

St. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
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STUDIES



**THE CONTRIBUTION OF LAND CERTIFICATION TO
LAND MANAGEMENT PRACTICES- THE CASE STUDY
OF DANDI DISTRICT, WEST SHEWA ZONE, OROMIA
NATIONAL REGIONAL STATE**

By

MEKONNEN ABEBE

JANUARY, 2015

ADDIS ABABA

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CERTIFICATION TO LAND MANAGEMENT
PRACTICES: THE CASE STUDY OF DANDI DISTRICT,
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REGIONAL STATE**

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**A THESIS SUBMITTED TO St. MARY'S UNIVERSITY, SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE
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DEVELOPMENT**

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APPROVED BY BOARD OF EXAMINERS

As member of Board of Examiners of the Master Thesis of Open Defense Examination, we certify that we have read and evaluated the Thesis prepared by Mekonnen Abebe and examined the candidate. We recommended that the Thesis be accepted as fulfilling the Thesis requirement for the Degree of Master of Arts in Rural Development.

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Maru Shete (Asst. Professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my proposal as a university advisor.

Advisor

Signature

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ABSTRACT

This study investigated farmers' perceived land tenure security after they received land holding certificate, identified the contribution of rural land certification to land management practices, and the major challenges related to land management practices in Dandi District –West Shewa Zone of Oromia National Regional State. Primary data for the study were collected through household questionnaire, focus group discussions and key informants interviews. Data were subjected to descriptive and inferential statistics such as tables, percentages, and chi-square and t-test analyses. The result showed that farmers' perceived land tenure security was improved in post land certification and the majority of the households felt more secured in their land holding as a result of land certification. Land management practice undertaken by farmers has been increased after they received land certification. The study also identified that both governmental and non-governmental organizations played a vital roles in promoting land management practices and in supporting farmers to practice different types of land management activities. Lack of clear demarcation, presence of some sort of tenure insecurity, planting specific tree species and the decline of other indigenous trees and financial constraint were some of the challenges that the study identified in relation to land tenure security and land management practices. For the implementation of the envisaged land management measures and further enhancement of farmers' efforts towards sustainable land management, credit facilities should be made available to farmers and stakeholders and concerned institutions should integrate their efforts towards diversifying the types of tree species planted by the farmers and emphasis should be given to promote and avail seeds and seedlings of indigenous trees and the construction of soil bund terrace for better and sustainable land management outcome. Furthermore, parcels of households need to be clearly demarcated and sketched with the help of cadastral mapping system, and farmers should be provided with a sketched map of their parcels with their holding certificate as a legal document.

Key words: land certification, land management practice, land investment, land tenure and land rights security.

Dedication

DEDICATED TO MY WIFE

TIGIST ABEBE

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Acronyms and Abbreviations

ECA	Economic Commission for Africa
EPLAUO	Environmental Protection, Land Administration and Use Office
EPRDF	Ethiopian People Revolutionary Democratic Front
FAO	Food and Agricultural Organization
LAC	Land Administration Committee
NGO	Non-Governmental Organization
NRM	Natural Resource Management
SMU	St. Mary's University
UNCHS	United Nations Centre for Human Settlements
UN-ECE	United Nations Economic Commission for Europe
USAID	United States Agency for International Development

CHAPTER ONE: INTRODUCTION

1.1. Background

Land as one of the natural resources base plays a substantial role in the national economy of a country. Particularly in Africa where the majority of the populations derive their livelihood from agriculture, land resource is the major source of household employment and income. However, increases in human and livestock population, dependence on traditional and unsustainable land management practices, and climate change induced problems, have become a threat to the sustainability of agriculture in sub-Saharan Africa. Increasing population density and the increasing degradation of the natural resource base have become the leading causes to declining per capita food production. Unlike earlier periods of less intense population pressure, it has now become more difficult to support the growing population through traditional land use and land management practices, with little or no technical inputs (Omiti *et al.*, 2000).

Ethiopia is among the sub-Saharan African countries affected by land degradation (Betru *et al.*, 2005), that is adversely affecting the performance of agricultural sector (Woldeamlak, 2003). Land degradation remains a major challenge and the issue of land management is a major environmental concern in Ethiopia where more than 80% of the population is rural and dependent on agriculture. Thus improvements in land productivity become vital to enhance and sustain the welfare of this largely agrarian population (World Bank, 1989). Improvements in agricultural productivity require a more efficient and sustainable use of rural resources and it calls for the adoption of improved land management practices.

Research findings in the area of land management show that the adoption of land management practices are influenced by a host of factors. According to Desta (2012), land management decisions are influenced by different factors such as level of infrastructure development, quality of agricultural extension services, provision of conservation technical assistance, and type of land tenure policy. Kabubo-Mariara (2007) identified property rights as one of the key institutions that determine the adoption of different land management practices. Moreover, providing land certificate is believed to affect the application of technologies for the management of agricultural and natural resources, and particularly the adoption of land management practices. Lack of tenure security, among other factors was identified as

contributing to the aggravation of land degradation as it discourages farmers from investing on their land and from taking adequate care to prevent soil erosion (Berhane and Fayera, 2005).

Though there are people who argue that land titling has nothing to do in enhancing land investments, international institutions such as the United Nations for Human Settlement (UNCHS, 1999) and some researchers (Deininger, 2003; Gebremedhin *et al.*, 2003), revealed that there is close relationship between land tenure and property rights and that secured property rights to encourage farmers to invest in land management practices.

Examples from several countries adequately support that land ownership rights and investment in land improvements are related. In Thailand, land ownership security was found to significantly explain incidences of land improvements (Feder and Onchan, 1987) while in India improvements in land markets were found to be associated to increase in conservation investments on farm land (Pender and Kerr, 1998). There was a similar experience from Tigray, northern Ethiopia, where land tenure security was significantly and positively associated with long-term durable soil conservation investments such as stone terraces (Gebremedhin and Swinton, 2003).

The current Ethiopian government has been taking measures to implement land titling aimed at improving farmers' perceived land tenure security. Though the titling process provides certificates of holding and do not bestow ownership rights, this is considered as an incentive that will encourage farmers to sustainably manage the land they own. Nevertheless, the long-term impact of the measures taken by the government to improve agricultural production through land titling including the current land policy of the country in relation to tenure security needs to be periodically assessed.

1.2. Statements of the Problem

Some research findings reveal the existence of robust relationship between land tenure security and investment on land (Abate *et al.*, 2012; Todaro and Smith, 2003). While secured land right is believed to contribute a lot in improving land management and natural resources as it encourages farmers to invest in land, Some researchers however argue that the possible effect of land certification to motivate farmers in improving investment in land is debatable. Place (2009), indicated that there were cases where land certification did not produce any positive effects in land investment. Furthermore, land certification showed no significant effect in Somalia, Kenya

and Uganda on investment or land productivity. Likewise, the study conducted in Ghana and Rwanda shows that “an increase individualized land rights (private ownership) does not appear to have had any effect on soil conservation practices or land investment (Platteau, 1996).

On the other hand, some researchers have identified land certification as having some level of association with improvements in land management, in the use of land in a sustainable manner or in investments in resource conservation (Ogolla and Mugabe, 1996; Besley *et al.*, 1997; Deininger, 2003; Shimeles *et al.*, 2009).

In Ethiopia, a land reform was introduced in 1975 during the Derg regime in which land was transferred to ‘land to the tenant’. Land tenure system during this period was characterized by insecure land rights and land fragmentation from several land redistributions in about 17 years of its rule. As a result, the practice of planting trees and other soil management practices such as application of organic manure, fallowing and soil conservation activities became rare for the farmers could not be sure that they will get compensation for investments on their land and aggravated land degradation (Assefa, 2010).

After almost two decades of socialist oriented economic policy under the military regime, a new constitution was introduced by the incumbent government, and constitutionally land belongs to the state (Birhanu *et al.*, 2003). But, measures were taken to implement land titling aimed at improving farmers’ land tenure security since 2003 in the country’s main regions. The titling process provides certificates of holding but do not bestow ownership. Nevertheless, whether land titling and other policies implemented to improve agricultural productivity by the Ethiopia government, are conducive to investments in land, and whether these incentives were translated into improvements in the sustainable use of the natural resource base in the country is an important question that needs to be addressed. Regional differences in natural resource endowments in Ethiopia may have impact on the level of farmers’ responses to acquisition of land rights and their willingness to invest on land management. In Oromia regional state, farmers have been granted land holding certificates since 2003. Nevertheless, changes in land management and investments resulting from the granting of land holding certificates is the least documented and least studied issue in the region.

Therefore, in light of the above arguments, this study tried to investigate the contribution of land certification to land management practices with specific reference to west Shewa Zone of Dandi District, Oromia National regional state.

1.3. Objectives of the Study

The major objective of study is to explore the contribution of rural land certification in improving farmers' incentives to invest in land resource management practices.

More specifically, the objectives of the study are to:

1. Assess farmers' perception of land rights security before and after provision of land holding certificate
2. Identify major challenges that influence farmers' motivation to undertake land management practices
3. Examine the role of government and other institutions in promoting land management practices in the study area

1.4. Significance of the Study

It is believed that this study might be helpful for government policy makers and other concerned bodies working in the area to make use of the output as deemed necessary for the proper intervention in land improvement practices. Moreover the study might help individual farmers to increase their level of awareness about of the land holding certification and encourage them to make investments on their farmland for better productivity. The study might also serve interested researchers in the area at various levels as a source of information and reference.

1.5. Definition of Terms

1.5.1. Land Certification

For the purpose of this research, the term land certification is defined as the provision of land holding certificate to the farmers for the purpose of improving perceived security of land use rights.

1.5.2. Land Tenure

The term land tenure is defined in different ways by different scholars based on their purposes. However, it seems necessary to have a working definition of the concept of land tenure in view of the objective of the study. ECA (2004) defines land tenure as a "social construct that defines

the relationship between individuals and groups of individuals by which rights and obligations are defined with respect to control and use of land”. This might show that the way in which land is owned by farmers depending up on the legal framework of the country. In this regard, for the purpose of this paper, Land tenure is defined as the holding right arrangement i.e., whether or not the land is owned by the state or private and the implementation of other property rights associated to land in a given country with respect to the land policy framework under consideration.

1.6. Limitation of the Study

As any research undertaking runs a risk of being constrained with one or another aspect needed for its completeness and success, this study suffered similar problems as well. Since this research deals with farmers’ feeling of tenure security and related matters, the need for ethnographic studies were crucial to find out the actual feelings of the land tenure system exist in the study area. However, as the issue of land tenure is politically sensitive in Ethiopia, it was very difficult to figure out the real feelings of farmers as this involves systematic collection, description and analysis of data through an in- depth study of the culture of the community. Hence, though such type of research was believed to help secure dependable data, due to time and financial constraints, the findings were based on what the farmers directly responded to the questions without detailed analysis of the in formations forwarded.

Moreover, for the data to be robust enough in identifying challenges that influence farmers initiatives to invest in land, it would have been necessary to include several variables such as household characteristics (farm plot size, level of education, family labor, human, social financial and natural capitals.), farm plot characteristics (severity of degradation, slope of plots, soil type, distance from homestead farm) and issues related to institutional support such as policies and regulations, extension services, training and awareness creation. However, only few household and institutional variables were considered as this requires more time and finance with respect to the time frame set to complete the study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

This chapter deals with the concept of land related investments; land policy, rural land certification in Ethiopia with particular reference to the Oromia national regional state and the concept of land management practices.

2.1. The Concept and Definition of Land Tenure

Some research work in the area of African land tenure indicate that, the issue of the very important concerns since 1970s particularly in Sub-Saharan Africa where the need for increased productivity of land to feed the ever increasing population of the region became crucial (Teshome, 2009). In view of this, it is possible to say that land tenure is an important part and plays a substantial role in social, political and economic structures of a country. It is a multi-dimensional concept that brings together the social, technical, economic, institutional, legal and political aspects that are usually undermined but deserved to receive due attention (FAO, 2002).

FAO (2002) defines land tenure as the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. Furthermore, land tenure is an institution i.e., rules invented by societies to regulate behavior. Rules of tenure clearly define how property rights with regard to land are to be allocated within the communities and how access is granted to rights to use, control, and transfer land, as well as negated responsibilities and restrictions. In general, land tenure systems of given society determine who can use what resource for how long, and under what conditions.

According to ECA (2003), land tenure has different concepts for different people. For some people, it is a means of holding rights, to others it could be considered as the terms and conditions under which land is held, used and transferred and is one of the major factors determining the way in which resources are managed, used and benefits are distributed.

Waiganjo and Ngugi (2001) stated that “property rights include a variety of different rights, for example to build, to use, to transfer, to mine, etc. The rights may be transferred or transmitted either together or individually at the discretion of the holder with or without limitations depending on the tenure system”. They further stated that formal rules of tenure define the nature

and content of property rights in land or other resources and the conditions under which those rights are to be held and enjoyed. Similarly, Teshome (2009) indicated that land tenure is closely related to land rights and this affects decisions on resource allocation mainly in the agricultural sector.

Regarding the definition for the term land tenure, different scholars give different conceptual definitions from their own research perspectives. Middleton (1988) defined land tenure as a system of relations between people and groups expressed in terms of their mutual rights and obligations with regard to land. Reyena and Downs (1988), on the other hand, define land tenure system as a whole, as land tenure system may be considered as sets of rules at sometimes customs, at others laws concerning people's rights to land including institutions which are responsible to administer these rights and the resultant ways in which people hold the land. As further explained, it is the set of formal and informal rules and institutions which determine access to land and control ones land and other natural resources. According to Ogollo *et al.* (1996), the term land tenure is derived from the Latin word "tenure" which gives the meaning "to hold." Tenure defines the social relations between people in respect of the objects of the tenure, land in this regard. It also defines the way in which individuals or groups acquire, hold, and transfer property right in relation to land. Moreover, land tenure is defined as the allocation and security of land right, the legal framework set to determine the boundaries of individual landholders, the right of individuals to transfer land to another through sale or lease (Enemark *et al.*, 2008).

In summary, the above definitions given by different scholars may have shown that well defined legal framework of the relationship between people and land with respect to their associated rights, such as the right to hold, transfer and lease is a determining factor as secure land rights provide an incentive to invest on land which in turn contributes both to the increase in production and sustainable of the land resource.

2.1.1. Types of Land Tenure

Land tenure may be classified as customary and statutory (Waiganjo and Ngugi, 2001). The following section deals with the details of various tenure systems.

Customary Land Tenure

As to Waiganjo and Ngugi (2001), customary land tenure refers to “un written land ownership practices by certain communities under customary law.” Assefa (2010), on the other hand explained customary land tenure based on its historical existence and implementations as follows:

...land in most parts of Africa was governed by traditional procedures and rules on land utilization, access and transfers commonly known as customary land tenure. Being traditional, the procedure and rules were social constructs whose essential elements were passed, by way of example or practice from generation to generation belonging to a particular community or tribe. In other words, customary land tenure systems, like any other social constructs, were dynamic rather than static (2011:15).

The major feature of customary land tenure is “Right of Avail” (Kalabamu, 2000). This indicates that the benefits are shared by all people belonging to a particular community, tribe or clan and all pieces of land acquired through allocation by the chief or headman or by inheritance, remain, in perpetuity, the exclusive property of the concerned households as long as the allotted property continued to belong to the community and actively used the land.

The land administration is also another significant feature of customary land tenure system. The administration of land was undertaken by chiefs, headmen, clan or tribal elders; ownership was vested in the respective community like tribe or clan which is officially known by the government. However, in some African Countries such as Ghana, South Africa, Namibia, Uganda and Mozambique, customary land tenure rights is recognized and legalized (see Grant *et al.*, 2006).

Similarly, Lawry (2013), states that the most common feature of customary tenure system is that “... an individual’s or family’s right to hold land and other natural resources in a particular area is based on membership in the social or political community-ethnic group, clan, or family-that holds the land in common trust. Household and individuals rights, once attained, are normally secure and inheritable.” He further explains that customary tenure system normally prohibit land sales, specially to non-group members due to the reason that sales would alienate land from community control and ownership. Non-motive members of the community may gain rights to land through marriage to resident rights holder.

Statutory Land Tenure

Statutory land tenure according to Torhonen (2004) refers to written and codified rules that define the relationship between land and people. This type of modern land tenure system was exported from Europe to Africa as part of the colonization packages with their respective management structures. Unlike customary land tenure system, in statutory land tenure system, land rights are defined by law and supported by recognized document as evidence (Kalabamu, 2000). As stated by Bogale *et al.* (2008), there existed a long history in government intervention with regard to land tenure relations. This intervention in turn has brought substantial influence on local tenure system in different political regimes. Therefore, the major land tenure system existed in Ethiopia until 1997 was considered to be statutory land tenure and this applies to Oromia region as well.

