ADDIS ABABA UNIVERSITY COLLEGE OF SOCIAL SCIENCEDEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

OPPORTUNITIES AND CHALLENGES OF RURAL LIVELIHOODS IN *DANDI* WOREDA, ETHIOPIA

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ATHESIS SUBMITTED TO THE DEPARTMENT OF GEOGRAPHY AND ENVIRONMENT STUDIES IN PARTIAL FULFILLMENT FOR THE DEGEREE OF ARTS IN GEOGRAPHY AND ENVIRONMENT STUDIES (SPECIALIZATION IN POPULATION RESOURCES AND DEVELOPMENT).

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LISTS OF ACRONYMS

AGRA-Alliance for a green Revolution in Africa

ADLI-Agricultural Development Led Industrialization

ADO-Agricultural Development Office

BBM-Broad –Bed Maker

DA-Development Agent

DAP- Diammonium Phosphate

E.C- Ethiopian Calendar

EEA-Ethiopian Economic Association

EPRDF- Ethiopian People Revolutionary Democratic

FAO-Food and Agricultural Organization

FDRE-Federal Democratic Republic of Ethiopia

FTC-Farmer Training Center

GDP-Gross Domestic Producer

Ha- hectare

Kg-Kilogram

m.a.s.l.- Meter above sea level

MoA- Ministry of Agriculture

MoFED - Ministry of Finance and Economic Development

MPP-Minimum Package Project

NAFPP- New Agricultural Extension Package Program

NGO-Non-Government Organization

PADETS- Participatory Demonstration and Extension Training System

PASDEP- Plan for Accelerated and Sustained Development to End Poverty

PADETS-Participatory Demonstration and Training Extension System

PCs- Producers' Cooperatives

UNDP-Unit Nation Development Program

USAID- United States Agency for International Development

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This is to certify that the thesis prepared by Babsa Dinsa, entitled;" Opportunity of rural Livelihoods in *Dandi Woreda*, Ethiopia. The case of *Dano Ejersa Gibe* Livelihoods of households " and submitted in partial fulfillment the requirements for the degree of Master of Arts in Geography and Environmental Studies complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:	Signature	Date
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BSTRACT

This case study investigates the opportunities and challenges of rural livelihoods in Dendi Woreda from the point of view of determinates of livelihoods of peasant farmers, namely, land, non-farming activities, supplementary farming, utilization of technology and agricultural diversification in the Dano Egersa Gibe rural area. Dano Egersa Gibe kebele was selected purposively to investigate and understanding the status of livelihoods of rural farmers in terms of different agricultural production, non- farming activities and supplementary agricultural result of households. These different economic activities and levels can measure the level of livelihoods of rural households. Based on the different economic levels, Dano Egersa Gibe households were classified into three wealth categories. These three wealth categories of households are: Better off life, medium and poor households. Among three categories of households, 60 sample households were selected for data collection. To collect data; key informant interview, field observation and interview questionnaires techniques were employed. The results of the study showed that lack of oxen, land scarcity, utilization of agricultural inputs, problem of financing agriculture, low of agricultural diversification and climatic related change and food insecurity have negatively affected the livelihoods of households in the study area. In contrast, high utilization of agricultural technology, quality of personal behavior, hard working and quality of land holding improve the livelihoods of peasant farmers in target area. Moreover, the problem of poverty, low attention of work, food insecurity, recourse loss and addicts – in brief have exacerbated the severity of local communities. In general, personal factors impacting the livelihoods of household farmers, for most among these are factors related to the character of individuals including early adoption of technology, risk taking behavior, identifying opportunities and competitiveness are the most important attributes to improve the livelihoods of householders in local communities. In case of these challenges, the living conditions of the most peasant farmers are declined. As a result, the study suggests that the government interference should be needed to reduce the drawbacks of the living condition of households and to accelerate the pace of the development of local communities.

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Key Words:

Livelihood- The common dictionary meaning of livelihood is the way some one earns or the money people need to pay for food, a place to live, clothing, etc (Cambridge International Dictionary, 1996).

Better off- Something is of a higher standard than others.

Poverty- The condition of being extremely poor.

Medium- Not gradable being in the middle between an upper and lower amount, size, degree, or value; average.

Rural area- The definition of the rural area various from one country to another, but the most reasonable definition refers to a geographical area which is not a town, or an area away from urban settlement which is in habited by rural people or community.

CHAPTER 1: INTRODUCTION

1.1 Back ground

Ethiopia, with an estimated population of 86million in 2015, is the second population's country in Africa. Women account for about 49.5% of the total population (CSA, 2013). The youth accounts for 27% of the population and 54% of the labor force. The urban labor force is largely dominated by youth accounting for about 57%, while the non-youth constitute 43%. As indicated in the 2011 CSA survey report, urban youth unemployment was 23.7% (one of the highest in sub-Saharan Africa). The youth unemployment accounts for about 59% of the total unemployed population. It should also be noted that urban youth unemployment is much higher for female youth (30.3%) compared to male youth (16.5%). This information implies that urban un employment rate for female was twice larger than their male counterpart. Although employment or unemployment in Ethiopia is affected by a number of factors, it is directly tied with the growth, development and transformation of the economy.

