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# The Impact of large scale agricultural investment on productivity and environment in Amhara regional state: the case of West Armachiho woreda

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***BAHIR DAR UNIVERSITY***  
***INSTITUTE OF LAND ADMINISTRATION***  
**MSc. Program in Land Administration and Management**

***The Impact of large scale agricultural investment  
on productivity and environment in Amhara  
regional state: the case of West Armachiho woreda***

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October, 2017  
Bahir Dar University

**Bahir Dar University**  
**Institute of Land Administration (ILA)**  
**MSc. Program in Land Administration and Management**

*The impact of large scale agricultural investment on productivity and environment in Amhara region: the of case of West Armachiho Woreda*

This thesis is my original work and has not been presented for a Degree in any other University.

YIBELTAL MULAT HAILU:

Approved by Board of Examiners

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# Table of Contents

<b>acknowledgement</b> .....	<b>III</b>
<b>Abstract</b> .....	<b>V</b>
<b>Chapter One: Introduction</b> .....	<b>1</b>
1.1 BACKGROUND OF THE STUDY .....	1
1.2 STATEMENT OF THE PROBLEM .....	3
1.3 RESEARCH OBJECTIVES .....	4
1.3.1 <i>General Objective</i> .....	4
1.3.2 <i>Specific Objectives</i> .....	4
1.4 RESEARCH QUESTIONS .....	4
1.5 SIGNIFICANCE OF THE STUDY .....	4
1.6. DELIMITATION OF THE STUDY .....	5
1.7 ORGANIZATION OF THE THESIS .....	5
<b>Chapter Two: Literature Review</b> .....	<b>6</b>
2.1 DEFINITION OF TERMS AND CONCEPTS .....	6
2.2 LARGE SCALE LAND BASED INVESTMENTS AND ECONOMIC DEVELOPMENT .....	6
2.3 CHALLENGES OF SMALL SCALE BASED AGRICULTURE .....	7
2.4 LSAI AND ITS IMPACT ON NATURAL RESOURCE AND ENVIRONMENT .....	9
2.5 ECONOMIC CONTRIBUTION OF LSAI TO THE LOCAL COMMUNITY .....	10
2.5.1 <i>Contribution To Local Employment</i> .....	10
2.5.2. <i>Contribution To The Local Economy</i> .....	12
2.6. PERSPECTIVES OF LARGE SCALE AGRICULTURAL INVESTMENT .....	13
2.7. DRIVES FOR LARGE SCALE AGRICULTURAL INVESTMENT .....	14
2.8. ELEMENTS OF PREFERRED LAND FOR AGRICULTURAL INVESTMENT .....	16
2.9. LARGE SCALE AGRICULTURAL INVESTMENT AND ITS IMPACT ON LOCAL COMMUNITY .....	18
<b>Chapter Three: Research Methodology</b> .....	<b>20</b>
3.1.DESCRPTION OF THE STUDY AREA .....	20
3.1.1 <i>Location Of The Study Area</i> .....	20
3.1.2. <i>Health Service</i> .....	22
3.1.3. <i>Existing Land Use</i> .....	23
3.2 RESEARCH DESIGN .....	24
3.2.1. <i>Target Population</i> .....	24
3.3 DATA SOURCES .....	25
3.3.1 <i>Primary Data Sources</i> .....	25
3.3.2 <i>Secondary Data Sources</i> .....	25
3.4. SAMPLING DESIGN.....	25
3.4.1 <i>Sampling Unit</i> .....	26
3.4.2. <i>Sample Size And Sampling Techniques</i> .....	26
3.5. DATA ANALYSIS AND PRESENTATION.....	27

<b>Chapter Four: - Result And Discussion .....</b>	<b>28</b>
4.1 DEMOGRAPHIC CHARACTERISTICS .....	28
4.2 THE ECONOMIC CONTRIBUTION OF THE INVESTMENT PROJECT TO THE COMMUNITY .....	30
4.3. TRANSFER OF NEW TECHNOLOGY TO THE COMMUNITY .....	31
4.4. THE PRODUCTIVITY OF SELECTED FARMING GROUP .....	33
4.5.MAJOR PROBLEMS FACED BY LOCAL MODEL AND SMALL SCALE FARMERS .....	35
4.6. STAGE OF DEVELOPED RURAL FARM LAND .....	36
4.7 USE OF FERTILIZER IN THE STUDY AREA.....	37
4.8 THE IMPACT OF LARGE SCALE INVESTMENT ON ENVIRONMENT .....	38
4.9. PROJECT IMPLEMENTATION PROGRESS.....	39
<b>Chapter Five: Conclusion And Recommendation .....</b>	<b>41</b>
5.1.CONCLUSION .....	41
<b>Annex 1 .....</b>	<b>46</b>
<b>Annex 2 .....</b>	<b>49</b>
<b>Annex 3 .....</b>	<b>50</b>
<b>Annex 4 .....</b>	<b>52</b>

## List of Abbreviation

ACSI	Amahara commercial saving institution
ADLI	Agricultural Development Led Industrialization
AfDB	African Development Bank
EIA	Environmental Impact Assessment
EMP	Environmental management plan
EPACC	Ethiopia's Programme of Adaptation to Climate Change
EPRDF	Ethiopian People Republic Democratic Front
EPU	Environmental Protection Authority
EWCA	Ethiopian Wildlife Conservation Authority (EWCA)
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FDRE	Federal democratic Republic of Ethiopia
GDP	Growth Domestic Product
GoE	the Government of Ethiopia
ILA	Institution of land administration
Kg	Kilo gram
Km	Kilo Meter
LSACF	Large scale Agricultural commercial farming
LSAI	Large scale Agricultural Investment
LSLT	Large Scale Land Transfer
MoARD	Ministry of Agriculture and Rural Development
MoFED	Ministry of Agriculture and Rural Development
NAMA	Nationally Appropriate Mitigation Actions
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PRSP	Poverty reduction sustainable program
REDD	Reduced Emission from Deforestations and forest Degradation
SDPRP	Sustainable Development and poverty reduction Program
UN	United Nation
WAWAI	West Armachiho Woreda Agricultural Institute
WBA	World Bank application
WBDI	Woreda business development institute
WDR	World Development Report
WEPLAU	Woreda environmental protection land administration and use institution
WEPLAU	Woreda environmental protection, land administration & use Institution
WHPI	Woreda Health Protection Institute
WRTI	Woreda Road &Transport Institute

## List of Tables

TABLE 3.1: POPULATION SIZE OF THE WORDA.....	21
TABLE 3.2: EDUCATION SERVICES IN WEST ARMACHIHO WOREDA .....	22
TABLE 3.3: HEALTH SERVICES IN WEST ARMACHIHO WOREDAN .....	23
TABLE 3.4: EXISTING LAND USE OF THE WOREDA. ....	24
TABLE.3.5.SELECTED TARGET GROUP BY PERSENTAGE.....	25
TABLE 3.6: SELECTED NUMBER OF SAMPLE INVESTMENT TYPES .....	26
TABLE.4.1: AGE GROUP OF SAMPLE RESPONDENTS .....	28
TABLE.4.2: FAMILY SIZE OF RESPONDENTS.....	29
TABLE.4.3 EDUCATION LEVEL OF HOUSEHOLD RESPONDENTS.....	29
TABLE.4.4: CREATE JOB OPPORTUNITY .....	31
TABLE.4.5: USED FARM MACHINERY (TRACTOR).....	32
TABLE.4.6: FROM SELECTED FARMING PROJECT TYPE SOURCE OF INCOME .....	33
TABLE.4.7 STAGE OF PRODUCTIVITY .....	34
TABLE.4.8 DEVELOPED RURAL FARM LAND IN EACH PROJECT TYPE .....	37
TABLE .4.9 USES OF FERTILIZER IN THE STUDY AREA .....	38
TABLE.4.10: BIOPHYSICAL SOIL CONSERVATION .....	39
TABLE.4.11: FOR INVESTMENT ACCEPT DIFFERENT AGREEMENTS .....	40

## **Abstract**

The study tried to identify the gaps of the existing laws, rules and regulations about large scale investment & environment, and the knowledge of investors and affected landholders about these laws. Based on the overall findings of the study, amendment of the existing legal system, establish proper environmental policy, establish social and economic networks in the investment area, raise awareness of all stakeholders in the process of productivity and environmental mitigation mechanisms are required. This study was conducted to examine the impact on income or productivity, livelihoods and environment in the study area. It also tried to identify investment policy options that will minimize the impact of environment on Coredom site of rural farming project of West Armachiho woreda. The data used in this research were collected mainly from primary sources of investors, model small scale farming projects. A three stage sampling procedure was used to select representative data from each project types. Primary data were collected using structured questionnaire. In addition, key informant interview were made with selected city administration and sub city officials using semi structure questionnaire.

**Key Terms:** *Large scale Agriculture investment, Small scale farmers, agribusiness Investment, Environment*

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the study**

When food and energy prices rose, investment in agriculture also increases. Investors range from foreign governments and government-based institutions to corporate enterprises of various sizes and private investment funds. The investors seek access to land to satisfy demand for food and energy resources, to free themselves from dependence on world markets, and to maximize profits (World Bank application). The objectives of the investment policy of the Federal Democratic Republic of Ethiopia was to improve the living standards of the people of Ethiopia through the realization of sustainable economic and social development, the particulars of which are the following: (1) to accelerate the country's economic development; (2) to exploit and develop the immense natural resources of the country; (3) to develop the domestic market through the growth of production, increase productivity, and other service (FDRE council of minister proclamation No. 280/2002 article 4). Agriculture is the back bone of the Ethiopian economy. The large scale agricultural investment also contributes a lot for the economic development of the country despite it has its own adverse impact on livelihood of displaced people and the environment. Out of the total land area 111.5 million hectare of land 74.3 million hectares of land is suitable for annual and perennial crop production. Of the total area of the country about 45 % (50.2 million hectares of land) is highland and the remaining is lowland. Of the estimated arable land, around 18 million hectare of land is currently cultivated under rain fed crops. The irrigation potential of the country is estimated to be around 4.3 million hectare. Ethiopia produces mainly a variety of cereals, pulses, oilseeds, fruits, vegetable, fiber crops /cotton/, coffee, tea, spices, and other industrial crops. Different types of farming system are practiced in the various agro ecologies mainly: Mixed farming which is predominantly practiced by peasant farmers in the high land and mid high land. The Ethiopian economy is fundamentally rural and relies heavily on the agricultural sector which contributes to nearly half of the GDP, 85 percent of exports and 85 percent of total employment. Regional states have the mandate to administer land subject to the general policies and laws issued at the Federal level not only involves the highest levels of regional government but also involves active engagement of lower levels such as zones, woredas (districts) and peasant associations in the respective regional states. Since the coming into power of the EPRDF-led government in Ethiopia in 1991, the main