2.2. Ethiopian Land Policy: Historical Overview and Implications on Land Management Practices

2.2.1. The Concept of Land Policy

Land policy of a particular country determines the land management practices undertaken in that particular area as it is directly linked to the type of land tenure system and expected to be implemented based on the legal framework. Regarding the concept of land policy, UN-ECE (1996) states that land policy is a general guideline as to how to use land for various economic development, equity and social justice, plan for environmental protection and sustainable land use. According to the same author, land policy has multifaceted socio-economic and legal advantages which states how land itself and related benefits are allocated. Land management involves the implementation of basic policy decisions regarding the nature and extent of investment in land. The four major objectives that usually initiated governments in the implementation of land policy are, improving land tenure security, regulating land markets, land use planning and land taxation (van der Molen, 2002). Similarly, Torhonen (2000) comments that land policy is government's instrument that lays the strategy and objectives for the socio-economic and environmental use of the land natural resource potential of a country in question and is considered as a guideline, a tool and recommended starting point for land administration.

Land policy is evaluated in terms of the emphasis given to land management and related activities. In relation to this issue ECA (2004), notes that land policy is regarded as a process

involving drafting of all and management aspects which include setting the bench mark for acquisition/ disposal of land, the social and legal tenure regimes, the mechanisms and distribution structures, forms of land-use management and regulations, system of administration and the arbitration of land.

Land policy is directly linked to the broader concepts of land tenure and property rights and includes land management and land administration which refers to the process through which resources are utilized, while land administration is more concerned with rules and regulations which addresses issues in connection to land information and how they can be used for the purpose of effective and efficient land management (Bell, 2006). All of these institutional structures consist of a set of political, economic, legal and social factors and relationships in which each of them has an influence on land use and land right. According to the same author, land policy reform has a number of purposes:

1. Enhancing tenure security and provides the basis for determining mechanisms for the distribution of land rights among the community.
2. Promoting social stability by way of providing clear government objectives and goals with regard to land.
3. Basis economic development due to the reason that decision making is based on expectations and certainty.
4. Ensuring sustainable land use and sound land management and
5. Guide the development of legislation, regulations and institutions to implement the policy and monitor its impacts.

To sum up, the above discussion and views may have indicated that land policy reform plays a significant role in land management and related matters in such a way that it ensures tenure security, sustainable use of land resource and in the formulations of guiding legislations to implement the policy.

Though appropriate land policy is crucial in securing tenure rights and enhance land investment, there are some identified challenges facing the current policy formulation and land administration in Africa. As stated by Ogendo (2000) the first challenge is failure of designing practical tenure arrangements which fits to complex land use systems of particular feature of

African experience. The second one is identified as a challenge which focuses on the lack of providing a framework within which customary and tenure and law that can evolve in an orderly way. The focus of the third issue is how to organize systems of land administrations and related structures in order to provide efficient and transparent for decision making during the practical implementation of the land policy formulated.

This is due to the reason that administrative systems are known to be overloaded by heavy administrative responsibilities which make them inefficient. The other point considered as the fourth challenge is the design of a framework to codify customary land tenure rules and integrate them into statutory law as it is required to establish a policy framework that can be easily accessed by all concerned beneficiaries and gives opportunity to participate.

2.2.1.1. Evolution of the Land Policy in Ethiopia

Land policies exercised in Ethiopia falls into three regimes and all have their own respective characteristic features with regard to their focus towards tenure right and land management aspects. Regarding this issue, Shimelles *et al.* (2009) commented that “Historically, in Ethiopia the north-south regional distinction was reflected in land tenure differences. The pattern of land tenure policy and property rights farmers have are basically dependent mainly on policy exercised by three different political regimes since the beginning of the 20th century namely; the imperial, the Derg and the current regime.”Moreover, Chilot (2003) adds that:

As in most parts of Africa, land tenure in Ethiopia has been the subject of debate among farmers, policy makers, researchers and the public at large. Historically in Ethiopia land was viewed not only as a source of livelihood to the majority of the population, but also as a source of political and economic power to all groups who aspire to hold political power (P:127).

Berhanu and Fayere (2005) add that land in Ethiopia is considered to be a major socio-economic asset. The way land rights are defined influences how land resources are used and contribute to economic growth. They further explain that the struggle over who controls the land has played a substantial role in Ethiopian history and this situation continues in the future. In relation to land tenure policy and changes three periods can be distinguished; the Imperial regime’s tenure system, the rule of the Derg until 1991 and the period since 1991.

2.2.2. Land policy During the Imperial Regime

The Imperial regime's land tenure system in Ethiopia was highly complex and diverse. Various factors contribute for this complexity, among others, the country's geographical, ethnic and cultural diversity and history of conquest and governance systems produced highly variety of land utilization and ownership (Berhanu and Feyera, 2004). The major tenure types during the imperial regime refer to the classification of the imperial administration which is commonly known as communal (*rist*), grant land (*gult*), free hold, or sometimes referred to as private (*gebbar* tenure), church (Samon), and state (Maderia Mengist) tenure systems¹ (Shimellse *et al.*, 2009).

Similarly, Chilot (2003) noted that "prior to the 1975 (i.e., during the Imperial Regime), land reform, land tenure in Ethiopia was characterized by a complex system of ownership, namely communal, church ownership, private and state holdings." He further states that the communal system (*rist*) was based on the principle of land to be the collective property of the community in which access and transfer rights are given to members of individual kinships.

Adding to the above point, Berhanu and Feyera (2004) assert that the land tenure system existed during the imperial regime was highly complex and diverse. This is due to the fact that the geographical, ethnic and cultural variations and history of conquest and governance systems brought about various forms of land utilization and ownership. Some terms related to different land tenure systems were, "rist"/kinship, communal, village, private, state, and church lands. According to them the major forms of ownership was the "rist" system in which all descendants of an individual founder were entitled to a share, and individuals had the right to use (a usufruct right) a plot of family land. However, no user of any piece of land could sell his/her share outside the members of the family. In addition, neither of them could mortgage nor bequeath the share as a gift, as the land belonged not to the individual but to the descendants.

In general, the major criticisms of the imperial government as further stated by Berhanu *et al.* (2004) is that concentration of land in the hands of few and tenure insecurity in the tenant landlord relations which was considered to be the bottle neck of farmers' incentives to invest on land and undertake various conservation practices. Regarding the adverse effects of land policy

¹*Rist* (Usufructuary Rights). Land granted to individual people/peasants where they were then allowed to use, rent, and inherit the land to family members and obligated to make different kinds of land related tax payments.

Samon Land. a land given to the church in favor of their support to the king in propagating the mass to obey the regime.

Maderia Mengist land: a land given to civil servants and war veterans in the form of salary or pension for their services to the state as long as they continued their services.

framework during the imperial regime, Chilot (2003) summarized that the tenure system has resulted in the concentration of land in the hands of a few individuals which exposed the farmers to threats of arbitrary eviction and an exploitative land lord-tenant relationship and therefore, the tenure system during the regime did not provide enough incentives for the cultivators to manage the land in a more efficient and sustainable manner.

To sum up, the above discussion regarding the tenure arrangement in Ethiopia, prior to 1975 may indicate that high tenure insecurity, unfair distribution of land and in appropriate landholding size by individuals which left the majority of the peasants landless and tenants who solely relied on crop sharing farming activities. Obviously, this situation highly affects farmers initiatives towards land related investments for they had no any property right and security for the land they cultivate and arbitrarily enacted by landwards. In addition, the land tenure system during these regimes seems to neglect the land management aspect except focusing on the immediate income out of the land and the political motives to use the land as a means to run the state functionary.

2.2.3. Land Policy during the Derg Regime

The 1975 land reform by the Derg has brought about a radical change that has abolished tenant-landlord relationship in the country. According to Teshome (2009), “the reform was initially designed to correct fundamentally the then agrarian relations and make those working; increase agricultural production; create employment; distribute land and increase rural income; provide a basis for agricultural expansion.” Daniel and Ambaye (2012) also explain that the Derg enacted a proclamation that nationalized all rural land and transferred same to state ownership. The proclamation No. 31/1975 abolished the age old property system and allowed all the peasants and tenant to maintain and held the land which they used to farm and freed them from any debt or obligation they owned to the landlords. As further stated, the Derg policy restricted the right to use the land by prohibiting the lease/rent, donation, sale, exchange, mortgage, and inheritance of the land. Similarly, Berhanu and Fayera (2004) add that the law during the Derg regime restricted land transactions by prohibiting renting of land, sales, mortgages and share cropping. The major changes brought about during the Derg regime were “agrarian socialism” including the quest for collectivization of small-scale farms and the establishment of state farms. In general the Derg regime failed to increase agricultural productivity with the introduced reform

(Shimelles *et al.*, 2009). In summary, the basic provisions of the Derg rural land policy were as follows:

- a) State ownership of rural lands;
- b) Distribution of land to the tiller in provinces with privately owned rural land (Art. 4);
- c) Prohibitions on transfer of use rights by sale, exchange, succession, mortgage, lease, except up on death and only to the wife, husband or children of the deceased; and in the case of communal lands. Possessory rights over the land the peasants till at the time of the reform (Art. 19).

Shimelles *et al.* (2009) further stated that the Derg policy enhanced land redistribution which resulted in reduction in the size of the existing land holding. The land diminution and problem of land fragmentation was found to be a serious issue in the country during the Derg regime as the more fragmented the individual land holding, the more time it takes to manage them which in turn has a negative effect on productivity. Strengthening the above idea, Assefa (2010) commented as follows:

...the land reform in the Derg regime which was implemented in 1975 was another problematic area of the land reform which results in frequent land redistribution. It was believed that fragmentation of land, insecurity of tenure and shortage of farm inputs were the results of the land distribution. In addition, land improvement measures were not carried out by many landholders such as tree planting, terracing, fencing and manure etc, because of the fear that they would not be compensated for the development they made in their land.

With regard to the land policy implication towards land management practices, Dessalegn (2009) concluded that one very important lesson that could be drawn from the Derg regime land policy is that the failure of the state ownership and state intervention to bring about neither tenure security nor incentives for better performance which resulted in the reverse of the intended target. He further argued that peasants had little incentives to invest on land and fail to manage it properly since the land they cultivate could be given to others during the implementation of redistribution program at any time with the misguided belief that redistribution would promote better land management practices.

In relation to the adverse effects of land redistribution policy in the Derg regime, Gizachew (1994) argued that the frequent land redistribution policy of the regime which was blamed to be

the cause for fragmentation of holdings and farm plots and their related consequences resulting in land degradation. The further redistribution of grazing lands to the new claimants for farming ceases grazing area and results in overgrazing by a large number of livestock on the remaining land. As the process of redistribution continued, it also resulted in overusing of steep slope degraded lands and abandoning the existing traditional soil management practices undertaken by the community.

It is also argued that redistribution erodes tenure security and discourages farmers to undertake land-improving investments due to the reason that they may not be able to claim fully the returns on their investment (Benin and Pender, 2001). Land redistribution encourages farmers to focus on immediate returns as they are not sure of keeping same plot for the coming crop years. In addition, the harmful effect of insecurity is more pronounced in the practical implementation of manuring, tree planting, terracing, and other related conservation measures (Teshome, 2009).

2.2.4. Land Policy of Ethiopia Since 1993

Many research works demonstrate that the current rural land policy is almost similar to that of the Derg regime. Crewett *et al.* (2008) for instance argues that the current rural land policy is the repercussion of the Derg regime. He further states that though collective farms during the previous regime have dissolved within a short period of time, there was limited change with respect to property rights to land. Similarly, Hussein (2004) says that "... the current government, which is led by the Ethiopian People's Revolutionary Democratic Front (EPRDF), has retained the Derg's policy of state ownership of the rural and urban land. This has engendered heated debate between defenders of the status quo and advocates of privatization." Others like Teshome (2009) argues that even though some policies of the Derg regime which have negative effects on sustainable land use such as prohibition of transfer rights and lease/rent rights are halted, it seems that the overall effects of the present rural land policy has remained more or less the same to that of the Derg regime.

As to Shimelles *et al.* (2009), the current regime announced the continuation of the land policy of the former regime and the 1995 constitution approved and confirmed that the land to be under

the state ownership. The current rural land policy is criticized by researchers and international donors with respect to the possible implication of state ownership of land on tenure security.

According to Daniel (2012), the argument was absence of tenure security due to state ownership provides little or no incentives to improve land management through long-term investment and hinders property markets such as, credit availability/land mortgage. However, the government defends such critiques and claims that government provides better security through the implementation of land registration and certification process which are being conducted in most regions such as Oromia, Amhara, Tigray and Southern regions which enabled farmers to have a land certificate for their holding and gives protection and security to the farmers. Concerning the argument from the government's side, a recent study conducted by the World Bank (Deininger *et al.*, 2007) confirmed that land registration and certification provides tenure security.

Contrary to the above finding, others argue that some landholders do not have confidence in the land certification process undertaken based on the conclusion that the land registration and certification process. In view of this, Rahmato (2004) argue that farmers could not feel secure on their holdings since the government has the power to take land any time for the purpose of investment or any development activities and the land laws do not avoid completely the possibilities of future land distribution. Based on the above views, Daniel (2012) comments that:

The private vs. state ownership of land by itself is not as such a decisive factor. What is important is whether or not there are adequate measures and regulations in place to guarantee tenure security, such as land certification, just compensation in the event of expropriation, long duration of rights, good governance, absence of corruption, availability courts and so on.

2.3. Rural Land Certification in Oromia Region

Many African countries have changed their land legislation or institutional setup with the objective of recognizing land rights and provide tenure security to farmers in an innovative way. Ethiopia is one of those countries that implemented such changes which includes locally administered rights in land, improved position of women's' land rights and mechanisms of local dispute (Deininger *et al*, 2006).

The Ethiopian constitution which states that all land belongs to the state and peoples of Ethiopia and shall not be subject to sale or to other means of exchange (article 40.2 proclamation No. 1/1995 reenacted in 1995). The constitution bestows the prerogative to administer land and other natural resources to regional governments under the current federal structure. Regarding rural land legislation, land administration and land use has been reenacted both at the federal and at the regional levels. The federal rural land Administration and land use proclamation of 1997 (No. 89/1997 (which was recently replaced by 456/2005) elaborates the rights specified in the 1995 constitution and provides among others the principles that guide the development and enactment of regional laws for rural administration. It also clearly specifies that farmers have a perpetual use right on their land holdings, and that this right will be strengthened by issuing certificates and keeping registers (Tesfaye, 2003; Deininger *et al.*, 2006). Accordingly, the regional governments have enacted laws that determine land use and administration in their respective regions one of which is the Oromia regional state. In view of this, the Oromia rural land proclamation was enacted in 2003 by proclamation No. 56/2002 (amended 70/2003). As a responsible body, Land administration and use Authorities (EPLAUA) has been established in the region, under the Bureau of Agriculture with separate offices restructured at regional to *Kebele* levels to handle land related matters including provision of land certificate for farmers.

Some research findings indicate that though all regional states follow the federal constitution and the guidance stated in the 1997 federal proclamation, there are still regional variations with respect to land laws, land registration and implementation of certification. For instance, holders of land are eligible for registration certificate in Tigray, book of holdings in Amhara Region and a lifelong certificate of holding in Oromia (Tesfu, 2011; Sosina and Holden, 2013). Concerning land redistribution, as Tesfu (2011) further states, the federal proclamation leaves open for a periodic distribution of land to sustain equitable redistribution of land. The Amhara proclamation states that redistribution of land is necessary to further secure equal rights of citizens' whereas the Oromia proclamation states that land under current holdings of cultivators and pastoralists will not be subject to redistribution except that land without legal certificate and unoccupied pockets of land are subject for distribution. The case of Oromia in both cases seems to be very important for it guarantees farmers in securing their holding right and motivates them to undertake some major conservation practices on their farm land and improve their livelihood.

According to Sosina and Holden (2013), the land registration and certification in Oromia, started in 2003/04 by regional land administration staff at district level. For the actual implementation of the program at grass root level, land administration committees (LAC) were established at community (Kebele) level with representatives from the villages (sub-Kebeles), second stage land registration has been carried out in some selected districts and communities and some of the households have received new land certificate with plot maps.

