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ADDIS ABABA UNIVERSITY  
COLLEGE OF SOCIAL SCIENCE  
DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

The Impacts of Land Certification on Sustainable Investments and Land Management in  
Ethiopia; The Case of Duna Wereda, Hadiya Zone, SNNPR, Ethiopia.

By

KEBEDE ABERA

Advisor

ASMAMAW LEGASS (PhD)

Addis Ababa University

June, 2017

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A thesis Submitted to the Department of Geography and Environmental Studies, Addis Ababa University in partial fulfillment for the requirement of degree of Master of Arts in Geography and Environmental Studies Specialization in Land Resource Management

By

KEBEDE ABERA GASHAW

Advisor

ASMAMAW LEGASS (PhD)

Addis Ababa University

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Signatures

Date

1. Internal, Examiner

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2. External, Examiner

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3. Advisor

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## **Certification**

I certify that MA thesis entitled “The impact of Land Certification on Sustainable Investments and Land Management in Ethiopia; The Case of Duna Wereda, Hadiya Zone, and SNNPR”, was carried out by Kebede Abera under my supervision and hereby I recommend this thesis for examination.

Asmamaw Legass (PhD)

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Signature

Date

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## Acronyms

ANR	Amhara National Region
CSA	Central Statistic Agency
DA	Development Agents
ECA	Economic Commission for Africa
EEA	Ethiopian Economic Association
EEPRI	Ethiopian Economic Policy Research Institute
EPLAUA	Environmental Protection and Land Administration and Use Authority
F	Frequency
FAO	Food and Agricultural Organization
FDRE	Federal Democratic Republic Ethiopia
GIS	Geographical Information System
HHs	Households
IFAD	International Food for Agricultural Development
ILC	International Land Coalition
ILM	Investments on Land Management
ISFM	Investments on Soil Fertility Management
MOA	Ministry of Agriculture
RRR	Rights, Restrictions and Responsibilities
SNNPR	South, Nations, Nationalities, Peoples and Region
SPSS	Statistical Package for Social Sciences

UNECE United Nations Economic Commission for Europe

USAID United States Agency for International Development

## **Abstract**

*The objective of this study at the impacts of land certification on sustainable investments on land management in the study area. Sample kebeles Awoya-Berkuncho, Goda-kenkicho and Semen-Wagebeta were selected purposively sampling technique. Primary data were collected through survey questionnaire, group discussion, key informant interview and field observation, while secondary data were collected from governmental organizations carried out in three administrative kebeles from the total thirty two kebeles. The data were analyzed by using verbal description and statistical analyses (correlation analysis). The result of correlation is confirmed that, there is a positive and significant relationship between investments on land management and land certification. The result showed that tenure security was low during the past regimes because of frequent land redistribution and this contributes a lot towards natural resource (land) degradation in the wereda. However, in response to the problem the current government has taken measures of rural land certification to increase tenure security by granting holding certificate as legal evidence. In addition, land related disputes are decreased and the vulnerable group of the society especially women land rights are protected as a result of holding certificate. Moreover, there was low productivity of farm because of increasing price of inputs such as fertilizer and low awareness for certificate as collateral /guarantee/ to the financial institute. In general, the findings of the study demonstrate that the feeling of land rights security is increasing through time, while land certification carried out to increase tenure security has been achieving its intended objectives and is sustainably effective in improving investments on land management of landholders in the study wereda.*

*Key words: Land policy, Land administration, Land tenure, Land rights, Land certification, Land management.*

## CHAPTER ONE

### INTRODUCTION

#### **1.1 Background of the Study**

Land is one of the most important natural resources of the people throughout the world especially for the rural as well as urban farmers whose livelihood basically relies on agriculture (USAID, 2007). Managing natural resources and controlling the environmental impacts associated with land use change requires an understanding of the underlying causes, which arise out of complex interplay between bio-physical and socio-economic factors (Serneels and Lambin, 2001; Fox, 2002; Muller, 2003; Rasul et al., 2004). The socio-economic and bio-physical factors are affecting land use/cover change, land tenure security has been increasingly recognized as a critical element in reducing poverty, promoting social equality, developing sustainable agriculture and conserving natural resources. There is a general consensus that land tenure security promotes investment and efficient use of resources (ILC et al., 2004).

However, land tenure insecurity may leads to the risk of losing land will create a disincentive to undertake investments even if the present value of the productivity benefits from such investments. Tenure insecure also obstacle for the functioning of land markets, and the use of land tenancy is insecure, farmers do not care much about the land use and though concentrate on short terms profits maximizing at the cost of accelerating the degradation of land (Lanjouw, and Levy, 2002; Carter and Olinto, 2003; Deininger and Chamorro, 2004) and Similarly, lack of access to land or low return per area of land, leads to the expansion of agriculture into forested areas and the degradation of natural resources. For instance, the provision of land tenure to farmers can be effective solution land degradation, land conflicts and environmental problems (Do and Iyer, 2002).

Secure land certification, has positive impact on sustaining profitable farming that is less destructive to the environment (Ayalew et al., 2005). Land certification had significant impacts on investment in Latin America and Asia, whereas, such interventions in Africa have found insignificant. For instance, in Kenya, there was no empirical evidence that showed land certification enhancing credit markets, land markets, and investment (Holden et al., 2009). A Study carried out by Migot-Adholla and others looked at the use of credit, land improvements

and productivity and how land registration in Kenya was related to these variables. Nonetheless, Holden et al. (2009) in the Southern Kenya reported that poverty had a significant negative impact on trees investment but no evidence on tenure insecurity having a negative impact on trees investment. Similarly, Nedessa et al. (2005) reported that one study in Kenya indicates that tenure security is important, however, privatization alone does not guarantee improvement in land and agricultural production. In some cases, privatization has led to different land rights being concentrated in the hands of a few people while other people (such as poor rural women or ethnic minorities) lose the few rights they have and generally are not able to participate fully in the land market (Laustarria-comhiel, 1997).

The problem of land tenure security is serious in the developing countries, especially African agricultural activities and other livelihood of smallholders options are affected by various factors (climatic conditions, markets, infrastructure, physical conditions), unequal access to land and land tenure insecurity have the most profound effect (ECA, 2004). Most of the land tenure challenges facing Africa are legacies of the colonial period. The process of colonization was driven by the economic imperatives of establishing markets for European goods, exploitation of mineral resources and the establishment of European agriculture. A unique feature of colonialism in Africa is that it defined land as a communal and customary possession (Mamdami, 1996). This was further complicated by inappropriate land tenure policies have, therefore, resulted in various forms of economic, environmental and social impacts (Ouedraogo, and Toulmin, 1999).

The linkages of land tenure, food security and sustainable development helps to compare the efficacy of different sets of perspectives on the evolution of land tenure in Africa and its role in politics and development in the historical evolution of land problems. While the notion of tenure security tends to be equated with the individualization of landholdings, in this continent the existing complex tenure relations suggest that there is no single tenure form that offers absolute security. The co-existence even association in some cases of various forms of tenure in Ethiopia including state, communal, customary, and private or individual rights suggests the need to develop more complex policy, which discourage them to increase agricultural production and land resources over long term conservation (Tigistu, 2011).

The effective, success and sustainability of investments on land management depend on clear understanding of land tenure security through land certification to increase agricultural

productivity. However, the impacts of land certification on investments and securing land rights should be investigated to measure the contribution of land registration and certification on sustainable investment in land management, and agricultural productivity (Ayelaw, 2011).

## **1.2. Statement of the Problem**

The impact of land certification on sustainable investment and land management is one of the most important effects on improvement of conservation structures. Having a land certificate for a farm plot enhances investments on the plot in the construction of a new structures, improvement /maintenance of the existing conservation structures. And also land certification has enhanced land productivity (Tekie, 2008).

Land tenure security is believed to be important in improving investments in land, land management, environmental stability, sustainable use of natural resources and agricultural productivity. However, the possible impacts of land certification on tenure security, proper utilization of land, improving investments in land and dispute resolution is arguable in the case of study area. It is believed that the insecurity of land rights exacerbate land degradation, overgrazing and poor performance of agricultural activity. In addition, it suggested that the indicators of poor performance of agricultural sector under the existing tenure arrangement are; insecurity of holding rights, reduction of holding size and subsistence farming practices (Sabita, 2010). While the certification program, and the resulting increased tenure security is expected to have both short and long-term impacts in enhancing productivity. Moreover, the current land tenure system which is vested in the public and under the control of the state is considered as a problem to achieve sustainable investments on land management activities. As a consequence, the issues of land became the point of different actors who have interest in land. For instance, Adenew et al. (2003) found that landholders were not willing to make sustainable investment on land, because of the fear of future redistribution and land taken by government at any time.

Furthermore, the land reform in Duna wereda in the Derg regime which was implemented in 1975 was another problematic area of the land reform which resulted in frequent land distribution. It was believed that fragmentation of land, insecurity of tenure and shortage of farm inputs were the results of land distribution. In addition, it was also pointed out that investments in land improvement measures were not carry out by many landholders such as tree planting,

terracing and in soil fertility management such as crop rotation, intercropping, compost etc because of the fear that they were not be compensated for the development they made in their land. Conversely, the current government policy trends discloses that the chance to carry out land distribution looks to be very little. This may be an important measure to guarantee landholding rights by granting a certificate holding as legal evidence. To this end the land administration institute is established at a grass root level (Nezioki, 2006).

Another significant feature of the problem lays on the fact that land certification is a recent phenomenon in the study area which possibly creates knowledge gap in terms of its impact. Despite the fact that land certification was implemented over the last six years, little was known about the impact of certification on tenure security, investments in land, dispute over land and the perception of farmers about security of land rights.

Accordingly, based on the existence of the knowledge gap in the topic under discussion, one of the primary reasons for conducting this study was to fill the knowledge gap about the impact of land certification on farm activities. Above all, insecurity of the land rights has diversified implication that can affect the social and economic wellbeing of farmers. The main indication of tenure insecurity comprises poor performance of agricultural sector, lack of incentives for the land based on investments at household level, legally recognized women land rights being impracticable, discourage development of rental market and increasing land disputes in the study area. Moreover, in some cases farmers are obliged to waste resources to protect their land rights (Place, 2008). In such situation, it is imperative to study how farmers were responding to government intervention on rural land certification that aims to build tenure security and made use of land more productive. However, the impacts of land certification in securing land rights, the impacts of land certificate on sustainable investments on land management and farm/agricultural productivity has not been studied in Duna wereda. Therefore, it is timely to investigate land certification related problems and prospects on the ground and in view of farm households as government policy on security is changing overtime.

### **1.3 Objectives of the Study**

The general objective of this study is to assess the impacts of land certification on the investment and sustainable land management, in Duna Wereda, Ethiopia.

The specific objectives of study attempts to-:

- i. assess farmers' view towards land certification.
- ii. evaluate the impact of land certification in securing land rights.
- iii. examine the effectiveness of land certification on land investment, management and farm productivity.
- iv. assess the impact of land certification in resolving land - related disputes.
- v. evaluate farmers' knowledge of basic land rights and obligations in relation to land certificate of the study area.

### **1.4 Research Questions**

Based on the proposed objectives the research attempts to answer the following questions

1. What is the view of farmers towards land certification?
2. What are the impacts of land certification in securing land rights?
3. What impacts on farm productivity occurs after issuing land certification?
4. Does land certification reduce the extent of land-related disputes resolution?
5. How is the knowledge of farmers of basic land rights and obligations in relation to land certificate of the study area?

## **1.5 Significance of the Study**

The results of the study will have the following multitude significances:

- a) It will help the farmers to carry out sustainable land management practices and soil fertility management to increase farm productivity in the study area
- b) It will help experts to understand the impacts of land management practices and create awareness about efficient use of resources.
- c) It will enable the wereda's stakeholders to recognize the perception of the farmers towards the impact of land certification on enhancing agricultural production.
- d) It will enable the farmers to realize the impact of securing of land rights leads to incentive that promotes investments and efficient use of resources.
- e) It will reveal to planners and policy makers the solution through which land certification to reduce the extent of land-related disputes.
- f) The study will make stronger public awareness of land rights and obligations in relation to land law/certificate on the status of land certification in the study area to bring sustainable investments on land management.

## **1.6 Scope of the Study**

This study is conducted in Duna District of Hadiya Zone, Southern Nation, Nationalities and Peoples of Regional states, Ethiopia. The study mainly investigates the impacts of land certification on practices of land management and tenure security as one of the contributions for production improvement in the study area. This study does not look into other factors contributing for crop production such as improved seed, etc. There was no much attention given to traditional land tenure system of the area. This research tries to show the link between land certification and sustainable land management and investment on it.

## **1.7 Limitation of the study**

Although large sample size is required to deal with the issue under investigation, due to limitation of time, the sample size was restricted to 84 households. Farmers were reluctant to provide accurate data on landholding related to income they get. This hindered comparison of income and expenditure among households, though much work has been done to create awareness about the objective of the research. The absence and fear of respondents to provide

genuine and accurate information for questions posed were among other important impediments faced the researcher although absent households were substituted by the next available households.

### 1.8 Conceptual framework

The general conceptual framework of this study is conducted on the idea how the land policy framework is initially formulated at the federal level in the proclamation and then each region has prepared its own regional land proclamation and related implementation on regulation. The effect of in implementation of land registration and certification program on security of land rights, land related investment and land dispute are assessed based on farmers condition before and after rural land certification. Figure (1) shows the relationship of the concepts used in this research.