Agriculture is the largest sector of economic activity in Ethiopia and it continues to the main source livelihood for majority of the country population. Being the dominant sector, the economic growth of the country depends on the performance of its agriculture. There is a great interdependence in Ethiopia between agricultural and non–agricultural sectors. Subsistence agriculture is a highly risky and uncertain venture. It is made even more so by the factor that human lives are at stake. In regions where farms are extremely small and cultivation is dependent on the uncertainties of variable rain fall, average output will be low and in poor years, the very peasant and his and family will be exposed to the very real danger of starvation. In such circumstances, the main motivating force in the peasant's life may be the maximization not of income but of his/her family chances of survival.

Accordingly, when risk and uncertainty are high a small farmer may be very reluctant to shift from traditional technology and crop pattern that over the years he has come to know and understand to new one that promises higher yield but may entail greater risks of crop failure. When sheer survival is at stakes it is more important to avoid a bad year (total crop failure) than to maximize the output in better years. The January 1943, the imperial government established the ministry of agriculture as separate ministry. Soon, the ministry began the establishment of

demonstration farms to test the suitability and adaptability of more productive temperate breeds of cattle, sheep and poultry (MoA, 1992; 1994a).

In 1977, the ministry sub-divided extension activities into crop, animal, forestry and soil and water conservation departments. This move resulted in the fragmentation of efforts, weak integration, multiple chain of command and proliferation of administrative staff and bureaucratization. Above all, it created confusion regarding the management, coordination and supervision of extension activities at field level (MoA, 1993). Training and visit was adopted by MoA as an extension management system in the majority of surplus producing districts as of 1984 (MoA, 1992 and1994b).

The Ethiopia government is striving to achieve broad-based, accelerated and sustained economic growth, create productive employment and eradicate poverty. To this end, the government has been developing and implementing various policies such as successive poverty reduction strategies, food security strategy, agriculture and rural development strategy, industrial development strategy, micro and small enterprise development strategy, and the Growth and Transformation Plan (GTP), which embraces the above mentioned policies and strategies. These policies directly focus on addressing youth employment, entrepreneurship development and gender equality. The (GTP, 2010/11-2014/15) seeks to consolidate the positive development out comes attained in the last decade to bring about broad-based development and transformative structural changes (MoFE, 2003).

AS a result, this plan would require expanding entrepreneurial activities and increasing productive employment which in turn stimulates economic growth and transformation keeping in mind, the aim of becoming a middle income country in 2025, implementing these changes can help steer the economy to rapid growth path.

These argued that they are aimed at improving food access for vulnerable household and enhancing productivity of small holders. So that, the above efforts can contributes to improve the livelihood of small farming households in local people. As well as this thesis focuses on the livelihoods of small farming households in terms of the opportunities and challenges of peasant farmers of the *Dendi* woreda in west *Shewa* zone.

1.2 Statement of the Problem

Many developing countries that had experienced relatively high rates of economic growth by historical standards discovered that such growth often brought little in the way of significant benefits to their poor. The United Nations Food and Agriculture Organization (FAO) have repeatedly warned of catastrophic food shortages. In majority of African countries, the average per capita calorie intake has now fallen below minimal nutritional standards. The FAO has estimated that of Africa's 750 million people, more than 270 million suffer from some form of malnutrition associated with inadequate food supplies. Whereas, the severe famine of 1973 -1974 took the lives of hundreds of thousands and left many more with permanent damaged from mal nutrition, its geographic impact was limited to the Sahel a belt that stretches below the Sahara from Cape Verde, off the coast of Senegal in the west, across the continent to Ethiopia.

The cases of food insecurity can be categorized in to two acquirement factors; insufficient food availability and insufficient access to food by households and individuals. Thus, as argued by food insecurity in African context is a product of low agricultural production plus low incomes, not one or the other alone, and is a consequence of policy failure as well as institutional failure, From recent Experience, Development(Todaro; Smith, 2009:436-437).

In the end of the regime (1990) the workers party of Ethiopia assessed the previous performance and the perspective of the economy and decided to transform it into mixed economy. The objective of the Derg was building socialist society and hence, there was strong central government. In other words, the role of the government in economic decision-making was quite high and its impact on the character and performance of the economy was overwhelming. The role of the government in economy, however, was not uniform or not equal in all sectors. As shown in (Eshetu, 1988), the contribution of the government sector to the total agricultural output was not more than 2%. The number of farmers organized under recognized agricultural cooperative was also no more than 3 percent of the country's farmers. This implies that in the agricultural sector the role of private farmers was predominant. Ever since the takeover of power in 1991, the TGE and then the FDRG have been preoccupied with transformation of the command economy. From the past regime into a market-based economy inherited.

Hence, due to deterioration of outcome of livelihoods of house hold in the study area, the life of society is supposed to be hurried and hectic and also the people of these areas are characterized by low level of living standard. These issues have been widely studied. But, the problem is still affects the livelihoods of households in rural parts of Ethiopia. As a result, my primary concern here is to explore the problem that can be affected the livelihoods of small farming households and also the factors that contribute to the better off life to be success full in their careers among the entire local people. Therefore, this research attempts to fill the above mentioned research gap and also, the insights will provide bases for future intervention policy.

1.3 General Objective

The general objective of this study is to investigate the opportunities and challenges of livelihoods of smalle farming households and to indicate alternative mechanisms that may help to improve the economic development of the livelihood of local community in Dandi woreda.

