice* would be when the land administration system includes these duties and supports environmental sustainability issues.

2.2. Empirical Review

2.2.1. Urban land administration practice and Sustainable Development Performance

A causal relationship of land titling with land value and income is established by Feder et al. (1988). They identify two sources of linkage between land titling and economic performance, namely the effect of titles in enhancing tenure security and the role of titles in collateral arrangements and facilitating access to institutional credit. They observe better access to cheaper and longer-term institutional credit as the main source of greater productivity on land. Their study shows that land price and income are increased after land titling and a clear relationship is established between them.

Deininger (2003) also presents three main elements of tenure security that can affect household behavior: greater security against eviction, greater ability to transfer land, and greater access to credit. He argues that greater security against eviction will increase demand for land-related investment, greater ability to transfer land will increase the payoff from land

related investment and greater access to credit will increase the value of investment in cases of limited credit supply. Similarly, de Soto (2001) argues that land titling can contribute to the economy by generating capital from land. He advocates for the recognition of existing land rights by means of property formalization.

Some empirical studies are carried out in different parts of the world that examine the role of secured land tenure in the economy. Most of those studies are concerned with measuring the impact of tenure security on land value, access to credit, land related investment, income and agricultural production. A mixed result is found from those studies as discussed below.

A positive correlation between the degree of ownership security and farm investment per unit of land is observed in Costa Rica by Salas et al. (1970). Similarly, Villamizar (1984) finds substantially greater investment on titled land than on undocumented or encroached land in three Brazilian states. Likewise, granting full legal ownership to squatters and undocumented occupiers in the state of Maranhao in Brazil increased their income by approximately 200 per cent (IDB, 1986). The study also found that the income level of titled farmers in Ecuador was twice that of untitled farmers holding the same amount of land.

A mixed result is found from studies in Africa where most of the land is still held under the customary tenure system. Deininger and Jin (2006) identify that government action to increase tenure security and transferability of land rights can significantly enhance rural investment and productivity in Ethiopia. Similarly, Ahmed et al. (2002) observe that sharecropping and borrowing are less technically efficient than owner-cultivation or fixed rentals in the highlands of Ethiopia. Likewise, the Evolutionary Theory of Land Rights was supported by empirical research from Kenya that indicated a shift from sales that were redeemable by the original seller to sales that were increasingly irredeemable (Barrows and Roth, 1989).

A study by the World Bank (Migot-Adholla et al., 1991) in Sub-Saharan Africa concludes that tenure security has a positive impact on investment in the region of Anloga but a less noticeable impact in Wassa in western Ghana, and no impact at all in Ejura in central Ghana. Besley (1995) reworks the data collected by the World Bank on Ghana to assess the sensitivity of the results to the estimation methodology used and concludes that such sensitivity is considerable since the results have been simply inverted. He reaches the

opposite conclusion, that better land rights facilitate investment in Wassa but not in Anloga. Also, a study of 36 villages in central Uganda found that investment enhances tenure security, yet the converse relationship is not true (Baland et al., 1999).

Moreover, Bradstock (2005) identified that per capita incomes for most households has increased in the Northern Cape Province of South Africa; however, the contribution that land tenure has made to these increases is limited. Furthermore, survey-level evidence from 128 smallholder oil palm blocks from Papua New Guinea, Chand and Yala (2009) observes that greater security of the proceeds of investment for an individual grower or household has the potential to induce increased investments and effort, both of which would raise income and farm-level productivity. They also identify that agricultural productivity can be raised through land reform if, and only if, land tenure type has a causal impact on farm-level productivity.

Some studies from African countries have demonstrated that land registration has had a negligible or zero impact on investment behavior (Ho and Spoor, 2006). For instance, Bugri (2008) investigates the role of tenure security and the implications for agricultural production and environmental sustainability in two districts of north-east Ghana and concluded that tenure security is a necessary but not a sufficient condition for improvement in agricultural production and environmental management. Likewise, Jacoby and Minten (2007) observe that having a title has no significant effect on plot-specific investment and little effect on land productivity and land value in Madagascar. Similarly, Brasselle et al. (2001), in their study in Houet Province in southern Burkina Faso, also expresses doubt about the existence of a systematic influence of land tenure security on investment. They conclude that the traditional village order provides the basic land rights required to stimulate small-scale investment. Likewise, Ouedraogo et al. (1996) state that land rights of farmers are generally quite stable and secure, even in the absence of formal land titles. They conclude that farming practices do not significantly depend on the form of land rights that cultivators possess, and no differences in land productivity as a function of land rights were found in Burkina Faso. Berry (2009) also mentions that privatization may also work in the opposite direction—reinforcing inequalities within communities, and encouraging claims to land based on origin and indigenosity in Ghana and other West African countries.

A mixed result is also found from studies in Asian countries. The land-titling program of Thailand is considered to be a successful example of a land-titling project based on its impact on agricultural productivity. Feder et al. (1988) compare the economic performance of two groups of farmers; one without legal title operating in the forest reserves, and another having legal titles and operating outside the forest reserve boundaries in rural Thailand. They found that the effect of land registration on farmers' access to credit was clearly established, as were differences in economic performance between titled and untitled farmers. Similarly, Markussen (2008) observes that plots held with a paper documenting ownership were found to have higher productivity and land values than other plots in Cambodia, while property rights have weak effects on access to credit.

Also, Thu and Parera (2011) identify that intermediate levels of property rights were the driving forces behind the thriving housing market in Ho Chi Minh City. Similarly, Lin (1992) identifies that moving from collective to household farming led to a big increase in agricultural productivity related to the acquisition of property and land rights in China. However, a study by Dong (1996) observes a different result. He examined the nature of the problems in land allocation, credit rationing and land investment in post-1978 rural China in the context of imperfect information and multiple market failures. He concluded that in the presence of multiple market distortions, land is unlikely to provide a solution to the agricultural problems; rather, an approach that refines the existing framework of the two-tier ownership system offers more promise.

Some studies have associated secure property rights with poverty reduction and economic development. A study by Galiani and Schargrotsky (2010) evaluate the causal effects of property rights on the economic development in Buenos Aires. They identify that entitled families substantially increased housing investment, reduced household size, and enhanced the education of their children relative to the control group. However, these effects did not take place through improvements in access to credit. They came to the conclusion that land titling can be an important tool for poverty reduction, albeit not through the shortcut channel of credit access, but through the slow channel of increased physical and human capital investment, which should help to reduce poverty in future generations.

Cotula et al. (2006), state that rural poverty is strongly associated with poor access to land and increased land access to the poor can bring direct benefits of poverty alleviation. They

also observe that experience of several East Asian countries (South Korea, Taiwan) shows how a reform resulting in more equitable land distribution is fundamental in creating the basis for sustained economic development. Similarly, Deininger and Squire (1998) identifies a positive relationship between equitably distributed land and economic growth. Similarly, Reerink (2011), from his study about land tenure security under different tenure arrangements among Indonesian urban poor, identifies that landholders with formal tenure lived in somewhat more consolidated dwellings than those with informal tenure but no significant differences were found between formal and semi-formal landholders. He also observes that dwellers with formal or semi-formal tenure, which enjoy a high level of perceived tenure security and/or have a high household income, tend to invest more into their housing than those with informal tenure, who enjoy a lower level of perceived tenure security and/or have a lower income. Likewise, Deininger (2003) observes that giving secure property rights to land can greatly increase the net wealth of the poor and makes them less reliant on wage-labour thereby reducing their vulnerability to shocks.

Griffith-Charles (2004) studies the role of land titling on land market and identifies that, as posited in the Evolutionary Theory of Land Rights, the presence of a comprehensive registration system did not induce a large volume of formal transactions. She came to the conclusion that land titling and land registration are only two of several supportive factors that create an environment in which land markets would grow.

To summarize, some of the studies discussed above observed a positive relationship between land tenure security and economic performance, specifically, land related investment, income and agricultural production (for instance, Salas et al., 1970; Villamizar, 1984; IDB, 1986; Deininger and Jin, 2006; Feder et al., 1988). A positive effect of land titling on productivity, land values and access to credit is observed by Markussen (2008) as well. However, some studies (for instance, Bugri, 2008; Brasselle et al., 2001; Berry, 2009) express doubt on the positive relationship between land tenure security and level of economic performance.

2.3. Conceptual Model

The conceptual framework shown in Figure 2.5 is developed based on the literature review. The conceptual framework will illustrate the linkage between Land Administration System with sustainable Development performance.