In the Ethiopian context, the main goal of land certification is an attempt by the government to ensure security of tenure and protect the rights of farmers by registering their respective holdings and provide certificates that will further guarantee holders so that they will not face another loss through land redistribution at least for a period of 20-30 years (Nzioki, 2006). In this regard, as the regional rural land proclamation emanates from the Federal land proclamation, the above target of land certification holds true to Oromia region as well. That seems why the land certification program was being carried out carefully and given due attention in the Oromia region with the ultimate objective of ensuring to protect land holding and land use rights of landholders by taking the necessary information through registration and providing holding certificate to individual farmers to verify that land holding and land use rights are legally secured.

Moreover, as stated by Assefa (2010) land certification has diverse implications with regard to development aspects such as social, gender, financial and economic implications as a whole. In this regard, the land certification undertaken in the Oromia region is believed to target in fulfilling the above conditions to support the economic development endeavor of the country in general and contribute to the overall development effort of the region in particular. However, as it is argued by Lyons and Chandra (2001), the designed complete benefit of certification is likely to be achieved only when all land administration components are operational and efficient. In connection to the above idea, according to Pagiola (1999) land titling has the potential benefits of investment demand or security effect, the collateral effect and the efficiency or transactions effect. In order to give a better understanding of the potential benefits of land certification,

below is Figure 2.1 illustrating a detailed insight of the multiple paths of titling to bring the desired benefits.

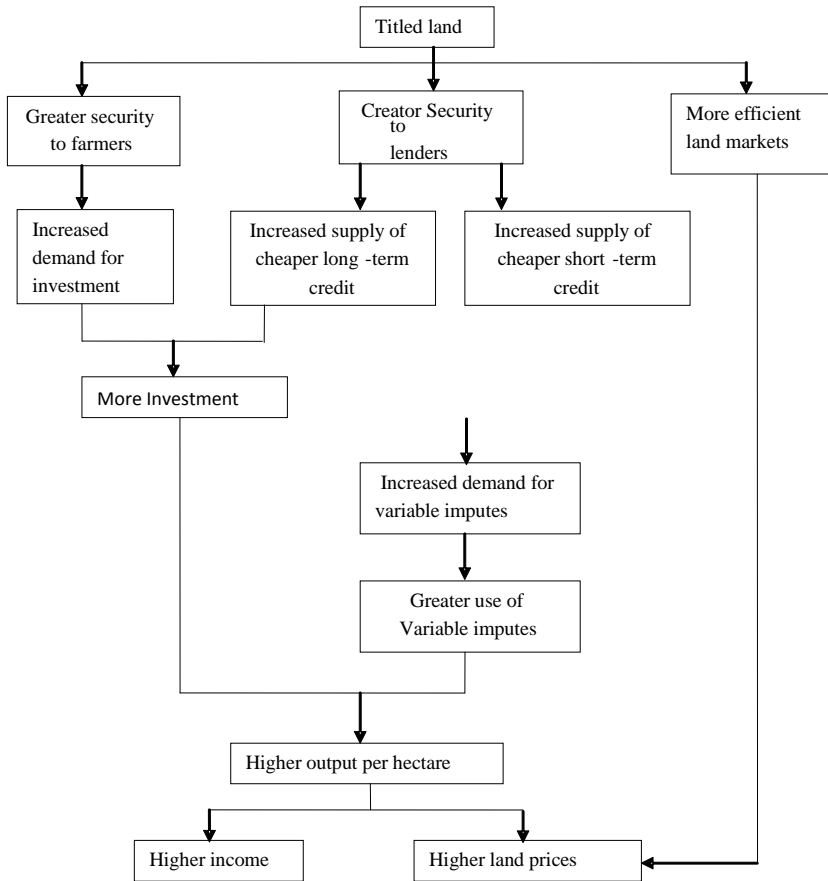


Figure 2.1. Potential benefits of Land titling (adopted from Pagiola, 1999)

2.3.1. Farmers' Perceptions on Land Rights Security and Factors affecting it

Farmers' perception of land rights security determines their initiatives of land management decisions. Some research findings in Ethiopia show that farmers' perception and degree of insecurity of tenure vary between farmers. According to Tekie (2001) "farmers with per capital land holdings above village mean would be more tenure insecure than those with below-average

holdings.” In this regard, as he further states, due to the prevailing government land allocating based on the proportion of family size, farmers with a large land holding relative to their family size would expect to give up part of their holdings compared to those with smaller holdings relative to their family size.

He also argues that, the probability model estimated in Holden and Yohannes (2001) qualifies that “not all famers with large relative farm size are more tenure insecure. The relationship is instead location-specific. Some farmers with large farm size may have influence in local power structure to protect their large holdings.”

Moreover, the findings in Tekie (2001) and Holden and Yohannes (2001) show that farmers renting out their land feel less secure because they are not demonstrating continuous cultivation of their land as this situation is seen as a key requirement for maintaining possession of the land. On the other hand, farmers growing perennial crops on their holding feel more secured for growing of perennial crops appear to strengthen the security of tenure (Holden and Yohannes, 2001). The above finding is not fully agreed with other studies in Ethiopian Context. For example, farmers in parts of south west Ethiopia, Wello and North Shewa areas either do not plant trees, replaced or destroy their perennial crops to annual crops due to fear of losing their right to dispose of their own trees (Tesfaye, 2003).

Regarding farmers’ perception of future land redistribution, Assefa (2010) in his survey result found that 85% of the respondents are confident that future land redistribution will not take place. On the other hand, Abate *et al.* (2012) conclude that the majority of the respondents in their study say that they fear land redistribution beyond the next 5 years and lose their farm plot. Desalegn (2009) argue that farmers could not feel secure on their holdings since the land law doesn’t avoid fully the chance of future land redistribution and the government has the power of taking land by way of expropriation. Based on the discussion made so far, we can say that, farmers’ perception of land rights security is influenced by the kind of land policy and whether or not the policy under consideration is explicitly rules out any ambiguities regarding land rights. For instance, the Oromia law explicitly rules out any future land redistribution due to same

differences on policies on distribution of holdings between regional proclamations (USAID, 2004).

There are a lot of factors influencing farmers' perception of land tenure security. However, various studies in the area came up with different results. For instance Tesfaye (2003) argues that underlying the prevalence and persistence of insecurity of tenure are three reasons. The first one is the land can be reclaimed anytime without prior knowledge and consent of individual landholders since it is state owned. Secondly, there is legal uncertainty over landholdings particularly in the case of rental contracts, which exist informally. The other one is even where land rights are legally permissible, transaction costs associated with enforcing land rights are high to some landholders.

Other research works show that land redistributions have had a negative impact on farmers' perceptions of their land tenure security (USAID, 2004). As further stated, in northern parts of the country where frequent land redistribution was undertaken as some related studies indicate, farmers have developed a sense of insecurity. In other parts of the country where land redistribution is not common there seems to be relatively better secure tenure.

The past repeated experiences make farmers anticipate future land redistribution and thus not readily willing to put as much effort toward improving their land holding as they would otherwise do. Adding to the above point Teferi (1995) reports the view of his information that land redistribution limits farmers' interest to in investing on land.

To conclude, the above discussion may suggest that farmers' perception of land tenure security varies from place to place depending up on the land tenure system and the land policy being implemented.

If the land policy gives the right of holding, farmers feel secured of their land in which this motivates them to improve their land management efforts. However, as could be drawn from various studies, farmers' perception is highly influenced by various factors out of which state ownership of land that allow reclaiming of land at any time and the possibility of land

redistribution are the major ones. In view of this, this situation appears to have a negative impact on land improvement activities of individual farmer.

2.4. The Concept of Land Degradation and Land Management Practice

Land management practice is a broad concept which involves a number of conservation activities to reverse the problem of land degradation and improvement of soil condition. Elaborating the concept of land management practice (Hurni, 2000), explains as follows:

The broad concept of land management practices refers to activities on the ground that uses appropriate technologies for the improvement or maintenance of productive capacity of the land. This includes activities such as soil and water conservation, soil fertility management and controlled-grazing. Thus sustainable and management approach emphasizes finding economically viable, socially acceptable and ecologically sound solutions at a local level, which could promote participatory land management practices to deal with land degradation. In doing this due attention is given to the use of appropriate technologies.

Furthermore, Tesfu (2011) adds that “land management refers to two sets of inter-linked activities. The first is composed of activities directed at the production of current crops, and therefore has short-term effects. The second includes all activities meant to result in the long term improvement of the productivity of the land and the creation of assets that mature in the long run”.

In general, as some research works indicate, the term land management can interchangeable be used with soil conservation practices, the emphasis of which is protecting the land from degradation by way of implementing various conservation practices such as terracing, tree planting, application of organic manures and other similar activities in which the end goal is targeted to increase productivity per unit area which this in turn improves the livelihood of the farmers. This seems to be realized if farmers are secured of their land holdings as tenure security is believed to motivate farmers to undertake various land management practices.

2.4.1. Land Degradation and Land Management Practices in Ethiopia

Land degradation is a severe problem across sub-Saharan Africa, and Ethiopia is among the most affected countries and believed to be one of the major threats to food security and sustainability of agricultural production. As Kabubo-Mariara (2007) state, due to the above problem “livelihoods in many resource poor farming and pastoral systems have been sustained by land

management practices which have tended to perpetuate poverty, soil erosion and other forms of land degradation, there by jeopardizing hopes of sustainable development” (p:1).

The severity of land degradation is high especially in the high lands where the average soil loss from farmland is estimated to be 100 tons/hectare/year (Hagos, 2003). Adding to the above fact Tesfu (2011) comments that land degradation is extensive and severe particularly in highland areas above 1500 meters above sea level, in which this accounts 40 percent of the total land area and home for 90 percent of the total population. He further states that the severity of land degradation tends to be high in mountainous topography, low inherent soil fertility, poor climate, extensive deforestation, overgrazing and cultivation into fragile margins, intensive land cultivation without adequate soil fertility management and technological change.

In relation to this, since land degradation is a complex phenomenon affected by various biophysical and socioeconomic factors, it seems to be important to understand its root causes, biophysical or socio-economic, that play the major role in aggravating or reversing the trend of land management activities. The major environmental factor which plays a significant role in soil and nutrient loss is water erosion followed by wind erosion. In sub Saharan Africa including Ethiopia, the major agents of land degradation are water erosion, wind erosion, chemical degradation and others that affected soil loss by 47, 36, 12 and 3.5% respectively (Tilahun, 2003). Considering the high altitude and sloppy landscape of the Oromia region particularly of the study area, water erosion is believed to be the major environmental agent causing land degradation. Moreover, deforestation, overgrazing, inappropriate agricultural practices like over-cultivation, fertilization, and nutrient depletion are reported to be the major human caused factors of land degradation (UNFPA and POPIN, 1995).

However, despite land degradation is recognized as a major bottleneck of agricultural productivity and natural resources by policy makers and despite farmers awareness of the severity of soil and water degradation, the issue of land degradation was not considered as a top priority in the national policy of poverty alleviation. In addition the extent of soil conservation and improvement practices are not commensurate with the level of awareness (Tilahun, 2003; Tesfaye, 2003). As further stated by Betru *et al.* (2005), “overgrazing is considered as a major

cause of land degradation in Ethiopia, particularly in the highlands” (P: 3). To sum up, land degradation be it human caused or biophysical and socioeconomic factor, affects the fertility of the soil in terms of yield per hectare of land in which this in turn affects the livelihood of the farmers at large.

On the other hand, to overturn such problems, particularly in highland areas of Ethiopia where land degradation is sever, some major land management practices are undertaken at several levels. According to Desta (2012), considerable land management practices have been made to reverse the problem of land degradation since 1970s. As to Aklilu (2006), soil fertility management, controlled grazing, soil and water conservation and other land management practices were once introduced though the impact of the effort made did not curb the problem of land degradation as required. The most cited factors for the failure of land management efforts were failure to recognize land management practices, high initial costs which poor farmers can't afford and applying similar techniques in different agro ecological regions. Similarly, Tilahun (2003) adds that improved integration of crops and livestock, improved organic residue management through composting and application of farm yard manure, deliberate crop rotations, short- term fallowing, cereal-legume intercropping and integration of green manures are some of land management practices undertaken to cop up with the problem of land degradation.

Some other conservation practices are also used by individual farmers that have been developed through experience. Land management technologies which have been developed by farmers and still being used include plowing of narrow ditches on sloppy fields to control run-off, farm land terraces, traditional ditches and furrows, contour plowing, fallowing, crop rotation, farm yard manure and agro-forestry which play a significant role in the production of subsistence agriculture (Betru *et al.*, 2005).

In general various land management practices are being used to overcome various land degradation problems in the country. Some other practices such as tree planting and stone and soil bunds are practiced particularly in the highland areas of the country.

2.4.2. The Role of Local Institutions in Implementing Land Management Practices in Oromia Region

The role of institutions in natural resource management and rural development in general and land management in particular has received an increased attention and widely discussed by many scholars. Soysa, I.D (undated) comments also that:

“The proportion that ‘institutions matter’ for economic growth and development has received intense attention. ... ‘Incentives matter’, because institutions shape the incentives that people face for behaving in one or another way. It is increasingly being recognized, however, that formal institutions alone do not shape human behavior, but that much of what goes on can be explained also by informal institutions that are grounded in and emanate from a society’s culture (p:1).

Institutions take different forms based on their functions and purposes. Institutions can be formal or informal rules about who makes decisions, according to which procedures, what actions are permitted, what information must be provided and what pay-offs will be assigned to individuals (Singh, 1994). Formal institutions on the other hand constitute the written or codified rules such as constitution, judiciary laws, property rights and organized markets (Grace *et al.*, 2000).

Institutions are the rules of game in a society (North, 1990) that can enhance or affect the livelihood of the society and their survival strategies at large. Koku and Gustafson (2003) also define institution as patterns of behavior between individuals and groups in society. They are regularized patterns of behavior that emerge from the underlying structures or sets of rule in society to be used in a day to day life activity.

Informal institutions are a behavioral regulatory based on socially-shared, in unwritten form that are created, communicated, and enforced outside of officially-sanctioned channels (Soysa, I. undated). On the other hand, formal rules are enforced by legal bodies. Such as courts, judges, police, bureaucrats etc, informal institutions are mostly self-enforcing through mechanisms of obligation, such as in patron client relationship or clan networks (Ostrom, 2005).

Local institutions encompass various types of indigenous organizations and functions such as village-level governance, acceptable methods of community resource mobilization, security arrangements, conflict resolution, asset management and lineage organization. This may have

suggest that local institutions in rural areas contribute to various aspect of community based development activities including land and land related management activities.

Regarding the role local institutions play in collective action, Anderson (2002) argues that well organized local institutions are used for effective forest governance. “Informal traditional institutions have played a key role across the African continent in survival, social learning and support, labor sharing, risk sharing, planning and implementing development activities (Mowo *et al.*, 2011).

Land management practices and local institutions are organically related. Technologies and land management practices on the other hand help in the transformation of resources and determine the pace, cost and effectiveness of change, institution determine whether and how the relationship between technologies, environment and people would be viewed now and in the future (Gupta, 1992). Similarly, Uphoff (1992) argues that local institutions are more likely to be successful in natural resource management where the resource is” “bounded”, that is known and predictable rather than shifting and variables, and where the users themselves are an identifiable group or community with its own authority structure.”

To conclude the discussion made so far may have shown that, local institutions play a significant role in overall development aspect of the community in organizing collective actions in general and land management practices in particular. However, as it is suggested by many scholars, in order to exploit the maximum potential of local institutions in land resource management, it is essential to understand in depth the evolution, goals, operations, objectives, strengths and weaknesses of the institutions themselves.

2.4.3. Typology of major Local Institutions in Oromia and their Implications on Land Management Practices

There are a number of local institutions practiced by Oromo community mainly based on their beliefs through which they express their world outlooks and own wishes. They also exercise the respective rituals for those institutions as coping mechanisms against various disasters occurring due to either natural or human induced factors (Degefa, 2009). These institutions have both economic and social functions and believed to have a paramount significance in land management aspect in various ways.

Mowo *et al.* (2011) conducted research entitled the importance of local institutions in the high lands of Easter Africa, identified the major local institutions in Galessa-Dendi District in west Shewa Zone of Oromia which holds true in other part of the region as well. These are summarized as follows:

A variety of local institutions directly involved in NRM exist in Oromia. Local institutions whose major function is NRM include land, livestock, and labor-sharing institutions. Traditional leaders, traditional beliefs and rituals, and mutual assistance institutions play an indirect but essential role in land management through conflict resolution, natural resource governance and risk reduction.