1.3.1 Specific Objectives

Based on the above general objective the following specific objectives are stated:

1. To identify the factors that affecting the livelihood of households
2. To explore the strategies of the opportunity of the community.
3. To investigate the range of livelihood opportunities in the study area.
4. To analyze the challenges of livelihoods under the small farming households.

1.4 Research Questions

1. What are the fundamental sources of livelihood in the study area?
2. What are the livelihood strategies to improve the source of income of the community in the targeted local kebele?
3. What are the ranges of livelihoods in the study area?
4. What are the major challenges of livelihoods of the small farming households?

1.5 The Scope of the Study

The study area is confined to *Dano Ejersa Gibe* kebele located in *Dendi* woreda of west *shewa* Zone, *Oromia* Regional state. The study specifically focused on the opportunities and challenges to local people based on the livelihoods of small farming households that comprises the three categories of households such as, better-off life, medium and poor households. Such an approach has enabled us to generate qualitative and quantitative data that should help understand the present experience of selected the three wealth categories of the livelihoods of households.

1.6 Limitation of the Study

The study covers only one Keble. Due to shortage of time and material resources, this thesis could not cover many local kebeles that would have give a more tangible data that can contribute more for the accuracy of the research. Nevertheless, I belief that this kebele, can represent the other kebeles and the findings will be more important for the socio-economic development of planning.

1.7 Significance of the Study

This study is important in development awareness among different scholars and developmental practitioners regarding to the heterogeneity of livelihood house hold located in rural areas that are primarily engaged in small farming activities. Livelihood diversification can be defined as the process by which house hold construct adverse portfolio of activities and assets in order to survive and to improve their standard of living (Ellis,2000:15) not only creating awareness.

The finding of this thesis is not only creating more a awareness, among different scholars and development practioners, but also helping as a base for who are interested in doing further studies in similar issues at different levels of livelihood households and it will also contribute to inform the policy makers on how to improve the income of community in the rural area which are really based or dependent on small agricultural and non–agricultural and farm activities for their whole income. The researcher believes that the finding of this thesis is just making and brings the whole performance of livelihood households into more tangible and concrete. This makes stronger both the capacity of livelihood household and searching access for using modern technologies for farming and production. It is also the main way to proof and make tangible the

effort of livelihood households that it requires to be considered in any process of income generating careers.

1.8 Organization of the Thesis

The thesis is organized in to five chapters. The first chapter includes back ground, statement of the problem, objectives of the study, limitation of the study and significance of the study. Chapter two presents theoretical and reviewed literature and also chapter three comprises description of the study area and research methods. This is followed by chapter four which deals the role of agricultural institutions in promoting the livelihood of households, and the opportunities and challenges in the study area. The final chapter five expresses conclusion and recommendation of the study.

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1 Concept of Rural Development

(Adam Smith, 1723-1790), he was a Scottish philosopher and economist who is best known as the author of An inquiry into the Nature and Causes Of the Wealth of Nation (1776), one of the most influential books ever written. Adam Smith heavily influenced economic thought throughout the Victorian Era. Smith generally considered as the "father of modern economics." The main focus of Adam Smith's 'The Wealth of Nations' lies in the concept of economic growth. Growth, according to Smith, is rooted in the increasing division of labor. This idea relates primarily to the specialization of the labor force, essentially the breaking down of large jobs into many tiny components under this regime each worker becomes an expert in one isolated area of production, thus increasing his efficiency. The Wealth of Nation deeply influenced the Politicians of the time and provided the intellectual foundation of the great nineteenth-century era of free trade and economic expansion. Even today the common sense of free trade is accepted worldwide, whatever the practical difficulties of achieving it may be.

Smith argued that in a free trade, both sides became better off. Quite simply, nobody would trade if they expected to lose from it. The buyer benefits, Justas the seller does. Imports are just as valuable to us as out exports are to others. Because trade benefits both sides, said Smith, it increases our prosperity just as surely as do agriculture or manufacture. A nation's wealth is not the quantity of gold and silver in its vaults, but the total of its production and commerce–What today we would call grass national product (Yewbdar Tasew, 2013:311-312).

Local economic development is a process in which partnerships between local governments, NGOs, community based groups, and the private sector are established to manage existing resources to create jobs and stimulate the economy of a well defined territory (Helmsing, 2005). This argued that the different sectors should be integrated to bring the local economic development.

According to (Poostchi,1986), defines rural development as a process of endless variety having as its main aim the overall balanced and proportionate well-being of rural people and also how it works and the shape it takes is determined and influenced by many factors in the rural areas of

the country. As he argued that the factors such as the stage of economic development of the country, the humanitarian attitudes of its people: The sincerity, skill, wisdom and all-round knowledge of its planners, administrators, and implementers, at all levels, the relevant educational institutions; the extent to which its citizens are informed, consulted and encouraged to participate; and other factors of varying importance at the local, village, regional and national levels, all affect its direction, its magnitude, its success and also its failure.