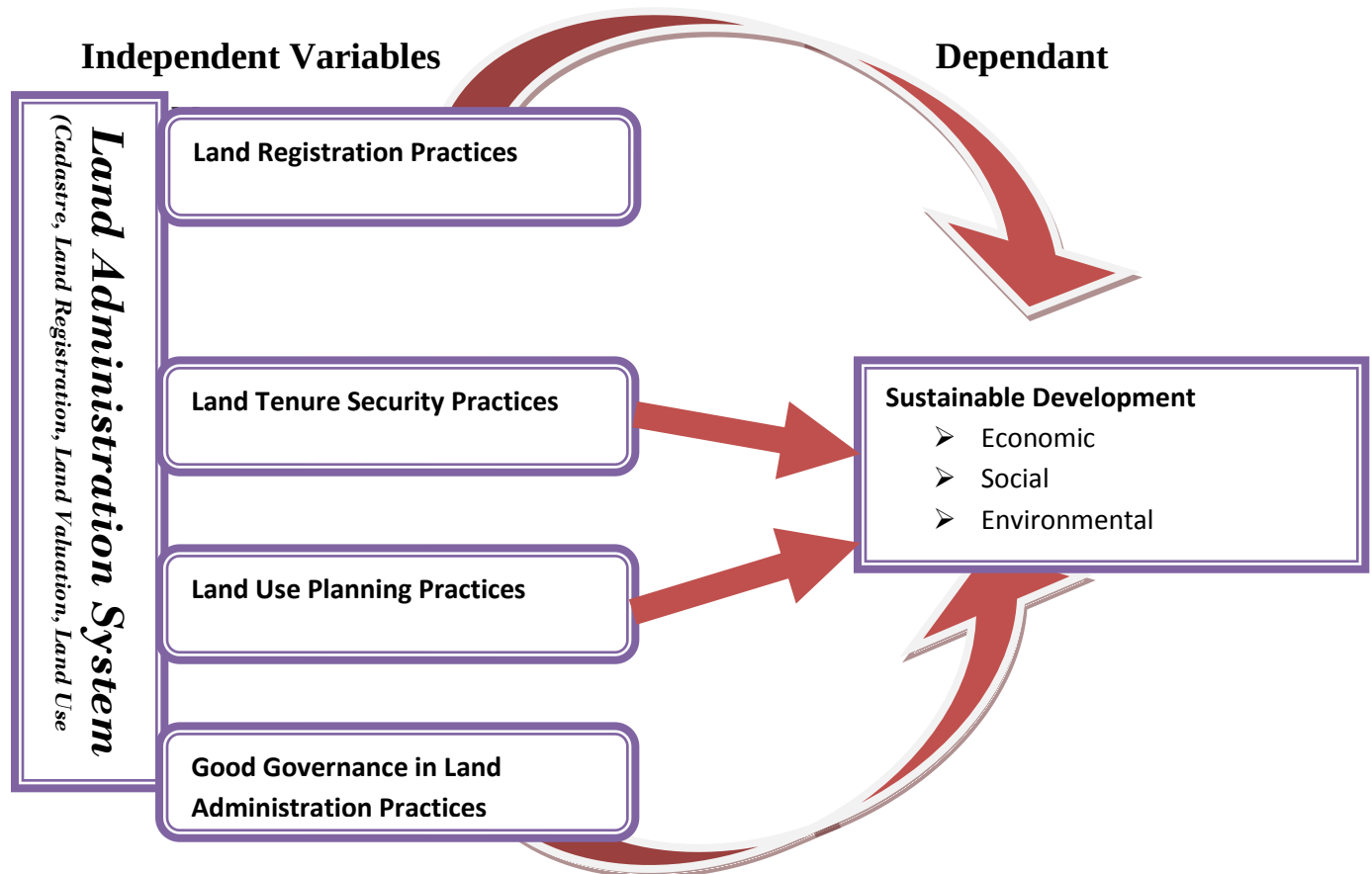


Figure 2.5. shows the relationship between independent and dependant variables

Source: Compiled by the researcher (2020)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Research Design

The study adopted empirical investigation with descriptive and explanatory research design since the major focus of the research is the impact of land administration practices on sustainable development of Adama city. Explanatory studies and descriptive survey designs has allow the researcher for the gathering of information, summarize, present and interpret it for the purpose of clarification (Creswell, (2003). The research uses qualitative and quantitative research approach. It is a means for testing objective theories by examining the relationship among variables. These variables, in turn, have measured, typically on instruments, so that numbered data has analyzed using statistical procedures. Therefore, in order to accurately describe the impact & relationships between the independent variables and the dependent variable descriptive and explanatory research studies are employed which helps to use both qualitative and quantitative data analysis.

3.2. Data type and Source

The study has employed both primary and secondary data sources. Primary data has collected from employees of mayor office; technical staff of municipality, Adama woreda court Office, selected kebele administrators, residents and informal settlers from selected kebeles through closed ended questionnaires. As the secondary data; books, articles, journals, is reviewed to develop conceptual framework.

3.3. Target Population

The target population of the study was 42,709. From total target population 210 are employees of Adama city land administration office, Adama wereda court office and land development & construction office, 14,448 residents and 1786 informal settlers from Garalugo kebele, 10,412 residents and 4500 informal settlers from Bokushenen kebele, 11,053 residents and 300 informal settlers from Dedecha arara kebele.

3.4. Sample Size Determination

Malhortra and Peterson (2006) and Zikmund (2003) stated that, the larger the sampling size of a research, the more accurate the data generated. However, due to time and the nature of the population, sample determination method developed by (Carvalho, 1984), "Archival application of mathematical sampling techniques", (1984). (Quoted by national Archive report Richmond, 2005) was preferred to be used by researcher as a method to determine a sample size.

Table 3.1: Sample Respondents by stratum

Population size	Small	Medium	Large
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
501-1200	32	80	125
1201-3200	50	125	200
3201-10,000	80	200	315
10001-35000	125	315	500
35,001-150,000	200	200	800

Source: (Carvalho, 1984) as quoted by (national Archive report Richmond, 2005)

The total numbers of employees working in Adama city land administration office, Adama wereda court office and land development & construction office are 210. Thus, 32 has considered as sample size of the study based on Carvalho ,1984s sample. Following similar steps as in table 3.1 above (Carvalho ,1984s sample method) the total sample size of the study is 512 as it is illustrated in table 3.2 below, through considering the heterogeneity of sample respondents on the basis of different units/ departments within the organization.

Table 3.2: Sample Size Determination for the study

Category	Population	Sample size of each stratum
Employees	210	32
Resident from garalogo kebele	14,448	125
Resident from bokushenen kebele	10,412	80
Resident from dedecha arara kebele	11,053	125
Informal settlers from garalogo kebele	1,786	50
Informal settlers from bokushenen kebele	4,500	80
Informal settlers from dedecha arara kebele	300	20
Total	42,709	512

3.5. Sampling Technique

The researcher has collect data from technical staff of Adama city land administration offices, head of urban land development and management office, Adama wereda courts and 3kebeles, in order to conduct the study. Hence, the researcher purposively selects managers and technical workers found in those offices. Then the samples are selected from each office based on their job title (managers and clerical workers only). Since the information required for the study involves selection of respondents who have enough awareness about urban land administration practices and sustainable development, purposive sampling technique has used to have the right respondents from every concerned section (offices) and the researcher was also purposively selected samples from residents and informal settlers based on their educational level (who has at least high school certificate and above as they can read and understand the questionnaire and based on their convenience since they are large in number.

Table3.3: Summery of Sample size & Sampling Technique in each Category

Category	Population	Sample size	Sampling Technique
Employees from land offices	210	32	Purposive
Residents and Informal settlers	42508	480	Purposive and Convenience
Total	42709	512	

3.6. Data Collection Instruments

The data was collected through structured questionnaires with closed Likert type statements questions. The questionnaires allow participants to provide their perceptions and opinions both in terms of direction (positive or negative) and intensity (degree of agreement or disagreement). The questionnaire was utilize a five point likert scale namely Strongly disagree (SD), Disagree (D), Neutral (U), Agree (A) and Strongly Agree (SA) which will be assigned scores of between 1 and 5. This has allowed the researcher to draw conclusions based on responses made from the respondents.

3.7. Method of data analysis

Descriptive analytical technique was used with the aid of SPSS version 25. The reliability of the variables was measured by Cronbach alpha. In addition, the data collected was analyzed by Regression analysis and correlation analysis because it helps to investigate the

relationship between the independent variable of ULAP practice with Sustainable Development and its impact on the dependent variables Sustainable Development. The study was used tables, frequencies, and percentages to analyze and present the collected data.

Base on the conceptual model of the study expressed by Figure 2.5, mathematically the relationship between ULA dimensions and Sustainable Development is expressed in the multiple regression equation as:

$$Y = X_0 + X_1 (LR) + X_2 (LTS) + X_3 (LUP) + X_4 (GGLA) + e$$

Where: Y= Sustainable Development.

LR = Land Registration.

LTS = Land Tenure Security.

LUP = Land Use Planning.

GGLA = Good Governance in Land Administration

X₀= the constant parameter.

X₁= Coefficient of Land Registration.

X₂= Coefficient of Land Tenure Security.

X₃= Coefficient of Land Use Planning.

X₄= Coefficient of Good Governance in Land Administration.

In accordance with the above mathematical model the constructed research questions was tested by considering significance level of each constant parameter in multiple regression analysis.

3.8. Ethical Considerations

A formal letter was written from Adama science and Technology University, Department to. The data collection was started after getting consent from the parties mentioned above. In addition to this, name of the employees (selected for the sample) was not included to maintain confidentiality.

3.9. Validity and Reliability

3.9.1. Assessing Reliability

Reliability has to do with the accuracy and precision of a measurement procedure (A measuring instrument) is reliable if it provides consistent results. As multiple items in all constructs were used, the internal consistency/reliabilities of LA Practices and Sustainable Development performance were assessed with Cronbachs Alpha and the reliability values for all constructs are confirmed as greater than 0.7, which are considered ideal (Pallant 2005). The following table shows the summary of reliabilities of all constructs.

Table 3.4: Reliability of constructs

Construct	Variables	Cronbach's Alpha Result	Number of items
Land Administration Practices	Land Registration Practices	0.872	6
	Tenure Security Practices	0.883	5
	Land Use Practices	0.678	7
	Good governance in land Administration Practice	0.880	8
Sustainable Development performance		0.937	13
Total			39

3.9.2. Test of Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Malhotra (2010) mentioned about three types of validity in his study: content validity, predictive validity, and construct validity. This study addressed content validity through the review of literature and adapting instruments used in previous research.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1. Introduction

This chapter presents the data analysis and interpretation part of the research. The study attempted to examine the impact of land administration practices on sustainable development performance of Adama city. In order to assess the relationship between land administration practices and sustainable development performance, descriptive, Correlation and regression analysis were conducted for scale typed questionnaire. In order to collect data questionnaires were used and collected from employees of land administration offices Adama wereda court office and land development & construction office and residents and three kebeles of residents and informal settlers. The research questionnaire designed using 5 point Likert scale to collect appropriate responses, in relation to this the respondents indicated the extent they agree with the statements by choosing: 5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree. A mean (M) score of 0- 1.5 means that the respondents strongly disagreed, between 1.50 to 2.50 means they disagreed, 2.50 to 3.50 means the respondents were neutral, 3.50-4.50 means they agreed and a mean above 4.50 means the respondents strongly agreed. Based on the response of the respondents Mean computed to describe the status of land administration practice and sustainable development performance of the city land offices. The collected data were presented and analyzed using SPSS version 25.0 statistical software. The study also used correlation analysis, specifically Pearson correlation to measure the degree of association between different variables under consideration. Regression Analysis was used to test the impact of independent variable on dependent variable.

4.2. Response Rate

From a total of 512 questionnaires which were distributed to employees of Adama city land administration office, Adama wereda court office and land development & construction office and residents & informal settlers from selected kebeles 402 (78.51%) questionnaire were obtained and identified as valid and used for analysis. Based on these, the response rate is 78.51%.