thrust of the agricultural policy of the country has been what is dubbed as the Agricultural Development Led Industrialization (ADLI). The core pillar of ADLI is based on the premise that, in a capital starved country like Ethiopia, labor intensive agriculture is the engine of growth and a mechanism for reducing poverty in the country. In other words, ADLI subscribes to the policy that the development of agriculture is considered as the main engine of industrialization by providing the raw material, capital base, surplus labor and capital accumulation (MoFED, 2002:13). In 2002, the government issued the first Poverty Reduction Strategy Paper (PRSP), known as the “Sustainable Development and Poverty Reduction Program” (SDPRP), after a consultative process involving various stakeholders at both the Federal and Regional levels. The SDPRP was based on the basic tenets of ADLI with its major focus on agricultural and rural development. Its emphasis was mainly directed to stimulating rural growth centered on small-holder agriculture. The second round of the PRSP process, known as “the Plan for Accelerated and Sustainable Development to End Poverty” (PASDEP), covers the period 2005-2010 and is the current overarching policy framework in Ethiopia. Although the PASDEP builds upon most of the important strategic directions articulated in the former SDPRP, there is a major shift from the previous policy direction in that it places an emphasis on economic growth with a greater focus on commercialization of agriculture with a strong push from the private sector (MoFED, 2006:11). The PASDEP aims to accelerate economic growth in the country with the private sector playing a lead role. It is in light of the current policy framework that aims at promoting private large-scale agricultural investments in Ethiopia by both foreign and domestic investors that the government has, in recent years, been actively engaged in allocating land for large-scale agricultural investments. It is with this in mind, therefore, that there is a need to assess the governance situation of such investments that indicate the strength and weaknesses of the current governance system to serve as an input for all interested stakeholders to build and improve upon on what exists currently. Thus, this study were undertaken to assess the impact of large scale agricultural investment on productivity and environment in Amhara national regional state north Gondar Zone in west Armachiho worda.

## **1.2 Statement of the problem**

The issue of “Large Scale agricultural investment” is one of the most debated and also very controversial topics of nowadays; partly because of the existence of conflicting views on its impacts on local people in the countries that are transferring land. Consequently, the topic was subject to ongoing debates not only among researchers, but also among politicians and policy makers. The Government of Ethiopia (GoE) claims that the country has “plenty” of agricultural land, which is “idle” that can better be managed by financially able investors without hampering the livelihoods of local communities. The assertion that the lands that are leased are previously unused or unoccupied is also flawed as land in many cases could be temporarily left for various reasons, such as, shifting cultivators good examples. As a result, it is feared that the Government’s agricultural land investment policy could marginalize and exclude the indigenous population by depriving them from their land and natural resources for their livelihood bases. However, LSAI’s that are happening in Ethiopia are done on the bases of pledges held by both the investors and the Government. On the other hand, the GoE claims ownership of all land whereas the farmers and the investors have only the right to use. For this reason, local investors can’t transfer their land and hence the Government can transfer ownership or user right over any patch of land as it wishes to any other use or user. This in turn makes rural communities “voiceless” because the ultimate power of deciding on the fate of small holder agricultural land and other communities rests on authorities. Consequently, these communities could see their lives and livelihoods hampered when large scale land transfer to the investors as the expense of their interest. The impact of the economic activities it create job opportunities, technology transfer to the local peoples and the positive and negative environmental impacts as the investment policies exploit and develop immense natural resource. The negative impacts highly soil erosion natural hazards and underground waters minimize were the main environmental impacts.

## **1.3 Research Objectives**

### **1.3.1 General Objective**

The overall objective of this research is to assess the impact of large scale agricultural investment on productivity and environment in West Armachiho woreda of Amhara Region

### **1.3.2 Specific objectives**

- To assess the impact of large scale agricultural investment activity on farm productivity
- To assess large scale agricultural investment's technology transfer to small scale farmers
- To assess the involvements of large scale agricultural investors in Public and social service
- To assess its impact on natural resources and environment

## **1.4 Research Questions**

To meet the general and specific objectives, the following research questions are forwarded:

- Do large scale agricultural investments are more productive than small scale farmers in the study area?
- Do large scale agricultural investments transfer technology to model and small scale farmers?
- Do the productivity of large scale investment better than model and small scale farmers?
- Is large scale agricultural investments affect the natural resource and environment in the study area?

## **1.5 Significance of the study**

In Ethiopia, large scale agricultural investment is flourishing from time to time. Due to the nearness of the study area to capital city of the state of the region and north Gondar the study areas have high concentration of agricultural investment. Despite large scale agricultural investment has its own advantages; it also affects adversely the Environment, economic and social attachment of the endogenous people in the study area. This also helps to develop new insights for exploring better policy options for further agricultural investments. In addition, this study may provide a basis for other researchers in conducting detail research on the impact of large scale agricultural investment in the country.

## **1.6. Delimitation of the study**

The study was conducted to identify the impact of large scale agricultural investment on the productivity and environment in the study area. The study is limited to purposively selected coredom site in west Armachiho Woreda of Amhara region.

## **1.7 Organization of the Thesis**

This thesis was organized in to five chapters. Chapter one introduces the background and the reason why the study was undertaken. Objectives, significance and delimitation of the study were also discussed in this section. Chapter two deals with review of literatures; - which deals with the basic concepts of the impact of large scale agricultural investment on productivity and Environment. Brief description of the study area and the methods and materials used in this research were presented in chapter three while research result is discussed in chapter four. The fifth chapter presents the conclusion and recommendation of the paper.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Definition of terms and concepts**

Land is the ultimate resource, for without it life on earth cannot be sustained. Land is both a physical commodity and an abstract concept in that the rights to own or use it are as much a part of the land as the objects rooted in its soil. Good stewardship of the land is essential for present and future generations (Economic commission for Europe, 1996).

“Capital Goods” means machinery, equipment and accessories, needed to produce goods or render services;

Agricultural investment: - Agricultural investment is commonly defined as land and attachment of land that made to or on the land, including fixed structures and different buildings to the investment land. The term is also used to describe the “bundle of rights” associated with the ownership and use of the physical characteristics of space and location. Finally, Agricultural investment may be described as the business activities related to the development, construction, acquisition, operation, and disposition of real property assets.

Air pollution: - It is defined as the addition of various hazardous chemicals, particulate matter, toxic substances and biological organisms into the Earth’s atmosphere. There are various factors causing air pollution, but what comes from cars and west products is often considered prime factors in air pollution.

### **2.2 Large Scale Land Based Investments and Economic Development**

Large scale land based investments have in the past formed the basis for agricultural and economic development of many nations. They have formed the basis for industrialization of countries that have eventually moved from agrarian economies to developed, industrialized and technology based economies. Agriculture and mining have been the source of raw material for industries and hence triggered development. Countries that have judiciously managed the process of utilizing the LSLIs have experienced economic growth and also economic development. Many have a history of basing on extensive agriculture for increased production and productivity through use of mechanization and improved technologies that have led to efficient use of the land resource and increased production of raw materials for their industries and food for their populations. The Australian Aid Programs Rural Development Strategy notes that over the past 40 years, the fastest growing developing economies have mainly had an agricultural base, because agriculture is a source of food and a key source of surpluses and savings that are

essential for economic development (AusAID, 2000). Meijerink and Roza (2007) state that agriculture contributes to poverty reduction; food security; and acts as a social safety net or buffer in times of crisis. Carletto et al (2007), in the eJADE Journal of Agriculture and Development analyses rural income generating activities and highlight the importance of nonfarm income generating activities. From their findings, even with the increasing importance of nonfarm activities, agriculture still plays a big role, up to 80% in some countries in generating rural incomes. Large scale agriculture attracts investments into the agricultural sector which triggers growth in the sector. Large scale agriculture attracts funds for research and development, resulting into new ways of doing the business of agriculture. Investment in the sector ensures that agriculture remains attractive to the young population because it stops being the occupation of last resort and becomes one of choice due to reduced drudgery and increased return. According to the World Bank (2014), agriculture is still the single most important productive sector in most low-income countries, often in terms of its share of Gross Domestic Product and in terms of the number of people it employs. With a growing world population, there has been increasing demand for food and raw material, which require that the agricultural sector grows in order to meet these demands. For this to happen, investment in the sector is essential. For funds to be committed to agriculture, a comfortable return to investment has to be achieved. Large scale agricultural investments easily factor these considerations and deliver the required financing to achieve high return and also ensure efficient utilization of land. Large scale agriculture enjoys economies of scale, enables investment in agro-processing and value addition, attracts steady markets and facilitates investment in supporting infrastructure and other auxiliary services like research, storage and processing plants.

### **2.3 Challenges of Small Scale Based Agriculture**

Small scale agriculture as practiced in Uganda and probably many Sub Saharan Africa countries is faced with many constraints that limited the returns to agriculture. Because lack of mechanization farming, and limits to expansion of production due to the limitation of the hand hoe to open large areas for production. Smallholder agriculture is characterized by the use of the hand hoe and to a limited extent animal traction. With these methods of land opening, it becomes very difficult to open large areas for production and as such the farmers cannot enjoy economies of scale. Farm drudgery as a result of using the hoe has been discouraging to the young people who find it difficult and body breaking. Without mechanization, agriculture becomes a tough

activity for many and is less productive. In order to facilitate marketing and reduce costs, it makes sense to have consolidated production and bulk marketing. However, due to the scattered nature of smallholder farmers, this is hardly possible, leading to high cost of marketing and low returns to farmers. Fluctuating and unpredictable prices are common in small farmers due to lack of bargaining power by the producers because they are small, scattered and not organized. They also lack access to processing facilities for the produce in order to add value. In some cases, they cannot access market for their produce.

High postharvest losses due to lack of technology for harvesting and access to good storage and lack of improved seed/planting material and production enhancement like use of fertilizers.

This results in low yields which make agriculture unattractive.