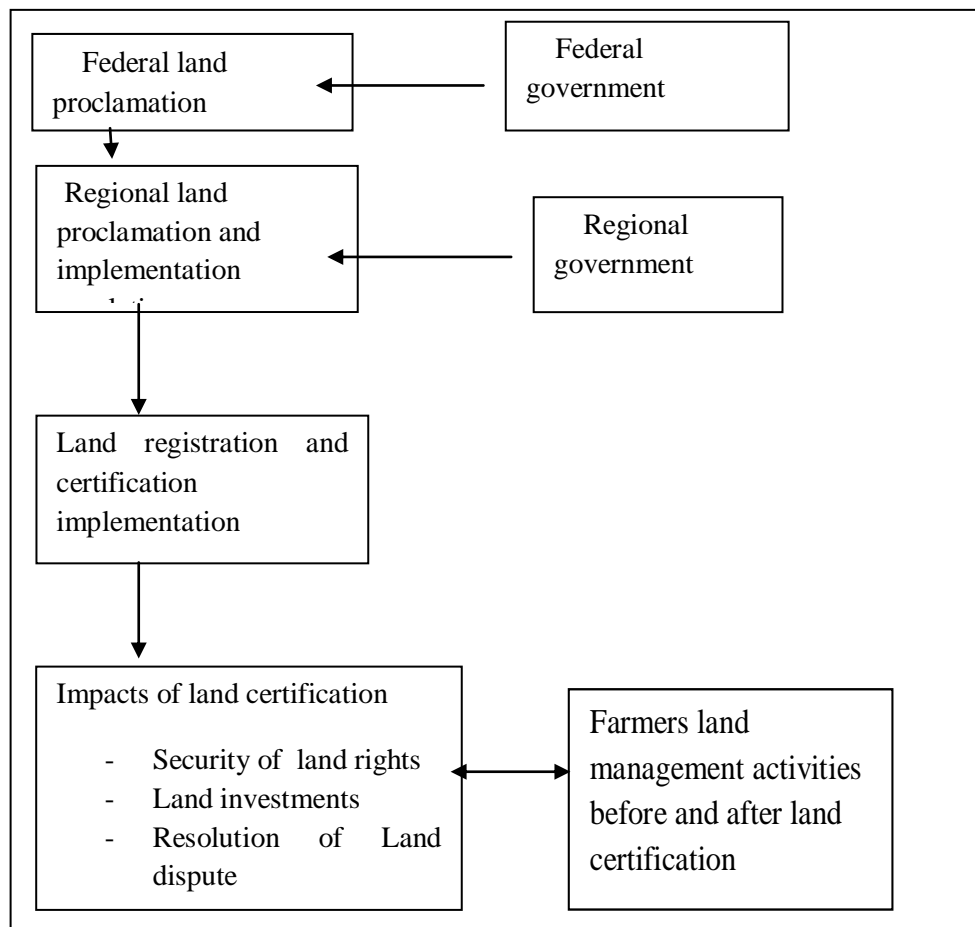


Fig.1.8: Conceptual framework of the research process

## **1.9 Operational Definition of Terms**

**Agrarian:** the farming units in a society, including the pattern of land distribution among rural landholders (Duna Wereda land Administration office, 2007)

**Belg:** Ethiopian season which include the month February to April (Metrological Station, 1992)

**Certification/Certificate:** the evidence of a person's right to land, or entitlement (Tigistu, 2011).

**Kebele:** A peasant association; it is also the lowest administrative unit in rural Ethiopia (FDRE, 1997)

**Kiremt:** The rainiest season in Ethiopia this includes the month of June to August (Duna Wereda Meteorological Station, 1992)

**Land administration:** the set of systems and processes for making land tenure rules operational (Steudler etal, 2004)

**Land dispute:** a disagreement over land rights, boundaries or uses.

**Land registration:** the recording of rights to land in some form of public register (Tigistu, 2011).

**Parcel:** a portion of land for which distinct rights exist (Tuladhor, A.M, 2004)

**State ownership:** the rights to land held by the state, often by assignment to a public agency (FDRE, 1997: SNNPR, 2004)

**Wereda:** An administrative unit somewhat equivalent to a district. A wereda consists of several peasant associations (FDRE, 1997)

**Zone:** An administrative unit somewhat having different district. A Zone consists of several Wereda (From Hadiya zone Administrative office document, 1995)

### **1.10 Organization of the Study**

The study is organized in five chapters mentioned here under. The first chapter is an introductory part which incorporates background of the study, statement of the problem, objectives, and research questions, significance of the study and limitations of the study.

The second chapter deals with the concepts based on literature relevant to the study. It includes concepts of land, land policy, land administration, land tenure, land rights, land holding and use rights. Also, it deals with Ethiopian current land tenure, land certification in Africa and land certification in Ethiopia.

The third Chapter presents a detailed account to the study area, including bio-physical and socio-economic characteristics of the study area. It also presents the methods carried out to accomplish the research, including the research design, data sources, sample size and sampling techniques, instruments of data collection, data analysis and interpretation, ethical consideration, validity and reliability.

Chapter four presents the results and discussion of household's survey, DAs' and other agriculture experts' survey and wereda government organizations office's written documents on the impacts of land certification on investment on land management in the study area. Finally, Chapter five concludes the research and suggests possible recommendations of the study.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### **2.1 The Concepts of Land Policy Issues**

Land has various definitions. Some of the definitions of land include the following: Land refers to relevant resources of the earth that are essential for the survival of life (Van der Molen, 2002). Land can be also described in a wider sense from legal point of view which refers to any portion of the earth surface where land rights are exercised and such rights are not just ownership to the surface and it includes every object attached to it above or below the surface (Tuladhar, 2004). Since, land has a multi-dimensional impact on every society, effective and efficient management is a vital prerequisite for economic development and environmental sustainability. Therefore, land policy of country whether developed or developing; has a crucial role to make sure sustainable development and the way governments deal with land is an important issue of government development policy.

Land policy is a guideline to use land for economic development, equity and social justice, environmental protection and sustainable land use (UNECE, 1996). Usually, the land policy of a country is expected to be implemented based on the legal framework. Thus, there are four major tools which have been used by governments in the implementation of land policies. These are improving land tenure security, regulating land markets, land use planning and land taxation (Van der Molen, 2002). Moreover, land policy reform serves a number of purposes, which may include: 1) enhancement of security of tenure and providing the basis for determining mechanisms for distribution of land rights among citizens, (2) promotion of social stability by providing a clear statement of government goals and objectives towards land (3) basic for economic development because decision making is based on expectations and certainty, (4) ensuring sustainable land use and sound land management, and (5) guidance for the development of legislation, regulations, and institutions to implement the policy and monitor its impact (Bell, 2006).

As stated above, the purpose of land policy is to ensure tenure security, sustainable use of land resource and the focus on the formulation of legislations which can allow institutions to inspect the effects of the policy. Thus, land policy is a guideline that states government's strategies and

objectives for social, economic and environmental use of the land and natural resources. Moreover, it is considered as a tool to draft all features of land acquisition methods and the social and legal tenure regimes.

In addition, it has been said that, because of the land policy, most farmers have led to operate farms too small to make sustainable and profitable use of technologies difficult. Moreover, some argue, given the current level of farm productivity and investments, the average farm size become unviable as a farm unit and so unable to support the livelihood of people dependent on it. Therefore, they argue that tenure insecurity is the result of the land policy (Gebreselassie, 2006).

Furthermore, it was identified that future challenges with problems of landlessness, reduction of farm size, insecurity of tenure and weak land rights, reduction of the productive capacity of the land, rigidity in land policy to be adjusted according to growing land pressure factors, and legal and institutional failures are considered as formidable challenges of land policy issues (Nzioki, 2006). However, nowadays measures have been taken towards slowing down or avoiding land redistribution, certification of sustainable use rights to land, individualization of the commons with conditional and contracts, instituting a land use policy, and establishing land administration a local level.

Another current policy shift is about the registration of holding rights and granting certificate of holding to all rural landholders. It is clear that the ultimate objective of certification is to ensure landholders that they have perpetual holding rights. Besides, it has been stated that the need to institutionalizing a land use policy and the establishment of technically capable rural land administration institutions of a local level is important to implement the stated objectives of the policy (SNNPR, 2003/7; Amhara Regional Council, 2000/6).

## **2.2 The Concepts of Land Administration**

This section deals with the concept of land administration in a wider scope beginning from its definition as given by different scholars.

Universally, **Land Administration** is understood as the process of determining, recording and disseminating information about land ownership, value and use of land, in the implementation land management policies (Stuedler et al., 2004). It is also considered to include land

registration, cadastral surveying and mapping, fiscal, legal and multi-purpose cadastres and land information systems.

From the above definition, three major components of land administration are identified as land rights registration, land use allocation and management, land valuation and taxation which are the basic elements in the land administration process. Moreover, land administration given by (FAO, 2002) which described in simple terms as land administration is the way in which the rules of land tenure are applied and made operational. In this context three main features are distinguished. Land administration whether formal or informal, comprises an extensive range of systems and process to administer: (1) Land rights: which refers to the allocation of rights in land; the delimitation of boundaries of parcels for which the rights are allocated; the transfer from one party to another through, rent/lease, gift or inheritance; the adjudication of doubts and dispute regarding; rights and parcel boundaries. (2) Land use regulation; the land use planning and enforcement and the adjudication of land use conflicts. (3) Land valuation and taxation; the gathering of revenues through forms of land valuation and disputes.

Furthermore, land administration is considered to include a core parcel based cadastral and land registration component, multi-purposed cadastral and/or land information systems. Many land administration systems also facilitate or include information land use planning and valuation/land taxation systems although land administration does not usually include the actual land use planning and land valuation process (Enemark and Van der Molen, 2008).

In the land administration sector, land certification in securing land rights are a measure of effectiveness and efficiency. Nevertheless, the benefits expected from the policy may not be achieved alone, to a certain extent it should be implemented with other successful government actions. Moreover, it is argued that in order to get fruitful results in land administration, other government functions especially those for providing infrastructure such as water, electric power, telecommunication, and road access and financial institutions to support the poor household by credit, input supply, marketing, and extension should assist the process. Furthermore, it is stressed that unless the land administration is accompanied by other development activities, it is obvious that the land reform in general may unlikely to make much difference to the rural poor (Adams, 2001).

As stated by Assefa (2010) in a more comprehensive approach, land administration can be defined as a system implemented by the state to record and manage rights in land. A land administration system may include the following major aspects: 1) Management of public land, (2) Recording and registration of private in land, (3) Recording, registration and publicizing of the grants or transfers of those rights in land through lease or rent out, inheritance (4) Management of the fiscal aspects related to rights in land including land tax, valuation for a range of purpose, including the assessment of fees and taxes, and compensation for state acquisition of private rights in land, (5) Control of the use of land, including land use zoning and support for the development application/approval process.

Land Administration in Ethiopian Context: refers to the processes of recording and disseminating information about the ownership, value and use of land and its associated resources. Such processes include the determination of rights and other attributes of the land; the survey, description, registration/certification and recording of these rights; and the provision of relevant information in support of land markets (FDRE, 1997; Amhara Region Council, 2000/6).

According to the recent land administration council of the SNNPR, rural land administration is defined as: means a process whereby rural land holding security is provided, land use planning implemented, dispute between rural land holders are resolved, and the rights and obligations of any rural landholder are enforced, as well as information farm plots and grazing land of holders are gathered, analyzed and supplied to users (SNNPR Council, 2007).

Therefore, the improvement of land administration has the potential to significantly increase investments in agriculture by all producers, improve rural livelihoods, reduce (in the mid- to long-term) conflicts over land, reduce land degradation, and improve resource use (FDRE, 1997; SNNPR Council, 2007). Along with other interventions, improved tenure security is vital to creating an environment in which the rural population is able to survive and adapt to environmental and other shocks (FDRE, 1997; SNNPR Council, 2007).

**Land management:** It is the process by which the resources of land are put to good use. It covers all activities concerned with the management of land as a resource both from an environmental and an economic perspective. These include, but are not limited to: improving the efficiency of land resource use to support a growing population; conducting land use planning;

protecting the natural environment from degradation; providing equitable and efficient access to the economic benefits of land and real estate markets; supporting government services through taxation and fees related to land and improvements; and providing incentives for development, including the provision of residential housing and basic infrastructure such as sewer and water facilities (FDRE, 1997; SNNPR, 2004).

**Sustainable land management** is the adaptation of land use systems that, through appropriate management practices, enables land users to maximize the economic and social benefits from the land while maintaining or enhancing the ecological support functions of the land resources (FAO, 2009). Moreover it is the key entry point for improving land resource resilience, productivity of farm land bridging the needs of agriculture and environment (Anne, 2009).

### **2.3 The Concepts of Land Tenure**

Obviously, there could be different conceptual definitions used for the term land tenure as given by different scholars. However, it seems imperative to have a working definition of the concept of land tenure. As FAO (2002) defines land tenure refers to the legal or customary relationship of people, as individuals or groups, with respect to land. In simple terms, land tenure systems determine who can use what resources for how long, and under what conditions. Similarly, land tenure may be seen institutional structure that determines how individual and groups secure access to the productive capabilities of the land or other uses over the land (Bell, 2006).

According to definition of ECA (2004), land tenure is social construct that defines the relationship between individual and groups of individuals by which rights and obligations are defined with respect to control and use of land. Moreover, the centrality of land in all dimensions of rural life in the context of Africa means that the analysis of land tenure issues should be broadened from its traditional links with issues such as land use, agricultural production efficiency, and access to credit, conflict management mechanisms, fragmentation of land holdings and the like, to include all aspects of political and social situations, (ECA, 2004).

Further, land tenure is described as the allocation and security of rights in land, the legal surveys to determine the parcel boundaries; the transfer of land to another through rent/lease; and the management and adjudication of doubts and disputes regarding rights and parcel boundaries (Enemark and Van der Molen, 2008).

## 2.4 Landholding Rights

Landholding rights and use rights, based on the regional law have different meanings. Hence, according to the revised SNNPR State Rural Land Administration and Use document (2007), landholding rights are the rights of any person who is vested with rights on land to create asset, transfer through lease or rent, inheritance and bequeath land under possession. Moreover, landholding rights are the rights given to any person whose livelihood is based on the earnings from agricultural activities and semi-pastoral undertakings. The details of these bundles of rights include: the rights to use the land under holdings for agriculture and natural resource development, the right to the information of asset, the rights to transfer the asset he/she develops and transfer the holdings through gift and inheritance, the right not to be evicted and the right to renting or leasing out. In contrast, pursuant to the revised land law of the region; use rights are given to secondary users entitled to use the land on provisional basis and its production. For instance, only legal person who acquires land through lease or rent has a use right over the land he/she rented for a period specified in the contractual agreement. It is believed that the relationship between land and man by means of rights is the foundation of every land administration system. In addition to rights, there are also restrictions /obligations or responsibilities between land and man probably called RRR, which refers to rights, restrictions and responsibilities (Van Oosterom et al., 2006). Similar to the above explanation, land rights in the region are subject to restrictions and obligations.

Therefore, in the aspects of obligation, the point of argument varies due to environmental and sustainability concerns. Because, the current land legislation in the region has imposed on obligation to rural landholders. This is to aware holders they have duty of care on their holdings such as protecting the land against soil erosion, planting trees, taking care streams not to get dry due to improper farming, not to violet delineations of lands and close roads, ploughing far from gullies and rivers and the like, are the major obligations imposed on rural landholders (SNNPR Council, 2007).

According to FAO (2002), representation of use rights by identifying:

**Use rights:** rights to use the land for grazing, growing subsistence crops, gathering minor forestry products, etc.

**Control rights:** rights to make decisions how the land should be used including deciding what crops should be planted, and to benefit financially from the sale of crops, etc.

**Transfer rights:** right to sell or mortgage the land, to convey the land to others through intra-community reallocations, to transmit the land to heirs through inheritance, and to reallocate use and control rights.

#### **2.4.1. Category of Landholding Rights**

According to FAO (2002), landholding right is often categorized as:

**Private:** the assignment of rights to a private party who may be an individual, a married couple, a group of people, or a corporate body such as a commercial entity or non-profit organization. For instance, within a community, individual families may have exclusive rights to residential parcels, agricultural parcels and certain trees. Other members of the community can be excluded from using these resources without the consent of those who hold the rights.

**Communal:** a right of commons may exist within a community where each member has a right to use independently the holdings of the community. For instance, members of a community may have the right to graze cattle on a common pasture.

**Open access:** specific rights are not assigned to anyone and no-one can be excluded. This typically includes marine tenure where access to the high seas is generally open to anyone; it may include rangelands, forests, etc, where there may be free access to the resources for all. (An important difference between open access and communal systems is that under communal system non-members of the community are excluded from using the common areas.)

**State:** property rights are assigned to some authority in the public sector. For instance, in some countries, forest lands may fall under the mandate of the state, whether at a central or decentralized level of government (FAO, 2002).