The three core values of development indicated by (Todaro, 2000) are the basic elements of rural development. These basic elements of rural development are aspired by all individuals and societies, and they are most commonly known as the three core values of development. As part and parcel of the general development process, rural development should then focus on these three basic values:

i. The ability to meet basic needs (Sustenance): Goes with life-sustaining basic human needs which include food, shelter, health, education, basic services and protection. A basic function of all economic activity, including rural development, therefore, is to provide as many people as possible with the means of overcoming the helplessness and misery arising from lack of food, shelter, health, education, basic services and protection.

ii. Self–respect (Self-esteem): Every person and every nation seek some basic forms of self-esteem, dignity, respect, honor, or recognition. Absence or denial of this thing in any form indicates lack of development. As such, rural development should encompass to fulfill such things for the rural people, particularly the poor which are vulnerable to such condition,

iii. Freedom (to be able to choose and being free from any servitude): Gaining political and ideological freedom, economic, freedom (choice), and freedom from social servitude. As long as a society is bounded by the servitude of women to nature, ignorance, other women, institutions, and dogmatic beliefs, it cannot be claimed to have achieved the goal of development. Servitude in any form reflects a state of underdevelopment.

Even though, overall, the Dreg regime also proved itself a failure like in predecessor, it had achieved some success especially in illiteracy reduction. ”Ethiopia’s literacy campaigns have raised the literacy rate from 7 percent in 1974 to 71 percent in1988. Primary school enrollment

has increased from 15 percent to 35 percent ", (ONCCP, 1990).The Ethiopian primary school enrollment, however, was still below the sub-Saharan average.

The broad frame work of the government's policy on rural development issued in 2001 (FDRE, 2001).In 2001 the new rural development policy document, noted above called for planned resettlement programs within each killil involving peasant populations living in highly vulnerable or drought prone areas (FDRE, 2001).

The growth rate of an economy is measured by the rate at which its real national income and its movements over time is of significance to a business organization also, as this provides a measure of the nation's ability to buy goods and services, and, thus business sales are dependent on its magnitude. The success/failure of policy makers is very often judged by the rate at which the real national income grows during their regime. National income thus serves as an instrument of economic planning. Further, national income is one of the three most significant macroeconomic variables, the other two being unemployment rate and inflation rate. Thus, a clear understanding of the meaning and measurement of national income is essential. Nobel laureate Simon Kuznets is considered as the inventor of national income (Gupta, 2008:23).

The dualistic – development thesis argued that implicit in structural- change theories is the notion of a world of dual societies, of rich nations and poor nations and in the developing countries, pockets of wealth within broad areas of poverty. It represents the existence and persistence of substantial and even increasing divergences between rich and poor nations and rich and poor people's on various levels (Todar; Smith, 2009:124-125).

2.2 The Concept of Poverty

Of course, not everyone is interested in maximizing his or her income. Henry David Thoreau once said, "None can be an impartial or wise observer of human life but from the vantage ground of what we should call voluntary poverty." And in his thought-provoking article, "Four Reasons for voluntary poverty," James Park explains that income maximization can lead to exploitation, pollution, compromises on personal freedom, and a tacit support of militarism(through taxes).Readers will have to decide for themselves whether voluntary poverty is a desirable path to follow. It seems safe to say, however, that if a majority of workers and businesses renounced

income or profit maximization, the U.S. economic system would be radically different from what it is today (Eggert,1991:20-21)

Jon Rawls a Harvard university professor who believed that equality is highly desirable and that society's goal should be to maximize the welfare of the least well-off agreed that to meet that goal some inequality is necessary. Raw is argued that it, in pursuing equality, you actually make the least well-off worse off than they otherwise would have been, then you should not pursue equality any further. For example, say under one policy there would be perfect equality and every one would receive $10,000 per year. Under another policy, the least well-off person receives $12,000 per year and all others receive $40,000. Rawls argued that the second policy is preferred able to the first even though it involves more inequality. Economists, unlike philosophers, are not concerned about justifying any particular distribution of income. In their objective role, economists limit themselves to explaining the effects that various policies will have on the distribution because all real-world economic policies have distribution effects (David, 2004:396). People who favor policies aimed at achieving equality of income argue that poverty brings significant costs to society. One is that society suffers when some of its people are in poverty, just as the entire family suffers when one member doesn't have enough to eat. Derive pleasure from knowing that others are not in poverty is that it increases incentives for crime.

In contrast, as people's incomes increase, they have more to lose by committing crimes, and therefore fewer crimes are committed. As the economy boomed in the 1990s, the crime rate decreased, it continued to decline in 2004. Those who favor equality income argued that the increased poverty in the late 1970s and 1980s represents failure of the economic policies of that period. Others respond that the widening gap between rich and poor is not the result of government tax and spending policies. It has more to do with demographic changes. For example, the number of single-parent families increased dramatically during this period, while rapid growth of the labor force depressed wages for young unskilled workers (David, 2004:389).

One helpful way to categorize world agriculture, proposed by the agricultural development economist Alain de January and his colleagues in the world Bank's (2008) World Development Report, is to see that alongside advanced agricultural systems in developed countries, three quite different situations are found among developing countries:

First, in what the report terms agriculture-based countries, agriculture is still a major source of economic growth-although mainly because agriculture makes up such a large share of GDP. The World Bank estimates that agriculture accounts for some 32% of GDP growth on average in these countries, in which 417 million people live. More than two – thirds of the poor of these countries live in rural areas. Some 82% of the rural population of sub- Saharan Africa lives in these countries.