Table 4.1: Description of response rate

No	Name of the Firm	No. of Questionnaire Distributed	No. of Questionnaire Collected	Response Rate
1	From employees	32	29	90.625%
2	Residents and in formals	480	373	77.708%
Total		512	402	

Source: Researcher's Survey data, (2020)

4.3. Demographic characteristics

The demographic profile of the sample respondents were presented and analyzed below. The purpose of assessing respondents' age is used to determine whether the researcher considered heterogeneity of sample units. On the other hand assessing the work experience and education level of the respondents' is that, when the respondents are more experienced and educated they have better opportunity to understand the case and give better response than else.

Table 4.2 Respondents' frequency distribution of Age

		Frequency	Percent
Employee	Below 25 years	3	10.3%
	26-35 years	8	27.6%
	36-45 years	12	41.4%
	Above 46 years	6	20.7%
	Total	29	100%
Residents & informal settlers	Below 25 years	31	8.3%
	26-35 years	106	28.4%
	36-45 years	154	41.3%
	Above 46 years	82	22%
	Total	373	100%

Source: Researcher's Survey data, (2020)

As it is shown in the above table the researcher divided the age of the respondents in to four categories, starting from below 25 years of age to above 46. In this study, the researcher can conclude respondents' were age of 26 up to 35 years are 27.6%, age of 36 up to 45years

covers 41.4% and above 46 are 20.7% of respondents. Therefore 89.7% of respondents from employee were above 26 years old.

The table above also showed that from the total number of residents and informal settlers 342 (91.7%) were above 26 years. Thus, it can be implied that the respondents were matured enough which can ensure the value of the study.

Table 4.3 Respondents' frequency distribution of Educational Qualification

		Frequency	Percent
Employee	College Diploma	4	13.8
	First Degree	23	79.3
	MA/MSc/MBA or Above	2	6.9
	Total	29	100.0
Residents & informal settlers	High school/ Certificate	22	5.9
	First Degree	280	75.1
	MA/MSc/MBA or Above	21	5.6
	College Diploma	50	13.4
	Total	373	100.0

Source: Researcher's Survey data, (2020)

As shown in the above table 23 respondents from employee (79.3%) have 1st degrees, 2 respondents (6.9%) have 2nd Degree (MA/MSc/MBA or above), 4 respondents (13.8%) are Diploma holders. From the educational background of respondents, 25 respondents (86.2%) are 1st and 2nd degree holders. And from Residents & informal settlers 301 (80.7%) were 1st and 2nd degree holders. According to the response, the respondents provide relevant and reliable information needed for the study and they are fit in line with the response of the questionnaire.

Table 4.4 Respondents' frequency distribution of Work Experience (Employee)

		Frequency	Percent
Employee	less than 2 years	3	10.3
	2-5 years	13	44.8
	6-10 years	10	34.5
	10 years and above	3	10.3
	Total	29	100.0

Source: Researcher's Survey data, (2020)

From the total respondents, 3 respondents (10.3%) fall at a work experience of less than 2 years, 13 respondents (44.8 %) fall at a work experience level of 2-5 years, 10 respondents

(34.5%) are with 6-10 years experience and the rest 3 respondents (10.3 %) are at a work experience of more than 10 years. From this it can be concluded that the majority of respondents, 92 respondents (89.7%) fall at a work experience above two years. This implies that most of the respondents have sufficient knowledge and experience about their firm and the subject matter of the study.

4.4. General Information About Residents And Informal Settlers

As mentioned in the section 4.1, 373 questionnaires are collected from three kebele Communities. 5 questions (which has general information about residents and informal settlers status) in the questionnaire have been selected as the source of analysis due to their relevance to the evaluation objective in order to validate the response or result. The frequency of each option for each question is calculated and presented. The result is set up into graphic format in order to display the data clear. Lastly, the presented information is interpreted from the data sources.

4.4.1. Type of land/property the respondent have

The result shows that 89.54% of respondents have both land and house, and 10.46% of them have only land. This indicates that about 10 % of the respondents acquired land but they didn't construct or build on their land because of weakness of land development controlling sector, infrastructures problem to develop the plot, some owners to make business while others for affordability problems.

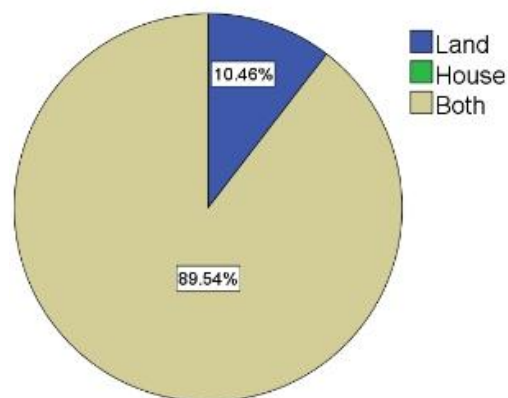


Figure 4.1: Type of land/property they have

4.4.2. Ways of acquiring the property

From the total number of respondents the highest number which is about 34.85% acquired their property/land by lease hold or contractual agreement with government. The 2nd highest number is acquired by purchasing with 28.68%. The 3rd highest and amazing number is free hold with 20.11% indicating the informal settlement which is not contributing to the city development. Finally the city land acquired by gift and inheritance shows the smallest number (percent) from the total with 8.85% and 7.51% respectively.

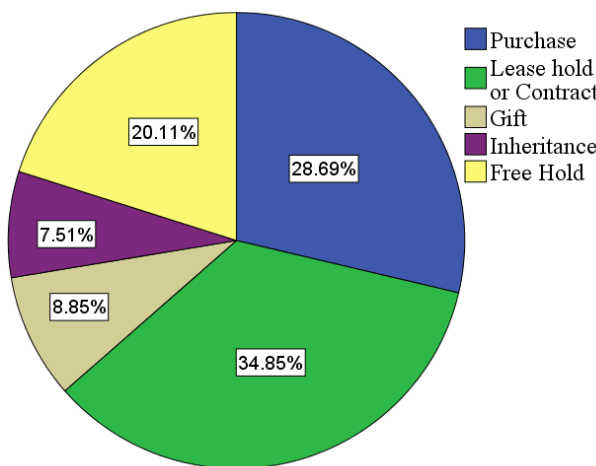


Figure 4.2: ways of acquiring the property

With regard to type of evidence the respondents have for their property, 34.19 % of respondents have contract agreement (leasehold) evidence for specified period of time (years) with government. They pay every year for government based on the size of the land they acquired. 25.74 % of respondents have title deed, it may be gift from their family or inheritance. The other highest number is 'none' having 23.59%, which indicate informal settlement. This indicates that most the city land acquired by informal settlers with no contribution to the city.

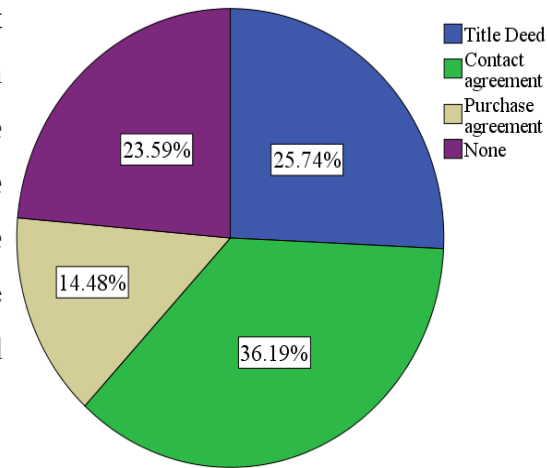


Figure 4.3: Type of evidence they have for their property

4.4.4. Respondents property registration year interval

From the total respondents acquired land 38.61% of land has been registered between 5 to 10 years. This shows that the registration practice of the LA office before 5 years was good for the city. The 2nd highest number is 'for their land is registered with in the last 5 years'. The performance of land registration practice is shown that lower than it is of before 5 years and also still there is gap on registration practice as shown on the data 8.31% from the total respondents is not registered.

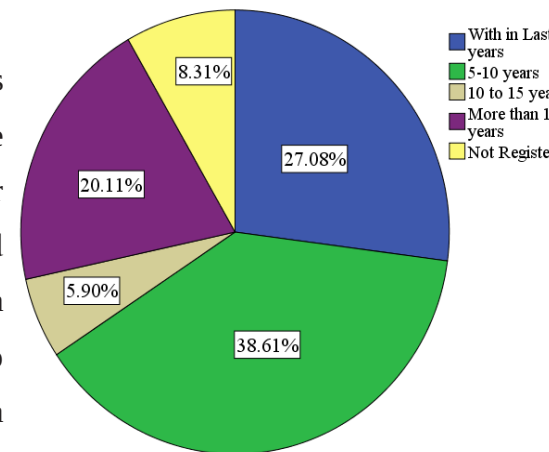


Figure 4.4: year interval the land registered

4.4.5. Tenure/property security status before and after registration

The owners have also been asked whether their tenure/ property security has difference before and after registration or not. 61.13% of respondents agreed or believe that land registration can secure their property right. This shows that as (33.24%) even after registration there is some security problems due to lack of proper documentation which causes conflict. The remaining (5.63%) are those victims directly. As a whole; this shows land administration problems in the system which in turn of sustainable development.

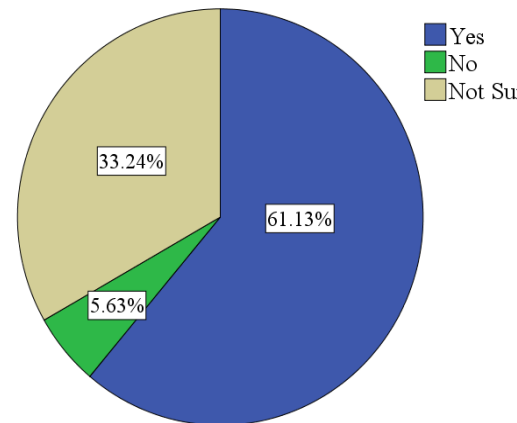


Figure 4.5: Tenure/property security status before and after registration

4.4.6. Land Registration and Tenure Security

Land registration is a process of registering rights to land. In order to identify the changes in the property rights situation, respondents were asked about the type of property rights available to them on their land before and after registration. The results are presented in Table 4.5

Table 4.5: Property rights before and after registration of land

Property Rights	Before Registration	After Registration
Get access to credit with your land	74(19.8%)	273 (73.2%)
Right of ownership	151 (40.5%)	301 (80.7%)
Gain access to infrastructures and basic services	91(24.4%)	278 (74.5%)
Sell the property and move out	44(11.8%)	277 (74.3%)
Use of production	218 (58.4%)	308 (82.6%)
Build/improve housing	43(11.5%)	288 (77.2%)

Source: Researcher's Survey data, (2020)

Almost all of the respondents said that they are enjoying the rights of ownership, sale and transfer, access to bank loans, and lease and use production after registration of land. The number of respondents who considered they had these rights before registration is negligible, except in the case of using production from land. Around 58.4 per cent of respondents said that they were using their production even if the land was not registered.