#### **2.5 Tenure Security and Landholding Rights**

In the development literature land tenure is defined as the way in which the rights, restrictions and responsibilities that people have with respect to land are held. With the same analogy security of tenure can be interpreted as referring to the recognition and protection of such rights

(Burns et al., 2006). According to FAO (2002), security of tenure is the certainty that a person's rights to land will be recognized by others and protected in the cases of specific challenges. In this context, people with insecure tenure usually face the risk that their rights to land will be threatened by competing claims, and even lost as a result of eviction. When there are no tenure secure landholders their significantly imposed in their ability to security sufficient food and to enjoy sustainable rural livelihoods.

Security of land and the ability to draw on local or national authorities to ensure the rights, as reported by Bell (2006) are crucial to increasing investment incentives and productivity of land use. A wide range of options to increase tenure security, from full formal title to legally backed mechanisms at the community level, can result in higher levels of tenure security and studies have shown large differences of land values for plots with more secure tenure. Measure to improve tenure security can also improve the welfare of the poor by realizing security of land rights. However, in many cases, the landholders might oblige to pay comparatively large amounts of money to government officials in order to secure their rights. Another important feature of land rights security is its ability in limiting land disputes, and promoting social stability. Moreover, rights over land and property also carried an obligation to respect the rights of others. Thus, there are social sanctions over land rights as there are legal sanctions to protect land rights (Bell, 2006).

Toulmin (2009) suggests two combined forms of validation in securing land rights: use of local knowledge and set values, and acknowledgment and respect to the first form by the state. However, in practice, the lack of state recognition may not have a significant role if pressure on land is less and when local institutions work effectively. In contrast, where the value of land is increasing interests from outside are significantly more, clarity is needed on the status of local land rights and their respect by the government.

Bell (2006) argues that security of tenure and access to land has been universally accepted as the basis for economic and social development. However, in many developing countries, recent privatization of land, liberalization of land markets, and deprivation of the poor (Bell, 2006). This means that tenure security has been generally thought as the foundation of economic and social development but it is not always beneficial that land privatization can increase tenure security rather it can benefit the rich at the expenses of the poor.

Furthermore, there is a widespread conviction among the development specialists that tenure security is an important condition for economic development. As Place (2008), based on economic theory secured rights as thought to fulfill four essential conditions: (1) expected to increase credit use through greater incentives for investment and enhance collateral value of land; (2) increase land transactions, facilitate transfer of land from less efficient to more efficient uses by increasing the certainty of contract and lowering enforcement costs; (3) expected to reduce the incidence of land disputes through clearer definition and enforcement of rights and; (4) raise productivity through increased agricultural investment in land (place, 2008). Moreover, land tenure security can be defined using indicators such as whether an individual landholder has the ability to invest, transfer reap the benefits from the land he/she owned (Adams and Cousins, 1999). Tenure security in general and securing land rights in particular is relevant to vulnerable groups such as the poor, women and indigenous groups. In most societies, there are many competing demands on land including development, agriculture, pasture, forestry, industry, infrastructure, urbanization, biodiversity, customary rights, ecological and environmental protection. Many countries have great difficulty in balancing the needs of these competing demands. Besides, land has been and is still a cause of social, ethnic, cultural and religious conflict and many wars and revolutions have been fought over rights of land. Hence, in history, virtually all civilizations have devoted considerable efforts to defining rights to land and establishing institutions to administer those rights (Bell, 2006).

### **2.5.1 Essential Features of Security of Land Rights**

Lund and Odgaard (2006) asserted that, before land becomes a scarce resource of many African countries, it was relatively an abundant resources. However currently, this situation has drastically changed in most of the countries. Therefore, people in Africa now increasingly competing to get access to cultivable and pastures land, and open land conflicts are becoming common across the continent. As a result landholder's confidence on their land rights securing is deteriorated through time (Lund and Odgaard, 2006). Here land rights security becomes low when the demand over land is increasing and land become scarce.

In another perspective the concept of land rights security is understood as the level of confidence of the land holder by having certificate of holding. Given this, one important feature of land rights security is the certainty that a person's rights to land is recognized by others through time

land right is accepted by the community when the landholders are threatened by competing claims. In contrast, right holders may face insecurity when their right to land is threatened by others. Hence, land right security is something that the perception of people. Therefore, one especial feature of land right is that cannot be directly measured and to a large extent, it is what people perceive it to be and its attribute may change from one context to another (FAO, 2005). Similarly, an important feature of land right security is the confidences with which one can manage his/her own rights (Adams and Cousins 1999). Land has been, is and will remain hugely central to people's lives around the world. It provides a source of identity, income and employment, and constitutes an asset of cultural and spiritual significance as well as of increasing monetary value (Benjaminsen and Lund, 2003). Hence, land being a source identity, income development land rights need to be recognized not only by government but also should be accepted by the society safeguard the rights when competing claims arose (Van Oosterom et al., 2006). Moreover, the main essential feature of land right security is that something needs recognition from the government as well as from the society.

### **2.5.2 Influence of Security Land Rights on Agricultural Productivity**

According to Deininger and Jin (2006), there are three routes through which security land rights may influence agricultural productivity.

**Firstly**, by encouraging investment and adoption of new technologies. According to this hypothesis, afraid of not recouping the investment made on land to which the user has access but no secure land rights, the user hesitates to spend resources on land-improving technologies (conservation, manure, fertilizer, etc.). As a result, the demand for productivity-enhancing investment declines and aggregate agricultural productivity suffers.

**Secondly**, secure land rights also are thought to influence agricultural productivity because such rights encourage efficient (intensity) resource use. This is so since the establishment of clear ownership of land, lowers the cost and risk of transferring land, which improves factor intensity such that land will be reallocated to more efficient producers.

**Thirdly**, it has also been claimed that secure land rights can stimulate efficient resource use as such rights can reduce land related disputes (Deininger and Jin, 2006; Holden and Tewodros, 2008) and may contribute to better access to credit if land can be used as collateral.

## **2.6 Women Land Rights**

Important point concerning women land rights is stated by Hilhorst (2000). He argued that women land rights in Africa has been treated differently in customary tenure systems and statutory systems. In customary tenure system plots of land are allocated to woman as long as they are not required by the household. For instances, if a man or his family find themselves in need of extra land, a women's field may be taken from her for allocation. This is mean; women's access to land is sensitive when land becomes increasingly scarce, and men's landholdings becomes under pressure. On other hand, though it is not always easy to enforce, statutory law may offer more protection to women than customary law (Hilhorst, 2000). However, nowadays this shortcoming has been recognized by many countries and recent efforts at land certification and registration have increasingly accepted women's rights to land.

In Ethiopian context, as stated in the Federal constitution, women have equal access to land rights and to full constitution in the formulation of national development policies. It is approved that women have right to acquire, administer, control, use and transfer property. In particular, they have equal rights with men with respect to use, transfer, administration and control of land. They shall also enjoy equal treatment in the inheritance of land (FDRE, 1995). In addition, on the basis of the constitutional provision which states that, the land administration law of the region shall confirm the equal rights of women in respect of the use, administration control of land as well as in respect of transferring and bequeathing holding rights (FDRE, 1997; Holden and Tefera, 2008).

However, in Ethiopia, Nzioki argued that, despite affirmative action's have been taken to maintain women land rights based on constitutional provisions and the land administration proclamation, which have opened new opportunities for altering gender relations in general and access to land in particular, women still face constraints in achieving equal rights on land with men. Generally, there is lack of knowledge on the part of women on their constitutional rights over land due to high levels of illiteracy (Nzioki, 2006).

## **2.7 Land Tenure under the FDRE Regime (Since 1991)**

After the fall of the Military Socialist /Derg/ regime of Mengistu in 1991, privatization of farm collectives took place rapidly, and many international observers expected that in this process of

post-socialist transition, a transformation of land institutions towards a privatization and registration of land titles would follow, which was regarded as a means to increase productivity of Ethiopia's smallholder agriculture. However, these expectations were soon disappointed. The transitional Government of Ethiopia announced the continuation of the land policy of the Derg regime and declared that the issue of private versus public ownership of land would be settled during the process of developing the new federal constitution (Crewett and Korf, 2008).

The new constitution of 1995 approved and confirmed the state ownership of land in Ethiopia (FDRE, 1995). Article 40 of the 1995 Ethiopian constitution states that: the right to ownership of rural land and urban land, as well as of all natural resources is exclusively vested in the State and the Peoples of Ethiopia. Land is a common property of the Nations, Nationalities and Peoples of Ethiopia (FDRE 1995, Article 40). The article further specifies a right to obtain land without payment for Ethiopian peasants for grazing and cultivation purposes as well as a right to be protected against eviction from the possessions (FDRE 1995, Art. 40 Sub 4 and 5). The article further stipulates that any transfer of land is prohibited and shall not be subject to sale or other means of exchange (FDRE 1995, Art. 40 Sub Art. 3).

The constitution also states (FDRE 1995, Art. 51) that the Federal Government shall enact laws for the utilization and conservation of land and other natural resources. Moreover, the constitution states (FDRE 1995, Art. 52) that Regional Governments have the duty to administer land and other natural resources according to federal laws. Such law was enacted in July 1997 Rural Land Administration Proclamation, No. 89/1997. This law vested Regional Governments with the power of land administration (defined as the assignment of holding rights) (FDRE 1995, Art. 2 Sub Art. 6). Holding rights were also defined as the right any peasant shall have to use rural land for agricultural purposes as well as to lease and, while the right remains in effect, bequeath it to his family member; and includes the right to acquire property thereon, by his labour or capital, and to sell, exchange and bequeath same (FDRE 1995, Art. 2 Sub Art. 3). Several regional governments have made use of the powers vested in them in the 1995 constitution and Proclamation 89/1997 to formulate their land policies, among them Tigray Region (1997, amended 2002), Amhara Region (2000, amended 2006), Oromia Region (2002, amended 2007), and SNNPR (2003, amended 2007). According to the constitution, regional land policies need to be in accordance with federal law; all regional policies therefore validate state

ownership of land and farmers only receive usufruct rights to plots of land without transfer rights, such as sale or mortgage. All regional proclamations confirm at least formally that land rights are to be granted to men and women, including the right to lease or rent out land, although most regions restrict the period of the lease and limit leasing rights to only a share of the farmland. Therefore, the recent land laws and land administration mentioned above have now been a decentralized function of regional governments and is now directly under the responsibility of political bodies rather than technical ministries.

### **2.7.1 Major Problems of the Current Land Tenure System**

A group of specialists from universities (local and abroad) had assessed rural land tenure issues in Ethiopia after the fall of the Derg. The major issues identified by the study include: many people are considered as landless by their community; inheritance, sharecropping, cash rentals, disguised land sales and possessory mortgages have also been important means of gaining access to land (Yigremew, 2002).

Sabita (2010) concludes that there are problems with the current land tenure system. From his recent studies in Amhara, Oromia and Tigray regions, considered that the government had only one imperative policy option: a movement away from the existing insecure tenure system towards a more stable and secured system.

Crewett et al. (2008) concludes that there was a consensus that the current system, because it does not guarantee security of tenure and undermines incentives, has detrimental impacts on agricultural productivity and natural resource conservation. Moreover, Current land policy does not give farmers secure rights over the land they use, does not maintain equitable access to land over time, does not provide incentives for investment in improvements or conservation, and does not encourage farmers' entrepreneurial and experimental efforts to better their plot. Hence, from a policy perspective, it does not foster agricultural intensification, improved environmental management, accretion capital formation, or rural development.

According to Dessalegn (2009a), insecurity of tenure can be triggered and affected by a variety of factors. At the centre of the issue is the degree to which the holders feel that their rights to the land will not be arbitrarily violated. In this sense, the most secure tenure arrangement is largely believed to be freehold, which provides a full sense of ownership to the holder provided that

there is a properly functioning and fair land adjudication system. Additional insecurity factors include expectations towards further land redistribution, i.e. how long farmers feel they can retain their current holding. Though, government claims that farmers feel they own the land they cultivate, study by EEA/ EEPRI (2002) confirm that the overwhelming majority of farmers (84 percent) know that as currently stipulated by laws and in practice, the land belongs to the government. Only a very minor 4.4 percent believe that the cultivator has ownership. Furthermore, only 3.5 percent of the households believe that they can retain their current holding for over 20 years, and significant majorities (76 percent) do not feel secure that their claim towards their existing holding will last over 5 years. Obviously, this has important implications for incentives of farmers to put long-term investment in their current holding.

## **2.8 Land Certification**

The term land titling is commonly used in literature. Lyons and Chandra (2001) define the land titling is the process of land registration holding rights. In connection to this, certification is a process of registering of landholding rights and issuing the certificate of holding as evidence to tenure that rights are legally secured (Lyons and Chandra, 2001). Moreover, Land certification is a document that takes the place of a title deed for registered land. It is granted to the registered proprietor of the land and indicates ownership (<http://www.probertencyclopaedia.com/browse/JL.HTM>).

Therefore, as indicated above these terminologies land titling and land certification mainly refers to the process of registering holding or use rights in land, whereas land titling and holding certificate are terms used to indicate the evidence of a person's holding or use rights to land. In this case, it should better that the terms used to address the same issue and can be used interchangeably.

### **2.8.1 Land Certification in Africa**

Poor agricultural productivity and tenure insecurity are persistent features of many developing countries, especially Africa. In connection to this, governments and international development agencies have rightly considered agricultural intensification as the primary means for inducing technological change in Africa that have high population pressure and low agricultural productivity. Integral to this growing global interest in agricultural intensification is the issue of

land tenure security (Holden and Tewodros 2008). Many African countries and major multilateral organizations have promoted formalization of land rights (in the form of registration and certification of land) as a top priority in their economic development agendas (IFAD, 2001; Bonfiglioli, 2003; Deininger, 2003).

Land titling/certification is one of the intentions of provision of freehold tenure rights is to provide strong tenure security to land owners and thereby stimulate investment and efficiency of land use. Past failures of African land certification programs to create such investment and tenure security impacts may be due partly to inappropriate timing of such reforms (Holden and Ghebru, 2012).

Empirical evidence on the impacts of many African countries land certification programs on access to credit, smallholder investment, and overall production show different results. Also, earlier cross-sectional research in Ghana, Kenya, and Rwanda on land tenure did not show increased investment in land or improved agricultural yields when comparing restrictive land laws to more flexible policy allowing land transfers (Holden and Ghebru, 2012). Like-wise, a study in a rice growing area in Madagascar suggests that formal certificate had no impact on plot-specific investment and little impact on productivity (Jacoby and Minten, 2007). However, a positive relationship between certification/ titling and investment or productivity Smith (2004) cited in Place (2009), in Zambia where land certification led to increased fixed investments and more profitable enterprise choices. Another explanation in Uganda the likelihood of new investment on certificated land was found to be twice that of investments on merely occupied plots by owner-cum-occupants (Deininger et al., 2008). Similarly, in Mozambique agricultural production of long-term land-related investment in the form of soil conservation structure was enhanced by land certification (Holden and Ghebru, 2012).

### **2.8.2 Land Certification in Ethiopia**

Ethiopia has embarked on the process of rural land reform which is aiming at increase land tenure security, sustainable agricultural development and poverty reduction. However, it is believed that the reform process will take time and need exertion of the maximum effort on the part of the institution assigned with the task of its implementation (USAID, 2004).

Registration and Certification of rural lands of Ethiopia is the core and key element embedded in land administration and use laws, in the drive to improve tenure security among farming households in order to improve long-term investment on land and enhancing land use right transactions. So, the major role of Ethiopian land certification program (land registration program) was identifying the piece of property to be registered and the owner of that property (Tigistu, 2011).