Lack of access to financing that would enable investments: Diagne and Zeller (2001) argue that lack of adequate access to credit for the poor may have negative consequences for various household level outcomes including technology adoption, agricultural productivity, food security, nutrition, health and overall welfare. Access to credit improves welfare outcomes by alleviating the capital constraints on agricultural households, hence enabling poor households with little or no savings to acquire agricultural inputs. This reduces the opportunity costs of capital intensive assets relative to family labor, thus encouraging the adoption of labor-saving, higher yielding technologies and therefore increasing land and labor productivity. Access to credit in addition increases the poor households' risk bearing ability, improves their risk coping strategies and enables consumption smoothing overtime. Credit is argued to improve the welfare of the poor.

Failure to meet market safety requirements: due to low investment, lack of knowledge of what the market wants and involvement of too many actors in the production process. Narod et al (2007) underscores the fact that poor producers face problems of how to produce safe food and be recognized as doing so. They are also constrained in identifying cost-effective technologies for reducing risk, and being competitive with larger producers who enjoy of economies of scale and are in position to meet food safety compliance. Public-private partnerships could play a key role in creating farm to fork linkages that can satisfy the market demands for food safety while retaining smallholders in the supply chain.

Land Fragmentation that continues to hinder any meaningful investment in agriculture, especially mechanization.

Investment land is Lack of value addition and dealing in primary low value products. Most products not processed at all hence losing value and lowering returns to agricultural investment. Because most agricultural products are highly perishable, lack of access to value addition and processing plants further makes the sector risky as in some cases farmers lose almost everything they have produced. Dependency on nature – rain fed agriculture with unpredictable seasons due to climate change; that have made planning difficult for farmers. Because they cannot invest in irrigation, they continue to depend on nature to determine when to grow the crops.

#### **2.4 LSAI and its impact on Natural resource and environment**

Ethiopia's economy and ecological system are fragile and vulnerable to climate change. Environmental challenges in Ethiopia include climate change, soil degradation, deforestation, loss of biodiversity and ecosystem services, and pollution of land, air and water. Ethiopia's economy is also highly dependent on natural resources. Exploitation of these natural resources may generate large economic benefits in the short term. However, in the long term unsustainable use of these natural resources increases not only environmental degradation but also decreases economic growth and livelihood opportunities (Emelie and Anders, 2013). All regions in Ethiopia are affected by deforestation and a high degree of desertification. Greenhouse effect, warming (rising of atmospheric temperature), loss of biodiversity, air, water and soil pollution, soil degradation, reduction of surface water and fresh water problem, an increase number of crop failures, erosion, industrial pollution, hazardous chemicals and pesticides, and general climate change etc. are major environmental problems of Ethiopia like most African countries. (Yared, 2009). Ethiopia is one of the countries practicing crop cultivation for centuries. As a result and because of population growth coupled with changing climate conditions over the past several decades, environmental degradation has drastically affected the natural resources and socio-economic infrastructure of the country. It is worthwhile to consider the environmental challenges of Ethiopia in the rural and urban setting (Yared, 2009). Large-scale agricultural investment has adverse environmental consequences, such as intensive use of water, energy, and chemicals. Many aquifers and other water are being drained faster than they can be renewed. The energy required to produce nitrogen-based synthetic fertilizers, to operate heavy farm equipment, to manufacture pesticides, and to transport food over long distances involves burning large amounts of fossil fuels, which in turn contribute to air pollution and global warming. The use of synthetic fertilizers has affected the ability of soil to retain moisture.

Fertilizer runoff has also stimulated a large growth in water systems. Finally, herbicides and insecticides in many cases have contaminated ground and surface waters. According to Yared (2009), lack of sufficient system and regulation for the management of hazardous wastes, chemicals and radioactive substances. In addition lack of environmental awareness concerning the linkage between environment and development in general, weak participation of the people and community based organizations in environmental management activities are some of the environmental challenges, Ethiopia is facing now-a-days. The different types and amount of chemicals exposes the soil to loss its natural fertility. They have different character and reacted differently when they apply to the soil and change its texture, acidic value and fertility (Gudeta 2012). Generally the way in which Ethiopia's investment laws are enforced has not required investors to pursue their projects in ways consistent with sustainable development. For example, although environmental impact assessments are a required component of the project approval, they are often waived (Deininger and Byerlee 2011). Sustainable development measures apparently are left to each individual investment agreement (Weissleder 2009). The terms of the agreements are sometimes not made public or, when they are disclosed, the disclosure is made long after the fact (Moseley 2012). As the above theories and theorem some part of the real estate investment affects the environment and the socio economy of the population of the Ethiopia.

## **2.5 Economic contribution of LSAI to the local community**

### **2.5.1 Contribution to Local Employment**

A majority of funds in the region acquires in the large scale agricultural land, small scale agricultural land either land ownership ship or lease land to local farmers (in which case they share in crop proceeds) or contract out management to a professional farm management firm (typically on a crop sharing arrangement or for a fee). There is little if any noticeable impact on the local economy. Like to Eastern Europe, South America and Africa investments indicated that their investment activities have led to the creation of new jobs, either newly created positions within their organizations or with companies providing services or products to their operation and other farmland owners or investors operating within the same region. In West armachiho woreda large scale agricultural investments also created a job opportunity for a number of people. Although employment creation is another important potential benefit expected from LSLT, the type of jobs created are often characterized by low wages and is often in poor working

conditions (Dessalegn, 2011, p. 8-9). Employment impacts are difficult to judge due to the difficulty in differentiating between additional employment and job replacement particularly when smallholders lose access to land. Besides, information is hard to come with regarding the type of job created as in the case of agriculture, for example, most jobs are seasonal and are mainly performed by unskilled labors Desalegne 2013 page 90-91). Employment creation is also confused with contract farming, In sum, this chapter highlighted the history of LSLT, the macroeconomic factors for increased land transfer and host countries Governments policies towards LSLT. The total number of employees employed in West Armachiho Woreda during the pick time reaches more than 150,000 (LSA 2016). In the study woreda about 758 investors took 75,386 hectares of rural land for investment. On average each investor took 99.5 hectare of rural land in West Armachiho Woreda. (This average size of investment land managed by institutional credit financing system like ACSI, Commercial bank of Ethiopia, and Development bank likely to increase as investment activity to transfer new development within the country with larger farm sizes.) Teams consist of an agronomist and field staff (either fulltime or seasonal contract hires). More of investors lead to manage their investment land and more than 150 to300 works managed and supervised by locally or not professional expert. While investing in capital equipment is necessary in developing markets. Such as Africa and Eastern Europe, in more developed markets such as Brazil where established planting/harvesting contract services exist, a majority of investors subcontract planting and harvesting tasks to outside contractors. With few exceptions, the respondents indicated that they prefer to hire and train local managers instead of bringing in expatriate managers. This results in a transfer of new technologies and professional skills to the local population. As one investor active in Ukraine commented, the level of expertise in operating planting/harvesting equipment and managing farm operations has always been high in the country. This extends to the culture of the local population which has a tradition of trading in agricultural commodities which proceeded the Communist era of the 20th century. Therefore, while this fund continues to bring in expatriates from the EU to work alongside local managers in order to assure the transfer of technology and management skills, over time the reliance on expatriate managers is expected to diminish over time.

In most cases, respondents were eager to refer to the investments and efforts they were making to transform the productivity of land they were acquiring. In one case, an investment group based in North Africa has partnered with a permanent crop company that will provide on-the-ground

technical and agricultural expertise for the farms the investment group acquires as well as partner on the financing of agricultural infrastructure projects.

A global investment firm with global operations including holdings in Africa cites the higher wages and the better working conditions they provide their employees (compared to other local employers) as an important contribution to raising the bar on employment practices in communities where they operate.

### **2.5.2. Contribution to the Local Economy**

Large scale agricultural investment has a paramount advantageous for the local community. Some of these advantageous are:

- introduction of more efficient agronomics and farming/business practices which are eventually adopted by the local population;
- generation of higher productivity in land use and improved crop yields;
- expansion of market access for neighboring farmers as increased scale of production leads to increased public and private investment in infrastructure and logistics and
- Increased access to products and services in the agricultural sector and, parallel sectors in the local economy.

The multiplier effect was cited as being the most important impact that investment activity has on local employment and the economy. Interviewees operating in different parts of the world cited examples of how their investment in transformation of land into productive farmland has created a new dynamism in the local economy. The investment made to bring this farmland back into production has created new jobs and revitalized the cultural, social, and economic life of these population centers in Ukraine's rural regions (Deininger et al., 2013, p. 23).

Transformation of farmland was cited by a number of survey respondents as providing major benefits for local economies at all levels which interact with crop and food production as it will create demand for products and services in the following sectors:

- crops inputs;
- planting and harvesting equipment and services;
- labor;
- transportation (trucks, rail, barges and ships);
- primary processing of crops;

- export services,
- To create Financial and credit for crop production and capital investment.

The objective is to attract other farmland investors to enter the market so that the resulting increase in demand for products and services will provide incentives for entrepreneurs to launch new businesses such as contracting of planting and harvesting and crop input distribution. This will enable the company to outsource non-key functions to 3rd parties and focus resources on its core business which is farm management and transformation of the land.