Land based institutions are where the government owns the land and farmers have the right to use and bequeath to their sons once they get married. Land based institutions have greatly influenced land management practices. Where long lease is practiced, the renter is motivated to make long-term investments in land management such as soil conservation and agro forestry. On the contrary, short-term leases discourage farmers from taking long-term land improvements, thus greatly contributing to land degradation. Farmers and government policymakers should therefore be encouraged to consider leasehold terms in relation to the long-term productivity of the land.

Livestock-based institutions: In Oromia, *Ribi (Horsisa)* is the livestock-based institution in which partners share the offspring while other benefits (milk and manure) belongs to the livestock keeper. This represents an important social capital with respect to land resource management. This institution enables farmers with no livestock to access manure, which is an important ingredient in soil fertility improvement in the highlands where soil nutrient levels are very low.

Labor-sharing institution: *Debo (Jige)* is a collective action consisting of 70-80 people who work together in return for a large feast of food and drink. It is also practiced in Oromia, especially during periods of heavy workloads. Debo common in the region, is a form of social

capital that enable members to accomplish difficult tasks that would otherwise be impossible to do by one individual.

Mutual assistance institutions (*financial, social*): *Iddir and Ekub* are specialized in providing social insurance such as mortuary services, and financial aid to cover religious and cultural ceremonies. The *Iddiris* a social unit formed through voluntary membership of between 20 to 100 individuals to provide social insurance. They are effective in raising financial capital within the communities, and enabling members to acquire goods and services that are highly priced. Given the tough official bank lending regulations, institutions like *Iddir* and *Ekub* in the region can contribute to NRM. With the increased capital made possible through these institutions, farmers can hire labor for land preparation and soil conservation, buy food and drinks to support traditional collective action activities, or invest in other land management practices such as tree planting and terraces.

Traditional beliefs, rituals and traditional leaders: The *Qaalluu* (holy man) and *Qaallitti* (holy woman) among the Oromos in Ethiopia were believed to be the media through which God (*Waaqaa*) communicates with his people. People would go to these institutions to fulfill religious obligations, meet friends and kinsmen, witness a spectacle, sing and dance and eat. The *Qaalluu* were also known as councilors. In Oromia, traditional rituals are performed in sacred areas at the base of sacred trees such as *Ficus thonningii* in sacred forests. Trees considered sacred in the region are predominant in the agricultural landscape as giant trees, and unauthorized people are not allowed to approach or cut such trees.

Traditional beliefs and rituals as well as traditional leaders have strong linkages with natural resource management in general and land management practices in particular. Traditional leaders, the *Qaalluu and Qaallitti* among the Oromos, were the primary bodies through which economic, political and legal systems were controlled and governed. Individuals as well as groups would therefore go to these institutions to settle disputes. Comparing current NRM practices in the presence of state-backed bylaws with those of the past when traditional beliefs played an important role in preserving common pool resources, noticeable differences may be seen.

Delineation of sacred forests in critical parts of the landscape (hilltops, catchments) was likely to have had a positive influence on water conservation functions (Gerden and Mtallo, 1990). Using ‘indigenous knowledge’ encoded in traditional beliefs, and through experience, local communities were aware of which forests contributed to their wellbeing; so they would impose restrictions and ensure that they were adhered to, by invoking spiritual powers.

Traditional leaders are also considered spiritual leaders, integrating spirituality with natural resource governance. Because they had legitimate powers bestowed on them by the community, social harmony and the spirit of unity was ensured and this could be exploited to include aspects of NRM in their activities. One of the major setbacks resulting from the weakening of the institutions of traditional beliefs and traditional leaders is the enforcement of NRM bylaws.

Conflict resolution Institutions: Several local institutions responsible for conflict resolution exist in Oromia. Conflicts over management and use of resources and household disputes were generally resolved by traditional leaders and the council of elders. The *Aba Gada*, *Qaalluu*, and *Qaallitti* were frequently contacted to settle disputes. These institutions are believed to maintain peace and order in the community so that every individual will focus on his/her daily activities including various land management activities such as tree planting, application of farm yard manure and the like for this are unthinkable without peace and order in the society.

2.4.4. Determinants of Land Management Practices

Land degradation is a severe problem across sub-Saharan Africa and Ethiopia is among the most affected countries. Land degradation is especially severe in the highland where the average soil loss from farmland is estimated to be 100 tons/hectare /year (Hagos, 2003). The problem of land degradation is considered to be one of the major threats to agricultural production and soil conservation and this is particularly severe in the highlands of Ethiopia, and specially so in the Oromia region.

Tesfu (2011) notes that severity of land degradation tends to be high in areas with mountainous topography, low inherent soil fertility (i.e., low organic matter content and major soil fertility (i.e., low organic matter content and major soil nutrients), unfavorable climate (insufficient and

variable rainfall, and recurrent droughts), deforestation, overgrazing, intensive land cultivation in the absence of sufficient soil fertility management and no technological change.

Deforestation, Overgrazing, inappropriate agricultural practices such as over-cultivation, fertilization and nutrient depletion are reported to be the major human caused factors of land degradation (UNFPA and POPIN, 1995). To contain the problem of land degradation, a number of projects have been initiated which include soil and water conservation works and the establishment of Area Enclosures (AEs) with financial assistance obtained from international donors (ibid). Since land degradation is a complex phenomenon affected by biophysical and socio economic factors, it seems very important to understand its root causes, biophysical or socio-economic, that play the major role in determining land degradation.

In view of this, there are a host of multiple factors that determine land management practices at short and long-terms. Desta (2012) argues that “It is becoming increasingly clear especially in the case of Ethiopia that land management practices are a complex issue requiring further investigations as they are influenced by different factors operating at different scales. These factors include government policies, programs, and institutions at many levels.” Some other factors which may further influence land management decisions are infrastructure development, agricultural extension, conservation technical assistance programs, land tenure policies, and rural credit and saving programs affect awareness opportunities and constraints at the village level (Pender *et al.*, 2006). They further states that there are also other factors related to household which could determine households’ and management practices such as households’ endowments of physical assets, human capital, social capital, financial capital and natural capital.

Similarly, Kabubo-Mariara *et al.* (2006) add that access to programs and services, such as government or nongovernmental organization (NGO) technical assistance and micro-finance institutions, through increasing access to technologies and information and therefore expanding households’ available production and marketing possibilities are important factors influencing land management decision. As they further explain, other factors such as households’ endowments of physical assets (e.g., livestock and equipment), human capital (assets embodied in people’s knowledge and abilities, such as education, experience, and training), social

capital/assets embodied in social relationships, such as through participation in organizations or informal networks), financial capital (access to liquid assets, including credit and savings) and natural capital (quantity and quality of land determine land management practices).

Furthermore, some of the factors which negatively affect investment decision on land management practices are identified by Berhanu (1998) and Bekele and Holden (1998). Accordingly, small farm size and subsistence orientation, large presence of dependents and less working adults, low asset ownership, insecurity of tenure, off-farm destined mainly for subsistence, and impoverishment influence land investment decision. Moreover, insecurity of tenure is believed to be a prominent explanatory factor as land with secured long-term tenure encourages farmers to invest more on land. In regard, tenure stability is the key issue for farmers to have a better knowledge of specific plots and plan a long-term land improvement strategy. Contrary to this, farmers with short-term leased land show little initiative to invest (Ibid).

Kabubo-Mariara *et al.* (2006) comment that there are four groups of factors which are hypothesized to be the key drives of adoption of land management practices which include market access, population density, development domain, access to programs and services and property institutions. As further stated, population pressure may cause households to expand agricultural land towards land that are not suitable to agriculture which contribute to natural resource particularly land degradation.

The complexity of land management practices has been shown by the study conducted in Ethiopian Highlands by Amsalu (2006). Amsalu in his research, he identified factors that could influence adoption of various land management techniques. His findings show that age, farm size, perception on technology profitability, slope, livestock size and soil fertility have a significant effect in the adoption of stone terraces. He further indicates that the decision to continue implementing the practice was influenced by actual technology profitability, slope, soil fertility, family size and participation in off-farm work. As his research finding reveals, perception of erosion problem, land tenure security and extension contacts were identified to have no significant influence on land management practices.

Another similar study in the context of the adoption of physical soil and water conservation structures in southern Ethiopia indicate that perceptions about soil erosion problem, farmers' attitude to try new technology, participation on conservation training, plan of a farmer to continue in farming career in the following years and farmers' perception about effectiveness of the technology in protecting soil erosion have positive influence on farmers decision to practice conservation structures. Others like extension service, educational back ground of the household and land tenure security were found have weak and positive influence on farmers' decision to retain the introduced structures (Habtamu, 2006).

Emphasizing the significant influence of land policy particularly tenure security on land management practices in Ethiopia, Tilahun (2003) concludes as follows:

An important factor that used to affect land management in Ethiopia is lack of appropriate land policy..., not only in appropriate national policy but also absence of bylaws that guarantee community level interventions. It could also be hard to differentiate whether land degradation was a consequence of poor resource management or a policy intervention, and hence difficult to convince policy makers about the causal factors. Although there are good reasons to believe the appropriateness of the current land policy of the government (only the right to use and transfer to their children), there are convincing data showing that farmers/communities may not be willing to invest on their land for a long term benefits unless they have the ownership card. Technologies like planting tree on-farm, construction and maintenance of soil conservation measures, medium and long term fallowing and unlike would suffer most (p:4).

Similarly, Kabubo-Mariara *et al.* (2006), add that property right institutions have a substantial effect on land management practices for they regulate land use and land management decisions, facilities or inhibit collective action and by influencing households' incentive and ability to invests in land management practices.

As could be drawn from the discussions above, various research findings and views of different researchers, it is possible to conclude that among other factors identified as the major factor influencing land management practices in Ethiopia, lack of tenure security is thought to have aggravated land degradation as it discourages farmers to invest on land in preventing soil erosion.

2.4.5. The Role of Rural Land Certification on Long term Investment

There are various arguments regarding the role of land certification on long-term investment. Some argue that, though a number of other factors contribute to the positive impact on land investment, it is believed that land owners are expected to be more willing to undertake land related investments when they feel more secure in their right or have the right to maintain long-term use over their land, the return obtained from long-term land improvements and other conservation measures is higher in which this motivates farmers to undertake better investments (Brasselle *et al.*, 2001).

Some studies in relation to the impact of land certification further highlights the contribution of land right security. A study conducted in Ethiopia by Deininger *et al.* (2006) reveals that land certification increases individual or communal investment in the sense that secured land ownership considerably increases farmers' incentives to supply labor to initiatives aiming at communal investment. The study indicates also that farmers were ambiguous as to whether land certification would protect them against future expropriation due to land redistribution by local governments in the course of urban expansion.

Shimelles *et al.* (2009) tried to see the link between land certification and agricultural productivity as agricultural productivity is positively correlated to good land management practices. According to them property right has a positive impact on agricultural productivity as property right eliminates the anxiety and uncertainty of expropriation that initiate landholders to undertake long-term investment decision on land and adopt the best cropping system. Furthermore, the title of land helps farmers to use the land as collateral for credit. As to Feder and Noronha (1987), it is hypothesized that as a result of access to credit facility, enables farmers to make durable investment in one hand and intensify the production systems in inputs in other hand and thereby boosting the agricultural productivity.

According to USAID (2004), in security of land tenure in Ethiopia restricts rights in land, reduces farmers' incentives to invest in land, and limits transferability of land. This results in significant impact to agricultural growth and natural resource management. On the other hand, studies conducted in many African countries show different results. For instance, as Place (2009)

states, land certification has shown no significant effect in Somalia, Kenya and Uganda on land investment or productivity.

However, a positive relationship between certification and titling and land investment in Zambia found to lead to increased fixed investments and more profitable enterprise choices (Smith, 2004). A study held in Thailand indicates also that mixed results. Feder *et al.* (1988) indicate that secured property rights increase the demand for improvements of land the supply of credit through holding of land as collateral in which the ultimate result leads to greater long-term investments in productive and conservation technology and short-term investments in inputs leading to sustainable production. As a result of this, greater security leads to increased incentives of the land owner to undertake both long-term and short term investments. In Ghana, Kenya and Rwanda the result should no relationship between cross-sectional variations in land rights and productivity (Migot-Adholla *et al.*, 1991). In addition, a study conducted by Tesfu (2011) in the Amhara region, which tried to investigate the effect of tenure systems on soil conservation practices reveals that land tenure security, be it before land registration or afterwards, is not a pre-condition to farmers decision on soil conservation practices.

In summary, though the relationship between land certification and long-term land investment showed different results, in general the role land certification plays in long-term land management practices is highly significant both in conserving soil and increasing agricultural production.

CHAPTER THREE: METHODOLOGY

3.1. Description of the study area

Dandi district is one of the eight districts in west Shewa zone of Oromia regional state located about 80 kilometer away from Addis Ababa west side (Figure 3.1). The capital of the district is known as Ginchi. The information obtained from the district Environmental Protection Land Administration and Use Office (EPLAUO) reveals that Dandi District is structured in to 48 rural kebeles with the total household population of 172,842 of which male constitute 21,171 and the rest 4,344 are female. The average family size for the district is 4-5 persons per house hold. The District has a total area of 174,617 hectare out of which arable land is 72,664 hectare, grazing land 1,980, hectare, forest land 9,6685, unused land 1242 hectare and others 2046 hectare. The altitude of the area ranges between 1200-3288 above sea levels and the average temperature is 16.55 degree centigrade with an annual average precipitation of 700-2300 mm per year. The major livelihood of the area is mixed farming which includes both cultivation of various crops and animal husbandry. However crop cultivation is the major source of income for most farmers. The major crops grown in the area are cereals, pulses and root crops. Enset is also commonly grown as homestead for subsidiary source of food. Grazing land is communally owned by neighboring individuals and relatives who are governed by the local institution.

3.2 Methodology

3.2.1. Research Design

A descriptive research involving both quantitative and qualitative techniques was used. The two types of data gathering tools or techniques were linked due to the reason that both can corroborate each other through triangulation so that the relevant information for study under investigation would be obtained.

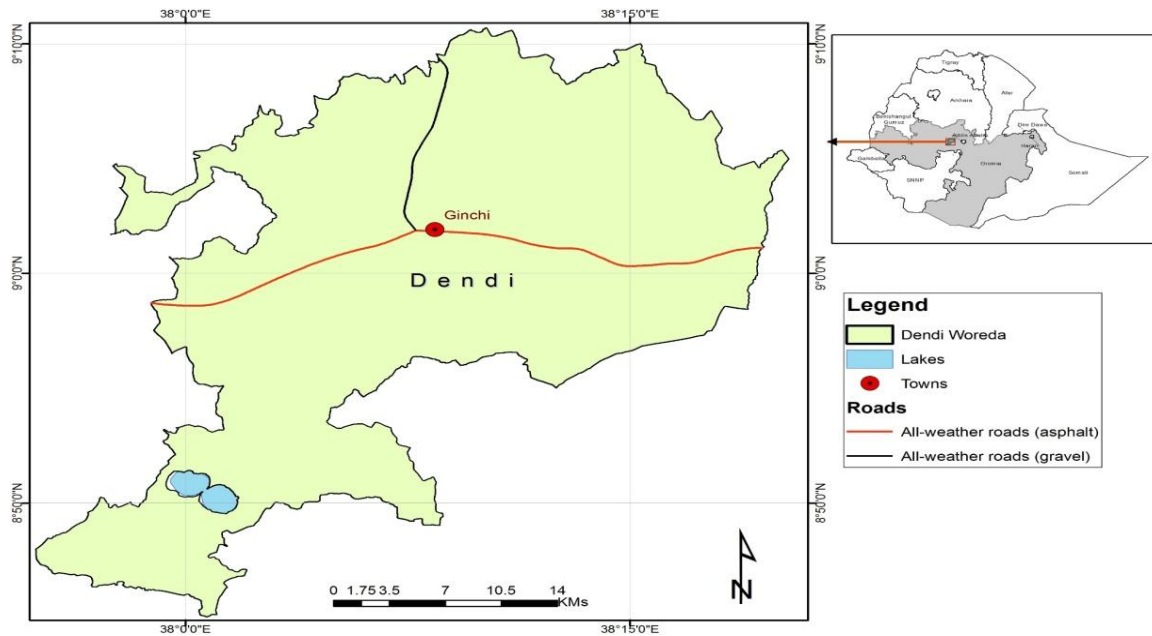


Figure 3. 1. Location Map of Dandi District, Oromia National Regional State

3.2.2 Sampling Method

Purposive sampling technique was used to select one District and the desired number of Kebeles. Accordingly, Dandi District was selected from West Shewa zone of Oromia regional state. Out of a total of 48 kebeles in the District, five of them were purposely selected based on the criteria that the selected Kebeles should be where the provision of land holding certification has been implemented. Out of the total household population of the five selected kebeles, which was 2356, only 150 sample households were used as a source of data in which the required random sample size has been determined based on the formula set out by Grosh and Munoz (1996) by calculating the sampling error and ensure the appropriate representativeness of the sample to be used.