Land certification has social, financial, gender, and economic implications. However, it is argued that complete benefit of certification is likely to be achieved only when all land administration components are operational and efficient (Lyons and Chandra, 2001). Parallel to the above idea, the potential benefits of land titling are categorised as the investment demand or security impact, the collateral effect and the efficiency or transactions effect (Pagiola, 1999).

The Ethiopian land certification program has contributed to the largest delivery of non-freehold land rights per time unit in Sub Saharan Africa. Since the onset of the program 1998, over 5million certificates have been delivered to farm households across Ethiopia (Deininger et al., 2008). The program is primarily implemented in the four major regions of the country: Tigray, Amhara, Oromia and the Southern Nations and Nationalities People Region (SNNPR) and after those regions at all. The Tigray region started the land registration and certification process in 1998–1999, followed by the Amhara region in 2003, with Oromia and SNNPR’s certification commencing in 2004 (Holden et al., 2009).

The major feature of the program is a decentralized implementation process through elected Land Use and Administration Committees at the village level. In addition, the implementation has been rapid, as evidenced by the majority of rural households in Ethiopia being covered by the process within 2–3 years from the start of implementation. The program may be considered as an overall implementation success in terms of it being relatively pro-poor, and for adhering to the requirements of procedures and recipients’ appreciation of certificates (as further evidenced by an investigation of their willingness to pay for a certificate) (Deininger et al., 2011) .

Concerning to the level of land certification it is suggested that land registration and certification is the highest level of formalization of ownership rights in private property tenure systems (Melmed -Sanjak and Lastarria-Cornniel, 1998). Also, it has been indicated that in a situation

where there is a well functioning tenure systems that can protect land rights certification may not have a significant role to secure land rights. According to Nzioki (2006), in the Ethiopia context land certification is an attempt by the government to provide security of tenure and protect the use rights of landholders by registering their landholdings and issuing certificates that are further guarantee to holder from facing another lose through land redistribution at least for a period of 20-30 years. Moreover, it is illustrated that the land certification is being applied carefully with a great concern. Hence, the ultimate goal of certification is to protect landholding and land use rights of landholder by undertaking registration and providing holding certificate to individual landholders and to confirm that landholding and land use rights are legally secured.

### **2.8.3 The Impacts of Land Certification**

The positive impacts of more secure land tenure on investment and land values in rural areas have been demonstrated in China (Jacoby et al., 2002), Thailand (Feder et al., 1998), Latin America ( Bandiera, 2007), Eastern Europe (Rozelle and Swinnen, 2004), and Africa (Goldstein and Udry, 2006).

Deininger et.al (2009), In Ethiopia, affordable access to reliable information about an individual's land ownership via a public registry would also reduce the cost of renting land. Renting allows land owners to tap new sources of income, but still retain their land for insurance or old-age protection, or to consolidate it and cultivate larger farm areas. A certificate of land ownership can allay fears that rental land can be taken away, either by the government through redistribution or by a renter who does not vacate it at the end of the rent period. Certificates can help when migration requires land owners to be absent temporarily or if the number of registration transactions increases beyond the capacity of informal, local mechanisms to handle them transparently. The key benefits of certification are the ability to rent land to strangers and the associated ability to use land as collateral for credit (De Soto, 2000).

Land is ideal collateral if a reliable land registry provides a formal and low-cost way to identify land ownership without physical inspection or inquiry with neighbours. At the same time, to take advantage of credit that formal land ownership can make possible, households need to have other bankable projects, be credit-worthy, and be willing to take the associated risk (Boucher et al. 2008). Moreover, land markets must be sufficiently liquid to make sales feasible within a given

time, implying that land rights are fully transferable and neither legal provisions nor social conventions limit foreclosure. While credit advantages of land titling have been reported in the literature (Feder et al., 1998), positive impacts have often been limited to larger land owners (Carter and Olinto, 2003), and some studies failed to find credit effects even where they were expected (Fort, 2007). Even if profitable projects exist, limited commercial value of the land (Galiani and Schargrodsy, 2005), and social or political considerations that limit foreclosure (Field and Torero, 2006) may put at risk realization of credit effects. This implies that such credit may be realized less readily than is sometimes suggested.

According to Deininger et al. (2011), the characteristics of land certification program can provide an initial assessment of the economic impacts from certification and outcome variables focused on three areas, namely perceived tenure security, land-related investment, and rental market participation.

**First**, the high level of tenure insecurity prior to the program, and the fact that certification was expected to affect this variable quickly, implied that the perceived level of land tenure security could be a useful indicator.

**Second**, literatures suggested that higher levels of tenure security would lead to greater voluntary land-related investment, possibly with some hold-up.

**Third**, at least in the case of Ethiopia, possession of a certificate should have made it easier to rent land.

## CHAPTER THREE

### STUDY AREA AND RESEARCH METHODOLOGY

#### 3.1 Description of the Study Area

##### 3.1.1 Bio-physical Characteristics of the Study Area

Location: Duna Wereda is located in Hadiya Zone in SNNPR. The study area has a total area of about 39,782.59 hectares. Duna Wereda is bordered, in the south by Doyogena wereda, in the West and North by the Kembata-Tembaro Zone and in the East by Soro wereda. Astronomically, the study area is located between 7°10' 30"N -7°28' 0"N latitude and 37°35' 0"E - 37°47' 30"E longitude. It is found at 274 Km South of Addis Ababa, the capital city of the country, 210 km away from Hawassa which is the capital city of SNNPR and 42 Km away from Hosanna which is the capital town of Hadiya Zone (Duna wereda transport office, 2017).

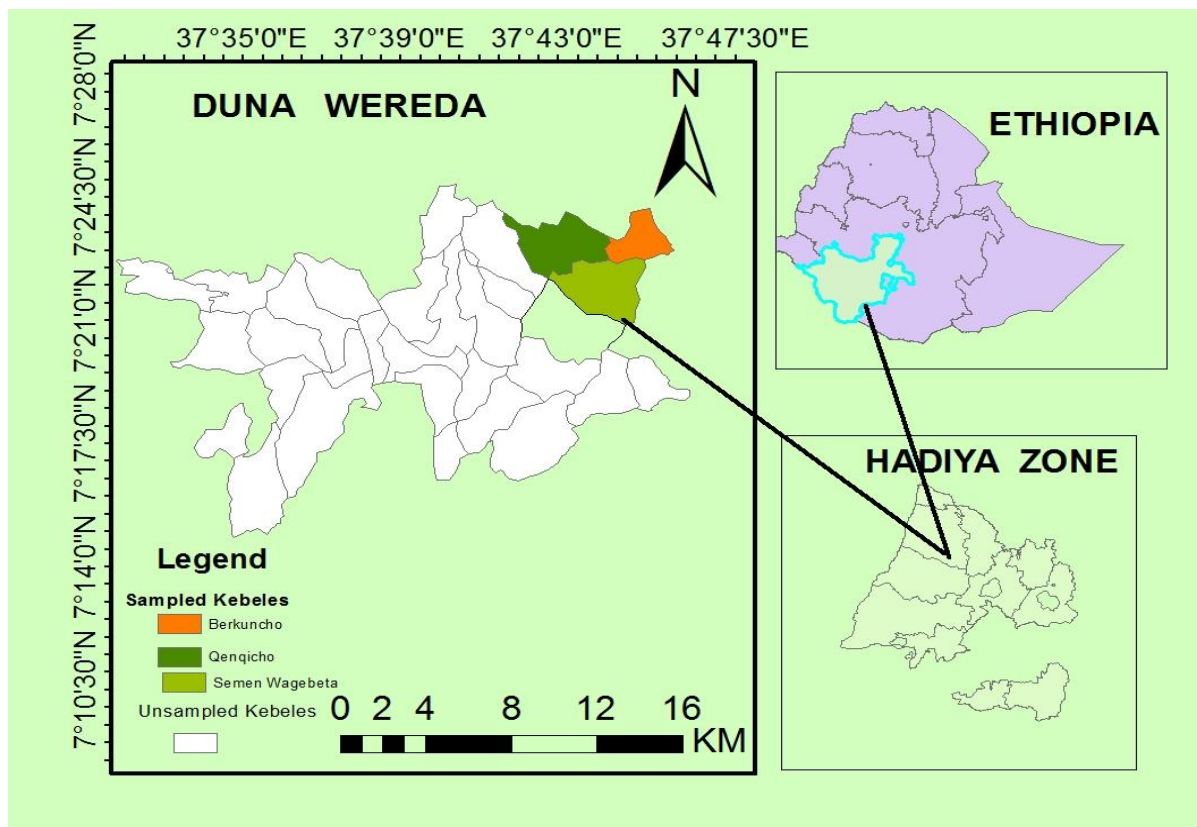


Figure 3.1: Map of the study area (Source: Ethio-GIS Data)

**Topography:** The nature of topography of a particular geographic entity has multi dimensional implications up on the development of physical infrastructure, human way of life, the type of crop production, the land use conditions and the type of flora and fauna exists. The relief of the study area is characterized by some plain, plateau, rugged and ridges, which are generally high lands. The elevation range is between 1850m-2800m above sea level; the highest place in the study area is Sengiye hill which is approximately 2800m peak. The slopes of the study area are categorized as gently sloping, moderately sloping and steep slope. Therefore, largest areas in study kebeles are moderately sloping (Duna Wereda Agricultural and Rural Development Office Report, 2017).

**Climate:** Climate is one of the elements of the physical environment which has a pronounced impact on settlement pattern, human way of life, the type of soil, economic activities, flora and fauna existed and developed so forth. Among different climatic elements temperature and rainfall have a considerable impact in such an agrarian country like Ethiopia and in the study area.

The climate of the study area is characterized by moderate temperature and rain fall and it is categorized under Dega and Woina Dega Ethiopian agro- climatic zone. According to, the Duna wereda meteorological data, the annual average minimum and maximum temperature of the study area are 11°C and 18 °C respectively. Its mean annual temperature is about 14.5°C. The total annual rainfall of the study area ranges between 1400-1800mm. The rainfall pattern generally is bimodal, with over 80 percent falling between March and September. The main rainy season in the area is summer (Keremit) that ranges from June to September with maximum rain fall and two minimum rainy seasons such as the spring (Tsedy) and autumn (Mekar) with little rain fall. The dry season winter (Bega) in the area is mostly from October to February, which limits the water availability in the study area. The months with maximum rainfall and temperature are July and February respectively (Wereda agricultural and Rural Development Office Report, 2017).

**Vegetation Cover:** The area was once been covered by forests in hillsides, rivers, uncultivated rocky lands and to some extent grazing lands. Vegetation types of the wereda includes introduced trees such as Eucalyptus globules (Nach bahizafi), Eucalyptus camaldulensus (Kay bahizafi), Juniperus procera (Faranji tid), Gravilea robusta; indigenous trees include Cordia africana (Wanza), Hagenia abyssinica (Koso), Podocarpus gracilior (Zigba), Olea Africana

(Weyira), *Aningeria altissima* (Kerero), *Croton machrostachus* (Bisana), *Ficus vusta* (Warika), *Ficus sur* (Shola), *Vernonia amygdolinica* (Grawa), *Phytyolaa lodicandera* (Endod) , *Ehretia abyssinica* (Korch), *Euphorbia ampliphyla* (Kulkual) , *Arundo donax* (Shimboko), Bamboo tree, *Prunus Africana* (Habasha tid), *Euphorbia tirucalli* (Kinchib) and others in dega and Woina dega parts.

Currently, due to high population pressure, the vegetation cover is removed, and replaced by settlement, cultivation and grazing lands. This is due to the fact that rapid population growing resulted in the removal of available vegetation cover of the area for the need of more land for settlement, agricultural purposes and grazing livestock (Wereda agricultural and Rural Development Office Report, 2017).

**Soil:** According to Duna Wereda Agricultural and Rural Development Office Report (2017), farmers in the study area have a good knowledge of the soil in their area and also the difference among the major soil types. According to the report and field observation, there are three types of soils. These are, Clay soil (34.6%) covers fourteen kebeles of the study area which is followed by Vertisols (32.1%) in ten kebeles which are characterized by its vertic nature and water logging property. This soil is too hard when dry and too heavy when wet. This soil has two classes: black vertic soil and red vertic soil. Black is highly vertic and also more water logging character than red. Mollisols is a dark top soil with high organic matter content. This soil is more fertile and suitable for almost all the crops (Erkossa and Ayele, 2003). The third type of soil is loam soil (33.3%) covers eight kebeles. It is the most fertile and productive soil.

### **3.1.2 Socio-economic Characteristics of the Study Area**

In this section population, economic activities, crop production and livestock production were treated.

**Population:** The total population of Duna wereda, based on 2007 census is 161,883, of which 80,724 are male and 81,159 are female. Out of this, the number of household heads is 38,534 (Duna wereda Agricultural and Rural Development Office, 2017).

**Economic Activities:** The major livelihood of the population of the study wereda is agriculture. People in the study area practice mixed agriculture that involves crop production and animal

rearing, which depends mostly on seasonal rainfall and land management of farming in the study area. Agricultural activity involves the application of some modern agricultural inputs such as chemical fertilizers, and improved seeds.

**Crop production:** Bimodal type of rain rainfall gives a wide opportunity for the study area to produce the crops and use the same land twice a year (Belg and Keremit). However, summer is the main growing season during which most of the total cultivable land is cultivated. The major annual crops grown in the study area are Cereals: Wheat, Eragrosis teff, Barely and to some extent Maize; Pulses: Haricot bean, Bean and Pea; root crop: potato and Perennial crops: Enset vertricosum. Wheat, potato, and Enset vertricosum are the most widely grown crops and they are the primary assets of the households in the study area.

**Livestock Production:** Livestock are the secondary assets of the households and play an important role in crop production. Cattle, goats, sheep, horses, mules, and donkeys are the major type of livestock rearing in Duna wereda. From the total livestock found in the study area cattle occupies the largest share of the livestock found in the study area.

## **3.2 Methodology of the Study**

### **3.2.1 Mixed Method Research Design**

Mixed methods research design is a procedure for collecting, analyzing, and mixing both qualitative and quantitative methods in a single study to understand a research problem.

In qualitative method, different knowledge claims, enquiry strategies, and data collection methods and analysis are employed (Creswell et al., 2003). Qualitative data sources included observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions (Myers and Avison, 2002); qualitative method was designed to help the researcher to understand people, and social and cultural contexts within which they live. Such studies allow the complexities and differences subjects' worlds under study to be explored and represented. Also, qualitative methods such as field observation focus group discussion, questionnaires and semi-structured interview (Creswell, 2012; Philips, 2004).

Quantitative method is used often for express relationships among variables on a sample of subjects. These variables are measured numeric data that can be analyzed statistically or by using effect statistics (Pearson correlation) (Creswell, 2012).

### **3.2.2 Data Source**

The data required for this study were collected from both primary and secondary sources. The primary data were collected from land users (men or women household heads), development agents, wereda's land administration and environmental protection experts, kebele's leaders, religious leaders, etc. Secondary data were acquired from the documents of different bureaus such as bureaus of Agriculture and Rural Development, land administration and environmental protection, reports, working papers, books, and journals.