## **2.6. Perspectives of Large Scale agricultural investment**

There exists ongoing debate on whether LSAI is beneficial to local lives and livelihoods, particularly in the context of developing countries. The argument for governments transfer or allocation of land to agribusiness investors will create new opportunities for the local smallholder farmers and will lead to improvement of the living standards in African countries, but also entail risks of losing land and being marginalized to the local communities (Cotula et al., 2010, p. 15). Proponents of the policy argue that LSAI has the potential of bringing the much needed Foreign direct investment (FDI) to the poor and developing countries, particularly to poor African countries (see WB, 2008; UN, 2010; FAO, 2010). They argue, LSAI can benefit the host countries both by increasing their foreign exchange earnings and in enhancing their economic development “through providing local economic spillovers, trade benefits and access to new markets” (Ibid). They further claim that this owes to the fact that most governments of poor countries cannot in their own raise the much needed investment in rural agriculture due to limited resource capacity, hence leasing land to agribusinesses investors is seen as an opportunity for increased investment in agriculture. Thus, giving out user right for agribusinesses will result in improvement of land productivity and allow for technology transfer and introduction of best practices to the local people. It could also stabilize global food price and increase in food crop production which would be available for local and national consumers in addition to overseas consumers” (Ibid). Proponents further argue that the rural poor community would benefit from LSAI through, among other things, creating on farm and off- farm jobs, development of rural infrastructure and construction of schools and health centers provided that negotiations are carried out transparently, existing land rights are respected, and benefits are shared between local communities and agribusiness investors (De Zoysa, 2013, p. 6). To the contrary, some critics point out that LSAI has rather devastating consequences on local livelihoods and ecological

sustainability (Cotula et al., 2010, von Braun and Meinzen-Dick, 2009, Daniel and Mattue, 2009). First, land-lease agreements are often in favor of investors than local communities, because firms hold greater bargaining power in negotiating these agreements especially when the host government and local elites support the investment (von Braun and Meinzen-Dick, 2009, p. 2). Second, as will be discussed later in this research paper, it is often the case that smallholders will be displaced from their lands and the promised job and local development may not be fulfilled (ibid, p. 2). It is argued that the transfer of land to investors not only denies local communities their entitlements to land, but also violates their rights to use it. According to the UN Special Rapporteur on the right to food, States would violate the human rights of citizens to food if they deprive local populations, access to productive resources important for their livelihoods, by selling or leasing land to investors (De Schutter, 2009, p. 2). Giving out land to investors also disrupts the local land tenure system by altering formal land rights that are under state control (German, Schoneveld & Mwangi, 2011, p. 3). Consequently, local authorities who play a key role in allocating land rights often fail to act in communities' interest.

### **2.7. Drives for Large Scale Agricultural Investment**

LSAIs have particularly accelerated since 2008, corresponding to the period of global food price hike (von Braun and Meinzen-Dick, 2009, p. 1). Although the crisis was a big factor for the increase in LSAI in recent years, there are also a number of other reasons. Generally, the following factors are identified as the main motives for the acceleration of the current trend of LSAI in developing countries:

#### **A. Food security**

For foreign agribusiness investors, although food prices have been perceived to be in long-term decline over the last century, the 2007/08 price hikes changed this assumption. During 2007/08, aggregate food prices doubled and although slightly dropped in the aftermath of the crisis, they remain high. It is expected that prices will continue to rise in the long-term and hence prompt mass investment in agriculture (Cotula et al., 2009, p. 52; De Zoysa, 2013, p. 6). For countries that heavily rely on imports for domestic food consumption, such as the Gulf States, food security concerns are extremely significant (Ibid, p. 54). Hence, overseas land lease is an important strategic decision for such states in order to address their concerns of food security.

## B. Biofuels

Apart from food security concerns for foreign agribusiness investors, increased investment in biofuel is another catalyst of LSAI in developing countries. Biofuels are fuels produced from biomass for the purposes of transport, heating, electricity generation and cooking (Cotula et al., 2007, p. 54; Dessalegn, 2011, p. 10). There are certain reasons that compel the use of biofuels over fossil minerals such as oil. These include: energy security, rural development, export development and climate change mitigation (Cotula et al. 2009, p. 54).

## C. Non-food agricultural commodities

The demand for non-food agricultural commodities is also another factor behind the rush for agricultural land, particularly by countries that are dependent on these commodities for smooth operation of their industries. As the global economy grows, the demand for such commodities as rubber, cotton, sugar, coffee, cocoa, tea and soya beans will increase and hence importing countries need to secure supply by acquiring overseas lands (Cotula et al., 2009, p. 56).

## D. Expectations of returns

This refers to investment in agricultural products not for the sake of food or energy security, but for fetching financial returns from such investment. Because of rising price for agricultural products, private and Government backed land acquisitions are becoming increasingly attractive and source of wealth. Such investments target return in agricultural investment over the long-term. Following the financial and food crises of 2007/8, agricultural land is highly considered as strategic asset, because it is cheap and relatively risk free (Cotula et al., 2009; De Zoysa, 2013, p. 6). Such investments target return in agricultural investment over the long term. Following the financial and food crises of 2007/8, agricultural land is highly considered as strategic asset, because it is cheap and relatively risk free (Cotula et al., 2009; De Zoysa, 2013, p. 6).

## E. Emerging carbon markets

Carbon markets may also foster land transfers in the expectation of long term increase in land values. These may include aforestation projects under the Reduced Emissions from Deforestation and Forest Degradation (REDD) scheme of the post Kyoto climate change regime. Because potential returns from carbon markets may increase land value, investors that look at long-term returns (such as investment funds) are attracted to acquiring large tracts of land (GERES, 2009 cited in Cotula et al., 2009, p. 58).

## F. Host country incentives

For host countries, such as African states, agriculture is a major source of employment, growth and revenue as well as assures food security in the long term. Besides, foreign investment in agriculture is seen as a vehicle of technological transfer, improved productivity, infrastructure development and increased supply of food to local markets. Thus, host countries strongly support such investments by providing various incentives to local and foreign investors. The favorable investment environment in turn attracts more and more investors who shall acquire land in good terms (Ibid, p. 58). In addition to the above motives, the World Bank (2010, p. 2) claims that, population growth and high rate of urbanization also contribute to the increase in LSLT. Moreover, rising incomes tend to increase the demand for food products, which in turn need to be addressed by increasing cultivable land and improving productivity (Ibid, p. 2). Consequently, there will be increased LSLT to meet these challenges.

## **2.8. Elements of Preferred Land for Agricultural Investment**

Once the need for agricultural land arises, the next step is to select the appropriate site or location where investment land can be acquired. The decision about where to acquire investment land depends on a set of several factors. These factors include resource endowments, particularly agro-ecological characteristics of the target countries (De Zoye, 2013, p. 7). The underlying assumption in terms of the yield gap is that farmland is underused compared to the potential yields and that such land can be improved to increase its market value through additional inputs (such as water, fertilizers, seeds, infrastructure, and know how) (Ibid, p. 16-17). Meanwhile, land availability refers to the availability of land that is not being used, but suitable for rain fed cultivation and that has a population density of less than 25 persons per km (Ibid, p. 17). Thus, countries with high yield gap and abundant land availability are the most preferred investment destinations according to a typology developed by Deininger et al. (2011, p. 17). This typology accounts for the largest share of land acquired according to Land Matrix database, representing 58% of all deals. Most of the countries affected in this category are located in Africa, particularly, Sub-Saharan Africa (ibid 2011, p. 12).

In addition to yield gap and land availability, the types of land covers also determine the choice of suitable land for large scale agriculture. According to the Land Matrix Project, cropland and forests are the most commonly targeted land covers followed by shrub land/grassland and marginal land respectively (Ibid, p.17). The Land Matrix Project shows that out of 82 cases for

which there is information about former land use, most land (about 56) were reported to have been used by smallholders for cultivation, followed by communal use (particularly for grazing animals) (Ibid, p. 39). Meanwhile, only few of the reported cases of LSLT were under forest cover or under conservation prior to the investment (Ibid). Croplands make up 43% of all 246 land deals (and 22% of the land transferred), which include different cropping varieties of stallholders (Ibid, p. 16). Other croplands targeted also include irrigated areas and rain fed croplands. Thus, contrary to the aggregate, nation-wide data that suggest „unused land“ as the common targets of land transfer, this local- level analysis shows nearly half of the investment target land had some form of cropping activities (Ibid, p. 18). Lands covered by forests are the second preferred target by investors with 24% of the 246 land deals (31% of the total surface) targeting such land covers (Ibid). The third preferred land covers for LSLT are shrub lands and grasslands, which account for 28% of all deals (and 17% of their surface area) (Ibid). While the economic benefit of converting these lands to croplands is probably enormous, it has significant negative impacts on non-measurable benefits of the local people. These losses include important grazing fields for pastoral communities as well as local biodiversity. Finally, the remaining 5% of the recorded land deals (or 30% of the total surface area) targeted bare areas, for instance desert, wetlands, and urban or per-urban areas (Ibid). Other determinants of land transfer for large scale agriculture are accessibility of the land and local population density. Often, the main targets of agricultural land are those with good accessibility and considerable population densities (Ibid). This in turn affects local population’s livelihoods. Accessibility, measured by travel time to urban centers, determines the ease of delivering agricultural produce to the nearest markets or to a processing plant. It also determines accesses to inputs such as fertilizers, pesticides, seeds, and machinery. Besides, it represents the ease of access to market information, extension services and policy making processes (Ibid, p. 20). On the other hand, many LSLT’s have targeted areas with a population density of more than 25 persons per km<sup>2</sup>. According to the Land Matrix project, more than 60% of the land deals fall in this category (Ibid). Thus, land deals often result in strong competition with local land users who themselves rely on smallholder agriculture. This is usually the case in areas with fertile land in East and West Africa as well as South and South East Asia, whose agriculture is dominated by very small farm sizes and high population densities (Ibid).

## **2.9. Large Scale Agricultural investment and its Impact on Local Community**

Although LSAI may provide capital for Africa's land-dependent economies, in the presence of weak domestic governance of investments they could pose socioeconomic and environmental risks (see Richards, 2011; Coutla, 2011, Dessalegn, 2011). Studies show that most affected countries of land transfer are countries which are significantly poor, whose economies depend mostly on agriculture and countries that are less involved in world food exchanges (Richards, 2013: 7). Thus local people could lose access to the resources on which they depend, including not only land but also water resources, wood and grazing areas (Cotula, 2010, p. 95-96). LSLT could marginalize smallholder farmers, who are known to be very efficient and resilient producers (Ibid, p. 96). The Land Matrix Database indicates that the highest number of farm deals (roughly 66% of the land areas acquired) target countries that are significantly affected by hunger and those which have higher agricultural share to their GDP (Deininger et al., 2013, p. 17). This implies that hunger affected countries are significantly dependent on agriculture as their main source of livelihood (Ibid). Since most of the investment in large scale agriculture is aimed at non-food production or export crop, it can have a negative effect on local food availability (Ibid, p. 12). Such dependency on agriculture suggests that poor people have no other alternative for income generation and any eviction and resettlement will likely have bad consequences to these people than to richer societies with diverse economies (Ibid, p. 12). LSLT also shifts control of food resources and food producing lands away from domestic to foreign firms, which in turn, reduces the likelihood of food self-sufficiency among poor nations. Because most of the host countries of such investments are themselves net food importers or food aid recipients, critics view such land transfers as host Governments' outsourcing of food at the expense of their most food insecure citizens (Daniel and Mattue, 2009, p. 16). It is also often the case with land deals that even if national indicators may suggest the abundance of large reserves of suitable land for investment, in reality land given out is often found within cultivated areas and farmlands (Richards, 2013, p. 7). This contradicts the claims made by governments that investments are carried out on "idle land". There are also indirect impacts of LSLT on local livelihood; which include loss of access to seasonal resource for non-resident groups such as transhumant pastoralists, shifting of power from women to men when land's commercial value gets high, eviction of local users from higher-value lands to marginal lands which could create more pressure on the latter (Cotula et al. 2009, p. 15). The introduction of large scale agriculture

in countries dominated by subsistence or smallholder farmers could lead to social unrest, socio-economic inequalities and local political turmoil (Daniel and Anuradha 2009, p. 11). There is mixed evidence on the impacts of land transfer on local infrastructure development and employment opportunities. According to the Land Matrix database, the majority of the projects brought infrastructure development particularly in the form of health or educational facilities, better access to markets and project infrastructure that can be used by the local population (Deininger et al., 2013, p. 23). In addition, financial support and capacity building are some of the facilities extended to the local communities although they are not significant (Ibid, p. 24). However, only few projects ensured environmental protection to the local people through LSLT (De Zoysa 2013, p. 25).