The formula used was: $e = (\sqrt{1-n/N})(\sqrt{p * 1 - P/n})$ where

E =error, n =Sample size (150), N=population (2356) and P=0.5(50%)

The result obtained was 3.96 which indicated the proposed sample size was at the required level in terms of its representativeness of the total population, as the result is less than 0.5 error level. The 150 sample households were divided for five kebeles proportionally based on their respective household size. Accordingly, in order to select the desired subjects from a population

of each kebeles, simple random sampling technique were used which involves selecting the desired subjects from a list of the population (sampling frame). The kebeles selected for data collection were Boda Bosoqa, Honche Bite, Mareno Gonjeb, Dandi Sulu and Dandi Mumicha (Table 3.1). A total of 2354 households are residing in these kebeles out of which 1944 (82.58%) are male headed and 410 (17.42%) are female headed and all of them were registered and received certificate of holding. Currently, a total of 28,261 households out of which 22,145 (78.36%) male headed and 6,116(21.64%) female headed households have been registered and got primary book of holding certificate in the district as a whole.

Quantitative data on the level of land improvement activities, feeling of land right security, problems related to land certification such as absence of clear demarcation, registration of farmers' land holding and provision of certificate of holding and other basic information related to the study were collected from household survey. The required training was given to 3 enumerators and one supervisor collecting the data so as to enable them to gather the necessary information as desired.

Table 3. 1.The distribution of Sample Size by Kebeles

No	Kebeles	Total Population	Sample size
1	BodaBosoqa	585	37
2	Honche Bite	387	25
3	MarenoGonjeb	446	29
4	Dandi Sulu	460	29
5	DandiMumicha	476	30

3.2.3. Data Collection

3.2.3.1. Formal Survey

Structured Questionnaire

Regarding the household survey, structured questionnaires, with both open and closed ended questions were designed. These solicited information on land management practices employed by farmers before and after land certification, farmers' perception of land tenure security before

and after land certification and other related issues. The questionnaires were pilot -tested to check some problems like ambiguities and redundancies and adjustments were made where necessary. In view of this, 3 farmers from each kebeles were selected to respond to the pilot test and 15 farmers from 5 kebeles were taken randomly. Since farmers in the study area speak *Afan Oromo*, the questionnaires that were initially prepared in English were translated in to the local language -*Afan Oromo*. Due to the reason that the kebeles are far from each other and difficult to cover by the researcher alone, additional three enumerators and one supervisor, all diploma holders, were recruited from the study area and a half day induction course was given. The researcher was fully involved in the data collection process and all activities were monitored and the necessary technical support was given to the assigned persons.

Out of the total rural kebeles, 5 of them were used for administering the questionnaire by randomly drawing the number of households for each kebeles from a list of registers that was obtained from each kebele administration offices.

3.2.3.2. Informal Survey

Key informant interview

The other type of data collecting technique to be used for this study was an interview. Interview was used to complement or strengthen the data gathered through the questionnaire. In other words, it is believed that interview as an additional data collecting method would help in triangulating or crosschecking the data gathered through the other tools-questionnaire in this regard. A smaller sample population than the questionnaire was interviewed by the researcher and assigned informant and audio recorded (Figure 3.2). Transcription was done later. The required number of interview questions which are very much related to the questionnaire items were prepared and administered based on the convenience of the interviewee. The interview questions were ready-made, i.e., semi-structured type of question. For the reason of manageability, 30 farmers, 6 from each kebeles were randomly selected for the interview for the purpose of triangulation and were briefly informed of the purpose of the interview ahead of time. Key-informants were also drawn from all development agents (DAs) working in the sample kebeles, and District land Administration offices.

Accordingly, discussion with administrative bodies of 5 kebeles (2 from each kebele) was held.

The questions were designed in English and translated in to the local language of the region i.e., “Affan Oromo.” The medium of discussion was in Affan Oromo as it helps to clarify the concept of each question. On average, each interview has taken 18 minutes time.



Figure 3. 2. A respondent during an interview session

Focus Group Discussion

Focus groups from different backgrounds were established. Accordingly, discussion with concerned officials of Environmental protection land administration and use Authority at district level was held. Check-lists were prepared and these were focused on contribution of land certification, improvements made on land management practices as a result of land holding right, Farmers’ perception of land right security before and after land certification and other related issues. These facilitated in obtaining detailed qualitative information and also triangulating data from household survey.

3.3. Methods of Data Organization and Analysis

In analyzing quantitative data, descriptive statistical methods, frequency table, percentage, graphs and inferential statistics - chi- square tests of association and paired t-test were applied. For that, Statistical Package for Social Sciences, SPSS version 20.0 for windows was used. Descriptive statistics were used in analyzing the nature of land management practices before land

certification and changes of land management practices employed by farmers after the provision of land holding certificate, households' perception of land right security before and after land certification and the role of institutions in supporting farmers' efforts and challenges that farmers face in implementing various conservation practices. The qualitative data obtained from the focus group discussions and from key informants interviews were analyzed thematically. Chi-square (χ^2) test of association was also used to test if there is association between land certification and farmers' investments in land management practices. Moreover, an independent t-test was also employed to compare means of numbers of trees planted by farmers before and after land certification.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1. Introduction

In this chapter, rigour is invested to analyse data and to interpret the results in a triangulation system. Each analysis and interpretation is done in a thematic way so as to allow readers understand the findings easily. The chapter is organized thematically. This includes sections that discusses about the socio-demographic and economic characteristics of the respondents, land resource and related issues, improvements in land management practices as a result of land certification, and other related issues. The data analysis was done with a 95% confidence interval. In the data analysis statistical tools such as chi-square test and paired t-test were employed.

4.2. Socio-demographic and Economic Characteristics of Respondents

The study's population is predominantly composed of male-headed households. Out of the total samples, 84% of them were male-headed farmers. Access to land is predominantly biased to male-headed households in the area showing the gender imbalance in the area.

Table 4.1 shows that about three-fourth of the sample landholding farmers were economically active sections of the population. The ages of 78% of the farmers fall in the range of 18 – 60 years, whereas that of one-third (30.7%) of the respondents were adults. Nevertheless, only 5 % of them were young. The mean (51.2 years) and median (50.5 years) age of the respondents revealed that the landholders are generally older farmers. The age distribution of the respondents in the study was found to be normally distributed, and showed a positive skewness. The standard deviation for the age of the respondents was 13.1 years showing the existence of variability in ages among the respondents.

Table 4. 1.Age Distribution of the Respondents

Age category	Frequency			Percent	
	Male	Female	Total	M	F
18 – 30	7	0	7	4.7	0.0
31 – 35	12	0	12	8.0	0.0
36 – 40	15	5	20	10.0	3.33
41 – 45	12	2	14	8.0	1.33
46 – 50	17	5	22	11.33	3.33
51 – 55	18	4	22	12	2.67
56 – 60	17	3	20	11.33	2.0
61 – 65	11	2	13	7.33	1.33
66 – 70	10	1	11	6.67	0.67
70+	8	1	9	5.33	0.67
Total			150	Total	100

Almost all of the farmers (98.7%) in the study area owned parcels which were registered and certified for primary book of owners. Very small proportion (1.3%) of the farmers was found to own parcels that were not registered. The record of the Environmental Protection, Land Administration and Use Office (EPLAUO) of the District shows that 98% of the households had parcels that were registered and the result from the household survey is a closest estimate of the official record. Some parcels were not registered and the households did not receive land ownership certificate because some of them were not willing due to lack of awareness and others had some border conflicts with their neighbors and their cases were being examined in the Court during the time of land registration. During an interview session held with the district EPLAUO experts, it has been observed that registration and provision of land certification was taking place for those who didn't receive before. However, the majority (95.3%) of the respondents mentioned that their parcel was not demarcated and sketched. The district land administration office experts mentioned that the parcels of farm land in the study area are not yet clearly demarcated and sketched due to budget constraints and is planned to be done in the coming year. Lack of clear demarked of boundaries is a source of disputes over land and much of the Court's time is spent in looking at cases related to land-related disputes. Due to the over-arching number of cases, delays in concluding the cases are common. This is also supported by ECA (2004). Besides, absence of clear demarcation of boundaries could be a source of tenure insecurity.

Related to this, Place (2009) contended that certainty of retaining rights from actual or risk of dispute over rights has created feeling of tenure insecurity. The size of the land specified on the primary book of land certificate is done based on measurements taken in traditional way and using the local unit of measurement called *Kert/Fechassa (Affan Oromo)* which is roughly a quarter of a hectare. In terms of actual measurement, however, four *Kert* may not be equivalent to one hectare. Similarly, the boundaries are demarcated using physical and natural structures such as rivers, hills, rocks, trees and roads as a reference point. This kind of demarcation is not dependable as one can move stones, and feeder roads may be changed over the years. Such practices of demarcation may have negative effects on perceived land tenure security of peasants and may aggravate land related disputes. Hence the need for clear demarcation of boundaries, perhaps with the help of cadastral maps, is crucial. This is also stipulated in the Land Proclamation of the Oromia regional state (Proclamation No.130/2007, Art.15).

4.3. Farmers' Perception of Land Tenure Security

In this section, an attempt has been made to analyze the perceptions of the farmers in terms of their feelings of tenure security. Variables such as occurrence of future land redistribution and fear of land expropriation by the government were considered as major factors influencing the perceptions of the farmers in terms of their feelings of tenure insecurity. Regarding farmers' perception of fear of land to be taken any time by the government, the majority of the respondents said that their fears have somehow decreased after they got the land certificate. Details are presented in Table 4.2.

Table 4. 2 . Responses of farmers to issues related to perceived feelings of tenure security

Question	Response	Frequency	%
Have you had fears that your parcels could be re-taken by the government before land certification?	Yes	100	66.7
	No	50	33.3
Do you expect that there will be future land re-distribution after holding your land certificate?	No	138	92.0
	I am indifferent	12	8.0
Has your overall feeling of tenure security increased after land certification?	Yes	125	83.3
	No	11	7.3
	I am indifferent	14	9.4

Source: Own survey

Before land certification, the majority (67%) of the respondents had the fears that their lands could be taken anytime by the government. The remaining 33.3 said that they did not fear of land redistribution and secured before land certification. This could be due to the reason that land redistribution has been taken place only once in the study area and didn't cover the entire kebeles. As the focus group discussion and interview result showed, the redistribution was focused on farmers having a land more than the kebele average and the implementation was limited to few kebeles. After they received land certificates however, 92% of the respondents believed that their fears that their parcels could be expropriated by the government have decreased while the remaining proportion still not sure that their parcels could stay with them although they hold certificates. Similarly, the proportion of the respondents who believed that future land re-distribution is going to happen has decreased after land certification (Table 4.2). The interview and focus group discussion (FGD) held with farmers also revealed similar facts. The level of confidence of the farmers that land re-distribution will not take place in the future has increased as a result of land certification. This has further improved their feelings of tenure security. According to the majority of the respondents, though they know that the land is owned by the state and expropriation for investment could happen, they do believe that compensation could be given, and this has developed their confidence. However, farmers response during interview and group discussion indicated that land certification highly developed farmers confidence on land tenure security even though it did not completely cleared out fear of land to be taken by the government at any time since their confidence is associated with compensation to be given in which this negatively affects farmers initiatives to practice land improvement activities. As could be observed from Table.4.2, though the majority of the respondents (92%) replied that they are confident enough for future land redistribution will not occur, for similar question asked whether their overall feeling of tenure security increased after land certification, out of the 92%, only 83.3 % of them replied that their overall feeling has increased after land certification in which 7.3% said "no" and 9.4% said "I am indifferent". This might indicate that, though they said that they are secured of their land certificate, it seems they still have a feeling of insecurity inside that they didn't want to express the reality as this issue is politically sensitive and can only be known through an ethnographic research. Security is believed to be maintained and further increased by the additional benefit obtained from the secured land and certificate of holding. When the farmers able to lease out their land and use their certificate of holding as collateral to access credit service, they realize that they are exercising their property right and this further strengthens their security and increases land conservation activities. However, as the

finding of this research showed, the benefit obtained from leased land and credit access using the holding certificate as collateral was very limited though it is allowed in Oromia land law (Proclamation No.130/2007, Art.5 sub art. 6). Hence, one could infer that farmers could not realize the benefit brought about by land policy and exercising their right practically as this in turn affects farmers' perception of tenure security and limits farmers' investment decision.

4.4. The Contribution of Rural Land Certification to Land Management Practices

Security of tenure is a critical variable in determining the incentives to undertake various Land Management Practices (LMP). Hurni (2000) described the concept of LMP as the application of productivity enhancing farm practices such as terracing, fallowing, planting trees, organic manure, construction of soil and water conservation structures, fencing the farm land. It is argued that land certification increases individual or communities' investment in land in the sense that secured land ownership considerably increases farmers' incentives to supply labor to initiatives aiming at improving the fertility of individual or communal land (Deininger *et al.*, 2006). One of the key objectives of this research was to investigate whether or not land certification has contributed in encouraging farmers to improve their land management practices, and the following discussion is devoted in discussing this issue.

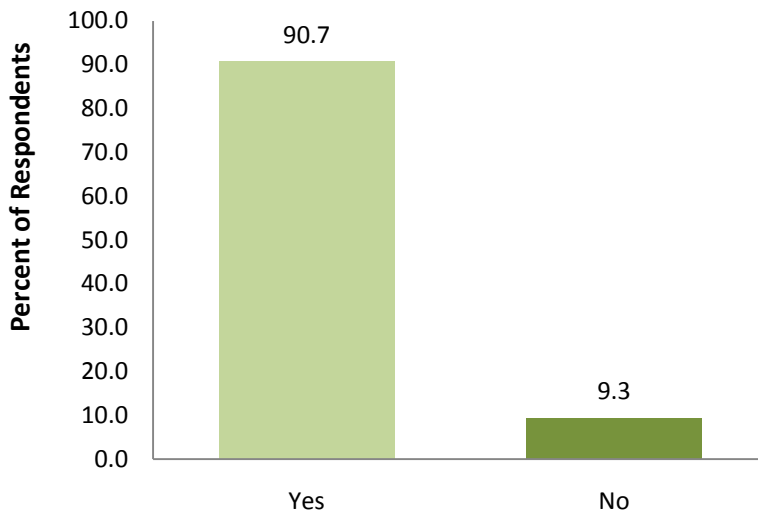


Figure 4. 1. Proportion of farmers engaged in land management practices as a result of land certification.

The respondents were asked about whether they had engaged in improvements of land management activities of their parcels as a result of holding land certificates. The findings of the study indicated that 89.3% of the respondents were involved in undertaking various land improvement activities on their parcels after they received land certificates. The bar chart (Figure 4.1) shows that the proportion of farmers who are engaged in land management practices was high due to the legally secured land holding rights. Thus, one can deduce that provision of legally recognized certificate of land holdings might be considered as one of the motivating factors for the landholders in the study area to engage themselves in better land management activities than before. This concept has been emphasized by scholars that secured property right has a positive impact on agricultural productivity as it eliminates the anxiety and uncertainty of farmers for possible expropriation from their lands (Shimelles *et al.*, 2009; Abera *et al.*, 2012).

In the study area, the farmers had been engaged in the improvements of their parcels, albeit there was variation in the types of land management practices, mentioned that they were engaged in tree planting, terracing on farmland, application of compost and organic manure, and fencing their farmlands (Table 4.3). This indicates that land certification has played an important role in motivating them to invest on their farm lands. This finding is in harmony with Abera *et al.* (2012) who found out that among land management practices, terracing, planting trees application of compost, application of farm yard manure and construction of water harvesting structure have increased after land certification. Assefa (2010) also found out similar results in that the majority of the households who received land certificates were involved in one or more of land improvement activities. However, it was indicated that among other factors which may further influence land management decisions, land tenure policies, and conservation technical assistance programs are considered as the major ones (Pender *et al.* 2006).

In this study, the null hypothesis (H_0) was stated as there is no association between land management practices and land certification, while the alternative hypothesis (H_1) was that there is association between land management activities performed and land certification. As shown in Table 4.3, the null hypothesis was rejected for all but the practice of planting any one type of tree species at $p < 0.05$. Thus, the researcher deduced that the association between land management efforts made before and after land certification is statically significant.