Table 4.6: Risks on properties before and after registration of land

Risk of property	Before Registration	After Registration
Risks of aggression from other people	235 (63%)	132 (35.4%)
Risks of acquisition by the government without fair compensation	272 (72.9%)	168 (45%)

Source: Researcher's Survey data, (2020)

Unless land is registered, landowners may face certain risks on their land. As shown in Table 4.6, around 63 per cent of respondents believed that, prior to registration, there were risks of aggression from other parties and 72.9 per cent were concerned about acquisition by

government without fair compensation. Interestingly, about 35.4% and 45% percent of respondents believed that there are fears of aggression and losing compensation after registration of land. The proportion of respondents who believed that there are such risks after registration is negligible (around 37%).

From the analysis of data presented in Table 4.10 and Table 4.11 above, it is clear that all forms of property rights are available and associated risks are lowered after registration of land in Adama city. All forms of tenure security are attained in the registered land, most of the respondents have perceived that their land rights are secured and protected by law, and they are physically controlling their land. Although most of the respondents more than half of the respondents (about 58%) have replied that they had used their production even before registration, they did not have any legal documentation to evidence their use right. It indicates that the landowners had control over land before registration, that is, they did have the right to use tenure security but not legal tenure security. These findings not contradict the finding of Reerink (2011) that the contribution of land registration program to legal tenure security is limited. In contrast, the finding of this research for security of land tenure is consistence with Brasselle et al. (2002) who found land tenure is secured after registration.

Moreover majority of the respondents considered land registration as a means of providing land tenure security. It is one of the main tasks of land administration organizations. Thus, land administration ensured security of land tenure by offering rights of ownership, sale and transfer, access to bank loan, lease and use production and safeguarding against aggression and unfair compensation to the new land owners.

4.4.7. Economic Outcomes of Tenure Security

In order to identify the changes in land use and economic activities, respondents from the case study areas of Adama city were asked how they have used their land and what type of economic activities were undertaken on their land before and after registration. The findings of the study are presented below.

Table 4.7: Land use before and after registration as a proportion of respondents

Land Use	Before Registration	After Registration	Changes After registration
Constructing houses	72 (19.3%)	336 (90.1%)	264 (70.77%)
Renovating houses	64 (17.2%)	348 (93.3%)	284 (76.14%)
Planting trees	200 (53.6%)	271 (72.7%)	71 (19.03%)
Planting fruits	269 (72.1%)	303 (81.2%)	34 (9.11%)
Animal husbandry	154 (41.3%)	237 (63.5%)	83 (22.25%)
Commercial purposes (for example, renting, shops, small industry)	168 (45%)	299 (80.2%)	131 (35.12%)

Source: Researcher's Survey data, (2020)

Proportions of respondents conducting different activities on their land before and after registration are presented on the above Table 4.7. In this table, the value after registration represents the net change in the number (or percentage) of respondents conducting particular activities.

Based on the data above the activities of constructing and renovating houses, planting trees and fruits and animal husbandry were conducted by most of the respondents even before registration.

The number of respondents conducting some land-related activities after registration increased significantly. For instance, among those who had not done so before, the number of respondents constructing houses increased by 70.77 per cent, renovating houses by 76.14 per cent and planting trees by 19.03%. The proportion of respondents starting other activities was also positive. Even using land for commercial activities like renting, shops and cottage industry might have been induced from the land before its registration, without any contribution to city development.

4.5. Descriptive Analysis on Land Administration practices

Land registration provides the framework and means for recognizing formalized land ownership rights and for regulating the transfer of these rights (Dale and McLaughlin, 1999). Land registries document certain interests in the land, including information about the nature and spatial extent of these interests and the names of the individuals to whom

these interests relate. In addition, land registries provide documentary evidence that is necessary for resolving property disputes as well as information for a wide variety of public functions, such as for example land valuation. In order to collect respondents' perception towards the land registration practice of the city land offices practices six questions provided and the result of the findings are provided in the following table.

Table 4.8: Descriptive statistics on Land Registration practices

Item no & code	Land Registration practices	N	Mean	Std. Deviation
LR1	Each and every privately held land plots of the city have been formally registered in property registration.	29	3.93	.593
LR2	Good land cadastre and registration is existed in land administration program and you are properly working with it.	29	3.66	.614
LR3	There is reasonable land registration fee for low income groups of the city.	29	3.31	.660
LR4	Proper land registry documentation system exists in the city.	29	4.00	.802
LR5	There are appropriate land administration organizational structures in the city.	29	3.62	.677
LR6	Land administration office provides regular training for land professionals about cadastre and other technologies in order elevate their competence and correct their problems in cadastre and registration activity.	29	3.00	.655
Valid N (listwise)		29		

Source: Researcher's Survey data, (2020)

As it is indicated on the table 4.8, based on the mean value, the variables for Land Registration practices of Adama city vary from the highest (4.00), for Each and every privately held land plots of the city have been formally registered in property registration to the lowest (3.00) for LA office provides regular training for land professionals about cadastre and other technologies. Observing the mean value of greater than 3.5, highest number of respondents has agreed on Each and every privately held land plots of the city have been formally registered in property registration, Proper land registry documentation system exists in the city and Good land cadastre and registration is existed in land administration program and as they are properly working with the system. This shows that land registration practice of the city is partially good.

In spite of this, concerning the rest three land registration practices, data from respondents showed that they were on neutral state with the mean score of less than 3.5. Therefore, the

result of the data analysis shows that Adama city land administration office should improve its land registration practices to overall improvement of its land registration practices performances.

4.6. Descriptive Analysis on Tenure Security practices

Every country – particularly developing countries – exhibits a range of land tenure arrangements requiring different land administration strategies. The formal recognition of land tenure is particularly relevant where indigenous or informal tenure relationships are being addressed. A range of responses from the land administration "toolbox" that can be applied to these circumstances needs to be recognized. This includes an understanding of such concepts as adverse possession, qualified or limited titles and flexible cadastral boundaries (Williamson, 2001). *Good practice* would be when such land tenure aspects are formally acknowledged and suitable to circumstances. In order to collect respondents' perception towards the tenure security practices five questions provided and the result of the findings are provided in the following table.

Table 4.9: Descriptive statistics on Tenure Security practices

Item no & code	Tenure Security practices	N	Mean	Std. Deviation
TS1	The office of land administration is Efficient and effective in land tenure security service delivery.	29	3.52	.634
TS2	Property right and tenure security owned create eviction problems because of overlapping land information in land administration system of the city.	29	3.48	.509
TS3	There is better controlling (formalization) system of informal settlers in the city.	29	3.28	.797
TS4	Management of land property value is done by Land use manager (professionals) of the city without any interference from regional and national government.	29	3.76	.988
TS5	Land property lawyers are essential and involved to manage land property and determine taxation issues of land in the city.	29	3.03	.680
Valid N (listwise)		29		

Source: Researcher's Survey data, (2020)

With respect to the data in the Table 4.9 the highest mean value is observed for Management of land property value is done by Land use professionals of the city without any interference from regional and national government with the mean and standard deviation score of (Mean= 3.76, S.D = 0.988) and for land administration office is Efficient and effective in

land tenure security service delivery with mean and standard deviation score of (Mean= 3.52, S.D = 0.634). In addition, the result shows that Property right and tenure security owned doesn't create eviction problems because of overlapping land information in land administration system of the city with the mean value of less than 3.5 which is (mean= 3.48). However, the rest mean results indicate neutral with the lowest mean value such as, Land property lawyers are and involved to manage land property and determine taxation issues with (mean= 3.03 and S.D=0.680) and better controlling (formalization) system of informal settlers in the city with (mean=3.28 and S.D= 0.797).

This indicates that the city land administration office strives to provide land related services by land use managers (professionals) of the city without any interference from regional and national government and this makes the office of land administration Efficient and effective in land tenure security service delivery but involving Land property lawyers to manage land property and determine taxation issues and also formalizing informal settlers of the city is shown weak. Therefore, the city land administration office has to work with the observed gaps.

4.7. Descriptive Analysis on Land use practices

Land-use planning has some fundamental objectives that in consequence benefit the land administration system. All landscapes change over time, either through human interference or by natural processes. It is essential that these changes are monitored and understood and that the uses to which the land is put are sustainable and that development: 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland, 1987). To be sustainable, development must meet not only the economic and social objectives, but also be ecologically sustainable (Dalal-Clayton et al., 1994). Governments determine how land is to be developed and used in a variety of ways, including direct acquisition, the provision of incentives, and through regulations. In order to collect respondents' perception towards the Land Use practices seven questions provided and the result of the findings are provided in the following table.

Table 4.10: Descriptive statistics on Land Use practices

Item no & code	Land Use practices	N	Mean	Std. Deviation
LU1	The practice of land use in the city is according to land use planning, policy and procedure of the country.(e.g. The national building construction proclamation is applicable.)	29	3.41	.867
LU2	Proper land use planning and implementation control system existed in the city.	29	3.59	.568
LU3	Land administration office of the city is carefully working on land use planning, In order to conserve natural resources and bring sustainable development for the city.	29	3.86	.581
LU4	Land administration office of the city provides regular Training to upgrade land use management professionals that can alleviate land and environmental degradation.	29	3.79	.559
LU5	Land administration office of the city is carefully managing the city land and it resources as it is the backbone of the country's economy as well as the city.	29	3.17	.928
LU6	Land administration office of the city is assessing present and future needs and evaluating the land's availability to meet them	29	3.34	.897
LU7	Land administration office of the city exhort its effort in identifying and resolving conflicts among competing uses and needs	29	3.79	.774
Valid N (listwise)		29		

Source: Researcher's Survey data, (2020)

According to the above Table 4.10, approximately 57% of the mean score is above 3.5 which are considered as high level performance and the remaining 43% of the mean score is below 3.5 which are considered low level of performance. Therefore, according to the data in the table above we can understand that Land administration office of the city is carefully working on land use planning, In order to conserve natural resources and bring sustainable development for the city, for this the office provides regular training to upgrade land use management professionals that can alleviate land and environmental degradation. In addition, the office is using its effort to identify and resolve conflicts among competing uses and needs with high mean value, whereas Land administration office of the city has to work on the application of the national building construction proclamation, proper land use planning and implementation of controlling system and carefully managing the city land and it resources as it is the building block of the country as well as the city economy.