Second, most of the world's rural people –some 2.2 billion –live in what the report categorizes as transforming countries, in which the share of the poor who are rural is very high (almost 80% on average) but agriculture now contributes only small share to GDP growth (7% average).

Third, in what the report calls urbanized countries, rural- urban migration has reached the point at which nearly half, or more, of the poor are found in the cities, and agriculture tends to contribute even less to output growth. The urbanized countries are largely found in Latin America and the Caribbean, along with developing Eastern Europe and central Asia and contain about 255million rural dwellers. In many cases, the position of countries within these groups is not stagnant. Many countries that were in the agriculture –based category moved to the transforming category in recent decades, most prominently India and China (Todaro; Smith, 2009:438).

In September 2000, the 189 member countries of the United Nations at that time adopted eight Millennium Development Goals (MDGs), committing themselves to making substantial progress toward the eradication of poverty and achieving other human development goals by 2015.The MDGs are the strongest statement yet of the international commitment to ending global poverty requires more than just increasing in comes of the poor. Although some observers still suspect that the MDGs will amount to no more than just increasing incomes of the poor. Although some observers still suspect that the MDGs will amount to no more than just another UN proclamation of worthy goals, by the first five–year review in 2oo5, these goals had became central to the way governments. The MDGs have provided a unified focus in the development community unlike anything that preceded them.

The eight goals are ambitions: to eradicate extreme poverty and hunger, achieve universal primary education; promote gender equality and empower women; reduce child mortality;

improve maternal health; Combat HIV (AID), malaria and other diseases; ensure environmental sustainability; and develop a global partnership for development. The goals are then assigned specific targets deemed achievable by 2015 based on the pace of past international development achievements.

Appropriately, the first MDG addresses the problem of extreme poverty and hunger. The two targets for this goal are more modest; to reduce by half the proportion of people living on less than $1 a day and to reduce by half the proportional of people who suffer from hunger. "Halving poverty" has come to achieve this target requires that progress be made on the other goals as well. The goal of ensuring environmental sustainability is essential for securing an escape from poverty. This is immediately seen by looking at two of the targets, reduce by half the proportion of people without access to safe drinking water and achieve significant improvement in the lives of at least 100 million slum dwellers. But, more generally, without protecting the environment of the poor, there is little chance that their escape from poverty can be permanent. Finally, the governments and citizens of the rich countries need to play their part in pursuit of the goal of "global partnership to development." Responsibilities to rich countries, including increased aid, removal of trades and investment barriers eliminating unsustainable debts of the poorest nations (Todaro; Smith, 2009).

2.3 Agricultural Extension and Policy in Ethiopia

In review of the rural development policies in Ethiopia, the bias has been summarized as follows: past and present policies have been characterized by various types of bias (concentration of modern farm input and extension activities in limited geographical areas), scale and technological bias (preferential treatment of large farms),gender bias(women have been neglected in the design and implementation of rural development projects),and approach bias (the bottom-up approach in planning has been largely neglected (Haile Hagos ,1998:19).

More specifically, it is stated in the Government of Ethiopia "plan for Accelerated and Sustained Development to End Poverty (PASDEP)" policy document that farmer training centers (FTCs) are being used to strength agricultural extension services in the county. One of the major roles of more than 5000 training centers is providing entrepreneurs ship skill development training to produce business –oriented farmers (MoFED, 2006: 88).

As a result, intervention strategies are essential to ensure stable and sustainable live. Agricultural extension is defined by (Swanson; Claar, 1984) as an educational process "which has as its goal the communication of useful information to people then helping them to learn how to use it to build a better life for themselves, their families, and their communities". Many projects in agriculture, health and other aspects of rural development necessitate working with individuals, groups and sometimes a whole community. The simultaneous use, of both extension and community development approaches is necessary in such types of projects. From this you may come to a conclusion that both community development and extension might be two sides of the same coins. The betterment comes through education of members of communities by making them aware of local problems and wanting to do something to improve their living condition. The education is to help them participate actively in voicing concerns about development policy and in identifying, planning and implementing actions. Education is in away an "eye opener" for the community. As in extension, the underlying philosophy is "learning by doing".

Agricultural extension services during the mid-1970s through the 1980s focused on farmer-to-farmer extension delivery method. However, this was not done vigorously and consistently because of shortage of resources and the necessity of covering wider geographical area with limited extension staff. Here, mention can be made of the Minimum package project I (MPP I), minimum package project II (MPP II) and the Peasant Agricultural Development and extension project (PADEP) of the 1970s and 1980s. The main goal, with varying degree of emphasizes between the projects, was to reach a large number of farmers by making use of the technologies generated and tested by the comprehensive package projects. Both contact farmers and extension agents were encouraged to demonstrate the importance of improved techniques of production to other farmers. Here, too, it would appear easier for DAs to work under the assumption that if they could influence a group of motivated and innovative farmers, others would gradually adopt farming methods used by progressive farmers. For example, under PADEP, extension a gents had to work with a group of contact farmers that received regular visits of four days a week and each contact farmer had 26 follower farmers (Kassa, 2003).

Generally, under the Derg, the model farmer extension approach was subdued in favor of producer's cooperatives and collective frames at the expense of smallholder individual farmers. Besides, development a gents (DAs) was burdened with non-extension activities, such as

carrying out party propaganda that transferred their credibility among peasants. In 1981, DAs altogether ceased working smallholder farmers. Services and producer cooperatives (PCs) became focal points for introducing extension innovations. Moreover, producers' cooperatives continued to enjoy preferential treatment terms of access to formal credit and modern agricultural technologies (Ayele Kuris, 2006).