### **3.2.3 Instrument of Data Collection**

Important methods of primary data collection for this study were field observation (to characterize and understand bio-physical and terrain features such as topography, land uses, soil type, etc of the study area). Semi-structured interview was used to collect general population characteristics and existing types of investment in land management practices of the study area. Focus group discussion was held to collect data on the importance of land certification, the impacts of land certification on tenure security, investments on land management, and view of farmers towards land certification. The discussion was carried out with group of farmers encompassing 5 members in each selected kebeles that consists of Kebeles leaders, youth and female representatives, elders, and development agents. Questionnaire was administered to collect household characteristics, views of farmers towards land certification on sustainable investment on land management, the impacts of certification on securing land rights and on increasing farm or agricultural productivity.

To have an overall view of the impacts of land certification on sustainable investments on land management as well as existing types of investments on land management practices, a field observation was conducted prior to the formal questionnaire survey in the study area. Then, questionnaire was first pre-tested with 5 randomly selected farmers to ensure its accuracy and quality; and based on the result of the pre-test; some modifications were made on the questionnaire before carrying out the formal survey. Therefore, the study was conducted to

understand the impacts of land certification on sustainable investments on land management practices implemented on the respondent's farm land.

### **3.2.4 Sampling Technique and Sample Size**

This study employed the following sampling procedure. Two-stage sampling design was used to determine sample kebeles and household heads in the study area.

The first stage was selecting the sample kebeles from the study area. Duna wereda has 32 Kebeles, and from the total 32 kebeles, three kebeles, namely: Awoya-Berkuncho, semen-Wagabeta, and Goda-Kenkicho were selected purposively, because the sampled kebeles were favorable to access data and information for this study.

The second stage involved preparation of a list of household heads from each selected Kebeles. Out of total 38,534 household heads in the 32 kebeles, of which 30,954 are male and 7,580 are female. The size of household heads in sample Kebeles (Awoya-Berkuncho, Semen-Wagebeta, and Goda-kenkicho) is 1897 of which 1657 are male and 240 are female. That is 657(M=577 and F=80), 544(M=470 and F= 74) and 696(M=610 and F= 86) household heads in Awoya-Berkuncho, Semen-Wagebeta and Goda-Kenkicho Kebeles respectively. List of all household names of selected Kebeles were obtained from Kebele and Wereda land administration office and arranged into alphabetical order to select sample households by using random numbers table. Accordingly, Awoya-Berkuncho, (M=23, F=4, T=27), Semen-Wagebeta (M=22, F=3, T=25) and Goda-Kenkicho, (M=26, F=6, T=32) total from three kebeles (M=71, F=13, T=84) of the total households were included from each sample kebeles which gives 84 households. The researcher took 84 of the households, because of hoping that data obtained from these sample population will be sufficient for analysis and generalization.

### **3.2.5 Data Analysis and Interpretation**

In this study both qualitative and quantitative data analysis and interpretation were used. Qualitative data, which was obtained from questionnaire, field observation, key informant interviewees and focus group discussions, were analyzed by using verbal description. First, they were collected, identified, organized and compiled into a short form and categorized into different themes and finally discussed.

Quantitative data, which were collected by questionnaire, were categorized, classified, tabulated, coded and entered into a computer for analysis. In this case frequency and descriptive statistical analysis were carried out through cross tabulation where by percentage and frequencies were computed.

Moreover bi-variate statistical analysis was done. In the bi-variate analysis, correlation was employed to test whether there is association between the dependent and the independent variables. In this regard, the phenomena are operationalised into measured relationships that are observed or tested. Hence, correlation serves as empirical indications of possible relationships between variables. The strength of a linear relationship can be measured for quantitative variables by using the Pearson correlation coefficient. The values of the correlation coefficient can range from -1 to +1. The higher the correlation coefficient, regardless of sign, the stronger the linear relationship between the two variables is. A positive correlation implies that as the values of one of the variables increase, the values of the other variable tend to increase also. On the other hand, a negative correlation implies that as the values of one of the variables increase, the values of the other variable tend to decrease (<http://psc.maths.lancs.ac.uk/>). A small or 0 correlation implies that the two variables do not have a linear relationship.

### **3.3 Ethical Consideration**

Bryman (2004) specifies the characteristics of good research as it should always be ethical in all aspects and the researcher has an obligation to respect the right, needs, values, and desires of the informants.

This study kept important ethical issues, before the beginning and during each data collection of the study which was clearly described to those household heads or individuals who participate in this study in any way and step forward was based on the permission of the respondents. The basic ethical issues considered in this study were:

The culture, tradition and language of the respondents were respected starting from the pilot study, during focus group discussion, semi- structured interview, questionnaire and field observation study and writing of the findings.

Recorded photos were promised to be handled carefully and used for the purpose of this research only.

Sense of secrecy was maintained among respondents where information might be sensitive so that the respondents gave the information without unwillingness.

## CHAPTER FOUR

### THE IMPACT OF LAND CERTIFICATION ON SUSTAINABLE INVESTMENT AND LAND MANAGEMENT

#### 4.1 Demographic Characteristics of the Sample Households

The sample households include small scale farmers whose life basically depends on the subsistence farming. The characteristics of households are directly/indirectly related to the supply and demand conditions of basic human needs and educational facilities which in turn directly or indirectly influence the impact of land certification on tenure security, investments on land management and soil fertility management. In this section, population characteristics of the study area were presented and discussed briefly.

##### 4.1.1 Sex and Age of the Studied Households

The survey result indicates that from the sample of 84 HHs, (87.5 %) and (12.5 %) are male and female respectively (Table 4.1). These households include a wide range of people in terms of age groups and social position which positively influence them to the impact of land certification on tenure security and investments on land management practice.

Table 4.1: Distribution of Sample Households by Sex

		Sample Kebeles							
Se.	Sex	Awoya-Berkuncho		Goda-kenkicho		Semen-wagebeta		Total	
No		F	%	F	%	F	%	F	%
1	Male	23	87.2	26	89.6	22	88.4	71	87.5
2	Female	4	12.8	6	10.4	3	11.6	13	12.5
	Total	27	100	32	100	25	100	84	100

Source: Survey Data, 2017

As to the age categories, four age groups were identified (Figure 4.1). About (6.2%) of the sample households were within 31-40 years old, (52.4%) between 41-50 years old, (33.3%) between 51-60 and (8.1%) greater than 61 years old. Most of the HHs (52.4%) was between 41-50 years old. The field observation result shows that age between 41-50 years old of household heads in the study area are educated and more experienced by farm land activities and they were productive.

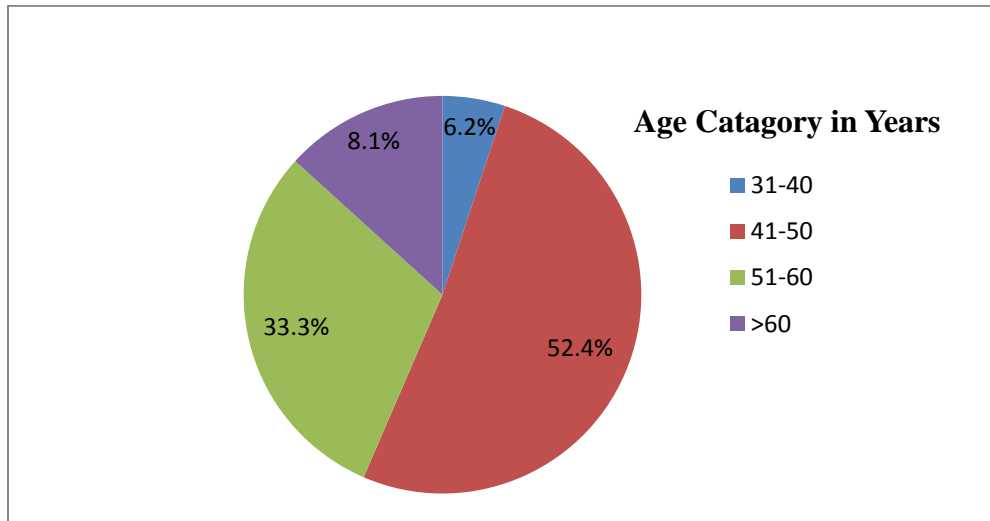


Figure 4.1: Age Category of the Sample Households (Source: Survey Data, 2017)

#### 4.1.2 Educational Background

The survey result denotes that sample households were found to be within six levels of education (Table 4.2), which include (13.1%) can't read and write, (24.3%) can read and write, (37.4%) have completed elementary school, (22.2%) have completed high school, (2%) certificate holder and (1%) of the household was diploma holder. The result shows that majority of household heads in the study area are educated. Field observation and agricultural official report confirm that they have more access to understanding about securing land rights and investments on land management.

Table 4.2: Educational Background

Se. No	Educational level	Sample Kebeles							
		Awoya- Berkuncho		Goda- kenkicho		Semen- Wagebeta		Grand total	
		F	%	F	%	F	%	F	%
1	Can't read and write	3	10.7	5	15.2	3	6.2	11	13.1
2	Read and write only	6	24.5	8	30.7	5	22.4	19	24.3
3	Elementary school completed (grade 1-8)	11	34.3	11	33.4	12	48.5	34	37.4
4	High school completed (grade 9-12)	5	24.5	8	20.6	4	19.9	17	22.2
5	Certificate Holder (12+1)	1	3.9	-	-	-	-	2	2
6	Diploma Holder (12+3)	1	1.9	-	-	1	3.6	1	1
7	Total	27	100	32	100	25	100	84	100

Source: Survey Data, 2017

#### 4.2 Farm Landholding Characteristics

Here, farm land characteristics basically deal with the land holding status and the views of the farmers' transferability of the land rights. Studied households had their own land and their holding is secured after land certification. Moreover, they were appropriately used transactions use rights that stipulated by FDRE and Region land administration law for farmers. Therefore, this shows the good level of tenure security in the study area. Table 4.3 gives an overview of how the farmers acquired their land.

Table 4.3: Landholding/Acquiring Status of the Studied Households

Se. No	Land Acquiring Measures	Sample Kebeles							
		Awoya-Berkuncho		Goda-kenkicho		Semen-Wage beta		Grand total	
		F	%	F	%	F	%	F	%
1	Allocated by the officials (PA)	15	45.6	17	49.0	14	47.9	46	52.5
2	Through renting	1	7.7	2	10.1	2	4.6	4	6.1
3	Through sharecropping	1	7.7	1	9.7	1	11.8	4	8.1
4	Through inheritance	10	39.0	12	35.7	8	34.1	30	33.3
5	Total	27	100	32	100	25	100	84	100

Source: Survey Data, 2017

As stated by FDRE (2005), Federal rural land law follows the constitutional principle that creates landholding status and transactions use right. It declares that farmers engaged to use land for crops, to make permanent improvements, to bury the dead, and to graze animals, have access for gathering fuel, fruits, and grass. There are two ways through which a person may hold land in Ethiopia, which is the same in that of Duna wereda and the studied households in particular.

#### 4.2.1 Permanent Landholding

The first means of landholding system is allocated by the officials. As indicated in table 4.3 the survey result denotes that (52.5%) of the respondents confirm that land was allocated by the officials of peasant association during Derg regime. The wereda officials report show that there was not means of getting access to rural land at present, because of SNNPR land administration law prohibited land redistribution. Therefore, it was permanently confirmed by land certification that farmer's landholding allocated at the peasant association at Derg regime.

The second means of land acquiring system is inheritance. In table 4.3, the survey result confirms that (33.3%) of the respondents inherited land permanently from their family. They used transaction use right that stipulated by land administration law which assured that any

person who is a member of peasant family may have the right to get rural land from his/her family through inheritance (a family member is defined as any person who permanently lives with holder of holding right sharing the livelihood of the latter) (FDRE, 2005 Art. 5.2 and 2.5).

#### **4.2.2 Temporary Holding**

The third means of landholding system is small scale land rental. As shown in table 4.3, the survey result denotes that (6.1%) of respondents held farm land temporarily through renting. They applied use right of renting from peasant to peasant is 4 years to cultivate crops that stipulated by land administration law of SNNPR. Furthermore, land should be returned to holder at the end of contract, contracts up to two years should be registered at Kebele administration, and contracts longer than two years should be registered at EPLAUA. The rent should not be less than the minimum benefit gained from the land (SNNPR Council, 2007, Art. 8 sub Art.1).

The fourth means of land acquiring system is sharecropping. In table 4.3, the survey result confirms that (8.1%) of the respondents shared farm land temporarily to sharecropping from other farmers. They utilize the use right of sharecropping that stipulated by land administration law which may be shared between the owner and a sharecropper to create sharecropping arrangement allowing the sharecropper the right to use the land on specified terms and seasonal conditions of agreements (FDRE, 2005). The correlation value for certification and land allocated by officials, renting, sharecropping and inheritance are .094, .028, .034 and .076 are significant respectively at the 0.01 level (Appendix 5). This is confirmed, there is a positive and significant relationship between landholding status and land certification. In general, land certification enhances the landholders' landholding rights.

Therefore, this finding coincides with previous studies by Deninger and Jin (2006) which states that the current government's land certification has a positive impact on increasing landholding and transferability of land rights.

#### **4.3 Farmers' Views on Land Registration and Certification**

One of the key issues in the wereda land administration system was the registration and certification of landholdings in order to security of land rights. To this end, land registration and certification program has been implemented since 2007 with the objective to register all

landholdings in the wereda and granting certificate of holdings in order to increase farmer's security of land rights. Therefore, it is important to investigate whether land is registered and the change in view of farmers over time about the importance of registration, the level of certificate received and the importance of the certificate provided based on the above interrelated questions. For this reason, the first part of the questionnaire was designed to assess the views of respondents about the importance of registering their landholding and importance of certificate they received. From this perspective the survey result revealed that in the three sampled kebeles (98.9%) of the households have registered their parcel, under possession and 100% (all respondents) got certificate as it is illustrated in table 4.4.

Table 4.4: Farmers' views on Land Certificate and Registration

Se. No	Questions asked	Responses	F	%
1	Are your parcels registered?	Yes	84	100
		No	0	0
		Total	84	100
2	Is registration important?	Yes	84	100
		No	0	0
		Total	84	100
3	Do you receive certificate for your holding?	Yes	84	100
		No	0	0
		Total	84	100
4	Is certificate important?	Yes	83	97.3
		No	1	2.7
		Total	84	100

Source: Survey Data, 2017

According to Wereda land administration and environmental protection office (2017), since they started of registration and certification, 38,534 household heads have registered their landholdings. Concerning the importance of registration, majority of respondents (100%) justified the importance of registration that registration helps to recognize their holding rights. In addition, (97.3%) of the respondents expressed the significance of certificate of holding as the certificate is a legal document to keep their landholding rights secured. Moreover, they explained that certificate is legal evidence that can protect their rights from different types of land related

disputes and expressed their perpetual right to use the land, and their ability to inherit to their children after death.

This finding is similar to the finding of the study made by Sabita (2010) in the Meskan wereda, SNNPR which showed that (100%) of the sample households registered and received certificate of holdings. Furthermore, the level of understanding about the importance of registration and holding certificate was found the same in this particular survey. Therefore, granting the legal document needs emphasis to increase security of land rights throughout the wereda.

#### 4.4 Securing of Land Rights in Duna Wereda

The current government took measure to increase landholder's tenure security by granting holding certificate. The summary survey results are presented in the following table 4.5.