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Description of the Study Area

#### 3.1.1 Location of the study area

The study is conducted in Amhara region north Gondar administrative Zone west Armachiho Woreda. Amhara National Regional State (ANRS) is located in the north-western part of Ethiopia. It is bounded by the Afar in the east, Benishangul-gumuz in south-west, Oromia in south and Tigray regions in the north, and Sudan in the west. Geographically, it is situated between latitude  $9^{\circ}$ – $13^{\circ}45'$ N latitude and  $36^{\circ}$ – $40^{\circ}30'$ E longitude. The total area of the region is estimated about 170,152 km<sup>2</sup>, which is one-sixth of the country's total area (EPLAUA, 1997). It receives the highest rainfall percentage in the country and average annual temperatures of  $15^{\circ}\text{C}$  -  $21^{\circ}\text{C}$ . There is a wide diversity of wildlife, flora and fauna in the region. As such, 85% of the region's population is engaged in agriculture. Cash crops which include cotton, sesame, sunflower, and sugarcane are grown in the region's lowlands. Stable foods such as teff and other cereals are also produced in large quantities. Nearly 40% of Ethiopia's livestock population is found in Amhara (Keely, Seide, Eid, & Kidewa, 2014). A large share of land based investments is simultaneously taking place in this region (Oakland Institute, 2014). The regional government is responsible for allocating a large amount of large scale agricultural investment land.

Armachiho Woreda is one of the largest investment areas in the North Gonder administrative Zone. Armachiho Woreda is 217 km far from the capital of the Gonder administrative zone. It is bounded by Metema woreda and South Sudan in south, Tsegedie Woreda and Tachi Armachiho Woreda from east, and by Region of Tigray in north. At present the Woreda comprises 14 kebeles and 75 modern agricultural investment blocks. From the total area of the woreda, 75,386.5 hectare is covered by large scale agricultural investment.

The altitude of the woreda ranges from 600 to 1100 meters above sea level and it has a range of 500 meters. The total area is 3,335.5 square k.m, average temperature of the woreda is  $38.42^{\circ}\text{C}$  degree centigrade, and Average annual rain is 600 to 700 ml, which have a range of annual rain 100ml (WAWBDI, 2016).

### 3.1.2. Population

According to (WBDI, 2016), the total population of the Woreda is 46,137. Of which 23,968 are male while the remaining balance 22,169 are female. Lots of people live in Midre Genet kebele 02 with population number of 12012 which were 26.04% of the total population. And relatively few people live in the Midre Genet 01 kebele 01 with population number of 8102 which were 17.6% of the total population.

Table 3.1: Population size of the Woreda

Kebele	Total population			% of the total kebele population	Area (Hectare)	Population Density (#popu./Hectare)
	Female	Male	Both Sex			
Midre genet 01	3899	4232	8122	17.60	7077	1.15
Midre genet 02	5772	6240	12012	26.04	7303.4	1.64
Abrehajira 01	2097	2250	4347	9.42	3037	1.43
Abrehajira 02	2212	2179	4191	9.08	2857	1.47
Terefe work 01	787	853	1640	3.55	3307	0.50
Terefe work 02	836	905	1741	3.77	3145.6	0.60
Girar wuha	900	975	1875	4.06	3250	0.60
Diremaga	622	717	1380	3.01	3670	0.38
Mogesie	432	468	900	1.95	7775	0.12
Zemene meriq 01	425	461	886	1.92	1608	0.55
Zemene meriq 02	603	653	1256	2.72	6262.5	0.14
Mahirsh	668	714	1374	2.98	6556	0.19
Torka	1444	1563	3007	6.52	8853	0.34
Gabila	1631	1767	3398	7.37	5484	0.62
<b>Total</b>	<b>22169</b>	<b>23968</b>	<b>46137</b>	<b>100.00</b>	<b>70085.2</b>	<b>0.66</b>

Source: woreda business and economic institute, 2016

### 3.1.3. Social Infrastructure and Services

Social infrastructure plays a central role in the development of urban and rural settlements. Investments were the great role in infrastructure translates in to growth in other sector of the economy. Social services are services that can be provided by government, non-government or individual large scale investors for the benefit of the urban, and Rural dwellers, such as education, health care, Road, and the like. Education is the basis of countries social, economic, cultural, and political development. In Ethiopia remarkable successes has been achieved in the education sector. However there are still challenges pertinent to access, equality, equity, efficiency and promotion of standard education system in West Armachiho. In this woreda the number of preprimary, secondary High schools and Preparatory Schools are indicated in table.

**Table 3.2: Education Services in west Armachiho woreda**

S.No	Distribution of Education Institutions	Ownership			
		Gov't	Private	Others	Total
1	Primary Schools	19	-	-	19
2	Secondary Schools	2			2
3	Preparatory Schools	2			2
	<b>Total</b>	23		1	23

Source: West Armachiho woreda Education office, 2017

### 3.1.4. Health Service

West Armachiho is one of the West Amara developmental product collider due to the product sesame the local peoples called (white gold), it uses to exchange of other developed countries. Due to these reason so many labors came to this woreda. To protect their health Health centers were the principal issues in large scale rural agricultural investment projects because of high density and large population concentration and large scale agriculture investments their wastes bring series problem to investment farming project dwellers. Large numbers of health service providing institutions are available in West Armachiho worada where some of them are owned by government and others are privately owned.

**Table 3.3: Health Services in West Armachiho Woredan**

S.N	Type of Facility	Ownership		
		Gov't	Private	Total
1	Hospitals	1	-	1
2	Health Centers	2	-	2
3	Medium Clinics	-	2	2
5	Health post	10	-	10
6	Others		26	26
	Total	13	28	31

Source: - West armachiho woreda Health Protection sector (2017)

### 3.1.5. Existing Land Use

The existing land use analysis of a certain geographical area enables us to determine the need of the future land uses for different uses within the study area. The existing land use analysis of rural land, forest land, Road, cultural & social welfare, governmental institution, and common lands areas were mostly encompass the land use components (WEPI & NRI 2017). Hence, in Woredas out of the entire 240,659.2 hectare of land, among these 68,000 covered by forest, 75,386.5 large scale agricultural investment, 18,987 Godebie national pack, great Angreb river, sesame buyers (ECX), central sesame institute and other small rivers, medical care, housing, and other social infrastructure that can be used to promote the well-being of the community ( and 10 kebele were made modern rural land use planning block 1- 75 including investment areas covered in the existing land use and remaining 4 kebeles engaged by local land administration system.

**Table 3.4: Existing Land Use of the Woreda.**

S.N	Land Use Type	Area (Ha)	Percentage
1	LAI(large scale agricultural investment)	75386.5	44.16
2	Forest	68000	39.83
3	Godebie National park	18987	11.12
4	Common lands	7653.5	4.5
5	Road	258.4	0.15
6	Cultural & Social Welfare	183	0.11
7	Governmental institution	160.5	0.094
8	Farming training center	78	0.046
Total		170706.9	100

Source EPLAUI (2017)

### **3.2 Research design**

Burns and Grove (2000) define a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. Parahoo (1997) describes a research design as “a plan that describes how, when and where data are to be collected and analyzed. This study used mixed research design that utilizes both quantitative and qualitative data sources. Both primary and secondary data sources were used for this study. A structured questionnaire was administered to collect primary data from the selected sample households. In addition to that, FGD and key informant interviews were also made with selected affected landholders, city administration and Woreda officials using semi structured questionnaire. Secondary data sources such as relevant literatures and documents, country level laws including the constitution, proclamation and policies relevant to land were also used. In addition, previous studies conducted by national and international researchers and organizations were used for the study.

#### **3.2.1. Target Population**

According to field observation selected targeted population 57 land holders were taken as target population in the study area. These landholders are selected from 5 more investment areas, kebeles, Mainly Abirhajira 01 and 02 Midre genet 0and 02 Teref work 01 nd 02 Garwuha that are affected by large scale agricultural investment. The reasons why households of the eight

kebles selected is that, they were more affected by large scale investments expansion core-dom investment sight. I decided to increase the size of the respondents in this investment. Based on the total farming project type of these site respondent investors, 15, Model small scale farmers 19 and small scale farmers 23 were selected from the farming project type. Detail shows below in the provided table.

**Table 3.5: Selected number of sample investment types**

Agricultural investment type	Investment type		
	Private investments	Government	Total
Large scale agricultural investment	15	-	15
Model small scale agricultural investments	19	-	19
Small scale agricultural investment	23	-	23
Total	57		57

Source: Field survey (2017)

### 3.3 Data sources

#### 3.3.1 Primary data sources

To address the stated objectives; Questionnaire, field observation, key informant interview and focus group discussions were used to get primary data. To triangulate the data combination of methodologies, qualitative and more of quantitative data approaches were applied.

#### 3.3.2 Secondary data sources

All necessary secondary data were also collected from written documents, investors' investment proposals, Woreda investment profile and environmental auditing reports, different books and journals. Published and unpublished articles were also collected from internet websites.

### 3.4. Sampling Design

A sample design is a plan for obtaining a sample from a given population and the procedure that the researcher followed to achieve the sample. In order to select the study site and respondents: both probability and non-probability sampling techniques were used. The study site is selected purposively based on the coverage and practice of large scale agricultural investments.