As compared to smallholders, PCs used to pay 10%less for 100kg of fertilizers and less tax per hectare. Thus, the rate of technological adoption on farms owned and operated by PCs was relatively higher than individual smallholders. For instance, in the Bako area of western Ethiopia all PCs farms used fertilizers and improved maize varieties, while only 34%and 50%of smallholders used improved maize varieties and fertilizes respectively (Legesse; Asfaw, 1988, cited by Gizachew, 2008).Even if the idea of model farmer is associated with individual households, and the Derg was interested to expand cooperatives, the focus was on model cooperatives rather than model farmers.

Various studies witness that until the late 1960s, the community development program the strategy for identifying and tackling problems of a given community through self-help projects that emphasized the development of rural infrastructure and social welfare. Then, the comprehensive package program (CPP) was introduced in the selected fixed areas. The main goal of the CPP was promoting agricultural development by increasing awareness and responsibility of the local population for development. The Package targeted income enhancement for peasants including tenants. Many studies revealed that to achieve the aforementioned goal the following services were provided to the farmers; for the purpose of spreading innovation extension services were provided to framers and demonstration fields were organized; marketing organizations were established to facilitate sale of improved seeds, chemical fertilizers, improved farm tools, and pesticides to the finance the purchase of agricultural in puts, credit facilities were established.

(Wogene, 1986:141) noted that the MPP could not achieve the objective of wider coverage of agricultural development mainly due to shortage of man power, improved seeds, and fertilizers.

According to the first poverty reduction program document prepared by the government in 2002, the agricultural development program consisted of increased extension services, particularly

better designed extension package; more investment in agricultural training which included training extension agents in Technical, Vocational Education and Training (TVET) initiative as well as training of farmers in newly established farmers' training centers (FTCs);increased effort at water harvesting and irrigation ; improved marketing opportunities for farmers; restructuring peasant cooperatives and support to micro –finance institutions.

At the end of the period of the SDPRP, 2004/05, agriculture is said to have grown by 13.4 percent, and the number of farmers who have benefited from the extension packages had reached 6.9 million (PASDEP, 2006). According to the World Bank, there has not been any productivity increase in the last decade despite increased use of chemical fertilizers by small farmers (2007a). This means that the agricultural surplus will continue to be for less than what is needed to provide the stimulus to increased industrial outputs. PADETEs aims at increasing the supply of food, industrial and export crops, improving productivity and income, ensuring rehabilitation and conservation of the natural resource base, and in empowering farmers. To this end, it emphasizes the package approach to agricultural development and nurtures the research – extension and the input – credit distribution linkage (MoA, 1994c; Belay, 2003).

Close to 4 million farmers were reached by PADETES, and helped to significantly increase the overall agricultural production of the country (EEA, 2006; MoA Annual Reports).But, participation of farmers in extension planning remained very limited even though extension coverage has expanded significantly and credit availability improved a lot.

The central plank of the policy was that the country's overall development was to be agriculture and rural centered while the basis for the rural sector was to be agricultural–led development. Agriculture should be the starting point for initiating the structural transformation of the economy and peasant farmers and pastoralists constitute the cornerstone" of economic grow (MoFED, 1993:5).This policy to causes on small holder farms with greater weight given to crop production than other aspects of the peasant economy. The Bank recommends what it calls "walking on two legs "abroad- based rural development; expansion of services and small town development together with the pursuit of dynamic new activities (World Bank 2007a: 38).

Agriculture extension must focuses both on technological innovation to increase production and technical efficiency and on institutional aspects. As, a result, not all, some households are using a

new technologies have obtained adequate agricultural production and also notables by their performances. The Federal government's new agricultural policy is based on what is known as rural centered, agricultural –led development strategy or ADLI, the policy document argues that the goal of economic policy is to ensure rapid and sustainable development and this will be possible only through the prior development of agriculture (FDRE, 2001).

2.4 Livelihood Strategies and Activities

Rural livelihood in developing countries is prone to risk of failure. The risk of livelihood failure determines the level of vulnerability of a house hold to income, food, health and nutritional insecurity. Thus a high level of risk of livelihood failure implies the prevalence of a high probability of income, food, health and nutritional in security. Livelihoods would therefore be secure only when households have secure owner ship of, or access to, resources and income earning activities, including reserves, claims and assets, to offset risks, and meet contingencies. Livelihood sustainability is an important feature of livelihood security. A livelihood is sustainable, according to (Chambers; Conway, 1992), when it "can cope with and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation.

For some purpose of research or policy work, a classification of livelihood strategies between broad types may be useful. (Scoones, 1998), for example, identifies the strategy types with respect to which different configurations of assets–mediating process-activities apply. These strategy types are agricultural intensification or intensification; livelihood diversification; and migration.

The first type corresponds to continued or increasing reliance on agriculture as a strategy, either by intensifying resource use in combination with a given land area, or by bringing new land in to cultivation or grazing. The key asset here is land, and, for agricultural intensification, attention is directed towards the institution and organization that facilitate technical change in agriculture.

The second strategy type within the restricted definition of diversification, directs attention to non-farm rural employment as a key policy issue.