Table 4. 3. Percentage of farmers engaged in LMP before and after land certification

Land Management Practice	Response	Before certification	After Certification	χ^2
Tree planting	Yes	74.5	92.7	1.01
	No	25.5	7.3	
Soil bund Construction	Yes	20.8	91.3	7.17**
	No	79.2	8.7	
Stone bund Construction	Yes	27.3	84.8	16.60**
	No	68.7	15.2	
Compost & organic manure	Yes	75.7	93.4	9.01**
	No	24.3	6.6	
Fencing the farmland	Yes	63.1	95.1	21.86**
	No	36.9	4.9	

**Significant at 5% probability. Degree of freedom for each chi-square (χ^2) tests of association is 1.

As shown in Table 4.3, construction of soil and stone bund, application of compost and organic manure and fencing farmlands are all significantly associated (at $p < 0.05$) with land certification. The proportion of the farmers who applied these types of LMP has increased after land certification. The significant increase of soil and stone bund construction observed was quite different from the terrace construction undertaken by mass mobilization in the form of campaign by the government. As the key informants and focus group discussion revealed, the campaign was focused on large open areas of both farm and pasture lands. The homestead farm areas were left for individual farmers as they are found in residential areas and these fragmented homestead farms were not convenient for mass mobilization. The significant increase of both soil and stone terrace construction mentioned was an effort made by individual framers on their respective homestead and un covered farm areas by public works. The questions during data collection were made clear for farmers to respond from the perspective of their individual efforts. With respect to tree planting, the proportion of the farmers who planted any type of tree species did not show any association with land certification implying that farmers used to plant trees regardless of land certification to fulfill their demand of house construction, fuel and generating income for their livelihood diversification. As could be observed from table 4.3 above, 74.5% of the farmers in the study area managed to plant trees while there was fear of land redistribution before land certification. This could be due to the reason that farmers were planting fast growing

trees like Eucalyptus and Grevillea Robusta to maximize their income before redistribution would happen as they were in secured of their holdings. The other reason could be farmers plant trees to protect their farm land from heavy erosion as the area is sloppy for the sake of survival. Further analysis was carried out to analyze if there is statistical difference in the different types of tree species preferred for plantation due to land certification and the result turned out to be significant for some tree species. The details are discussed in the forthcoming section 4.5.

The findings of this study show that farmers' willingness and motivation to invest in land management practices has increased over time due to land certification. This finding is consistent with the findings of Ogolla & Mugabe (1996), Besley *et al.* (1997), Deininger (2003), Shimeles *et al.* (2009) and Assefa (2010) who found that certification encourages landholders to invest in land. Their results showed that land certification has some level of association with improvements in land management, in the use of land in a sustainable manner or in investments in resource conservation. However, the result of this study is inconsistent with the findings of Tesfu (2011) in Amhara region and Place (2009) in Somalia and Kenya who argued that tenure security has no any association with the decision of farmers to invest in land management practices.

4.5. Comparison of the Magnitude of Land Management Practices before and after Land Certification

This section compares the magnitude of different types of land management practices adopted by farmers for two different time periods (before and after land certification) using the paired t-test analysis and the results are presented in Tables 4.4 and 4.5.

4.5.1 Tree planting before and after land certification

A total of ten different types of tree species were recorded in the farmers' fields. The number of Olea Africana (Weyira), Sesbania and Acacia (Girar) planted by farmers after land certification have declined, while the farmers have increased plantation of the other seven different types of tree species. Nevertheless, the magnitudes of trees planted after land certification was significant only for Eucalyptus (Bahir zaf) and Grevillia. The mean increase in the number of Eucalyptus tree plantation after the farmers received land certificate was 150, and this was statistically significant at $p < 0.05$. Similarly, the farmers planted about three more Grevillia trees after land

certification and this was again statistically significant at $p < 0.05$ (Table 4.4). All the other tree species, however, did not show any significant increase after land certification. Here it is important to note that plantation of important indigenous tree species that take many years of maturity are still not preferred for plantation by the farmers. One can argue here that the farmers preferred to plant fast growing tree species like Eucalyptus and Grevillia Robusta, and this may be associated to the degree of tenure security felt by farmers. When farmers anticipate expropriation from the land for public purposes, they go for fast growing tree species that can generate income in a few years.

Table 4. 4. Mean difference in number of different tree species planted before and after land certification

Type of tree species	Mean No of trees planted		Mean Difference	Std. Error Mean	t-test
	Before certification	After certification			
<i>Eucalyptus globulus</i>	181.85	331.89	150.033	53.144	2.823**
<i>Juniperous procera</i>	28.33	36.87	8.540	6.186	1.381
<i>Dombeya torrida</i>	1.55	8.06	6.52	6.552	0.995
<i>Hagenia abyssinica</i>	1.48	4.45	2.973	2.003	1.484
<i>Grevillea robusta</i>	0.05	2.59	2.547	0.47	5.409**
<i>Olea Africana</i>	0.15	0.03	-0.120	0.1	-1.178
<i>Arundinaria alpine</i>	1.47	4.17	2.7	2.5	1.067
<i>Sesbania sesban</i>	0.09	0.00	-0.087	0.09	-1.067
<i>Acacia bussei</i>	0.46	0.15	-0.307	0.19	-1.591
Fodder trees	0.00	0.11	0.330	0.24	13.669

** $p < 0.05$

4.5.2 .Other types of land management practices before and after land certification

Similarly, the researcher further enquired the difference in the magnitude of other types of land management practices adopted by the farmers for two different time periods. As presented in Table 4.5 a paired t-test was computed in order to compare the mean scores of conservation structures undertaken before and after land certification. The result showed that, on average, a farmer constructed 0.45 hectare more stone bund terracing after land certification, and this was statistically significant at $p < 0.05$. Similarly, the farmers applied compost and organic manure, on average, on 0.25 hectares of additional land compared to the pre-land certification period. This was again statistically significant at $p < 0.05$. Fencing of farm land was also improved after land certification, and on average, the farmers fenced 0.19 hectares of more lands compared to the pre-land certification period. The significant increase in the magnitude of the three types of land

management practices could be partly associated to the secured holding land certificates and to the legal protection of tenure security that motivated the farmers to undertake various land improvement activities. Soil bund terrace construction on the other hand has shown insignificant increase in terms of magnitude, indicating that due attention was not given though soil bund terracing seems to be easier and economical in terms of labor and time than stone bund terracing. When households were asked why they practiced more conservation practices after land certification, they responded that besides having legal landholding document at hand, they received several relevant trainings regarding the benefits of adopting land management practices from EPLAUO of the District and became aware of the contribution of such practices in improving their agricultural productivity. The EPLAUO experts also indicated that farmers were given recurrent trainings and this brought about a change in land management undertakings in the study area. In general, though farmers' motivation and their current effort of undertaking various conservation practices seemed to be promising as a start and showed the positive effect of land certification long term investment, it is difficult to conclude that the overall performance of land management activities practiced was as adequate as desired both in terms of magnitude and proportion. In this regard, diversifying as well as increasing the quantity of tree planting and construction of other terracing structures is crucial in order for the land management undertaking to be robust enough.

Table 4. 5. Mean difference in the magnitude of other types of land management practices (in ha) before and after land certification.

Type of Land Management Practice	Mean number of trees planted			Standard Error of mean	t-value
	Before certification	After Certification	Mean Difference		
Soil bund construction	0.010	0.111	0.11	0.01	8.605
Stone bund construction	0.00	0.045	0.45	0.008	5.245**
Compost & manure	0.09	0.34	0.25	0.02	12.085**
Fencing the farmland	0.14	0.33	0.19	0.02	9.26**

**p<0.05

4.6. Challenges to undertake Land Management Practices

The study further identified the different challenges that the farmers are facing in the adoption of land management practices. About 43% of the respondents explained that they face different

challenges to adopt and increase the magnitude of different types of land management practices. Those respondents who said to have faced constraints in adopting land management practices; shortage of finance was mentioned as the most serious challenge. This is related to cash income required to buy the necessary inputs and to pay wages for daily labourers. In the literature, poverty-environmental degradation nexus is well documented and the poor are identified as agents of land degradation because they are too poor to invest on land management practices.

In addition, financial problem mentioned by the great minority (43%) should not be overlooked as it has an implication on the performance of land management practices as financial issue goes hand in hand with land investment and determines the quality and quantity of efforts to be made. In this regard, the role of local institutions is very crucial since they have both economic and social functions and believed to have a paramount significance in land management aspect in various ways. Varieties of local institutions, whose major function is natural resource management exist in Oromia that assist farmers in availing credits and services to enable members to acquire goods and services that are highly priced. Given the tough official bank lending regulations, institutions like *Iddir* and *Ekub* in the region can contribute to NRM (Mowo *et al.*, 2011). This might encourage the community at large and avoid their financial constraint to further enhance their land improvement efforts.

The contribution of institutions (both governmental and nongovernmental), was found to be high in assisting farmers to take part in land management effort. Similarly, security of land right also has shown significant increase and motivated farmers to get involved in a number land improvement activities. However, despite the necessary services rendered by such institutions and significant increase of security after land certification, planting trees as part of land management practice effort was found to show significant increase only for two tree species (Eucalyptus and Grevillia) whereas there was no significant improvement for other indigenous trees such as Juniperous Procera (Tid), *Dombia* (Welkefa), *Hygenia* (Koso), fodder trees and construction of soil bund terracing. Moreover, as could be observed from Table 4.4 above, planting of other trees such as *Olea* (weyra), *Bamboo* (kerkeha), *Sesbania* and *Accacia* (Girar) was declined alarmingly resulting in an imbalance of tree planting. This could be due to the reason that farmers gradually started to plant fast growing trees for immediate source of

income. This tendency might be linked to lack of awareness and the existence of some sort of insecurity in fear of to be evicted from their land. Insufficient and lack of focused extension service targeted to promote varieties of trees in their respective agro- ecology and purpose of conservation might have brought about such disaster as it could have been possible to change farmers' attitude through continuous education accompanied by close monitoring and supervision schedules to diversify the required tree species. In view of this, one can argue that the problems mentioned above contributed to the decline of important indigenous trees as well as soil terrace construction. Besides, as has been discussed earlier, the responses of the majority of the farmers and discussion held with the district land administration experts revealed that most of the farmers' plot was not clearly demarcated and sketched since it requires more budgets. However, it is planned to implement in the coming year at the district level. In view of this, it is possible to conclude that absence of clear demarcation of boundaries seem to be a source of disputes over land and creates feeling of tenure insecurity in which this in turn decreases farmers' motivation of long term investment decision and hence implementation of demarcation and sketching of farmers plot with cadastral mapping system is crucial as it is clearly indicated in the Oromia rural land proclamation (Proclamation No.130/2007, Art.15 sub article 2.)

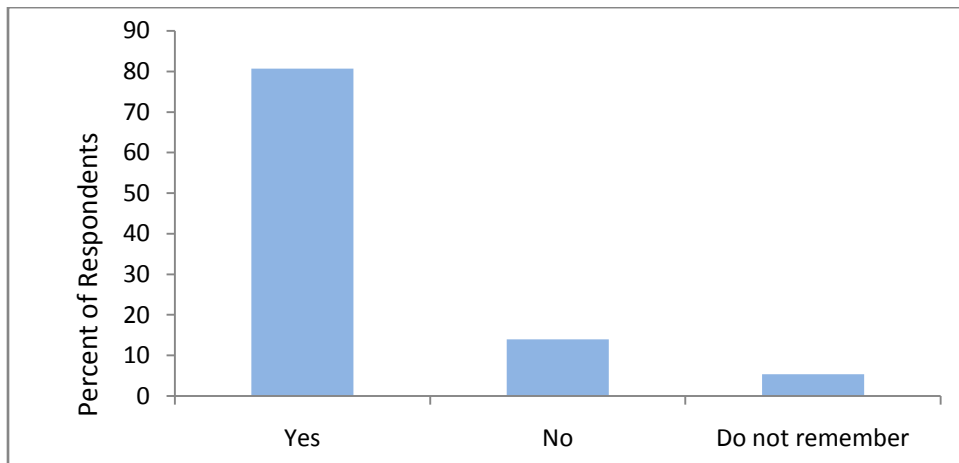


Figure 4. 2. Land Redistribution before the Provision of Certificate of Land Holdings

The majority (80.7%) of the farmers in the study kebeles expressed their views on the occurrence of land redistribution before certificate provisions in the study area (Figure 4.2). If there were repeated land redistribution in the locality, then the farmers might not be willing to actively and

courageously engage in different types of land management practice on their respective landholdings. Therefore, from the above-presented distribution of data, the majority of farmers agreed to the occurrence of land redistribution before land certification program took place. However, despite these findings, there was security of land holdings by many farmers. It was found out that the level of security and motivation to improve land management activities was found to be high.

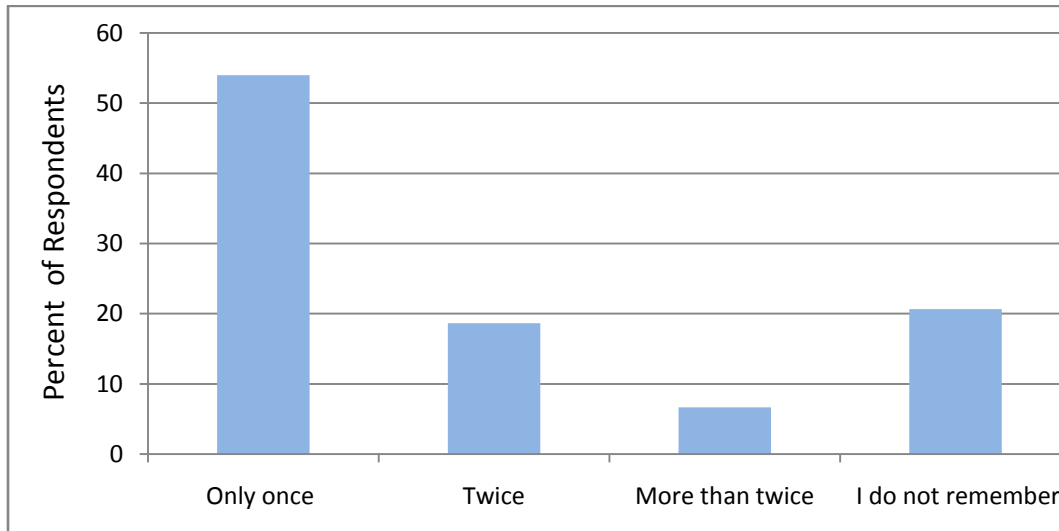


Figure 4.3. Farmers’ opinion on the occurrence of land redistributions before certification

As shown in Figure 4.3, fifty-four percent (54%) of the farmers’ parcel was taken and redistributed to others by the local government before the provision of land certificate only once. Besides, (18.67%) of the respondents agreed that land taking and redistributing to others took place twice before land certificate was provided to each farmer. So, land taking and redistribution have not been a new phenomenon by the farmers in the dynamism of land management practices. Thus, it may be possible to conclude from focus group discussions and key informant interviews that, the land redistribution undertaken did not have a holistic approach that covered the whole kebeles and was not frequent as in the Northern part of Ethiopia. What they call redistribution according to the District environmental protection, land administration and use office (EPLAUO) was allocating unused lands to landless people and transferring lands to others when someone without family dies. According to the key informants’ views, land was taken from some people who had more size of land above the Kebele average (2.5) hectares and

redistributed to others and this was practiced only once before land certification. The finding of this research is in line with Assefa (2010) in which he found similar finding that the level of farmers' confidence has increased through time as a result of certification.

4.7. Institutional interventions to enhance land Management Practices

It is an undeniable fact that various governmental and non-governmental (both local and international) institutions provide various types of supports in an increment and boost of the land management efforts of farmers in different areas of Ethiopia. Besides, a positive evaluation is presumed to attract various institutions in the collaborative efforts of enhancing farmers' capability to manage and invest on their land holdings. In this section, the data and the relative findings concomitant to the institutional support, facility provisions and the level of interventional intensity they have brought based on the data.

Table 4. 6. Institutional support and interventions in the contribution towards land management practices

No	Variable	Responses	Frequency	Percentage
1	The Institution which helps the respondent in providing all the necessary support to enhance land management Practices	Government	17	11.3
		NGOs	8	5.3
		Both Gov't & NGOs	119	79.3
		No support from any	6	4.0
2	The Kind of support obtained from the mentioned institution	Technical Advice	7	4.7
		Material support.	5	3.3
		Only tree seedlings	4	2.7
		All three types of support	127	84.7
		Others if mentioned	7	4.7
3	Evaluation of the respondents on the interventions of supporting institutions	Good enough	80	53.3
		No enough at all	48	32.0
		No response	22	14.7

The following graphs are the alternative presentations of the data for a semiotic variety provision of convenience to the readers and the data readability.