### 3.4.1 Sampling Unit

An individual household (investors, small scale, and model small scale farmers) was used as sampling units of the analysis.

### 3.4.2. Sample size and sampling techniques

#### 3.4.2.1 Sampling Technique

For this study both probabilistic and non probabilistic sampling techniques were used. Under probability sampling technique, systematic random sampling technique was used to select investors, model small scale farmers and small scale farmers. Each unit in the population has a chance of being selected when random sampling technique was employed. Probability sampling technique was used to keep sampling error low. In the case of non probability sampling technique, purposive sampling technique was deliberately used to select the study area (Investment sight). Hence, 5 investment sites were selected as study areas and local government officials and professional experts who were deemed to be able to answer the critical interviews were selected purposively by lottery method. The targeted population was used to select the respondents by percentage from the total target population. To gather information about the impact of large scale agricultural investment on the small scale farmers and model farmers, economic productivity status and environments of the study area about 76 respondents were selected based on percentage. Since the populations are selected from the study site dispersed to different side in coredom investment site, it was decided to increase the size of the respondents in this investment area. Based on the investments sites the three respondent; small scale farmers 23, from the large scale agricultural investment 15, from model small scale farmers 19. Detail shows below the table.

**TABLE.3. 6.SELECTED TARGET GROUP BY PERSENTAGE**

Number	Target group	Number of HH	Percentage	Number of selected HH
1	Investors	180	8.3	15
2	Mssf	63	30	19
3	Ssf	76	30	23

Source: Field survey (2017)

Notes: - NO mss=Number of model small scale farmers

No ss= Number of small scale farmers

### **3.5. Data analysis and presentation**

Data collected through questionnaire survey, interviews, focus group discussion, and observations were carefully tallied, tabulated and organized. Both quantitative and qualitative approaches of data analysis have been used. The more concern qualitative methods was used to describe the findings qualitatively which were gathered through participatory assessment involving; key informant interviews, focus group discussion, observations, secondary data obtained from various data sources.

Quantitative data analyzed by using descriptive statistical tools like tables, and analytic tools by using Microsoft excel. Figures were used as evidence to elaborate wherever necessary in the discussion and findings of research analysis.

## CHAPTER FOUR: - RESULT AND DISCUSSION

### 4.1 Demographic Characteristics

The survey result shows that 92.98% and 7.01% of the sampled households was male headed and female headed, respectively. The respondents have ranged in the age group of 1.75%, 61.4 %, 24.56% and 7.02% of less than or equal to 30, 31-45, 46-60 and greater than or equal to 61 years respectively. Details of the respondents age group in each redevelopment project type is provided in the table below.

**Table.4.1: Age group of sample respondents**

Age group of sample respondents	Farming project type									
	Investment	Sex		Model small scale farming	Sex		Small scale farming	Sex		Total
		M	F		M	F		M	F	
less than 30				1	1	-		1	-	1
31-45	10			12	12	-	13	9	4	35
46-60	5			5	5		6	5	-	14
greater than 61					-	-	4	-	-	4
Total	15			18	18	-	23	19	4	57

Source: field survey (2017)

As to the marital status of the sampled respondents 82.5 % were married, 7.01% were divorced, 10.5% were single. With regard to the family size of the farming project type 14.04% have one, 49.12% have two, 17.54% three, 10.5% four, and 8.77% have five and more persons in their household. This shows that almost half of the sample respondents have two household sizes.

**Table.4.2: Family size of respondents**

Family size of respondents	Farming project type			Total
	investment	Model small scale farming	Small scale farming	
One	1	3	4	8
Two	1	12	15	28
Three	2	4	4	10
Four	5			5
Five and more	6			6
Total	15	19	23	57

Source: Field survey (2017)

Education is one of the most powerful instruments for reducing poverty and inequality and for laying the foundation for sustained socio-economic development (AfDB, 2003). Hence, from sampled households 35.09% were illiterate, 57.89 % were elementary or learned from grade 1-8, 7.02 % of the sampled farming project type. If we compare the educational level of sampled investors, model small scale farmers and small scale farmers of the three farming project type, 15%, 21% and 19.23% have learnt to secondary school (Grade1-8). This result shows that the literacy rate is highest in model small scale farmers than investors and small scale farmers to the farming project type. In detail is shown in the table below.

**Table.4.3 Education level of household respondents**

Faming project type	Education level of household head					Total
	Illiterate	Elementary/ Grade 1-8	Secondary/ Grade9-12	Diploma/Vocational Training	University	
Investor	5	9	1			15
Model small scale farmer	3	12	4			19
Small scale farmer	12	11				23
Total	18	36	3			57

Source own survey (2017)

#### **4.2 The Economic Contribution of the investment project to the community**

Large scale Agricultural investments have the great potential to create job opportunities in the study area. West Armachiho Woreda is one of the West Amhara developmental collider to produce sesame, sorghum and cotton products. Due to this different workers came from different regions, Zone and woredas to preparing land, planting, weeding, harvesting crops, and managing facilities.

According to the field survey result shows that the investors create job opportunity permanent and daily Worker above 16 Workers 14.04% and 7.02% (11-15), create job opportunity of the investors from selected sampled farming project type.

From model small scale farmers by permanent workers and daily workers 19.3% (1-3) and 14.04% (4-10) and create job opportunity of from selected sampled farming project type to the model small scale farmers.

From 1 small scale farmers by permanent and daily workers 40.35% (1-3) create job opportunity of from selected sampled farming project type to the small scale farmers.

If we compare to create job opportunity by permanent and daily worker job opportunity level of selected from the three farming project type the investors highest than model and farmers and small scale farmers respectively. In detail were shown in the table below.

**Table.4.4: Create Job opportunity**

No of workers									
	Investment			Model small scale farming			Small scale farming		
	No inve	permanent	Temporary	No mss	permanent	Temporary	No ss	permanent	temporary
1-3				11	1	2	23	1	2
4-10	1	3	7	8	2	8			
11-15	4	9	6						
Above 16	8	15	150						
Total	15	Above 27	163	19	3	19	23	1	2

Source: - Field survey (2017)

Notes: - NO inve = Number of investors

NO mss=Number of model small scale farmers

No ss= Number of small scale farmers

### **4.3. Transfer of new technology to the community**

The field survey result shows that from the investors used to their own new agricultural machinery (tractor) 3.51%, and used to rent to the tractor 22.81% from the Model small scale farmers 10.53% used to rent tractor and 22.81% of used to animal energy, and from the small scale farmers 10.53% used to rent tractor and 29.82% used to Oxen of the sampled farming project type. This result show that investors only 3.51% were used to their own tractor. Even if they used limited farming machinery but they transfer new technology to the community by rented farming machinery. In addition to that investors were most used to new agricultural technology than model small scale and small scale farmers but also used to the community by the transportation, to build community health services, to built the road access and the like (according to focus group discussion). Details of the respondents used to agricultural machinery shows that in each farming project type were provided in the table below.

**Table.4.5: Used farm machinery (tractor)**

Farming project type	Developed farm land			
	used own tractor	used tractor rent	used animal energy	Total
Investors	2	13		15
Model small sale farmers		6	13	19
Small scale farmers		6	17	23
Total	2	25	19	57

Source: - Woreda investment annual profile (2016/2017)

From data result shows that with regard to the sampled farming activities of investors the main source of financial capital from their own income were 20%, from Amhara credit saving institute (ACSI) 46.7% and private loaner 33,3% by higher loan rate.

From model small scale farmers shows that with regard to the sampled farming activities the activities main source of income from their own income were 10.5%, from their own saving 21.1% and private loaner 68.4% by higher loan rate.

From small scale farmers shows that with regard to the sampled farming the main source of income from their Remittance from family member 21.7% and own income were 10.5%, from their own saving 21.7% and private loaner 73.9% by higher loan rate.

This result clearly shows that investors were most create their own business than model small scale and small scale farmers. According to current situation private loaner's higher level in the study area, so this result was highly reduces the productivity. Details of the respondents used to private and micro banks shows that in each farming project type were provided in the table below.

**Table. 4.6: from selected farming source of financial capital**

Faming activities	Source of income from farming project type					Total
	Income from business	Remittance from family member	own saving	Loan		
				Bank	Private	
Investors	3			7	5	15
Model small scale farmers	2		4		13	19
Small scale farmers		5			17	23
Total	5	5	4	7	35	57

Source: - Own survey (2017)

#### **4.4. The productivity of selected farming group**

One issue raised in relation to land investment is how large-scale commercial farming will impact on food security. The Ethiopian government promotes land investment as a strategy to improve food security at the national level, through foreign exchange earnings generated by farm outputs; by increased production of crops in the country; and by improved incomes through jobs created on farms. However, the main pillar of the food security strategy is to rely on intensification of small scale farming, through improved technologies, investment and institutional change. In this respect, this report disagrees with the interpretation of Lavers (2012) that commercial land investment, in essence, represents a highly risky fundamental change in policy to a trade-based food security strategy.

According to the survey data result shows that from the investor's productivity per hectare of sesame 86.7% (100-200kg) and 13.3% (300-500kg) and sorghum 26.7% (600-800kg) were the productivity of investment farming project type. According to the west Armachiho woreda agriculture institute (WAWAI) (2017) data shows the average natural hazard (risk) both sesame and sorghum 47.5% and the average productivity per hectare from the investor sesame and sorghum were 150kg and 900kg respectively.

Model small scale farmer's productivity per hectare of sesame is 10.5% (100-200kg) and 73.7% (300-500kg), 15.8% (600-800kg) and sorghum 5.3% (300-500kg), 36.8% (600-8000) and above 57.9% (800kg) was the productivity of model small scale farmers to the farming project type.

According to the west Armachiho woreda agriculture institute data (WAWAI, 2017) data shows the average productivity per hectare from the model small scale farmers were sesame and sorghum 500kg and 1100kg or 5&11 quintal respectively. According to the focus group discussion this farming project type were used to soil fertilizer, soil conservation, modern farming system, better land use system and more used professional advice to their productivity.

Small scale farmer’s productivity per hectare of sesame 78.3% (100-200kg) and 21.7% (300-500kg) and sorghum 13% (100-200kg), 87% (300-500) were the productivity of small scale farmers to the farming project type. According to the west Armachiho woreda agriculture institute (WAWAI, 2017) data shows the average productivity per hectare from the small scale farmers were sesame and maize 300kg and 400kg respectively.