4.8. Descriptive Analysis on Good Governance in land Administration practices

Good governance in land administration aims to protect the property rights of individuals and enterprise as well as of the state by introducing principles such as transparency, accountability, rule of law, equity, participation, effective and efficiencies in to land related administration (Burn and Dalrymple, 2008). Governance in land administration is becoming an important issue in many countries, as land management, particularly in developing countries, where corruption and rent-seeking grows increasingly. Most of Good governance norms deal with empowerment, access to information, and decision making. The developments in land administration and the aspects of land in general are directly affected by these features in respect that e.g. equal and secure land tenure needs a sound, efficient and trustworthy cadastral system; sustainable development based on economic, social and environmental factors needs reliable and accountable land ownership information; and civic engagement is possible only with access to transparent and reliable land information of all aspects. The result of Good governance in land administration practice is presented in the table below.

Table 4.11: Descriptive statistics on Good Governance in Land Administration practices

Item no & code	Good Governance in Land Administration	N	Mean	Std. Deviation
GA1	Land administration office of the city, Make Land policy decisions by consulting residents & incorporating feedbacks.	29	3.14	.915
GA2	Land administration office of the city has Clear and straightforward process of compulsory land acquisition and settlement.	29	3.79	.940
GA3	All Community members of the city have equal access to land and Housing.	29	3.72	.841
GA4	Land market information is accessible to all community members.	29	3.72	.960
GA5	Accountability Systems are implemented in the office that makes employee answerable for their action.	29	3.79	.819
GA6	Land administration offices of the city periodically monitor and evaluate service delivery processes the office.	29	3.69	.967
GA7	In the city Requirements to obtain land; to transfer ownership/use right and building permit are clear and accessible.	29	3.45	.910
GA8	Officials and workers of Land administration offices of the city perform their duties diligently and objectively without seeking bribes	29	3.14	.743
Valid N (listwise)		29		

Source: Researcher's Survey data, (2020)

As shown in the table above the city land administration office has a good performance in terms of practicing clear and straightforward process of compulsory land acquisition and settlement with the mean value of (M=3.79 SD=0.940), providing equal access to land and houses for all community with (M=3.72, SD=0.9841), making land market information accessible for all community members with (M=3.72 SD=0.960) and integrating accountability system in the office & periodically evaluating the service delivery performance of the office with the mean value of (M=3.79 & M=3.69) respectively. However, based on the mean value computed (which is less than 3.5) the office has a gap in terms of participating community in decision making and incorporating their feedback, requirements to obtain, transfer or use right and building permits were not clear for customers and finally the result shows that the employees of the office doesn't perform their duties thoroughly and without seeking bribes, we can say that the office has corrupted employees. The data obtained from the residents and informant settles on Issues related to good governance in the land administration has described in the table below.

Table 4.12: Descriptive statistics on good governance in land administration practice of the city Land offices (from residents & informal settlers)

	Good Governance in Land Administration and Service Delivery performance			Std. Deviation
	In Land Administration Office of the city:	N	Mean	
GGLA1	Proper land registration and good documentation system exists	373	3.00	.645
GGLA2	The urban dwellers have equal access to land information	373	3.52	.624
GGLA3	There is fair compensations payment mechanism for those who are losing their land holdings	373	3.48	.500
GGLA4	There is special service delivery for disadvantage groups	373	3.27	.788
GGLA5	land officials are accountable for their action or decision	373	3.23	.904
GGLA6	There is fast and simple land registration and ownership transfer system	373	3.03	.673
GGLA7	Land distribution equally among all the people	373	3.40	.852
GGLA8	The land official asked unreasonable payment to accomplish activates	373	3.67	.660
GGLA9	All people have the same access to services and receive the same service standards independent of their statues	373	3.48	.633
GGLA10	The practice of Good Governance is at very good level	373	3.41	.945
Valid N (listwise)		373		

Source: Researcher's Survey data, (2020)

With reference to table 4.12 most of the respondents (80%) responded, that the practice of good governance in land administration and service delivery practices of land administration office is weak (state their perception on neutral) with the mean value of less than 3.5 except for the urban dwellers have equal access to land information and official asked unreasonable payment for accomplishments of their activities (with a mean value of 3.52 and 3.67 respectively).

From the data above one can conclude that as there are no mechanisms for fair compensation payments for those who are losing their land holdings, special service delivery for disadvantage groups and ensuring equity in accessing land to all categories of residents in the city. Even also the result in the table shows absence of system by which residents can hold officials accountable are also hindering good land management practices in the city with the mean value of (3.23) showing that there are no mechanisms of holding the city officials accountable for the duties and responsibilities assigned to them specifically in relation to managing land. The absence of a mechanism for holding officials accountable energizes corruption among officials in the urban land administration office within the municipality. Most of the respondents agreed on that the land official asked unreasonable payment to accomplish activities with the mean value of (3.67). Similar to the effects of weak governance on service delivery, issues arising from a lack of information include public distrust, lack of oversight, poor data management, and underutilized data for decision making in the city. The data above evidences that Proper land registration and good documentation system suffer less than 3.5 mean values.

Generally, Weak governance in the legal framework for land opens gaps for speculation, unproductive use of land, and a lack of clarity in rights leading to social unrest and land disputes. The economic, social and environmental implications can have a widespread impact on government and the community. Therefore, the land administration office has to work on the observed gaps in order to improve its good governance practice to overcome the negative impact on sustainable development of the city as well as the community.

4.9. Descriptive Analysis on Sustainable Development performance

Sustainable Development performance is achieved through protecting the natural environment, improving the social situation for the poor and combating poverty. This three-pillar framework is often referred to as the economic, social, and environmental aspects of sustainable development. In order to collect respondents' perception towards the sustainable

development performance of the city thirteen questions provided and the result of the findings are provided in the following table.

Table 4.13: Descriptive statistics on Sustainable Development performance

Item no & code	Sustainable Development performance	N	Mean	Std. Deviation
SD1	Current land administration program of the city created job opportunity for community, especially for low income group.	29	3.55	.736
SD2	Informal settlers have the right to sell their land (property).	29	3.38	.677
SD3	Current LA program is controlling unplanned urban growth by removing the squatter settlements and providing formal settlement to the squatters.	29	3.93	.704
SD4	Current land registration system can guarantee the tenure security of formal settlers.	29	3.41	.628
SD5	The practices of land administration program of the city in Land registration, land valuation, land use planning and land development is done aiming sustainable land management	29	4.00	.463
SD6	Real Estate development in the city is on high stage as a result of equity promotion and effective land administration program of the city.	29	3.41	.628
SD7	Evaluator and tax specialists of the office are helpful for the fast growing real estate business.	29	3.79	.491
SD8	Current LA program of the city are contributing to alleviate the problems facing climate change induced socio-economic problems.	29	3.83	.539
SD9	Although construction in the city is increasing, the quality of the land is questionable due to lack of competence and shortage of surveyors and valuers.	29	3.34	.814
SD10	Land use planning and land use of the city is gone according to the national proclamation or international laws for land use In order to conserve natural resources and bring sustainable development.	29	3.86	.789
SD11	For the rapidly growing urban sector, modern farms in the city are practically applied by land use planners and follow up is properly managed by LA office of the city.	29	3.31	.806
SD12	Proper and well-designed land use planning is practically applied in the city for long-lasting sustainable land use and management.	29	3.90	.489
SD13	Current land administration system of the city is giving Knowledge of composition and valuation timely.	29	4.00	.535
Valid N (listwise)		29		

Source: Researcher's Survey data, (2020)

According to the survey result in Table 4.13, on the average more than half of variables mean is greater than 3.5 which indicates majority of respondents agreed on sustainable development performance (in terms of economic, social and environmental) of the LA office of the city. Therefore, most of the respondents agreed that sustainable development

performance of the city is partially good. However, for the rest variables most of the respondents are neutral. Therefore, the office must have to work on the problem faced by informal settlements because Informal settlements, informal building and construction and tenure insecurity are key implications of weak governance in this area. Weak governance in the legal framework for land opens gaps for speculation, unproductive use of land, and a lack of clarity in rights leading to social unrest and land disputes. The economic, social and environmental implications can have a widespread impact on government and the community.

The result on the above table also shows lower performance on equity and competence of employees – it is obvious that there are two types of inequity in urban land: inequity between wealth status and inequity due to special relations. Regarding the first type, land is accessed depending on the wealth or capital status. A case in Adama city is a good example here. As shown in the table above in Adama city there is no equity promotion that invites and facilitates real estate development and it occurs as ineffective land administration program. Effective mechanisms are required to ensure the behavior of land administration institutions is managed and to eliminate or minimize any negative social impacts of the services provided. The second source of inequity is the officials' special relations with the people. This may include tribal, origin or relative based. Generally, the land administration office has to improve the observed gaps in order to improve the city sustainable development performance.