The third type directs attention and remittances as a particular strategy adopted by members of rural households. One has to be caution however, about this classification, for it is not as such light, and for there are various diversifications that cut across the typologies. For example, migration is as part of the diversification strategy. These argued that livelihood strategy outcomes are divided between livelihood security and environmental sustainability aspects.

The Lewis two –sector model became the general theory of the development process in surplus labor Third World nations most 1960s and early 1970s.It still has many adherents today. In the Lewis model, the underdeveloped economy consists of two sectors: a traditional, overpopulated rural subsistence sector characterized by zero marginal labor productivity–situation that permits Lewis to classify this as surplus labor in the sense that most of the 1960s.

It can be withdrawn from the traditional agricultural sector without any loss of output–and a high productivity modern industrial sector into which labor from the subsistence sector is gradually transferred. The primary focuses of the model is on both the process of labor transfer and the growth of output and employment in the modern sector. (The modern sector could include modern agriculture, but we will call the sector "industrial" as short hand).Both labor transfer and modern sector employment growth are brought about by output expansion in that sector. The speed with which this expansion occurs is determined by the rate of industrial investment and capital accumulation in the modern sector. Such investment is made possible by the excess of modern–sector profits over wages on the assumption that capitalists reinvest all their profits. Finally, Lewis assumed that the level of wages in the urban industrial sector was constant, determined as a given premium over a fixed a average subsistence level of wages in the traditional agricultural sector (Todaro; Smith, 2009:115-116).

The translation of assets into a livelihood strategy composed of a portfolio of income earning activities is mediated by a great number of contextual social, economic and policy considerations. (Scoones, 1998) divides these between the two categories of contexts, conditions (including shocks) and trends, on one hand, and institutions (including social relations) and organizations on the other. The former category includes history, politics, economic trends, climate, agro ecology, demography, and social differentiation. The latter category consists of social factors that are predominantly indigenous to the social norms and structures of which

households are a part, while the former category consists predominantly of the exogenous factors of economic trends and policies, and unforeseen shocks with major consequences on livelihood viability. The installation of irrigation systems may improve the quality of a nation's agricultural land by raising productivity per hectare. If 100 hectares of irrigated land can produce the same output as200 hectares of non irrigated land using the same other inputs, the installation of such irrigation is the equivalent of doubling the quantity of non irrigated land. Use of chemical fertilizers and the control of insects with pesticides may have equally beneficial effects in raising the productivity of existing farm land (Todaro; Smith, 2009:142).

The livelihood promotion strategies have to be linked to the local resource base of the communities, which comprise land resources, water resources, forest resources, livestock resources and local human resources. Scientific management of natural resources is essential for ensuring sustainable development of farm and non-farm activities in the rural areas and the promotion of the traditional handlooms and handicrafts through up gradation of technology, introduction of new designs and materials and linking them to markets can generate substantial income and employment in these regions (Singh, 2010).

The importance of population on policies to improve the role and status of women was underlined at the (1994), Cairo International Conference on population and Development, where, unlike the first two conferences, held in Bucharest in 1974and in Mexico city in1984, less emphasis was placed on the provision of family –planning services and more on the general empowerment of women, especially in the area of reproductive choice. The Cairo program of Action summarized this position in the following manner:

The empowerment and autonomy of women and the improvement of their political, social, and economic and health status-(are) essential for the achievement of sustainable development and for the long term success of population programs. Experience shows that population and development programs are most effective when steps have simultaneously been taken to improve the status of women. As the World Health Organization(W HO)concluded in its 2000,World Health Report on health systems, "ultimate responsibility for the performance of a country's health system lies with government," Developing country officials are drawing lessons from the

many studies showing the interrelation ships among health, education, and incomes and are devising integrated strategies.

2.5 The Role of the Agricultural Sector in Ethiopia

Theoretically, as cited in (Ghatak, 1984:122), the role of agriculture in economic development is; agriculture provides both food and raw materials to the rest of the economy; a growing agricultural sector provides an enlarged market as it expands aggregate demands; it also provides labor for employment in the industrial sector; and agriculture is often a principal source of capital for investment elsewhere in the economy.

Furthermore, even though the farming system in Ethiopia can be classified into the small –holder farming system , the pastoral – nomadic system, and the modern commercial farming system, the sector is dominated by small scale farmers who have been adopting rain- fed mixed farming with traditional technologies. Small –scale farmers on the average account for 95percent of total area under crop production and for more than 90 percent of the total agricultural output (Stephanos, 1995:124).

As stated by (Stephanos, 1995: 137), commercial farming system was officially introduced in the Third five year plan, by the then government. The plan stated that to: modernize agriculture and increase market stable surplus, get a quick increase in agricultural exports and /or substitution for imports, create new employment opportunities and facilitate settlement of farmers, government land would be utilized for the establishment of large commercial farms.

Eventually, (MoFED, 1993:138) noted that in the FDRG the ADLI has as its focus the development of the agricultural sector. It was remarked that agriculture can develop only with improvements in the productivity of peasant farmers and pastoralists, and if large scale farms are established, particularly in the lowlands. MoFED described development priorities for agriculture to attain satisfactory growth and effectively discharge the role of an expected development.