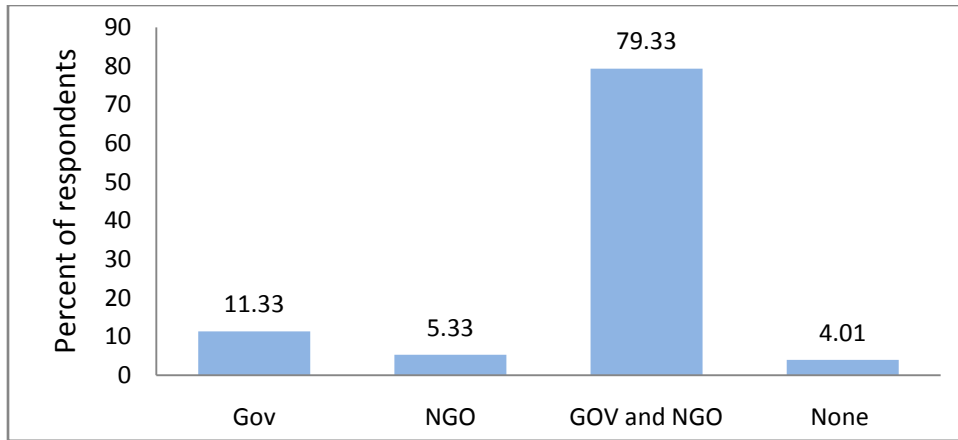


Figure 4. 4. Level of support provided to farmers in the study area

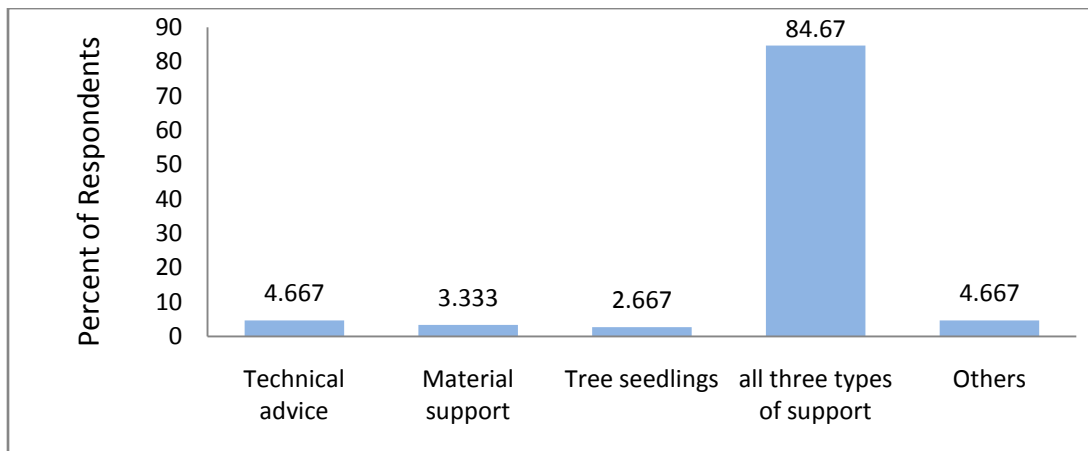


Figure 4. 5. Kind of support provided to farmers for land management activities

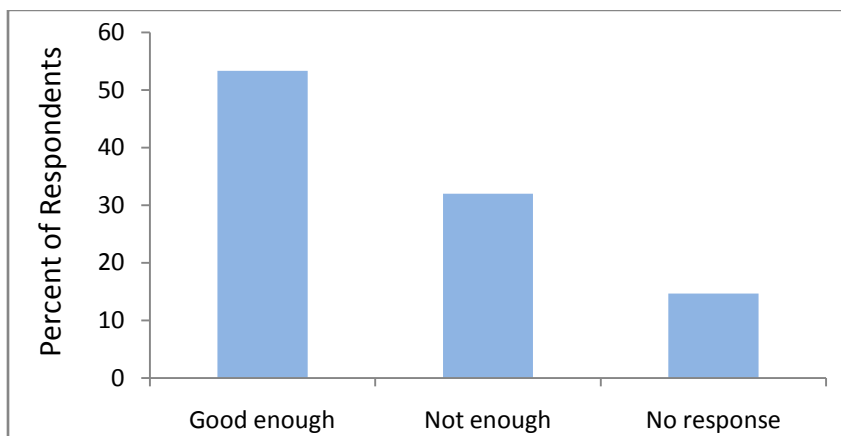


Figure 4. 6. Opinion of respondents on the level of institutional support for land management activities

As can be seen from Table 4.6 and the bar charts above (Figures 4.3, 4.4 and 4.5), both governmental and non-governmental organizations were identified as the institutions which helped the respondents in providing the majority (79.3%) of all the necessary supports to enhance land management practices in the research area. Besides, a cumulative answer could also tell us that the government and other non-governmental institutions were working in collaboration to facilitate land management practices (summation of the responses is 100.0% for non-missing value). The kind of support obtained from the afore-mentioned institutions was: technical advices (4.7%), material support (3.3%), provision of tree seedling (2.7%), and all the three types of supports (84.7%). So, the amalgamation of various kinds and forms of support computed was 94.4%.

Therefore, the various forms of support could be inferred to contribute immensely on the farmers' efforts and motivations for enhanced change on their land management practices. What is more, farmers who answered "No" helped in providing support guaranteed 100.0% that the effect of not getting support from any institutions on land management technologies was found to be nothing. So, the variety of farmers on the need continuum of support and interventions was very wide. This finding is consistent to Tesfu (2011) in which he found both governmental and non-governmental institutions supported the farmers in the study area in the form of material provision and technical back- up in which this, in turn, contributed to decisions of farm households' level to undertake a variety of short and long- term conservation practices.

Finally, farmers also evaluated the interventions of concerned institutions on their land management practices for adequacy. About fifty-three (53.3%) of the respondents stated that the interventions on the part of the concerned institutions was rated as "good enough", while (32.0%) of them considered that it was "not enough at all"; and the other, (14.7%) viewed them as "no response". Hence, the balance beat stops at almost the mid-way for sure that there is a symmetric level of adequacy of the support and its interventional intensity to fully enhance farmers' efforts for land management practices.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1. Conclusion

Land tenure insecurity is one of the bottlenecks in natural resource management in general and land management practices in particular. Land registration and certification program has been implemented in Oromia national regional state since 2003 with the objective of registering all parcels of farm households and granting to them a legal certificate of holding to increase farmers' feeling of land tenure security. In this regard, farmers received primary book of certificate as a legal document which ensures usufruct holding right of households.

As mentioned earlier, one of the main objectives of this study was to investigate whether or not land certification contributes in motivating individual farm households to undertake various land improvement activities. As it was indicated, tenure insecurity restricts rights in land and reduces farmers' incentives to invest in land management practices. Land redistribution that took place before land certification in the area has created a sense of insecurity among the farming community. The findings of this research showed that the level of farmers' perception towards land tenure security has been improved and the farmers have felt confident as result of land use certificate. As a result of this, the comparative level of motivation to invest in land has shown considerable increase in which 86% of the farmers put significant amount of energy to improve their land. To this end, various types of land management activities were practiced to improve the productive capacity of the land.

Although the result of this research is against some previous studies it can be concluded that land tenure security and property rights eliminate anxiety and uncertainty of farmers and it has encouraged farm households to make long term investment decision on land. In this study, an effort has been made also to investigate contribution of the registration of land holding and granting land use certificates to holders in motivating farmers to better manage their landholdings through practicing various land improvement activities. The result showed that land certification increases individuals' investment and secured land ownership considerably increased farmers' incentives to practice appropriate land management practices. The findings of this research showed that the majority of the households were engaged in one or more types of land management activities after they received land certificates. The common types of land

management practices exercised by the farmers were tree planting, stone bund terracing, fencing the farmland and application of farm yard manure and compost. The chi-square analysis showed that there is statically significant relationship between land management activities and land certification and the farmers have been undertaking more land improvement activities after they received land certificates compared to pre land certification.

It is undeniable that various governmental and non-governmental (both local and international) institutions provide various types of supports to further enhance the land management efforts of farmers. With regard to this, the survey result revealed that both governmental and non-governmental organizations in the study area played a substantial role in providing the necessary support for farmers to enhance land management activities. The majority of the households agreed that support rendered from both institutions was in the form of material, training and technical support. Therefore, it is possible to conclude that the support obtained from these institutions contributed positively to enhance household's decisions to undertake some sort of conservation practices as technical support is crucial to adopt the required land conservation technologies.

Farming households face various challenges to undertake different land management practices which limit the progress of such undertakings. Based on the overall findings of the research, though the intervention of institutions was found to be evaluated as good enough and contributed to enhance land management efforts, the overall progress of such activities were not robust enough in terms of mix of planted trees and the magnitude of land management practices undertaken in which the drastically decline of some indigenous trees has been observed. Financial constraint is mentioned by some farmers for the purchase of the necessary inputs. Apart from this, farmers' parcel was not clearly demarcated and boundaries were not fixed which brought sporadic conflicts and some level of insecurity among the farming community. Furthermore, the holding certificate provided was not used as collateral to get loan from financial institutions.

5.2. Recommendations

Based on the major findings of the research, the following recommendations were forwarded:

1. Planting different types of trees and terracing of various types as part of land management practices play a significant role in soil conservation endeavor. However, planting of trees such as *Eucalyptus globules* and *Sesbania sesban* and construction of stone bund terraces were the major conservation measures practiced by farmers in the study area. Therefore, institutions working in the area need to focus in promoting and availing seeds and seedlings of other indigenous trees as well as adaptable exotic trees. In addition, the practice of soil bund terracing is not significant and efforts should be made in promoting this type of land management practice.
2. Though the level of perception of farmers towards land tenure security was found to be improved after land certification, the farmers speculated that their parcels could be expropriated at any time by the government and they expect future land re-distribution to occur. The regional government should make clear that there is no any plan for future land re-distribution. The Constitution specifies that land could be expropriated for greater public use at any time by giving the necessary compensation to the certificate holders. Both future land re-distribution and expropriation by the government undermined perceived land tenure security of the land users. At least relevant awareness creation should be done to assure the farmers that future land re-distribution will not happen.
3. Clear demarcation of boundaries is very useful. Failure of providing clear demarcation of boundaries was a bottleneck on the perceived land tenure security of farmers and could be a source of land related disputes in the area, which in turn affects the progress of land management activities. Hence, it is recommended that parcels of households need to be clearly demarcated and sketched with the help of cadastral mapping system, and farmers should be provided with a sketched map of their parcels with their holding certificate as a legal document.
4. Implementation of better land management practice goes hand in hand with the financial performance of individual farmers. Therefore, credit services should be made available to farmers so as to increase the financial capacity of farmers to invest on their land.

REFERENCES

Abate Tsegaye, Enyew Adgo and Yihennew Gebreselassie (2012). Impact of Land Certification on Sustainable land Resource Management in Dry land Areas of Eastern Amhara Region. *Journal of Agricultural Sciences*, 4: 201-206.

Aklilu, Amsalu (2006). Caring for the Land Best Practices in Soil and Water Conservation in Beressa Watershed, Highlands of Ethiopia. *Tropical Resource Management Papers*, No. 76.

Assefa Belay (2010). The Effects of Rural Land Certification in Securing Land Rights: A Case of Amhara Region, Ethiopia. MA Thesis, International Institute for Geo-information Science and Earth Observation, The Netherlands.

Betru Nedessa, Jawad Ali and Ingrid Nyborg (2005). Exploring Ecological and Socio-Economic Issues for the Improvement of Area Enclosure Management: A Case Study from Ethiopia. A working Document of the Dryland Coordination Group (DCG). DCG Report No 38, May 2005. Dryland coordination Group c/o MiljeΦhuset G9 Grensen 9b, N-0159, Oslo, Norway.

Bisley, T. (1995). Property Rights and Investment Incentives: Theory and Evidence from Ghana. *Journal of Political Economics*, 103: 903-937.

Birhanu Adenew and Fayera Abdi (2005). Land Registration in Amhara Region, Ethiopia Research Report 3, Natural Resources Group, International Institute for Environment and Development, 3 Endsleigh street, London WC1H 0DD, United Kingdom.

Berhanu Gebremedhin, Pender J., Ehui S.K. and Mitiku Haile (eds) (2003). Policies for sustainable land management in the highlands of Tigray, northern Ethiopia: Summary of papers and proceedings of a workshop held at Axum Hotel, Mekelle, Ethiopia, 28–29 March 2002. *Socio-economics and Policy Research Working Paper 54*. ILRI (International Livestock Research Institute), Nairobi, Kenya. 75 pp.

Brasselle A., Gaspart F., Platteau, J. (2001). Land tenure security and investment incentives: Puzzling evidence from Burkina Faso. *J. Dev. Econ.* 67:373-418.

Burns, T., Grant, C., Nettle, K., Brits, A.M., Dalrymple, K., (2006). Land Administration Reform: Indicators of Success and Future Challenges. Land Equity International Pty Ltd, Wollongong, Australia. URL: <<http://www.landequity.com.au/>> (Last accessed: 15/04/2007).

Chilot Yirga (2003). Land tenure security and adoption of natural resource management technologies in Ethiopia: Holetta Agricultural Research Center, EIAR, Addis Ababa, Ethiopia.http://hw.oeaw.ac.at/0xc1aa500d_0x001a2893 (Last accessed, 12 Dec, 2014).

Crewett, W., Bogale Ayalneh, and Korf, B. (2008). Land tenure in Ethiopia: Continuity and change, shifting rulers, and the quest for state control, CAPRI working papers 91, International Food Policy Research Institute (IFPRI).

Daniel Weldegebriel (2012). Land Rights in Ethiopia: Ownership, equity, and liberty in land use rights: FIG Working Week 2012. Knowing to manage the territory, protect the environment, and evaluate the cultural heritage, Rome, Italy, 6-10 May 2012.

Degefa Tolossa (2005). Rural Livelihoods, Poverty, and Food Security in Ethiopia: A case Study at Erenssa and Garbi Communities in Oromia Zone, Amhara National Regional State. Doctoral Thesis. Norwegian University of Science and Technology. Faculty of Social Sciences and Technology Management. Trondheim, Norway.

Degefa Tolossa (2009). An Assessment of the Role of Local Institutions and Social Capital in Household Food Security: A Case Study at Two Rural Communities in Oromia Zone, Amhara Region. In: SveinEge, Harald Aspen, BirhanuTeferra and ShiferawBekele (Eds). (2009). Proceedings of the 16th International Conference of Ethiopian Studies. Trondheim, Norway.

Deininger, K. (2003). Land Policies for Growth and Poverty Reduction. World Bank, Washington, DC; Oxford University Press, Oxford, UK. Deininger, K., Zevenbergen, J., and Ali, D.A. 2006. Assessing the Certification Process of Ethiopia's rural Lands. Conference paper, Colloque international "Les frontières de la question foncière - at the frontière of land issues." Moutpellier, France.

Deininger, K, Daniel Ayalew, Stein Holden, and Zevenbergen (2007). Rural Land Certification in Ethiopia: Process, Initial Impact and Implications for the African Countries. In World Bank Policy Research Working Paper 4218:World Bank.

Desalegn-Rahmato (2009). Land Registration and tenure security: A critical Assessment. In Desalegn-Rahmato (Ed). The peasant and the state: Studies in Agrarian change in Ethiopia 1950s-2000s. Addis Ababa University Press, Addis Ababa, Ethiopia.