4.9.1. Summary of Descriptive Analysis

The research questionnaire designed using 5 point Likert scale to collect appropriate responses, in relation to this the respondents indicated the extent they agree with the statements by choosing: 5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree. Based on the response of the respondents Mean computed on the above tables. A mean (M) score of 0 - 1.5 means that the respondents strongly disagreed, between 1.50 to 2.50 means they disagreed, 2.50 to 3.50 means the respondents were neutral, 3.50-4.50 means they agreed and a mean above 4.50 means the respondents strongly agreed. Based on the response of the respondents Mean computed Most of the respondents agreed on the offices LAPs and SDP with the mean value of greater than 3.5. Except

- From LRP: There is reasonable land registration fee for low-income groups of the city.
- From LRP: Land administration office provides regular training for land professionals about cadastre and other technologies in order to elevate their competence and correct their problems in cadastre and registration activity.
- From TSP: There is better controlling (formalization) system of informal settlers in the city.
- From TSP: Land property lawyers are essential and involved to manage land property and determine taxation issues of land in the city.
- From LUP: The practice of land use in the city is according to land use planning, policy and procedure of the country.(e.g. The national building construction proclamation is applicable.)
- From LUP: Land administration office of the city is carefully managing the city land and its resources as it is the backbone of the country's economy as well as the city.
- From LUP: Land administration office of the city is assessing present and future needs and evaluating the land's availability to meet them
- From GA: Land administration office of the city, Make Land policy decisions by consulting residents & incorporating feedbacks.
- From GA: In the city Requirements to obtain land; to transfer ownership/use right and building permit are clear and accessible.
- From GA: Officials and workers of Land administration offices of the city perform their duties diligently and objectively without seeking bribes
- From SD: Informal settlers have the right to sell their land (property).
- From SD: Current land registration system can guarantee the tenure security of formal settlers.
- From SD: Real Estate development in the city is on high stage as a result of equity promotion and effective land administration program of the city.
- From SD: For the rapidly growing urban sector, modern farms in the city are practically applied by land use planners and follow up is properly managed by LA office of the city.
- Weak performance indicated from residents and informal settlers on good governance and service delivery performance
- From GGLA: Proper land registration and good documentation system exists

- From GGLA: There is fair compensations payment mechanism for those who are losing their land holdings
- From GGLA: There is special service delivery for disadvantage groups
- From GGLA: Land officials are accountable for their action or decision
- From GGLA: There is fast and simple land registration and ownership transfer system
- From GGLA: Land distribution equally among all the people
- From GGLA: All people have the same access to services and receive the same service standards independent of their statues.

Therefore, in order to improve overall performance the Land Offices has to improve those practices which have lower than the middle value of the mean.

4.10. Inferential Statistics for LA Practices and SDP

4.10.1. Correlation Analysis

Correlations are the measure of the linear relationship between two variables. A correlation coefficient has a value ranging from -1 to 1. Values that are closer to the absolute value of 1 indicate that there is a strong relationship between the variables being correlated whereas values closer to 0 indicates that there is little or no linear relationship. The sign of a correlation coefficient describes the type of relationship between the variables being correlated. A positive correlation coefficient indicates that there is a positive linear relationship between the variables: as one variable increases in value, so does the other.

According to (Andy, 2006) the value and sign of the coefficient shows the strength of the association

Table 4.14: Correlation coefficient

Strength of association	Coefficient (r)	
	Positive	Negative
Small	0.1 - 0.3	-0.1 to -0.3
Medium	0.3 – 0.5	-0.3 to -0.5
Strong	0.5 – 1.0	-0.5 to -1.00

In this section, correlation analysis conducted in the light of each research objectives. The relationship between Land Administration Practices and Sustainable Development Performance was investigated using correlation analysis. This provided correlation Coefficients which indicated the strength and direction of relationship.

Table 4.15: Correlation matrix between constructs of LA practices and SDP

		LRP	TSP	LUP	GGLA	SDP
LRP	Pearson Correlation	1	0.640**	0.543**	0.846**	0.871**
	Sig. (2-tailed)		0.000	0.002	0.000	0.000
TSP	Pearson Correlation	0.640**	1	0.403*	.685**	0.736**
	Sig. (2-tailed)	0.000		0.030	0.000	0.000
LUP	Pearson Correlation	0.543**	0.403*	1	0.611**	0.698**
	Sig. (2-tailed)	0.002	0.030		0.000	0.000
GGLA	Pearson Correlation	0.846**	0.685**	0.611**	1	0.896**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
SDP	Pearson Correlation	0.871**	0.736**	0.698**	0.896**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Listwise N=29

Source: Researcher's Survey data, (2020)

The correlation table revealed that there was a positive significant relationship between land registration practice, tenure security practice, land use practice, good governance in land administration practice and sustainable development performance (0.979**, $p < 0.001$) (0.871** $p < 0.001$), (0.736**, $p < 0.001$), (0.698**, $p < 0.001$), (0.896**, $p < 0.001$) respectively. This implies that the four independent variables have the potential to influence sustainable development performance of Adama city.

4.10.1.1. Land Registration Practice and Sustainable Development Performance

As it is indicated in the table, there is significant positive correlation between Land Registration Practice and Sustainable Development performance with a correlation coefficient of 0.871 ($r = 0.871$) and significance is 0.000. Therefore, Land Registration Practice and Sustainable Development performance are positively and significantly correlated. This means that enhancing land registration practices within the land administration offices has the potential to increase sustainable development performance of the city.

4.10.1.2. Tenure Security Practice and Sustainable Development

Performance

The Table also depict that as there is strong and positive relationship between Tenure Security Practice and Sustainable Development performance with a Pearson correlation coefficient of 0.736 ($r=0.736$) and significance value is 0.00. This is an indication that enhancing Tenure Security Practice for Adama city land administration offices will lead to increased sustainable development performance for the city. Likewise ignoring tenure security practices can affect the socio-economic outcomes of the city.

4.10.1.3. Land use practices and sustainable Development Performance

The correlation test also conducted on Land use practices and sustainable Development performance depicted on the table 4.14 indicate that there is a positive, strong and significant relation between land use practice and sustainable development performance showing correlation coefficient of 0.698 ($r=0.698$) and significance value is 0.000. This result indicates that if the land use practices of the city planned and implemented in accordance to land use planning, policy and procedure of the country it has potential to improve sustainable development performance of the city.

4.10.1.4. Good Governance in Land Administration Practice and Sustainable Development Performance

In addition the table above shows us there is a positive correlation between Good Governance in Land Administration Practice and Sustainable Development Performance with correlation coefficient of 0.896 ($r=0.896$) and the significance level of 0.000 which is less than 0.05. It shows us Good Governance in Land Administration practice and Sustainable Development performance strongly and positively correlated. Elements of Good Governance in Land Administration practice dealt with in this study such as community participation in decision making, equal access to equity, accountability, transparency and easy service delivery practices should be ensured for improved sustainable development performance.

4.10.2. Regression Analysis

The researcher conducted a multiple regression analysis so as to test the relationship among independent variables and dependent variable. This regression analysis is conducted to know how much the independent variable explains the dependent variable. The regression was

conducted between land administration practices (independent variable) and sustainable development performance (dependent variable). The results of the regression analysis are presented as follows:

4.10.2.1. Multi-co linearity Test

In multiple regression model, before making a regression analysis it is important to test the multi co linearity test. The multi- co linearity test is a test to identify a strong correlation between two or more predictors in a regression model. This assumption can be assessed by examining tolerance and the variance inflation factor (VIF). VIF values well below 10 and the tolerance statistics well above 0.2 can safely to conclude that there is no co linearity within the data (Field, 2009). A small tolerance value indicates that the variable under consideration is almost a perfect linear combination of the independent variables already in the equation and that it should not be added to the regression equation. A good regression model must not have a strong correlation among its independent variables or must not have a multi-co linearity problem and that the value of variance inflation factor (VIF) must have a value between 1 and 10 and the tolerance level should be more than 0.2 (SPSS Inc., 2017).

Table 4.16: Multi co linearity test of independent variables

Model		Collinearity Statistics	
		Tolerance	VIF
1	Land Registration Practice	.276	3.622
	Tenure Security Practice	.518	1.932
	Land Use Practice	.624	1.604
	Good Governance in LA practices	.222	4.500

a. Dependent Variable: Sustainable Development Performance

Source: Researcher's Survey data, (2020)

The result in table 4.16 show that the co linearity between independent variables has no series problem since the value of tolerance for all independent variable is greater than 0.1 and all VIF is less than ten ($VIF < 10$) (Pallant 2005). From the above table hence, we can conclude that there is no co linearity within the data of the study.

4.10.2.2. Model Summery

A multiple regression model R-squared is determined by pair wise correlations among all the variables, including correlations of the independent variables with each other as well as with the dependent variable. The multiple correlation coefficients (R) are a measure of the

strength of the relationship between sustainable development performance and the four construct variables (land administration practices i.e. LRP, TSP, LUP and GGLAP). Large values of the multiple R represent a large correlation between the predicted and observed values of the outcome.

Table 4.17: Regression Model between LA Practices and Sustainable Development Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949 ^a	.900	.883	.15616
a. Predictors: (Constant), GGLA, LUP, TSP, LRP				

Source: Researcher's Survey data, (2020)

As shown in the table 4.17, there is causal relationship between LA Practices and Sustainable Development Performance. R represents the correlation between the observed values and the predicted values of dependent values and the value of R produced by the regression procedure range from 0 to 1. The larger the value of R indicates that there is strong relationship between the observed and predicted values. Consequently, for this particular case the R value is 0.949 which indicates that there is a strong relationship.

From the table above, the coefficient of determination was found to be 0.900 indicating that land administration practices account for 90% of the variability in sustainable development performance. This suggests that 10% of the variation is not explained by land administration practice.

4.10.2.3. F- test and T -Test

F- Test or simultaneous test was applied to check whether all the independent variable simultaneously influenced the dependent variable. The requirement is P-value or the significant of the variables must be less than 0.05. With this result of significant, the F-test result could be seen in Table 4.18. Furthermore, T- Test is used to test whether each independent variable influenced the dependent variable. The requirement is that the significance in Coefficient, (see Table 4.18 below) is less than 0.05.

Table 4.18 ANOVA Result between constructs of LAPs and Sustainable Development Performance

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	5.259	4	1.315	53.916	.000b
Residual	.585	24	.024		
Total	5.844	28			

a. Dependent Variable: SDP

b. Predictors: (Constant), GGLA, LUP, TSP, LRP

Source: Researcher's Survey data, (2020)

Table 4.18 shows the ANOVA results (F-test) of the multiple regression analysis. The significance value of 0.000 indicates that the regression relationship is significant in predicting the impact of the four constructs of the independent variables (land registration practices, tenure security practices, land use practices and good governance in land administration practices) on sustainable development performance of the city. Hence, this means that each independent variable had strongly influenced the dependent variable.

4.10.2.4. Coefficients of Regression Analysis

In order to know which of the predictors' (constructs) i.e. land registration practices, tenure security practices, land use practices or good governance in land administration practices has contributed significantly to our understanding of sustainable development performance, the following table shows Coefficients when we explore each predictor's beta (i.e., standardized regression coefficient) and its level of significance.