Table 4.5: Respondents' view of Securing of Land Rights

Se. No	Rights Related to land Security	Responses	F	%
1	Do you fear that in the future land redistribution will happen?	Yes, I fear	3	4.04
		No, I do not	81	95.9
		Total	84	100
2	Do you fear that your land will be taken by government at any time in the future?	Yes, I fear	2	2.02
		No, I do not	82	97.9
		Total	84	100
3	Are you certain about securing of your recent holding?	Yes	82	94.9
		No	2	5.05
		Total	84	100
4	Do you feel that women's land rights are secured?	Yes	83	97.9
		No	1	2.02
		Total	84	100
5	Which tenure arrangement do you prefer?	State	83	98.9
		Private	1	1.01
		Total	84	100

Source: Survey Data, 2017

As it can be seen from table 4.5, (95.9%) of the respondents were confident that future land redistribution will not take place. Despite the fact that the SNNPR land proclamation No. 110/2007 clearly stated that future redistribution will not be carried out, (4.04%) of the studied

households still have a fear of future land redistribution. However, the above result indicates that majority of studied households perceive that land redistribution will not take place in the future. Nevertheless, the fear is not completely avoided in the minds of a few landholders. Still few of them feel that there will be future redistribution. To avoid such type of fear, government agents should strongly create awareness about holding rights. The study further shows that the numbers of respondents were confident that future land taken by government will not take place. Sabita (2010) study on similar issue in central rift valley of Ethiopia explains that (85%) of the studied households believed that land redistribution will not happen.

The views of farmers on whether land rights are secured as a result of certification or not, the overwhelming majority of respondents (94.9%) feel that their landholding rights are secured after certification. Similar study in Amhara region by Assefa (2010) confirms that (93%) of the sampled landholders were certain on their holding.

Another important point was about women land rights. As indicted in many literatures, women were the most vulnerable groups of the society regarding landholding rights. Hence, respondents were interviewed to examine whether there is any discrimination between men and women in land certification processes. In this regard, (97.9%) reported that women land rights were secured as that of men. The survey result indicates that the above mentioned percent of respondents perceived women's land rights were protected as a result of certificate of holding. This is a positive indication that the rights of landholders are protected with no gender difference in the wereda. Moreover, in this particular survey land rights were secured as a result of certificate of holding and this shows the confidence of the holders were increasing significantly through time without any discrimination between men and women.

The study has also attempted to investigate respondent's views on their preference of tenure arrangement. This helps the researcher to understand whether landholders are certain about their rights despite the fact that land ownership right is vested in the public and under the control of the state. In this regard the result showed that (98.9%) (Almost all respondents) reported that they prefer state ownership. They assured that it protects from selling off their land to wealthy individuals leaving them landless and without a source of livelihood. As the result of this, it avoids social chaos. This result coincides with the findings of Sabita (2010) who conducted his research in the Adamitullu Jidokombolcha wereda; Oromia region which shows that all

respondents of the landholders prefer state ownership. Here, the most important reason for preference of state ownership may be related to the result of holding rights which include, the right to inherit, rent and form property granted to landholders. Therefore, based on the current survey result, it can be concluded that, despite the fact that land is owned by state, land certification has a positive impact on land rights security and landholders preference of ownership type has been changing through time.

#### **4.5 Farmers' knowledge on Basic Land Rights and Use Obligations**

The level of information dissemination to create knowledge about land rights and use obligations attached to the law can significantly have paramount importance for landholders to exercise their rights and use obligations properly. In addition, it has a key advantage in one way or another for the social, political, legal, technical, economic and institutional features of the wereda's administration system. Hence, to measure the level of understanding of households about their land rights obligations two approaches were used. Based on these the survey result is summarized in table 4.6 and table 4.7 respectively.

Table4. 6: Knowledge of Respondents on Basic Land Rights

Se. No	Basic Land Rights	Level of knowledge	f	%
1	Rights to use land for agriculture and natural resource development	Very high	1	1.01
		High	78	84.8
		Low	5	14.1
		Total	84	100
2	Right to rent out the land	Very high	0	0
		High	77	83.8
		Low	7	16.2
		Total	84	100
3	Right to transfer the land	Very high	1	1
		High	78	84.8
		Low	5	14.1
		Total	84	100
4	Not evicted from holding	Very high	0	0
		High	76	82.8
		Low	8	17.2
		Total	84	100
5	Right to create property on land	Very high	0	0
		High	79	83.8
		Low	5	16.2
		Total	84	100
6	Perpetual holding right	Very high	0	0
		High	75	81.8
		Low	9	18.2
		Total	84	100

Source: Survey Data, 2017

The survey result summarized in table 4.6 shows that most of basic land rights are known by subjects of the study. More importantly, level of knowledge about; rights to use land for agricultural and natural resources development (84.8%), right to rent out the land (83.8%), right to transfer (inheritance) (84.8%) were well know than other land rights. Whereas right not evicted from holding (82.8%), right to form property on land (83.8%), and perpetual landholding right (81.8%) were not responded immediately. However, when reminding them, majority of respondents forwarded their perception that they knew also the stated land rights. Though, all land rights are important for landholders, the level of knowledge about these rights is

not equal. Some of them are remembered easily and some of them are not. This may be because of the nature of rights. Some of the rights have long term impacts on investments on land management and the others short term impacts on investments. Generally, the result indicates that the level of knowledge about basic land rights is found high in this particular survey. This is important for the government and the society at large because the government can be benefited from holder's knowledge to enforce laws and regulations easily. And on the landholders side it can be useful in the context that knowing rights means motivated to invest more in the land and protecting rights side by side.

On the other hand, more is expected from the land administration institutions in the awareness creation process. In this regard, one of the duties and responsibilities of the wereda land administration and use office is to create awareness on land rights and use obligations. To this end, discussion and interview were hold with all stakeholders of wereda land administration offices concerning how they evaluate awareness of landholders about their rights and use obligations. The discussion and interview result shows that there is different understanding in that most of the wereda experts agreed that the task of awareness creation regarding basic land rights and use obligations is not enough at all.

Table 4.7: Knowledge on Basic Land Use Obligations

Se. No	Basic Land Use Obligations	known		No know	
		No	%	No	%
1	Protect boundaries	81	82.8	3	17.2
2	Undertake trench terracing	82	81.8	2	18.2
3	Drain excess flood	79	80.8	5	19.2
4	Till far from rivers and gullies	79	79.8	6	20.2
5	Hold certificate of holding	83	83.8	1	16.2
6	Planting trees around the farm	80	80.8	4	19.2
7	Protect wildlife in the locality	75	77.8	9	22.2
8	Use land based on land use plan	77	78.8	7	21.2

Source: Survey Data, 2017

As shown in table 4.7, basic land use obligations are known by large majority of respondents. This regard respondents are well aware of, protect boundaries (82.8%), undertake trench terracing (81.8%), hold certificate of holding (83.8%), planting trees around the farm 80.8% and drain excess flood (80.8 %) are known by majority of respondents. Although, other land use obligations are known by respondents, they did not answer immediately as the above rights. However, the knowledge of landholders is increasing through time and the reason may be the knowledge is more related to the importance of land as a scarce resource and holder's knowledge to protect their rights keeping their obligations. This is to mean that the land is the most useful asset for the rural people; holders are interested to know their rights and use obligations to maintain their holding rights. Moreover, obligations which have more power to affect landholders' rights take the highest familiarity. Like any land administration systems, landholding rights are subject to restriction and use obligations in the region. Hence, if the level of knowledge of landholders is as ought to be, it means that landholders can use the land they possess in a more productive way and they can defend their rights accordingly. Moreover, proclamations plus regulations need to be known in the context of the policies and principles that govern the operative provisions not only by landholders but also by institutions envisaged to be involved in the implementation process.

In general, as demonstrated above respondent's knowledge about basic land rights and use obligations are found in the highest level. This denotes that the higher the level of knowledge on land rights and use obligations, the higher the protection of rights and optimal use of the land resources would be.

#### **4.6 Investments on Land and Soil Fertility Management /ILM and ISFM/**

One of the main motives of providing certificates is to increase land related investments for land management and soil fertility management (Deininger et al., 2009). Therefore, here it is tried to see whether view of farmers about tenure security affect their view on investments on land management practices and soil fertility management or not. In this regard, to conclude either there is land rights security or not, some indicators like investments on land management and soil fertility management could be used as additional measurements to check the level of land rights security.

In order to assess impacts of certification on sustainable investments on land management, households were two interconnected questions whether they participate or not on investments on land management and soil fertility management as a result of rural land certification and in what specific type of land management practices and soil fertility management they participate. Concerning the first question, survey result of the households responded showed that they were involved in one or more of investments' practices after certification. In order to understand more about the percentage of respondents survey result is summarized in table 4.8 and table 4.9 respectively.

Table 4.8: Investments on Land Management Practices

Se. No	Investments on Land management practices	f	%
1	Tree planting around farm land(korich,warika and Wanza)	81	81.9
2	Terracing on farm	82	82.9
3	Fodder trees /grasses/planting on grazing land	83	83.8

Source: Survey Data, 2017

Based on the survey results indicated in table 4.8, it appears that households are involved in one or more investment on land management practices. It is to indicate that out of three investments on land management practices, (81.9%) participated in tree planting, (82.9%) in terracing on farm and (83.8%) in use of fodder trees /grasses/planting on grazing land to increase the land management practices. In addition, visiting field observation result confirms that was made land management practices are accomplished by the respondents in a sustainable condition. This shows the willingness of households to invest and improve the condition of their land which contributes to conserve farm land. This can be taken as a new motivation impact of land certification in that households trust is growing over time. The correlation value for certification and tree planting around farm land, terracing, fodder trees planting on grazing land are .034, .039, .048 are insignificant respectively at the 0.01 level (Appendix 6).

Moreover, this finding coincides with previous studies of Deininger et al. (2008) which found that certification encourages landholders to invest on land/soil and water conservation works, planting trees, and has the desire to undertake land related investments after certification.

Similarly, study conducted by the World Bank (2006) in Honduras, Paraguay, China and Thailand have confirmed that rural land certification/titling has a positive effect and a slight relationship with investment and agricultural productivity. In addition, Dagneu et al. (2009) in Kilte Awela'elo wereda of Tigray region, showed that (85.2%) of HHs were involved in different types of sustainable land investment practices after land titling which shows (34.1%) growth before titling. Furthermore, Deininger et al. (2007) found that large majorities of households perceived that rural land certification in Ethiopia increases incentives for investments in trees planting, soil and water conservation structures, and sustainable management of common property resources. Hence, it can be concluded that rural land certification has a positive impact on tenure security and sustainable investment on land management in the study wereda.

Table 4.9: Investments on Soil Fertility Management

Se. No	Investments on Soil Fertility Management	F	%
1	Crop rotation	83	83.5
2	Compost/ manure preparation	80	80.8
3	Intercropping	78	78.8
4	Fallowing	2	1.01

Source: Survey Data, 2017

Crop rotation is a planned order of specific crops planted on the same field in order to improve or maintain soil fertility, reduce erosion, destroy the pest and weed life cycle, reduce risk of weather damage, reduce the application of chemical fertilizers and pesticides and in overall increase net profits (Peel, 1998). In table 4.9, the survey result confirms that (83.5%) of the respondents reported that crop rotation is a common and simple practice in the study area. Farm households are practicing in an indigenous ways, they are aware more after certification of the fact that it helps to improve the soil fertility and replenish the exploited nutrients. Visiting of field observation confirms that farmers choose which crop to grow in rotation according to soil and the rainfall pattern. The main crop rotation practiced by the farmers in the study area include Bean – wheat – barley, Potato-wheat- Potato, Bean-wheat-Barely, Teff–wheat – barely, Teff – what – pea. This shows that land certification is effective in crop rotation of soil fertility management.

Compost (Manure) is necessary to maintain a satisfactory level of organic matter in soils as it plays a major role in soil functions and quality such as a source of nutrients, promotion of favorable soil physical condition, soil biotic population and plant nutrients absorption (Budhaka and Srikajorn, 2002). As shown in table 4.9, the survey result denotes that (80.8%) of respondents stated that compost (manure) is sustainably applied in soil fertility management. They have a good practice of the manure application in the form of compost which is considered as a means to improve and maintain a long term investments on farm productivity.

The survey result in table 4.9 also denotes that (78.8%) of the respondents confirm that intercropping is practiced to improve soil fertility and to diversify the crop production from the same piece of land almost at the same time in the study area. Intercropping of potato with Haricot bean, potato with bean and maize with Haricot bean is common practiced in respondents' farm. According to the farmers' experiences, when potato is grown with Haricot bean and potato is grown with bean, then the production is also high. This practice is also enhanced by certificates and tenure security.

The survey result also confirms that, almost all respondents do not practice fallowing method which is restoring soil fertility where the field is left empty for some duration. According to the farmers' experiences, many years ago, it used to be the most common method of improving the soil fertility but now none of the farmers in the study area follow this practice due to the shortage of land and they cannot afford to keep their land fallow due to their livelihood problem.

Therefore, it can be concluded that land certification has a positive impact on tenure security and sustainable investment on soil fertility management in the study wereda. The correlation value for certification and crop rotation, compost and intercropping are .030, .051, and .056 are significant respectively at the 0.01 level (Appendix 7). This is confirmed, there is a positive and significant relationship between soil fertility management except fallowing and land certification.

#### **4.7 Farm Land Productivity**

As mentioned in the previous section most of the studied households are motivated to improve their land to increase the fertility status of farm land and as a result to increase farm productivity. Farm households were asked how they evaluate the level of their farm productivity before and

after certification. It is not surprising that diversified responses are observed in relation to the productivity level of each farm land because the effort made by landholders to improve the fertility of the soil alone may not be effective if other factors that can limit the production process did not get equal consideration. The result of the household survey is summarized in table 4.10 below.

Table 4.10: Farm Land Productivity

Se. No	Farm land productivity after certification	F	%
1	Shows increasing	60	60.5
2	The same as before	15	30.3
3	Shows decreasing	9	10.2
4	Total	84	100

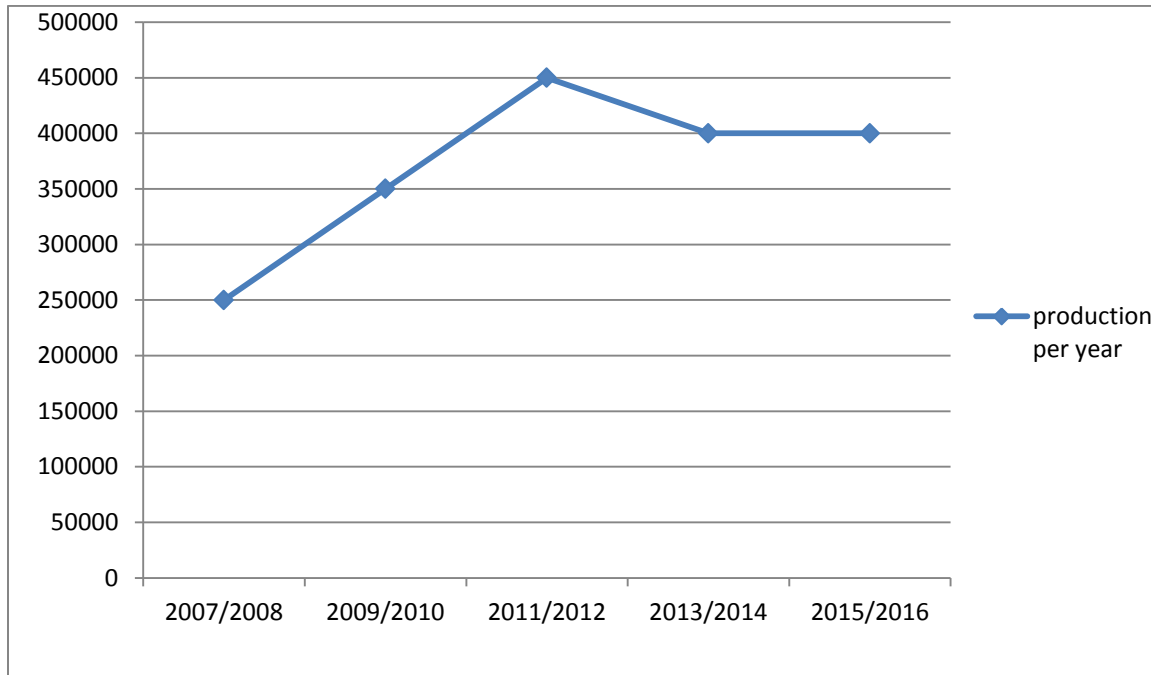
Source: Survey Data, 2013

As indicated in table 4.10, the survey result denotes that (60.5%) of the respondents confirmed that the productivity of their farm land shows increasing trend after certification than before. The correlation value for certification and increasing farm productivity .096 is significant at the 0.05 level (Appendix 8). On the other hand, significant number of respondents (30.3%) reported that there is no change in productivity of their farm land after certification and (10.2%) responded the productivity of their farm land shows a decreasing trend.