This result shows that model small scale farmers were the most productive than investors 15.8% (600-800) and again small scale farmers were more productive than the investors 57.9%. The productivity of investors was sesame product 21.7% (300-500) per hectare. Generally in these woreda the investors the large scale agricultural land is lead by traditionally because the land is were used to the only land graving purpose. Details of the respondents productivity shows that in each farming project type were provided in the table below.

**Table.4.7. Stage of productivity**

Number of Productivity per hectare in kg	Investment			Model scale farmers		small scale farmers	
	Sesame	Sorghums	Risk%	Sesame	Sorghum	Sesame	sorghum
100-200k.g	13		29	2		18	3
300-500kg	2			14	1	5	20
600-800kg		4	10	3	7		
Above 800kg		11	8.5		11		
Total	15	15	47.5		19	23	23

Source (WAWAI, 2017)

#### **4.5 Major Problems faced by local model and small scale farmers**

- a.** Loss of Income – From investors, model and small scale farmers said their income is reduced significantly due to the environmental problem. Some of them were getting income from small businesses where as such kinds of businesses were vanished completely as the result of the program. The others have been getting income by renting private pawnbroker (usurer) which was high interest rate.
- b.** Transportation problem – with regard to transport services, the agricultural farming project type has been making a lot of efforts to meet the demands of the large scale agricultural farming project type However, it couldn't able to move their product from farming project type to their houses, hence; investors, model and small scale farmers said that they were using tractors and donkey carts which are very costly to reach to the city center.
- c.** Market Related problems – the availability of market price of products were not constant it varied up and down specially sesame product. Hence, the large scale farming project types forced to sell very low price. Because there were no the voluntary credit institute from woreda and city administration.
- d.** The accesses of rural land – most of model and small scale farmers were in this Woreda in camper community comes from in different woredas and Zones until 1995-2002 E.c so they were not the access of rural land or the land tenure system Unequal distribution of rural land resource with first inhabitants.
- e.** Seed Production Distribution- Sesame is Ethiopia's single largest exported oilseed and, as was previously mentioned, is an important income generate of foreign exchange. About 95 percent of exports are in the form of unprocessed seeds, leaving opportunity for value-addition prior to export. Hence, thesis great asset were the lack of improved seeds as the study area.
- f.** Low infrastructure development – one of the major criticisms of the study areas were most of Agricultural land or blocking roads are closed by improper agricultural investment activities. Due to this they were uses by privet land tenure system as the temporary roads.
- g.** Low level of awareness – the importance of raising the awareness level of each agricultural activity in each steps of modernization farming system is underlined in order

to make them psychologically ready for the changes that will occur as a result of high productivity.

#### **h. Economic Impacts**

The immediate economic effects of the ISAI' means of living are discussed in this sub section. Here an attempt will be made to examine the effects by exploring the previous land uses and the opportunities lost as a result of the large scale agriculture. To transfer, local communities had been making a living from the land through grazing animals, cultivating crops and other uses. Therefore, the land used to contribute for generating significant income and food production to the local people.

#### **i. Environmental Impacts**

In this sub-section, an attempt will be made to examine the environmental impacts of the investment project. It is claimed that LSAIs in west armachiho woreda often harm the environment through, among other things, large scale land clearance, removal of woods and other vegetation covers, which all expose soil to serious erosions and damage natural water resources by observing in the field result. By the group desiccation result as stated before, the land given for investment consisted of grazing land, crop land, grass land and wetlands. The transfer of these lands for large scale commercial farming not only resulted in economic losses to the local people, it also affected the environment. As observed during the field work, the major environmental impacts are clearing of vegetation cover, depletion of water resources and soil degradation. These impacts are serious and could even be irreversible unless appropriate measures are taken.

### **4.6. Stage of Developed rural farm land**

The survey result shows that from the investor's agricultural activities used to their own investment rural agricultural land used to full develop their land 80% and half developed their land 20% were used to develop their land in their agricultural investment activities. From the Model small scale agricultural investments used to their own rural agricultural investment full developed their land 89.5%, and half developed their land 10.5% were used to developed their land. From small scale Agricultural investment were used to their own rural agricultural investment full developed their land 52.2%, half developed their land 13%, rented 21.7% and none developed their land 13% were used developed their land in their investment activities.

These result shows that 89.5% full developed their land used to investors 80% and small scale farmers 52.2% were full developed their land their investment. So model small scale farmers were the most than to investors and small scale investment activities. Details of the respondents used to Agricultural package farm rural Agricultural investment shows that in each investment activities.

**Table 4. 8. Developed rural farm land in each project type**

Faming project type	Developed farm rural land				
	Full developed of farm land	Half developed of farm land	Rented to other farmers	None developed	Total
Investor	12	3			15
Model small scale farmer	17	2			19
Small scale farmer	12	3	5	3	23
Total	31	8	5	3	57

Source: - Woreda investment annual profile (2016/2017)

Notes: full developed means according the woreda investment profile context coverage of full

Agricultural land were farmed

Half developed means the development of their farm land were note cover

#### **4.7 Use of Fertilizer in the study area**

The survey result shows that from the investors used to soil fertilizer agricultural activities based on rural agricultural package (150 kg per hectare) according to the woreda agricultural institute (WAI) investors were not used full agricultural package, half agricultural package 20% and 80% were used to none agricultural package from the agricultural investment activities. From the Model small scale agricultural investments used to full agricultural package 80% and half agricultural activities 20% were used to half agricultural package.

From the small scale agricultural activities used to full rural agricultural package none of were used, half agricultural package 21.7% and none agricultural package were used to 78.8%.

Details of the respondents used to developed farm rural land shows that in each farming project type were provided in the table below

**Table.4.9. Uses of Fertilizer in the study area**

Farming project type	Developed farm land			
	Based on agricultural package	Half agricultural package	None used agricultural package	Total
Investor		3	12	15
Model small sale farmer	17	2		19
Small scale farmer		5	18	23
Total	17	10	20	57

Source: - woreda agriculture institute

#### **4.8 The impact of large scale investment on environment**

Land use planning is important in ensuring that land investment is considered in the overall context of how to make best use of different resources to achieve a range of social, economic, environmental and other outcomes. It inevitably involves trade-offs between objectives.

In Ethiopia, land use planning is weakest in developing regions. Development has happened without clear strategic analysis of optimal allocations of land in the regions for industry, forestry, crop agriculture, fisheries, tourism and wildlife.

*FDERE constitution, Art. 12. According to the Investment Land*

- 1) In accordance with the existing investment law of the Region, any private investor shall have access to rural land and is obliged to conserve accordingly.*
- 2) Private investors are obliged to plant indigenous trees at least on 2% of the given land.*
- 3) The investment land shall be determined in the way that it shall protect the natural recourses of the surrounding.*

The survey result shows that from the investors farming project type made to biophysical soil conservation in aforestation in their agricultural investment land 66.7 %, in terrace 20%, in

aforestation & terrace 66.7%,in dame 13.3% in dame &terrace 20% in and none 13.3% were to made to biophysical soil conservation.

From the model small scale farming project type made to biophysical soil conservation in aforestation in their agricultural land were none, terrace 100%, dame 42.1% dame &terrace 42 and none 78.9% were to made to biophysical soil conservation.

From the small scale agricultural investment made to biophysical soil conservation used to terrace 17.4%, used to dame 13% and none 78.9% were used to biophysical soil conservation. This result shows that by aforestation and both aforestation and terrace better than model scale farmers and small scale farmers. A detail in formations were shows that in the table below.

**Table.4.10: Biophysical soil conservation**

Faming project type	Farming project activity					
	Aforestation	Terrace	Aforestation & terrace	Dame	Dame &terrace	None
Investor	10	3	10	3	3	2
Model small sale farmer		15		8	8	6
Small scale farmer		4		3		15
Total	10	22	10	14	11	23

Source: - Woreda investment annual profile (2016/2017)

#### **4.9. PROJECT IMPLEMENTATION PROGRESS**

All LSAIs were prepared to Environmental impact assessments or EMP to measure the large scale agricultural investments has been weakness and strength in the study area. In the study area, regional government officials were candid regarding how land had been given out without any kind of environmental impact assessment (EIA). Only now are investors being forced to develop environmental management plans as part of on-going monitoring of investments.

According to the survey result from the investors to know the investment rule, regulation and policy they were 13.3% were prepare Environmental Impact Assessment or EMP no one

prepared project proposal, but most of the woreda inventors leads to rural investment land administration traditionally.

Rural land lease can also be termed as agricultural land lease as known elsewhere. However, in Ethiopia, there is another form of lease of rural land for investment purpose. This rural land leases were recognized by Federal and Regional rural land proclamations. For the purpose of clarity we shall use the Rural land Proclamations of the Federal (Proc. No. 456/2006), Oromia (Proc. No.130/2007), Amhara (Proc. No. 133/2006) and Tigray regions (Proc. No. 136/2007).

The survey result shows that from the investment land in the study area no one prepared project proposal, because their investment land were leads to traditionally. They use simply for land graving purpose. According to saw the lease agreement 73.3% had lease agreement. More of investors taken to lease agreement by pushed the government. So the investors went to minimize the investment land tax and the rent of the investment land.

According to investment regulation all investments should be create job opportunity and the investments lead by the professional experts, so from investment farming project type none of the selected investors lead by the professional experts.

made to biophysical soil conservation in aforestation in their agricultural investment land 66.7 %, in terrace 20%, in aforestation & terrace 66.7%,in dame 13.3% in dame &terrace 20% in and none 13.3% were to made to biophysical soil conservation. In detail formations were shows that in the table below. Table

**4.11: for investment accept different agreements**

activity to the policy	Investment	Acceptance of rules and regulation	
		Yes	No
Project proposal			15
Lease agreement		11	4
The agreement both spout			15
Know the advantage lease agreement		3	12
Aquaculture lead by the professional experts			15
Permanent staff		15	
Accountant expert			15
Protect natural resources in the investment land			15
Build health center in the farming land			15
EIA or EMP		2	13

Source:-Woreda investment annual profile (2016/2017)

## CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

West Armachiho woreda is one of the West Amhara investment areas where large scale agricultural investments well practice. Since the Wereda is located in the West Amhara investment region of the North Gondar, the only possibility is rural land development which requires agricultural investment machineries, highly flow of labors, and rural infrastructure facilities of all selected target group to the small scale agricultural investment and model scale agricultural investments and as well as small scale agricultural activities model scale farmers were the best than the investors and small scale farmers. Considering by used to soil fertilizer, developed of farm land and know how about the used to agricultural package were model scale farmers were the best.