Table 4.19 Regression Coefficients between LAPs and sustainable development Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.966	.424		-2.279	.032
Land Registration Practice	.534	.196	.336	2.730	.012
Tenure Security Practice	.189	.085	.199	2.214	.037
Land Use Practice	.214	.076	.231	2.824	.009
Good Governance in LA practices	.347	.142	.335	2.444	.022

a. Dependent Variable: SDP

Source: Researcher's Survey data, (2020)

Based on the research model developed in chapter two the mathematical relationship between LA dimensions and Sustainable Development was expressed in the multiple regression equation as:

$$Y = X_0 + X_1 (LR) + X_2 (LTS) + X_3 (LUP) + X_4 (GGLA) + e$$

In accordance with this mathematical model the constructed research questions have been tested by considering significance level of each constant parameter and Regression Coefficients in multiple regression analysis. The result of Regression Coefficients indicated in the table above interpreted as follows:

Based on Table 4.19, standardized coefficients β -value and p-value for Land Registration Practices on Sustainable Development performance were $\beta = 0.336$ and the t- statistic value was calculated to be 2.730 at $p = 0.012$ respectively; these values show that Land Registration practices had positive and significant influences on sustainable development performance. Since the p-value 0.012 which is less than level of coefficient 0.05. This indicates that when other variables are held constant, land registration practice from the standardized coefficient 0.336 as one unit of land registration practices increases 33.6% increase on sustainable development performance.

From the data given in Table 4.18 above, the standardized coefficients and the p-value for tenure security practice on sustainable development performance were 0.199 and 0.037 respectively. These values showed that tenure security practice had strong significant influences on sustainable development performance because, according to this data, the p-value, which is 0.037, was less than level of coefficient indicated by 0.05. This, in turn indicated that from the standardized coefficient of 0.199 that as one unit of tenure security practice increases with 19.9 percent, there would be an increase on sustainable development performance.

Based on generated data, land use practice positively and significant influenced sustainable development performance, where the t- statistic value was calculated to be 2.824 at p value < 0.05 . The value of the coefficient of land use practice was also found to be 0.231 which means that, keeping other things constant, a unit change in land use practice cause 23.1% increase in sustainable development performance of Adama city.

It is also found that good governance in land administration practice had a positive and significant influence on sustainable development performance, where the t- statistic value

was calculated to be 2.444 are significant at p value < 0.05 . The value of the coefficient of good governance in land administration practice was also found to be 0.335 which means that, keeping other things constant, a unit change in good governance in land administration practice causes 33.5% increase in sustainable development performance.

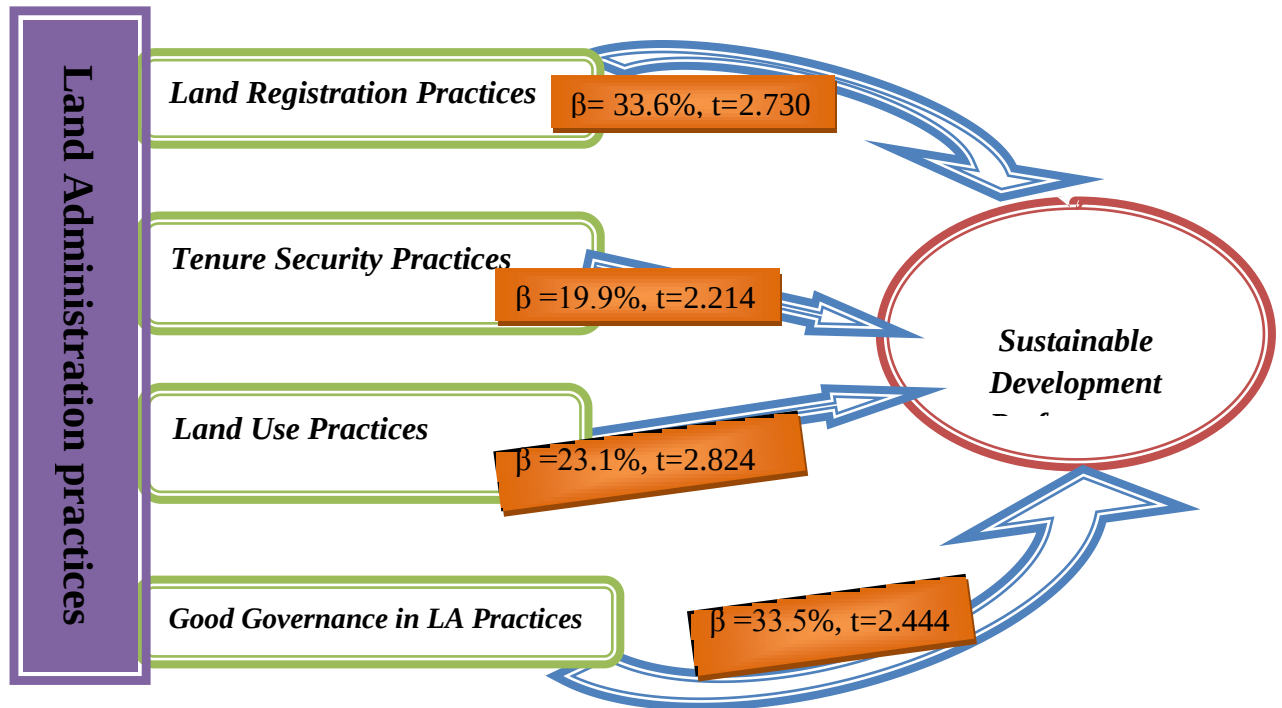
The results were consistent with the results of Dale and McLaughlin (1999) who found that A good land administration may contribute to the economy as well sustainable development and with Deininger (2003) founds that giving secure property rights to land can greatly increase the net wealth of the poor and makes them less reliant on wage-labor thereby reducing their vulnerability to shocks. Similarly Villamizar (1984) founds substantially greater investment on titled land than on undocumented or encroached land.

In addition Feder et al. (1988) found that the effect of land registration on economic performance between titled and untitled farmers. Similarly, Markussen (2008) observes that plots held with a paper documenting ownership were found to have higher productivity and land values than other plots in Cambodia, while property rights have weak effects on access to credit. To conclude a good land administration practice has a positive effect economic, social and environmental sustainability.

4.10.2.5. Research framework or model summery

In general, the survey result showed that there is a positive relationship and strong significant relationship between independent variables of Land Administration practices and sustainable development performance.

The figure 4.6: shows the summery relationship of the selected variables.



Source: Survey data findings, (2020)

The finding of this study is consistent with Enemark, (2001); Torhonen, (2004); Wallace, (2009) who found that land administration systems are significant to deliver sustainable development by using appropriate tools that fit with system applied. Security of tenure and land titling and registration as well as good land governance had significant roles in sustainable development Dale and McLaughlin (2000); Deininger (2003); UNECE (2005); FAO (2007). It is also consistent with Ting and Williamson (2000) who found that good governance and information are supposed to be the foundation for the development of land administration components in order to reach sustainability. Therefore, as it is indicated on the above figure, by improving the Land Administration Practices i.e. land registration practices, tenure security practices, land use practices and good governance in land administration practices of Adama city sustainable development performance of the city as well as its community wealth could significantly and positively improved.

CHAPTER FIVE

SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

This chapter presents summary of findings which are organized as the research objective, conclusions that are drawn from the findings and recommendations based on the findings.

5.1. Summary of Major Findings

According to the data analysis in the previous section, summary of the findings presented as follows:

- Land Registration Practice and Sustainable Development Performance positively and significantly related. IIP has $\beta = 33.6\%$ contribution on Sustainable Development performance at tolerance level $t=2.730$ and significance level 0.012.
- Tenure Practice and Sustainable Development Performance positively and significantly related. Tenure security has $\beta=19.9\%$ contribution on Sustainable Development performance at tolerance level $t=2.214$ and significance level 0.037.
- Land Use practice and Sustainable Development performance positively and significantly related. Land Use practice has a positive impact and $\beta=23.1\%$ contribution on Sustainable Development performance at $t=2.824$ and significant level 0.009.
- Good Governance in Land Administration practice and Sustainable Development performance positively and significantly related. Good Governance in Land Administration practice has $\beta = 33.5\%$ on Sustainable Development performance at tolerance level $t=2.444$ and significance level 0.022.

5.2. Conclusion

This paper provides empirical justification for a framework that identifies four key dimensions of Land Administration Practices and describes the relationship among LA practices and sustainable development. The main objective of this study was to examine the impact of LA practices on sustainable development performance. For the purpose of investigating these issues a comprehensive, valid, and reliable instrument for assessing LA practices was developed. The instrument was tested using rigorous statistical tests. This study provides empirical evidence to support conceptual and prescriptive statements in the literature regarding the impact of LA practices.

From Regression Analysis between LA Practices and Sustainable Development Performance from four constructs of land administration practices all variables (LRP, TSP, LUP and GGLAP) had strong significant influence on sustainable development performance.

The findings of the survey also shows that 90% of corresponding change in determining sustainable development performance is the results of the change in land administration practices of all the four predictor variables jointly. The test of overall significance of all the four variables jointly i.e. land registration practices, tenure security practices, land use practices, and good governance in land administration practices are significant at 0.000 levels which found out that the model used for this survey is also to be valid.

5.3. Recommendation

Based on the study results and conclusions drawn above, some recommendations are proposed as a means of alleviating the problems found.

- The result of the study as clearly indicate that LA practices (Land registration practice, Tenure security practices, Land use practice and Good governance in land administration practices) have significant impact on the city sustainable development performance. Therefore the office of the city land administration must give due attention in properly implementing for those LA practices to improve overall sustainable development performance (i.e. environmental, social and economic outcomes or performance).
- It is obvious that informal settlements are increasing in the case study city. Thus, the slums and informal settlements that populate large areas of the case study city are clear indications of lack of tenure security. in order to effectively use the city land and improve sustainable development performance the city land office has to work on its tenure security practices and service delivery performance even has to provide affordable price for all community members.
- A large part of effective service delivery is good records management. This is essential for maintaining the integrity of secure tenure through property rights registration. Record data has to be simple and unambiguous. Dealings with records need to be undertaken according to a set of standard procedures that are set out in operational manuals. The city LA office documentation system has to be managed accordingly in order to overcome the weak documentation system.
- Moreover, Sound land administration systems deliver a range of benefits to society in terms of alleviation of poverty, security of tenure, support for formal land markets, security for credit, support for land and property taxation, protection of state lands, management of land disputes and improvement of land-use planning and implementation. The systems enable the implementation of land policies to fulfill political and social objectives and to achieve sustainable development. In order to achieve these objectives the city the Land administration office and other stakeholders has to work on best LA practices and has to provide good land information, integrate and practice better land policy, better land administration and management and better land use practice.