To investigate the level of farm productivity and to cross check the responses, secondary data was collected from the wereda agricultural office. As can be seen from figure 4.2, the data from the wereda agricultural office indicates a constant/no change/ trend of production from the commencement of certification, in 2007 and 2008, increasing in 2009 , 2010,2011,2012,2013,2014 and the declining in 2015 and2016. This cyclical trend of production may be the result of other factors that can influence the productivity level of the farm.

During the survey respondents were also why their farm productivity is the same as before or decreasing after certification regardless of the effort they made to increase farm productivity. They reported that although they feel their land rights are secured as a result of certification and

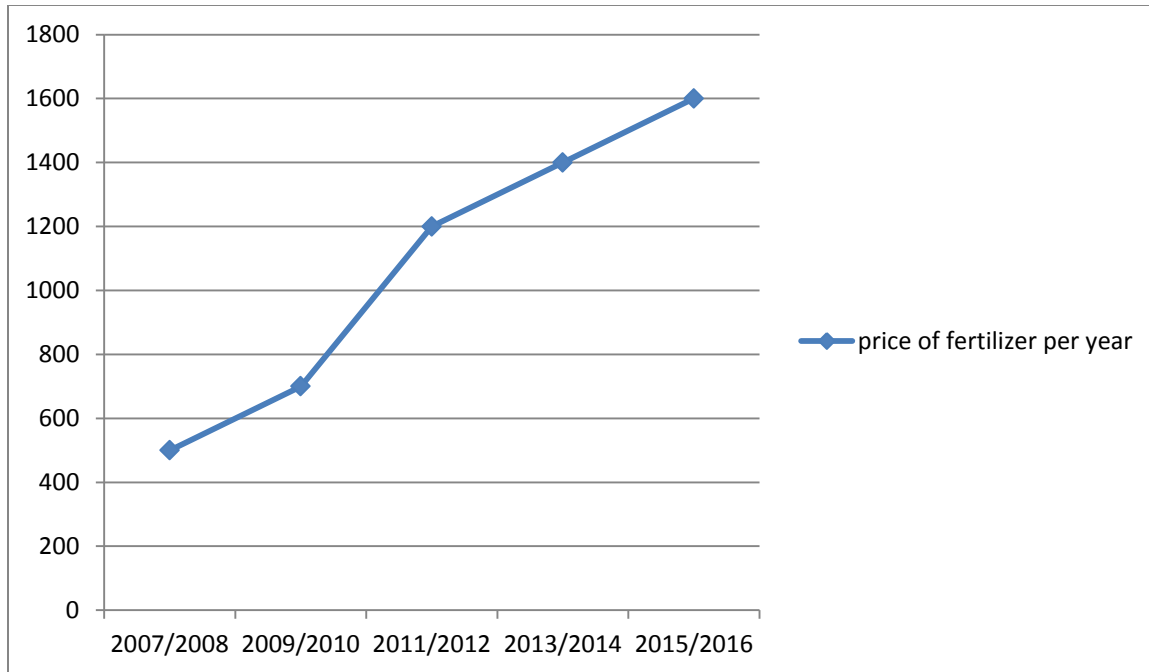
willing to invest more, the high price of agricultural inputs such as fertilizer is main constraint to increase farm productivity in their area (see figure 4.2).



Source: Duna Wereda Agricultural Office, 2017

Figure 4.2: Trends in Crop Production in Duna Wereda

World Bank (2006) show that productivity of farm land is directly related with the degree of land management improvement activities. However, the finding of this research shows that there was no link with the land management improvement measures and its consequences to change the fertility of sustainable soil management. Another justification that tenure security is a necessary but not a sufficient condition for farm productivity (Brasselle et al., 2001). This means other factors are more influential to increase farm productivity such as supply of inputs and other infrastructures should be given equal consideration so as to increase farm productivity. The price of fertilizer over the period of 2007/2008-2014/2016 is presented figure 4.3 below.



Source: Duna Wereda Agricultural Office, 2017

Figure 4.3: Trend in the Price of Fertilizer

The survey result summarized in figure 4.3 shows that the price of fertilizer has been increasing yearly. This shows that one influential constraint to increase farm productivity is increasing of fertilizer price. This is also confirmed by respondents' report. Hence, in this particular survey land rights were secured as a result of certificate but not a sufficient condition for farm productivity.

Another important point to increase farm productivity is farm inputs credit. One of the benefits of having land certificates is that farmers can use certificates as collateral/ guarantee / to the financial institute and can get credits to buy farm inputs (Deininger, 2003). Hence, here farm households were whether they can use their land certificates as guarantee to the financial institute and can get credits to buy farm inputs or not. To understand more about the percentage of respondents the survey result is summarized in table 4.11 below.

Table 4.11: Land Certification as guarantee for getting credit

Does certificate help in getting credits in farm inputs?	Responses	Sample Kebeles							
		Awoya-Berkuncho		Goda-Kenkicho		Semen-Wagebeta		Grand Total	
		F	%	F	%	F	%	F	%
Yes	12	37.3	11	33.5	9	30.4	32	33.7	
No	14	46.4	16	56.4	12	47.2	42	50	
I don't know	1	16.3	5	19.3	4	13.2	10	16.3	
Total	27	100	32	100	25	100	84	100	

Source: Survey Data, 2017

About (33.7%) of the respondents confirmed that, they use certificates as collateral to the financial institute and can get credits to buy farm inputs. Due to this, the productivity of their farm land shows increasing trend after certification. However, (50%) of respondents were no using it (table 4.11). Generally, the result indicates that the awareness of certificates as collateral to the financial institute and can get credits to buy farm inputs is found in low level in this particular survey. To avoid such problem in use right, government agents should strongly create awareness about land certificates as collateral /guarantee/ to the financial institute and can get credits to buy farm inputs.

#### 4.8 Land Related Disputes after Land Certification

It has been noted that in many countries disputes over land and its boundaries give rise to expensive court case and all too often lead to a break down in law and order (Burns et al., 2006). Much time is taken up by courts in resolving these matters; most importantly delays are common to resolve land related cases in the judicial system. To observe the over time change, the survey data is organized in table 4.12 below.

Table 4.12: Farmers' View on Land Related Disputes

Se. No	Farmers' View	Responses	Before Land certification		After land certification	
			F	%	F	%
1	Do you face land related dispute before and after certification?	Yes	75	75.8	6	17.2
		No	9	23.2	78	78.8
		Total	84	100	84	100

Source: Survey Data, 2017

The survey result confirms that (75.8%) of the respondents reported that they faced land related dispute before certification. On the other hand, majority of respondents (78.8%) confirmed that they did not face land related dispute after certification (table 4.12). The figure confirms that the level of land related disputes are decreasing through time as land is registered and certified. This is verified by the fact that, there is a significant relationship between decreasing of land related disputes and land certification.

Moreover, this finding coincides with previous studies conducted in Tigray and Amhara regions of Ethiopia which show that land related dispute was reduced during and after the land registration and certification. For instance, in Tigray region (66%) reported that land related disputes decreased after certification (Holder et al., 2007). Similarly, case study evidenced in Amhara region concludes that in areas where land registration and certification took place, the number of court cases on land related issues have reduced significantly from 20 to 2 per week (Ayalewu et al., 2008). This may be a good evidence of the positive impacts of land registration and certification in terms of a reduction in the number of disputes. Even though dispute over land is not close, it revealed land certification helps to reduce land related disputes at present.

#### 4.9 Discussion With Wereda Court

In addition to household survey, data collected from wereda court reveals that land certification assists to reduce land related disputes at present. To reveal the impacts of land certification, four main discussion points were used with the wereda court about land related cases. First, how many land cases come to court, second, time taken till final decision is passed, third, how they evaluate land related cases before and after certification and lastly how they accept the certificate of holding as a legal document. Based on these interrelated points, the result of the discussion is presented as follows:

According to the wereda court judges, land related cases are one of the cases that come to court in the wereda and the standard time put by the court to settle a particular land case is four month. However, depending on how fast the required evidences are submitted to the court, it would take in the court procedure from three to four months till final decision is passed. This evidences shows that if the time taken to resolve land disputes is long, it may affect the feeling of tenure security of landholders and can decrease the level of land rights security. For instance in Trinidad and Tobago disputes may take years to resolve causing long delays and high cost (Burns et al., 2006). In African countries such as Uganda, land disputes take five years to resolve on particular land case (Burns et al., 2006). However, in the case of Duna wereda, though the time taken to pass decision is quite long in the point of interest of landholders, the standard time put to resolve a particular land case is relatively short compared to the above mentioned countries. In regard to the question how they accept the certificate of holding in the court proceeding, they replied that the certificate holding the basic legal document to make decision.

Furthermore, for the question how they evaluate land related court before and after certification, the wereda court official reported that, before land certification land cases were the main source of conflict between farmers and the condition has been gone to death. Inheritance and rent contract of farm land were not protected by individual farmers and as a result inheritance and rent contract conflicts were the main source of land related conflict in the wereda. Wereda court official report shows that land cases are treated in the wereda court starting from 2007 and the trend shows increase after certification and this is because they believe that the value of the land is increasing and at the same time the awareness of landholders is increasing. As a result, farm household tend to protect their land rights using the certificate as legal evidence in the courts

law. Data on land cases that go to court in their order of prevalence and wereda wide is organized (Table 4.13).

Table 4.13: Rank of Land Cases to Court

Se. No	Land cases	F	%	Rank
1	Inheritance dispute	10	10.08	1 <sup>st</sup>
2	Rent contract dispute	7	7.05	2 <sup>nd</sup>
3	Boundary dispute	4	4.03	3 <sup>rd</sup>
4	Divorce dispute	1	1.01	4 <sup>th</sup>

Source: Duna Wereda Court Survey Data, 2017

The survey result shows that there is a significant variation between lands related disputes such as, (10.08%) and (7.05 %) inheritances and rent disputes respectively. The most frequent land case goes to court is inheritance and rent contract disputes between individuals or administrators. But after land certification, all land related disputes are declining. Therefore, it can be concluded that land certification has a positive impact in reducing land disputes in the study area.

#### 4.10 Discussion with Selected Farmers

The next discussion point with selected farmers from the three kebeles in the questions of farmers feeling about land certification and registration, significance contribution of land certification this interview questions and others are discussed as follows:

One of the key issues in the wereda land administration system was the registration and certification of landholding rights in order to security of land rights. To this end, land registration and certification program has been implemented since 2007 with objectives to register all landholdings in the wereda and granting certificate of holding in order to increase farmer's security of land rights. Therefore, it is important to investigate whether land is registered and the change the feeling of farmers over the time about the importance of registration, the level of certificate received and the importance of the certificate provided based on the above interrelated questions. From this respective the survey result explained that in this three sampled kebeles

households are registered their parcel, under possession all farmers are got certificate. Concerning the importance of registration that the registration helps to recognize their landholding rights. In addition also that selected farmers from three kebles are explained the significance of the certificate landholding as the certificate is a legal document to keep their landholding rights secured. Moreover, they explained the certificate is legal evidence that can protect their rights from the different types of land related disputes. Therefore, it can be concluded granting the legal document needs emphasis to increase security of land rights through the wereda.

Also another discussion point with selected farmers from three kebeles in the questions of farmers' knowledge about basic land rights in relation to land certificate /land laws are also as follows:

However, when reminding them, majority of selected farmers forwarded their perception that they knew also the stated land rights. Though, all land rights are important for land holders, the level of knowledge about these rights is not equal. Some of them are remembered easily and some of them are not. This may be because of the nature of rights. Some of the rights have long term impact on investments on land management and others short term impacts on investments. For instance, the rights to use the land for agricultural activities and the right to rent out the land they hold are daily activities that large majority of selected farmers from three kebeles are involved.

## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusions

The knowledge gap about the impacts of land certification on tenure security and farm land activities is a major problem in Duna wereda. One of the major factors related to this is unsustainable investments on land management. So this study deals with the impact of land certification in providing sustainable improving among farmers and their investments on land management. The main source of this study was primary data collected through households' survey from three sample kebeles and the wereda officials report (documents of different bureaus).

One of the main issues in the wereda land administration system is the registration and certification of landholding in order to increase security of land rights. To this end, land registration and certification program has been implemented since 2007 with the objective to register all landholding in the wereda and granting certificate of holding in order to increase farmer's landholding rights, security and transferability of land rights. Fear of future land redistribution and fear of land to be taken by the government at any time were the main source of insecurity before certification. However, the finding of this research reveals that the feeling is all avoided after certification. The reason behind the change of view of landholders can be justified as the certification of holding is a legal document that ensures the perpetual holding right including the right to inherit and rent out.

However, the findings of this research deviate from the previous findings in that the level of securing of land rights' view of landholders was so low in the previous studies and it is found very high in this finding. The reason for the increasing view of landholders through time as a result of certification. Therefore, it can be concluded that certification has a positive impact in securing land rights and this means one of the objectives of land certification has been met.

The study has also attempted to investigate subject's view about landholders' preference of tenure arrangement and secure of women's land rights. In this regard the finding demonstrates that almost all landholders prefer state ownership than private ownership and feel securing of

women's land rights. This result also varied with the previous findings in that majority prefers private ownership and feel securing of women's land rights.

The level of information dissemination to create knowledge about basic land rights and obligations attached to the law can significantly have paramount importance for landholders to exercise their rights and obligations property. In addition, it has a key advantage in one way or another for the social, political, legal, technical, economic and institutional features of the wereda land administration. In this regard knowledge about basic land rights and obligations is found in the high level which shows the importance of knowing rights and obligations is increasing.