Investors were well came to the community they can transfer modernized machineries and to innovate new skills to the agricultural activities. According to this study the investors transferring of the new technology were very limited but the communities were used to these limited machineries to the transportation. But the new farming methods and used to modernized skill were very limited even if they were not better to the local small scale farmers

The contribution of large scale agricultural investors in Public and social service to the community built social and public services and they contribute the local road retention and built by the investors.

Large scale agricultural investments used to soil conservation, aforestation and to minimize the environmental changes as the better condition the local comminutes. But it is not enough I were the risk of the environmental change.

Considering the soil conservation and environmental impact condition of the investments, model and small scale agricultural land of West armachiho small scale farming project type develop rural agricultural land use plan provided and complete rural development of the small scale and investment agricultural farming project type. To the negative impacts hand it causes of deforestation, soil erosion, weather and climate change disruption in the life of affected biodiversity and people by displacing those people from their farming land. Hence, this rural development induced displacement of farming project type needs to attract adequate rural land policy attention.

## 5.2 Recommendation

Based on the findings of the paper, the following recommendations are forwarded

1. Large scale agricultural investment activity on farm productivity was economic returns to different land uses and better productive than small scale agricultural activities. But practically we have seen it is model farmers were more productive than the local farmers. So the local government should be control and manage perfectly as we increase the productivity with in small farm land.
2. Large scale agricultural investment's technology and skill transfer to the locale farmers small scale farmers. But practically if we analysis were the technology and skill transfer were very limited. The regional and the Federal government should be manage and encourage with in investment policy.
3. The involvements as the investment should be participated different facilities such as school, health services, and built public and social services. But practically this participate in the study area were very limited. So the local government should be made the awareness of the investors to designed different projects.
4. Large scale agricultural investments should be exploited and immense the natural resources and mitigate the climate change. But practically our investments were used to charcoal, highly deforestation practices were presented should be made ever thing unawareness the investment polices and environmental policies.

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## ANNEX 1

### Questionnaire for Sampled households (**investment farming project type**)

Dear respondent: - The main aim of this questionnaire is to collect data as an input for the study in the title “the impact of large scale agricultural investment on productivity and Environment: The Case of West Armachoho Woreda coredem investment site. The purpose is only academic, Therefore, do please feel free to give the facts and your opinion freely, I assure you that each of the information collected by means of this tool are to be very much confidential except for the purpose pointed out here above. Thank you very much for your kind cooperation.

#### **Background of the respondents**

1.1 Zone \_\_\_\_\_ Woreda \_\_\_\_\_ Kebele \_\_\_\_\_

Sub-Kebele \_\_\_\_\_ Gote \_\_\_\_\_

1.2 Age \_\_\_\_\_

1.3 Sex: 1) Male 2) Female

1.4 Marital status: a) single b) Married c) Divorced d) widowed

1.5 Educational level a) Illiterate b) grade 1-8 c) Grade 9 -12 d) diploma  
e) University f) other, Specify \_\_\_\_\_

1.6 Head of household a) Female b) Male c) Male & female jointly

1.7 Family size a) One ----- b) Two----- c) Thee d) four e) five and more

2.1 The current practice the productivity of sesame from investor per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.2 The current practice the productivity of sorghum from investor per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.3 The current practice the productivity of cotton from investor per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.4 Woreda investors practically the development stage of their farm land a) full develop b) half develop c) none develop

2.5 Practically the Woreda investors to increase their productivity used to soil fertilizer based on agricultural package? a) Uses based on agricultural package b) Uses half agricultural package c) none used agricultural package

2.6 The Woreda investors to minimize environmental impact they made biophysical and soil conservation mechanism? a) New afforestation b) terrace c) afforestation & terrace d) dam e) dam & terrace f) none

3.1 Practically if as investors to get investment land they were prepares farming protect type of project proposal? a) Yes b) No

3.2 Practically the farming project type has the lease agreement with regional Bureau of environmental protection, land administration & use? a) Yes b) No

3.3 If the lease agreement were spout both female and male landholders? a) Yes b) No

3.4 If you have lease agreement, does having the investment agreement give you any advantages in relation to your contracts with your tenants? a) Yes b) No

3.5 The agricultural investments area leads by the professional employees? a) Yes b) no

3.6 In the investment areas have permanent staff or office? A) Yes b) no

3.7 If the investment land have an accountant expert? A) Yes b) no

3.8 Based on the project proposal the projects create job opportunity? A) Yes b) no

3.9 In the investment area based on the project proposal prepare to environmental management plan or environmental Impact assessment? A) Yes B) no

3.10 In the project area they work to the biological and physical soil conservation? a) Yes b) no

3.11 in the investment land if the investments full fill agricultural machineries? A) Yes b) No

3.12 Practically in the investment area based on the project proposal build heal centered in the investment project type? a) Yes b) No

3.13 Practically investors have accountant to manage investment financial management system?  
a) Yes b) No

3.14 How do you acquire your investment land? a) Through land redistribution b) Through gift  
c) Through inheritance d) Through Lease

3.15 Based on the project proposal the projects create job opportunity? A) Yes b) no

3.16 In the investment area based on the project proposal works to natural resource management? A) Yes B) no

3.17 In the investment land if the investments full fill agricultural machineries? A) Yes b) No

3.18 Practically Woreda investments what are the source income a) own business b) privet lenders c) remittance d) own saving

3.19 How many times investment farm land is plowing? a) One b) two c) three d) more than three

4. Practically the Woreda model small scale to increase their productivity used to soil fertilizer based on agricultural package? a) Uses based on agricultural package b) Uses half agricultural package c) none used agricultural package

2.6 How many times model scale farmers farm their land is plowing? a) one b) two c) three d) more than three

## ANNEX 2

Questionnaire for Sampled households (Model small scale farming project type)

Dear respondent: - The main aim of this questionnaire is to collect data as an input for the study in the title “the impact of large scale agricultural investment on productivity and Environment: The Case of West Armachoho Woreda coredem investment site. The purpose is only academic, Therefore, do please feel free to give the facts and your opinion freely, I assure you that each of the information collected by means of this tool are to be very much confidential except for the purpose pointed out here above. Thank you very much for your kind cooperation.

### Background of the respondents

1.8 Zone \_\_\_\_\_ Woreda \_\_\_\_\_ Kebele \_\_\_\_\_  
Sub-Kebele \_\_\_\_\_ Gote \_\_\_\_\_

1.9 Age \_\_\_\_\_

1.10 Sex: 1) Male 2) Female

1.11 Marital status: a) single b) Married c) Divorced d) widowed

1.12 Educational level a) Illiterate b) grade 1-8 c) Grade 9 -12 d) diploma  
e) University f) other, Specify \_\_\_\_\_

1.13 Head of household a) Female b) Male c) Male & female jointly

1.14 Family size a) One ----- b) Two----- c) Thee d) four e) five and more

2.1 The current practice the productivity of sesame from model small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.4 The current practice the productivity of maize from small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.5 The current practice the productivity of cotton from small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.4 Woreda model small scale farmers practically the development stage of their farm land a) full develop b) half develop c) none develop

2.5 Practically the Woreda model small scale farmers to increase their productivity used to soil fertilizer based on agricultural package? a) Uses based on agricultural package b) Uses half agricultural package c) none used agricultural package

2.6 How many times model small scale farmers their farm land is plowing? a) One b) two c) three d) more than three

### ANNEX 3

#### Questionnaire for Sampled households (small scale farming project type)

Dear respondent: - The main aim of this questionnaire is to collect data as an input for the study in the title “the impact of large scale agricultural investment on productivity and Environment: The Case of West Armachoho Woreda coredem investment site. The purpose is only academic, Therefore, do please feel free to give the facts and your opinion freely, I assure you that each of the information collected by means of this tool are to be very much confidential except for the purpose pointed out here above. Thank you very much for your kind cooperation.

#### Background of the respondents

1.15 Zone \_\_\_\_\_ Woreda \_\_\_\_\_ Kebele \_\_\_\_\_

Sub-Kebele \_\_\_\_\_ Gote \_\_\_\_\_

1.16 Age \_\_\_\_\_

1.17 Sex: 1) Male 2) Female

1.18 Marital status: a) single b) Married c) Divorced d) widowed

1.19 Educational level a) Illiterate b) grade 1-8 c) Grade 9 -12 d) diploma  
e) University f) other, Specify \_\_\_\_\_

1.20 Head of household a) Female b) Male c) Male & female jointly

1.21 Family size a) One ----- b) Two----- c) Thee d) four e) five and more

2.1 The current practice the productivity of sesame from small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.6 The current practice the productivity of maize from small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.7 The current practice the productivity of cotton from small scale farmers per hectare is?

a) 100-200kg b) 300-500kg c) 600-800 kg d) more than 800kg

2.4 Woreda small scale farmers practically the development stage of their farm land a) full develop b) half develop c) none develop

2.5 Practically the Woreda small scale farmers to increase their productivity used to soil fertilizer based on agricultural package? a) Uses based on agricultural package b) Uses half agricultural package c) none used agricultural package

2.6 How many times small scale farmers their farm land is plowing? a) One b) two c) three d) more than three

## Appendix 4

### Questionnaire for woreda and kebele officials

This questionnaire paper is designed to gather important and relevant information from the respondents to undertake research on the impact of large scale agricultural investment on productivity and Environments; the case of West armachiho Worda Coredom investment site. It has nothing to do with your life for any response and at the same time all information will be confidential. Your cooperation is very helpful to meet the objectives of the study. So I cordially request you to answer the questions without any hesitation.

1. sex Female  Male
2. Responsibility .....
3. Name of organization .....
4. Educational level: .....

1. Do you think that large scale agricultural investments have positive and negative Environmental impacts? \_\_\_\_\_

2. How do you explain large scale agricultural investments contributions of the communities? ---  
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3. How do you think that the large scale agricultural investments to achievements the project proposal they create employment? -----  
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4. Large Scale Agricultural investments to facilitate investments enter to the new machineries if we say yes what type of investment machineries? -----  
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-----5. Do you think large scale agricultural investments more productive than small Farmers if the answer is yes, or no explain the effects? -----  
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Explain what activities practically they do our investors on their farming project type -----  
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I thank you in advance for your kind cooperation