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APPENDIX: I



DEPARTMENT OF ARCHITECTURE, URBAN PLANNING AND DESIGN POST GRADUATE PROGRAM

QUESTIONNAIRE (FOR EMPLOYEES)

Dear respondents, the purpose of this questionnaire is to gather data on the impact of Land Administration practices on Sustainable Development of Adama city in order to fulfill the University's (Adama science and Technology University) requirement set for awarding of a Masters Degree in Urban Planning and Design. The study is purely for academic purpose and thus not affects you in any case. So, your genuine, frank and timely response is vital for successfulness of the study. Therefore, I kindly request you to respond to each items of the question very carefully.

Contact Address

If you have any question, please do not hesitate to contact me and I am available as per your convenience at (Mobile: 0967-47-47-09/0947-56-28-11 e-mail: umarsaanii473@gmail.com)

Thank you for scarifying your precious time in advance

General Instructions

- There is no need of writing your name
- Where answer options are available please tick (✓) in the appropriate box for all parts

PART I: Demographic and Other Information

1. Age: ☐ Below 25 years ☐ 25-35 years
☐ 36-45 years ☐ above 45 years

2. Educational Qualification

- ☐ Certificate ☐ College diploma (TVET)
☐ First Degree ☐ MA/MSC/MBA or above

3. Your position in the office _____

4. How many years have you worked in this office?

☐ 0-5 years ☐ 6-10 years ☐ 11-15 years ☐ over 15 years

PART I: LAND ADMINISTRATION PRACTICES

Please indicate the extent of your agreement or disagreement to the following statements by use of either 'x' or √ in the provided boxes.

1 strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree, 5 Strongly agree

		Strongly Disagree	Disagree	Neutral	Agree	Strongly
	Land Registration Practice	1	2	3	4	5
LR1	Each and every privately held land plots of the city have been formally registered in property registration.					
LR2	Good land cadastre and registration is existed in land administration program and you are properly working with it.					
LR3	There is reasonable land registration fee for low income groups of the city.					
LR4	Proper land registry documentation system exists in the city.					
LR5	There are appropriate land administration organizational structures in the city.					
LR6	Land administration office provides regular training for land professionals about cadastre and other technologies in order elevate their competence and correct their problems in cadastre and registration activity.					
	Tenure Security Practice	1	2	3	4	5
TS1	The office of land administration is Efficient and effective in land tenure security service delivery.					
TS2	Property right and tenure security owned create eviction problems because of overlapping land information in land administration system of the city.					
TS3	There is better controlling (formalization) system of informal settlers in the city.					
TS4	Management of land property value is done by Land use manager (professionals) of the city without any interference from regional and national government.					
TS5	Land property lawyers are essential and involved to manage land property and determine taxation issues of land in the city.					
	Land Use Practice	1	2	3	4	5

LU1	The practice of land use in the city is according to land use planning, policy and procedure of the country.(e.g. The national building construction proclamation is applicable.)					
LU2	Proper land use planning and implementation control system existed in the city.					
LU3	Land administration office of the city is carefully working on land use planning, In order to conserve natural resources and bring sustainable development for the city.					
LU4	Land administration office of the city provides regular Training to upgrade land use management professionals that can alleviate land and environmental degradation.					
LU5	Land administration office of the city is carefully managing the city land and it resources as it is the backbone of the country's economy as well as the city.					
LU6	Land administration office of the city is assessing present and future needs and evaluating the land's availability to meet them					
LU7	Land administration office of the city exhort its effort in identifying and resolving conflicts among competing uses and needs					
	Good Governance in Land Administration					
GA1	Land administration office of the city, Make Land policy decisions by consulting residents & incorporating feedbacks.					
GA2	Land administration office of the city has Clear and straightforward process of compulsory land acquisition and settlement.					
GA3	All Community members of the city have equal access to land and Housing.					
GA4	Land market information is accessible to all community members.					
GA5	Accountability Systems are implemented in the office that makes employee answerable for their action.					
GA6	Land administration offices of the city periodically monitor and evaluate service delivery processes the office.					
GA7	In the city Requirements to obtain land; to transfer ownership/use right and building permit are clear and accessible.					
GA8	Officials and workers of Land administration offices of the city perform their duties diligently and objectively without seeking bribes					

PART II: SUSTAINABLE DEVELOPMENT PERFORMANCE

Please indicate the extent of your agreement or disagreement to the following statements by use of either 'x' or √ in the provided boxes.

1 strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree, 5 Strongly agree

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Sustainable Development Practices	1	2	3	4	5
SD1	Current land administration program of the city created job opportunity for community, especially for low income group.					
SD2	Informal settlers have the right to sell their land (property).					
SD3	Current LA program is controlling unplanned urban growth by removing the squatter settlements and providing formal settlement to the squatters.					
SD4	Current land registration system can guarantee the tenure security of formal settlers.					
SD5	The practices of land administration program of the city in Land registration, land valuation, land use planning and land development is done aiming sustainable land management					
SD6	Real Estate development in the city is on high stage as a result of equity promotion and effective land administration program of the city.					
SD7	Evaluator and tax specialists of the office are helpful for the fast growing real estate business.					
SD8	Current LA program of the city are contributing to alleviate the problems facing climate change induced socio-economic problems.					
SD9	Although construction in the city is increasing, the quality of the land is questionable due to lack of competence and shortage of surveyors and valuers.					
SD10	Land use planning and land use of the city is gone according to the national proclamation or international laws for land use In order to conserve natural resources and bring sustainable development.					
SD11	For the rapidly growing urban sector, modern farms in the city are practically applied by land use planners and follow up is properly managed by LA office of the city.					
SD12	Proper and well-designed land use planning is practically applied in the city for long-lasting sustainable land use and management.					
SD13	Current land administration system of the city is giving Knowledge of composition and valuation timely.					

Thank you!!!

If you have additional information

APPENDIX: II



DEPARTMENT OF ARCHITECTURE, URBAN PLANNING AND DESIGN

POST GRADUATE PROGRAM

QUESTIONNAIRE (for Residents and Informal Settlers)

Dear respondents, the purpose of this questionnaire is to gather data on the impact of Land Administration practices on Sustainable Development of Adama city in order to fulfill the University's (Adama science and Technology University) requirement set for awarding of a Masters Degree in Urban Planning and Design. The study is purely for academic purpose and thus not affects you in any case. So, your genuine, frank and timely response is vital for successfulness of the study. Therefore, I kindly request you to respond to each items of the question very carefully.

Contact Address

If you have any question, please do not hesitate to contact me and I am available as per your convenience at (Mobile: 0967-47-47-09/0947-56-28-11 e-mail: umarsaanii473@gmail.com)

Thank you for scarifying your precious time in advance

General Instructions

- There is no need of writing your name
- Where answer options are available please tick (✓) in the appropriate box for all parts

PART I: Demographic and Other Information

5. Age: ☐ Below 25 years ☐ 25-35 years
☐ 36-45 years ☐ above 45 years

6. Educational Qualification

- ☐ Certificate ☐ College diploma (TVET)
☐ First Degree ☐ MA/MSC/MBA or above

7. What type of land/property do you have?

☐ Land ☐ House ☐ both

8. How have you acquired this property?

☐ Purchase ☐ Lease hold or Contract ☐ Gift

☐ Inheritance ☐ Free hold ☐ Others:.....

9. What type of evidence do you have for this property?

☐ Title Deed ☐ Contact agreemer ☐ Purchase ☐ ment ☐ None

☐ Others:

10. When was this land registered?

☐ Within last 5 years ☐ 5-10 years ☐ 10-15 years ☐ More than 15 years

11. Do you consider that your property is secured after registration?

☐ Yes ☐ No ☐ Not sure

PART II: Sustainable Development Indicators

12. Could you please provide the following information before and after registering the land?

	Before Registration	Yes	No
	Property right	1	2
BRP1	Get access to credit with your land		
BRP2	Right of ownership		
BRP3	Gain access to infrastructures and basic services		
BRP4	Sell the property and move out		
BRP5	Use of production		
BRP6	Build/improve housing		
	Risk of property	1	2
BRR1	Risks of aggression from other people		
BRR2	Risks of acquisition by the government without fair compensation		
	After Registration	Yes	No

	Property right	1	2
ARP1	Gain access to credit with your land		
ARP2	Right of ownership		
ARP3	Gain access to infrastructures and basic services		
ARP4	Sell the property and move out		
ARP5	Use of production		
ARP6	Build/improve housing		
	Risk of property	1	2
ARR1	Risks of aggression from other people		
ARR2	Risks of acquisition by the government without fair compensation		

13. Have you ever performed or agree to perform the following activities on your land after or before registration?

	Before Registration	Yes	No
	Property right	1	2
BRP1	Constructing houses		
BRP2	Renovating houses		
BRP3	Planting trees		
BRP4	Planting fruits		
BRP5	Animal husbandry		
BRP6	Commercial purposes (for example, renting, shops, small industry)		
	After Registration	Yes	No
	Property right	1	2
ARP1	Constructing houses		
ARP2	Renovating houses		
ARP3	Planting trees		
ARP4	Planting fruits		
ARP5	Animal husbandry		
ARP6	Commercial purposes (for example, renting, shops, small industry)		

	Good Governance in Land Administration And Service Delivery	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	In Land Administration Office of the city:	1	2	3	4	5
GG1	Proper land registration and good documentation system exists					
GG2	The urban dwellers have equal access to land information					
GG3	There is fair compensations payment mechanism for those who are losing their land holdings					
GG4	There is special service delivery for disadvantage groups					
GG5	land officials are accountable for their action or decision					
GG6	There is fast and simple land registration and ownership transfer system					
GG7	Land distribution equally among all the people					
GG8	The land official asked unreasonable payment to accomplish activates					
GG9	All people have the same access to services and receive the same service standards independent of their statues					
GG10	The practice of Good Governance is at very good level					

THANK YOU!!!