Obviously, one of the objectives of this study is to find out whether land certification or security of land rights enhance the motivation of individual landholders to invest on land management and soil fertility management or not. The survey and field observation result confirmed, it was indicated that before certification land management measures were not carried out by many landholders fearing that they would not be compensated for development they made in their land. However, the findings of this research show that majority of the households was involved in one or more of land management activities such as tree planting, terracing and fodder trees planting on grazing land. Moreover, they were involved in the use of crop rotation, intercropping and compos /manure/ preparation to increase the soil fertility management after certification. Hence, a positive relationship is observed between land certification and investments on land management practices and soil fertility management. Moreover, the study finding reveals low productivity of farm because of increasing price of inputs such as fertilizer and low awareness for certificate as collateral /guarantee/ to the financial institute and can get credits to buy farm inputs.

Certification is expected to decrease land related disputes. It is suggested that when land administration system is well functioning to safeguard land rights. In this regard the survey result depicts that land related disputes were high before certification and decreased after certification. This shows certification has a positive impact in decreasing land related disputes. Furthermore, the result of the household survey and the court data confirms decreasing land related disputes after certification.

The strength of institutions in the land administration process can play a vital role in securing land rights by ascertain social justice and protect the security of the landholders. Hence, institutional arrangement should create conducive atmosphere for the land management, use of land and the required relationship between the landholder as a customer and the land administration institutional as a service giving.

## **5.2 Recommendations**

Based on the results of study,the following recommendations have been given.

1. Community mobilization should be to encourages people in on farm land as it was observed from the case of Awoya- Berkuncho kebele.
2. Further studies should be conducted regarding farm productivity in the study area by Duna Wereda Agricultural and rural development office.
3. There is lack of awareness among farmers about using certificates as collateral /guarantee/ for getting credits for farm inputs. Therefore, stakeholders of wereda should strongly create awareness about using it in relation to land law /certificate of the region.
4. Free distribution of some investments on land management such as seedlings should be provided to motivate farmers for tree plantation by wereda agricultural and rural development office.
5. Dispute over land is not a closed agenda in the wereda. Hence, government's development agents and other stakeholders should strongly create awareness about basic land rights and obligations in relation to land law /certificate of region.

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# Appendix 1: Questionnaire of the Household Survey

## Objective of the questionnaire Survey

The basic objective of this survey is to collect tangible information on the impacts of land certification on sustainable investments on land management.

Dear respondent, this questionnaire has only a research purpose. The outcome of this research will help to understand the impacts of land certification on sustainable investment on land management Practices, which enable to enhance securing land rights and agricultural production. It is believed that it will assist the community, the government and non-government organizations in designing mechanisms to increase farmer's sustainable investment on land management Practices. I confirm you that all data will be treated confidentially and only general and average information will be published. Your correct and honest response is crucial for the accomplishment of the research work. Therefore, I kindly request your cooperation in filling out the questionnaire correctly and honestly.

Instruction: Please, put  mark in the box from a given alternatives and write the answer for open ended questions on the space provided.

Part One: Background Information.

Region: SNNPR, Zone: Hadiya, Wereda: Duna

Farmer's identification: \_\_\_\_\_

Name of respondent: \_\_\_\_\_ Date \_\_\_\_\_

Starting time \_\_\_\_\_ Finishing time \_\_\_\_\_

Checked by: \_\_\_\_\_ Date checked: \_\_\_\_\_

Name of Kebele: \_\_\_\_\_

1. Respondent's Sex:

1) Female  2) Male

2. Respondent's Age years:

- 1) <20        4) 41-50       
2) 21-30      5) 51-60       
3) 31-40      6) >60

3. Marital status of the respondent:

- 1) Single                                              3) Divorced       
2) Married                                            4) Widowed

4. Educational level:

- 1) Can't Read and Write                                  4) High school completed     
2) Read and write                                          5) Certificate holder         
3) Elementary school completed      6) Diploma Holder and above

5. Social position in the Kebele:

- 1) PA executive member      4) Ordinary member     
2) Religious leader      5) Kebele justice committee     
6) Kebele land use and administration committee

Part Two: Land Holding System and Land Characteristic

1. Do you have your own land?

- 1) Yes    2) No

2. If your response to Qu.1 is "Yes", how did you obtain your land? (Multiple responses are possible).

- 1) Through renting  
2) Through inherited

3) Through sharing

4) Through allocated by the officials (PA)

3. Are your parcels registered?

1) Yes  2) No

4. Is registration important for your holding?

1) Yes  2) No

5. Was there any problem during registering time?

1) Yes  2) No

6. If your response to Qu.5 is ‘‘Yes’’, what was the main problem?

---

7. Did you receive certificate for your holding?

1) Yes  2) No

8. Is certificate important for your holding?

1) Yes  2) No

9. Do you certain that your holding is secured as a result of certificate?

1) Yes  2) No

10. Do you feel that women’s landholding right is secured as a result of certificate?

1) Yes  2) No

11. How do you evaluate the efforts made by wereda agricultural office to make you aware of the land law, land rights and obligations?

1) Good enough  2) Not enough at all

3) Not response

12. The following lists of table are basic land rights in relation to land law /certificate of the SNNPR. Please, give your level of knowledge by put ‘√’ mark for the given alternatives.

Se. No	Basic Land Rights	Level of knowledge	Yes	No
12.1	Rights to use land for agriculture and natural resource development	Very high		
		High		
		Low		
12.2	Right to rent out the land	Very high		
		High		
		Low		
12.3	Right to transfer the land	Very high		
		High		
		Low		
12.4	Not evicted from holding	Very high		
		High		
		Low		
12.5	Right to form property on land	Very high		
		High		
		Low		
12.6	Perpetual holding right	Very high		
		High		
		Low		
12.7	Getting land free of charge	Very high		
		High		
		Low		

13. The following lists of table are basic land use obligations in relation to land law /certificate of the SNNPR. Please, give your knowledge which you know by put “√” mark for the given alternatives

Se. No	Basic Land use Obligations	known	No know
13.1	Protect boundaries		
13.2	Undertake trench terracing		
13.3	Drain excess flood		
13.4	Protect spring not to get dry		
13.5	Till far from rivers and gullies		
13.6	Hold certificate of holding		
13.7	Planting trees around the farm		
13.8	Protect wildlife in the locality		
13.9	Use land based on land use plan		

14. Is there any positive impact of land certification in investments on land management and soil fertility management? Write down major of them. \_\_\_\_\_

15. Do you make sustainable investments on land management practices on your farm land as a result of your holding is legally secured?

1) Yes  2) No

16. If your response for Qu.15 is “Yes”, which kind of investments on land management? (Multiple responses are possible).

1) Three planting around farm land

2) Terracing on farm

3) Fodder trees/grasses/ planting on terracing and grazing land

17. Do you make sustainable investments on soil fertility management on your farm land as a result of your holding is legally secured?

1) Yes  2) No

18. If your response to Qu.17 is “Yes”, which kind of investments on soil fertility management? (Multiple responses are possible).

1) Crop rotation

2) Compost/ manure preparation

3) Intercropping

4) Following

19. How do you evaluate the productivity of your farm land after certification?

1) Decreased  2) The same as before  3) Shows increasing

20. If your response to Qu. 19 is ‘decreased’, what is the main problem?

---

21. What other factors influence the productivity of your farm land?

---

22. Do you use certificate as collateral to the financial institute and can get credits to buy farm inputs?

1) Yes  2) No  3) I don't know

23. Did you face land dispute before land registration and certification?

1) Yes  2) No

24. Do you face land dispute after land registration and certification?

1) Yes  2) No

25. If your response to Qu. 24 is “Yes”, which type of dispute do you face?

1) Inheritance dispute  2) Divorce dispute

3) Boundary dispute  4) Rent dispute

26. Do you fear that future land redistribution will happen?

1) Yes, I fear  2) No, I do not fear

27. Do you fear your land will be taken by the government at any time in future?

1) Yes, I fear  2) No, I do not fear

28. In your opinion what is the major problem in your kebele related to land administration?

---

29. Which tenure arrangement, do you prefer?

1) Private ownership  2) State ownership

30. Do you think that current landholding system is good for you?

1) Yes  2) No

## Appendix 2: Interview question prepared for selected farmers

Survey on the impacts of land certification on sustainable investments on land management Practices in Duna Wereda.

### Objective of the Survey

The basic objective of this survey is to collect tangible information on the impacts of land certification on sustainable investments on land management.

Dear respondent: this interview has only a research purpose. The outcome of this research will help to understand the impacts of land certification on sustainable investment on land management Practices, which enable to enhance securing land rights and agricultural production. It is believed that it will assist the community, the government and non-government organizations in designing mechanisms to increase farmer's sustainable investment on land management Practices. I confirm you that all data will be treated confidentially and only general and average information will be published. Your correct and honest response is crucial for the accomplishment of the research work. Therefore, I kindly request the cooperation of respondents in giving out the interview correctly and honestly.

Instruction: Please, give correct response for the following alternatives and open ended questions.

1. What is your feeling about land registration and certification?

\_\_\_\_\_

2. Do you believe that there is significance contribution of land certification for land tenure security?

1) Yes  2) No

3. If your response for Qu.4 is "Yes", Please list down, the significance contribution of it.

\_\_\_\_\_ , \_\_\_\_\_

\_\_\_\_\_ , \_\_\_\_\_

4. Is there any relationship between land certification and sustainable investments on land management practices?

1) Yes  2) No

5. If your response for Qu.6 is “Yes”, please list down it’s the relationship and its impacts.

\_\_\_\_\_ , \_\_\_\_\_  
\_\_\_\_\_ , \_\_\_\_\_

6. Do you believe that land certification carried out sustainable productivity in farmers’ farm in your working kebele/s/?

1) Yes  2) No

7. How do you evaluate farmers use certificate as collateral to the financial institute and can get credits to buy farm inputs to increase farm productivity?

1) Very good  2) Good  3) Not good

8. How do you rank the effort made agricultural office to disseminate information for farmers using the available means of communication to create awareness of land rights?

1) Good enough  2) Not enough  3) Difficult to explain

9. How do you evaluate the role of wereda land administration experts in protecting land rights of farmers?

1) Very good  2) Good  3) Not good

10. How do you evaluate the farmers’ knowledge about basic land rights in relation to land law /certificate of the region?

1) Very good  2) Good  3) Not good

11. How do you evaluate the farmers’ knowledge about basic obligations in relation to land law /certificate of the region?

1) Very good  2) Good  3) Not good

### Appendix 3: Interview question prepared for Duna Wereda Court

Instruction: Please, give correct response for the following alternatives and open ended questions.

1. Do you have many land cases come to the court?

1) Yes  2) No

2. How long a particular land case could takes in the court procedure till final decision is passed?

---

3. How do you find the certificate of holding in the aspects of securing the rightful landholders?

---

4. How do you accept the certificate of holding as a legal document in the process of decision making? \_\_\_\_\_

5. Which types of land related cases are coming to wereda court? (More than one answers possible)

1) Inheritance cases  2) Boundary cases  3) Divorce cases

4) Rental contract cases  5) Compensation dispute cases

6. According to Qu.5, Please, put the frequency (in rank) of them

---

7. How do you evaluate the level of land dispute the before land certification?

---

8. How do you evaluate the level of land dispute after land certification?

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#### **Appendix 4: Interview Check List for DAs and Land Administration Experts**

1. What do you feel farmers' view about land certification?
2. What is the major objective of land certification?
3. What is/are the factors affecting land certification?
4. How can you evaluate the effectiveness of land certification in enhancing securing land rights?
5. How can you evaluate the effectiveness of land certification in increasing farm productivity?
6. What is the use of your knowledge of basic land rights for land management and soil fertility management?
7. What is the use of your knowledge of basic obligations for land management and soil fertility management?
8. How do you evaluate the extent of land related disputes before land certification?
9. How do you evaluate the extent of land related disputes after land certification?

**Appendix 5: Correlation Coefficient of Land Certification with Land Acquiring Status**

		Certificate holding	Allocated by officials	Renting	Share-cropping	Inheritance
Certificate holding	Pearson Correlation	1	.094	.028	.034	.076
	Sig. (2-tailed)		.354	.784	.739	.453
	N	84	84	84	84	84
Allocated officials	by Pearson Correlation	.094	1	-.099	.225*	.559**
	Sig. (2-tailed)	.354		.330	.025	.000
	N	84	84	84	84	84
Renting	Pearson Correlation	.028	-.099	1	.169	-.127
	Sig. (2-tailed)	.784	.330		.094	.212
	N	84	84	84	84	84
Sharecropping	Pearson Correlation	.034	.225*	.169	1	.095
	Sig. (2-tailed)	.739	.025	.094		.350
	N	84	84	84	84	84
Inheritance	Pearson Correlation	.076	.559**	-.127	.095	1
	Sig. (2-tailed)	.453	.000	.212	.350	
	N	84	84	84	84	84

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

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

**Appendix 6: Correlation Coefficient of Land Certification with ILMP**

		Certificate holding	Tree planting around farm land	Terracing on farm	Fodder trees/ grasses/ planting on grazing land
Certificate holding	Pearson Correlation	1	-.034	-.039	-.048
	Sig. (2-tailed)		.739	.700	.640
	N	84	84	84	84
Tree planting around farm land	Pearson Correlation	-.034	1	-.031	.016
	Sig. (2-tailed)	.739		.760	.877
	N	84	84	84	84
Terracing on farm	Pearson Correlation	-.039	-.031	1	.127*
	Sig. (2-tailed)	.700	.760		.211
	N	84	84	84	84
Fodder trees/ grasses/ planting on grazing land	Pearson Correlation	-.048	.016	.127	1
	Sig. (2-tailed)	.640	.877	.211	
	N	84	84	84	84

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

### Appendix 7: Correlation Coefficient of Land Certification with ISFM

		Certificate holding	Crop rotation	Compost/manure preparation	Intercropping	Fallowing
Certificate holding	Pearson Correlation	1	-.030	-.051	-.056	-.571**
	Sig. (2-tailed)		.769	.617	.585	.000
	N	84	84	84	84	84
Crop rotation	Pearson Correlation	-.030	1	-.057	-.075	.052
	Sig. (2-tailed)	.769		.576	.459	.606
	N	84	84	84	84	84
Compost/manure preparation	Pearson Correlation	-.051	-.057	1	-.039	.089
	Sig. (2-tailed)	.617	.576		.705	.381
	N	84	84	84	84	84
Intercropping	Pearson Correlation	-.056	-.075	-.039	1	.097
	Sig. (2-tailed)	.585	.459	.705		.338
	N	84	84	84	84	84
Fallowing	Pearson Correlation	-.571**	.052	.089	.097	1
	Sig. (2-tailed)	.000	.606	.381	.338	
	N	84	84	84	84	84

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

**Appendix 8: Correlation Coefficient of Land Certification with Farm Land Productivity**

		Certificate holding	Shows increasing	The same as before
Certificate holding	Pearson Correlation	1	.096	.073
	Sig. (2-tailed)		.344	.472
	N	84	84	84
Shows increasing	Pearson Correlation	.096*	1	.079
	Sig. (2-tailed)	.344		.436
	N	84	84	84
The same as before	Pearson Correlation	.073	.079	1
	Sig. (2-tailed)	.472	.436	
	N	84	84	84

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

## Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). I solemnly declare that this thesis has not been submitted in any form to any University or other institution for assessment of academic purposes for award of academic degree, diploma or certificate, and any other purpose.

Kebede Abera Gashaw

\_\_\_\_\_

Signature

\_\_\_\_\_

Date