- Desta Damene and Ignatius Mberengwa (2012). Determinants of farmers' land management practices: the case of Tole District, South West Shewa zone, Oromia National Regional State, Ethiopia. *Journal of Sustainable Development in Africa*. 14: 77-94.
- ECA (2003). Land Tenure Systems and Sustainable Development in Southern Africa. Southern Africa Office. ECA/SA/EGM.Land/2003/2. Economic Commission for Africa, Addis Ababa, Ethiopia.
- ECA (2004). Land Tenure System and Their Impacts on Food Security and Sustainable Development in Africa. ECA/SDD/05/09, Economic Commission for Africa, Addis Ababa, Ethiopia.
- Enemark, S. and P. Van der Molen (2008). "Capacity Assessment in Land Administration." The International Federation of Surveyors (FIG), Food And Agriculture Organization Of The United Nations. Fig Publication No 41. International Federation Of Surveyors, Kalvebod Brygge 31-33 Dk-1780 Copenhagen V Denmark.
- FAO (2002). Land tenure and Rural Development. FAO Land Tenure Studies 3, Food and Agricultural Organization of the United Nations. Rome.
- FDRE (1995). The Constitution of The Federal Democratic Republic of Ethiopia. Addis Ababa, Ethiopia.
- Feder, G. and R. Noronha (1987). Land rights, systems and agricultural development in Sub-Saharan Africa. *World Bank researcher observer* 2:143-169.
- Feder, G., T. Onchan, Y. Chalamwong, and C. Hongladaron (1988). *Land Policies and Farm Productivity in Thailand*. Baltimore: Johns Hopkins University Press.
- Gebremedhin B. and Swinton S.M. (2003). Investment in soil conservation in northern Ethiopia: The role of land tenure security and public programs. *Agricultural Economics*, 29: 69-84.
- Gerdén, C. Å. and Mtallo, S. (1990). Traditional TPF reserves in Babati District, Tanzania: Case study in human ecology. FTP: Ministry of Land, Natural Resources and Tourism and Swedish University of Agricultural Sciences, International Development Centre. Working Paper 128, Uppsala, 51p.
- Gizachew (1994). *Rural Land Use Issues and Policy in Ethiopia*, Addis Ababa.
- Grace, C., de Heana, A., Den, D., Konde, A., Seba, H., Shankland, A. and Sinclair, A. (2000). *Sustainable livelihoods in Ethiopia*. Institute of Development Studies, England. Research Report 44.

Gupta, K. Anil (1992). *Saga of a Starfish: Participative Design of Sustainable Institutions for Natural Resource Management*. Working Paper No. 1077. Ahmadabad, India: Indian Institute of Management.

Habtamu, E. (2006). *Adoption of Physical Soil and Water Conservation Structures in Anna Watershed, Hadiya Zone, Ethiopia*. (Master's Thesis, Addis Ababa University, 2006).

Hagos, F. (2003). *Tenure security, resource poverty, risk aversion, public programs and household plot level conservation investment in the highlands of northern Ethiopia*. In: *Poverty, Institutions, Peasant Behavior and Conservation Investment in northern Ethiopia*. [PhD Thesis]. Agricultural University of Norway.

Helmke, Gretchen, and Levitsky, Steven (2003). *Informal Institutions and Comparative Politics: A Research Agenda*. South Bend, IN: Kellogg Institute for International Studies, Notre Dame University. Working Paper 307 – September 2003.

Holden S. and HailuYohannes (2001). *Land Redistribution, Tenure Insecurity, and Intensity of Production: A Study of Farm Households in Southern Ethiopia*. CGIAR System-wide Program on Collective Action and Property Rights, International Food Policy Research Institute 2033 K Street, N.W. Washington, D.C.

Hurni, H. (2000). *Assessing sustainable land management (SLM)*. *Agriculture, Ecosystems and Environment* 81, 83–92.

Hussein Jemma (2004). *The Politics of Land Tenure in Ethiopian History: Experience from the South*. Paper presented at XI World Congress of Rural Sociology, Trondheim, Norway, July 25-30, 2004: Center for International Environment and Development Studies, Agricultural University of Norway.

Holden, S. T., Deininger, K., and Ghebru, H. (2009). *Impacts of Low-cost Land Certification on investment and Productivity*. *American Journal of Agricultural Economics*, 91:359-373.

Kabubo-Mariara J., and Linderhof V. (2006). *Tenure Security, Sustainable Land management and Poverty: Case Studies from Kenya*. Agricultural Economics Research Institute (LEI), The Hague.

Kabubo-Mariara, J. (2007). *Land conservation and tenure security in Kenya: Boserup's hypothesis revisited*. *Ecological Economics* 64, 25–35.

Kabubo-Mariara, J., Linderhof, V., Kruseman, G., Atieno, R., and Mwabu, G., (2006). Household welfare, investment in soil and water conservation and tenure security: Evidence from Kenya. Working paper 06-06, PREM (Poverty Reduction and Environmental Management), www.prem-online.org Accessed 16 June 2009.

Kalabamu, F.T. (2000). Land Tenure and Management Reforms in East and Southern Africa- The Case of Botswana. *Land Use Policy* **17**:305-319.

Koku, J. E., and Gustafsson, Jan-Erik (2003). Local institutions and Natural resource Management in the South Tongu district of Ghana: a case study. *Sustainable Development* **11**:17–35
Lyons, K., and Chandra, S. (2001). Undertaking Land Administration Projects: Sustainability, Affordability, Operational Efficiency and Good Practice Guidelines. Quality Assurance Series No. 26 July 2001, Australian Agency for International Development, Canberra, Australia.

Lyons, K. and Chandra, S. (2001). Undertaking Land Administration Projects: Sustainability, Affordability, Operational Efficiency and Good Practice Guidelines. *Common wealth of Australia.*”

Magalata Affan Oromo, “Oromia Rural Land Use and Administration Proclamation,” Proclamation No. 130/2007.

Middleton, J. (1988). Forward. In *Land and society in contemporary Africa*, eds. Downs, R.E., and Reyna, S.P. Hanover: University Press of New England.

Migot -Adholla, S., P. Hazell, B. Blarel and F. Place (1991). ‘Indigenous Land Rights Systems in Sub - Saharan Africa: A Constraint on Policy?’ *The World Bank Economic Review*. **5**:1, pp 155 -175.

Mowo, J., Adimassu, Z., Masuki, K., Lyamchai, C., Tanui, J. and Catacutan, D. (2011). The Importance of Local Traditional Institutions in the Management of Natural Resources in the Highlands of Eastern Africa. Working Paper No 134. Nairobi: World Agro forestry Centre. <http://dx.doi.org/10.5716/WP11085.PDF>.

North, D.C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

Nzioki, A. (2006). *Land Policies in Sub- Saharan Africa* Clear, Resource Center for Rural Development, Center for Land, Economy and Rights of Women. Nairobi, Kenya.

- Ogolla B. D. with Mugabe, J. (1996). Land Tenure Systems, In Land We Trust; Initiative Publishers, Nairobi Kenya.
- Omit, J., Parton, Ehui, S., and Sinden, J. (2000). Some Policy implications of the resurface of rural factor markets following agrarian de-collectivization in Ethiopia. *Human Ecology*, 28:585-603.
- Pagiola, S. (1999). Economic Analysis of Rural Land Administration Projects: Report of Land Policy and Administration Thematic Team, Environment Department. Washington D.C.: World Bank.
- Pender, J and Kerr, J. (1998). Determinants of farmers' indigenous soil and water conservation investments in semi- arid India. *Agricultural Economics*, 19:113-125.
- Pender J., Ehui, S., and Place, F. (2006). Strategies for Sustainable Land Management in the East African Highlands. International Food Policy Research Institute. Washington D.C.
- Place, F. (2009). Land Tenure and Agricultural Productivity in Africa: A Comparative Analysis of the Economics Literature and Recent Policy Strategies and Reforms," *World Development*, 37(8), 1326-1336.
- Platteau, J.P. (1996). The Evolutionary Theory of Land Rights As Applied to Sub-Saharan Africa: A Critical Assessment. *Development and Change*, 27: 29-86.
- Platteau, J.P. (1996). The Evolutionary Theory of Land Rights As Applied to Sub-Saharan Africa: A Critical Assessment. *Development and Change*, 27(1): 29-86.
- Rahmato, D. (2004). Searching for tenure security? The land system and new policy initiatives in Ethiopia. FSS Discussion Paper No. 12, Forum for Social Studies, Addis Ababa.
- Shimelles Tenaw, Zahidu, K.M, and Parvian, T. (2009). Effects of land tenure and property rights on agricultural productivity in Ethiopia, Namibia, and Bangladesh. Helsinki: University of Helsinki.
- Singh, K. (1994) Managing common pool resources. Principles and Case Studies. Oxford
- Smith, Robert E. (2004). Land Tenure, Fixed Investment, and Farm Productivity: Evidence from Zambia's Southern Province. *World Development*, 32(10):1641-1661
- Soysa, I. and Jütting, J. (2006). Informal Institutions and Development — What Do We Know and What Can We Do? Overview paper, roundtable discussion, OECD Development Center, International Seminar, <http://www.oecd.org/dac/governance-development/37790393.pdf>, last accessed December 2014.
- Teferi Abate (1995). "Land Redistribution and Intra-Household Relations: The Case of Two Northern Ethiopian Farming Communities." *Ethiopian Journal of Development Research* 17 (1): 17–29.

Tekie, A. (2001). Land Tenure and Soil Conservation – Evidence from Ethiopia. Kompendiet – Gothenburg, Sweden.

Tesfaye Teklu (2003). Land Scarcity, Tenure Change and Public policy in the African case of Ethiopia: Evidence on Efficacy and Unmet Demands for Land Rights Western Michigan University.

Tesfu Kahsay (2003). The Effect of Land Tenure Systems on Soil Conservation Practices in Northern Ethiopia - A Case Study of Habru District in Amhara National Regional State (ANRS), Ethiopia. Research and Perspectives on Development Practice, Kimmage DSC series. Kimmage Development Studies Centre, Kimmage Manor, Whitehall Road, Dublin 12, Ireland.

Teshome Temesghen Tilahun (2009). The chronological Trends of rural Land Tenure Systems in Ethiopia since the Military Regime (1975). Ryukoku Journal of Economic Studies, 49 :39-56

Todaro, M. and Smith, S. (2003). Development Economics. Pearson Education Limited, London.

Tsegaye Moreda (2012). Linking Vulnerability, Land and Livelihoods: Literature Review. Institute of Social Studies: The Hague.861p.

UNFPA and POPIN (1995). Population and Land Degradation. <http://www.undp.org/popin/faol/land/land.html>

Uphoff, N. (1992). Local Institutions and Participation for Sustainable Intl. Development Institute for Environment and Development (IIED): London. Gatekeeper Series No. 31.

USAID (2004). Final Report of the Ethiopian Land Policy and Administration Assessment. Contract No. LAG-00-98-00031-00, Task Order No.4. Broadening Access and Strengthening Input Market Systems (BASIS) IQC.

Van der Molen, P.(2002). The dynamic aspect of land administration: an often- forgotten component in System design. Computers, Environment and Urban Systems, 26: 361-381.

Waiganjo, C. and Ngugi, Paul E.N. (2001). The Effects of Existing Land tenure Systems on Land Use in Kenya: International Conference on Spatial Information for Sustainable Development, Nairobi, Kenya, 2-5 October 2001.

Woldeamlak, B. (2003). Land Degradation and Farmers' Acceptance and Adoption of Conservation Technologies in the Degil Watershed, Northwestern Highlands of Ethiopia, Social Science Research Report Series no.29, OSSREA, Addis Ababa.

World Bank. (1989). Sub- Saharan Africa: from crises to Sustainable growth: a long-term perspective study. The World Bank: Washington D.C.

APPENDICES

Appendix A --- Household Questionnaire

Dear Farmers,

I am conducting a research on “Contribution of Land Certification to Land Management Practices.” Your genuine responses to the questions below will be of much use. I thus kindly request you to answer each question carefully. Your responses will be kept confidential. It is not necessary to write your name.

Direction

Please think of the time before and after Land Certification and Conservation practices you accomplished so far. You will be asked questions about what you did on your land holding with respect to land management practices. Please answer with a tick (✓) except for the questions which requires to circle the responses.

Name of Enumerator ----- - Date of Data Collection -----

A. Household information

1. Age of the head of household----- 2. Sex of household head? 1) Male 2) Female
3. Kebele ----- Sub -kebele -----
4. Did you get your Parcels registered? 1. Yes 2. No
5. Did you get Certificate for your holding? 1. Yes 2. No
6. Which level of Certificate of holding did you get? 1. Temporary book of Certificate (Paper) 2. Primary book of Certificate 3. Secondary book of Certificate
7. Is your land holding clearly demarcated? 1. Yes 2. No
8. Did you make improvements on your land management as a result of your legally secured holding right? 1. Yes 2. No

9. If your answer is yes, can you list the type & quantity of efforts you made comparing to pre-land certification? (Multiple answer possible)

	Type of LMPs	Before Land cert.	After Land cert.
		Quantity (in massa)	Quantity (in massa)
9.1	Tree Planting: 1..... 2..... 3.....		
9.2	Terracing on farm land 1. Soil bund..... 2. Stone bund.....		
9.3	Applying Compost and. Organic Manure on farm land		
9.4	Fencing the farm land		
9.5	Planting fodder trees		

10. Is there any problem that discourages you to invest on your land? 1. Yes 2.No

11. If your answer is yes, what are the problems?

1. Financial constraint
2. Poor supply of tree seedlings
3. Insufficient extension services regarding land management technologies
4. Fear of expropriation for investment
5. Not getting sketched Map of my land holding
5. Others (Specify) -----

12. Did land redistribution take place in your kebele before the provision of certificate of holding? 1. Yes 2. No 3. I don't remember

13. If your answer is yes, how many times? -----

14. Was part of your parcel taken by the govt. & distributed to others before land certification?

1. Yes
2. No

15. Did you fear that your holding would be taken by the government again and would be given to others before land certification?

1. Yes, I did
2. No, I didn't
3. I don't remember

16. If your answer is “No”, what was the reason?
1. No land redistribution programs were implemented in my kebele
2. I was confident enough that the customary law protects my property ever
3. No threat of expropriation due to investment / villagization/ resettlement/cooperative program.
17. Do you fear that your land will be taken by the government any time here after? 1. Yes, I fear 2. No, I don't fear 3. I am indifferent
18. If you fear, what is the reason?
1. The land policy allows the govt. to take back land any time, as deemed necessary
 2. I have only use right but no sale & transfer right
 3. Others,(specify).....
19. Do you believe that your holding rights are secured as a result of certificate of holding?
1. Yes, I do believe
 2. No, I don't believe
 3. I am indifferent
20. Did your land holding certificate motivates you to manage your land than before?
1. Yes
 2. No
 3. Same as before
21. If yes, how and what changes you made on your land?
22. Which institutions helps you in providing the necessary support to enhance your land management efforts? 1. Govt. 2. NGO 3. Both .No supports from anyone of them
23. What kind of support did you get from an institution you said helping you? (Multiple answer possible)
1. Technical advice regarding various land management technologies
 2. Material support such as tree seedlings, tools for terracing, and compost preparation
 3. Only tree seedlings
 4. Others
24. If your answer for question number 22 is “No support”, did that affect your initiative to invest on your land? 1. Yes 2. No
25. How do you evaluate the intervention of concerned institutions in your kebele in promoting various conservation practices? 1. Good enough 2. Not enough at all 3. No response
26. Did you get some additional advantages from your land other than crops and grazing after land certification? 1. Yes 2. No

27. If your answer for the above question is yes, what other economic benefits did you get? 1. Credit facility from rural financial institutions. 2. Leasing out my land. 3. Compensation for my land expropriated for investment Purpose
4. Others, if any -----

Appendix B --- The Interview for Households

First of all, I would like to thank you for your cooperation in responding to the following questions.

1. Did you get Certificate for your holding?
3. Did you make improvements on your land management as a result of your legally secured holding right?
4. What efforts did you make compared to pre- land certification?
5. Is there any problem that discourages you to invest on your land?
6. If your answer is yes, what are the problems?
7. Did land redistribution take place in your kebele before the provision of certificate of holding?
How many times?
8. Was part of your parcel taken by the govt. & distributed to others before land certification?
9. Did you fear that your holding would be taken by the government again and would be given to others before land certification? What was the reason?
10. Do you fear that your land will be taken by the government any time here after? 18. If you fear, what is the reason?
11. Do you believe that your holding rights are secured as a result of certificate of holding?
12. Did your land holding certificate motivates you to manage your land than before? What changes you made on your land?

Appendix C: Discussion Points with Land Administration bodies and Key informants at all Levels

1. Are all household holdings of the community registered?
2. Did all members receive certificate of holding?
3. Are all household's land holding demarcated and sketched? Was there any difference in land management activities before and after land certification?
4. Did farmers make observable improvements on their land management as a result of the provision of certificate of holding?
5. What kind of conservation practices have been practiced by individual households since the provision of certificate of holding? Tree planting , applying compost and organic manure, , terracing on farm land, planting fodder tree, Fencing farm land
6. Is there any problem that discourages farmers to undertake various conservation practices?
7. Did land redistribution take place before land certification?
8. Was there fear of losing land holdings as a result of land redistribution?
9. Do farmers believe that their holding rights are secured as a result of certificate of holding?
Yes Some yes and some?
10. Is there fear of the coming of land redistribution and losing part of their land?