2. 6 Poverty, Vulnerability and Environment

Vulnerability is defined as a high degree of exposure to risk, shocks and stress; proneness to food insecurity. Vulnerability can also be defined as; the extent to which an individual, a household or a community or geographical area is likely to be damaged or disrupted by the impact of a particular disaster or hazard. Vulnerability is 'usually viewed as asset of prevailing conditions or elements which adversely affects an individual's, a household's or a community's ability to cope with a threatening event or process' (Von Kotze; Holloway, 1994). These means that Vulnerability has the dual aspects of external threats to livelihood security due to risk factors such as climate, markets or sudden disaster, and internal coping capability determined by assets, food stores, support from kin or community and so on. When external threats persist and potential internal coping capability erodes, vulnerability of the households to livelihood failure or food crisis is high.

The Environmental policy of Ethiopia issued in 1997 aims at improving the quality of life of the people through sustainable development of natural as well as cultural resources. The sect oral policies include: Soil Husbandries and Sustainable Agricultural, Forest, Woodland and Tree resources, Genetic, Species and Ecosystem Biodiversity, Water, Energy, Mineral resources, Human Settlements, Urban Environment Health, Control of Hazardous Materials and pollution, Atmospheric pollution and climate change, cultural and Natural Heritage. The policy also entertains various cross-sect oral policies without which the policy content would become incomplete, and the implementation difficult. Such issues like population and the environment, community participation, tenure and access rights to land and natural resources, land use plan, social and gender issues, environmental economics, information system, research, impact assessment, education and awareness are entertained (FDRE, 1997).

Nobel laureates Amartya SEN and Gary Becker, among others, have impressed upon us the anatomy of good life, which includes health, education and the availability of options. Further, some economists like Karl Marx painted a pessimistic picture about the future. Yes, economists still talk of <on the one hand> and <on the other hand >, but this is because everything is associated with pros and cons. For example, the high interest rate, on the one hand, is welcomed

by those who plan to save for future and, on the other hand, is disliked by those who desire to invest (Gupta, 2008:7-8).

The link between poverty and environmental degradation is not simple and direct one. The may be driven by hunger and privation to rely more heavily on the resources of their surroundings, while this reliance may be exacerbated by environmental crises, the poor do not as a general rule, fecklessly a buses the environment (Dessalegn, 2001)

The rate of growth remains below those needed to reach Ethiopia's development goals, and below potential-there is no evidence of an overall economic take off since the early 1990. The evidence of a broad – based and sustained agricultural productivity take off is weak. Indeed, it is possible to construct gloomy scenarios for peasant agriculture since agricultural output per capita evidences long run decline (World Bank 2007a: 33).

According to the World Bank, government intervention in agriculture, and the resulting poor producers incentives are the main reasons for the low sub - Saharan African's overall economic performance other than the developing countries. Since then, major reforms to agricultural marketing and pricing have occurred in almost all sub-Saharan African countries including Ethiopia. Reducing absolute poverty and food insecurity at acceptable environmental and economic costs is a major development challenge for Ethiopia (Sisay; Adugna, 2001:1)

In Ethiopia there is a growing understanding that deforestation and land degradation will further exacerbate poverty, which brings natural resource conservation to the front position of rural development initiatives (Yemiru, 2011).

2.7 Features of Household Livelihood Security

The features or attributes of livelihood are associated with opportunity set that involves assets, capability, access, resource allocation, activities and outcomes. These features are useful to broaden and enrich the definition of livelihood. I have argued elsewhere that since the land reform of the 1970s live assets, in particular farm oxen and power, are the most appropriate factors determining well-being or deprivation among rural households. Poverty and destitution are both states of livelihood deprivation, but differing in degree. Both involve the erosion of a household's productive, purchasing and bargaining power on the one hand, and its social and

institutional resources on other. A livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relation) that together Determine the living gained by the individual or house hold (Ellis, 2000)

A study of rural income in Pakistan in 1995 (as referred to in Ellis, 2000) indicated that despite the dominance of crop agriculture in the Pakistan rural economy, it is striking that crop- related income comprises around only one third rural household incomes. Self- employment income is the most important income source according for between 30.7 % and 34.6 % house hold income compared with between 23.2% and 27.1 % for crop agriculture. The importance of non-farm income is supported by the findings of other studies in many developing countries.

In the past several years, much progress has been made in understanding the processes that lead to food – insecure situations for households. In the 1970s food security was mostly considered in terms of national and global food supplies. The food crisis in Africa in the early 1970s stimulated major concern on the part of the international donor community regarding supply short falls created by production failures caused by a drought and desert encroachment. This primary focus on lack of food supplies as the major cause of food insecurity was given credence at the 1974 World Food Conference. As a result, all efforts to secure food security were geared towards stabilizing and ensuring food supply mainly through enhancing production and productivity.

Women often bear the disproportionate burdens of poverty, poor education, lack of jobs, and limited social mobility. In many cases, their interior roles, low status, and restricted access to birth control are manifested in their high fertility. According to this argument, population growth is a natural outcome of women's lack of economic opportunity. if women's health, education, and economic well – being are improved along with their role and status in both the family and the community, this empowerment of women will inevitably lead to small families and lower population growth. This was the principal message of the United Nations International Conference on population and Development held in Cairo in 1994.

CHAPTER 3: THE DESCRIPTION OF THE STUDY AREA AND RESEARCH METHODS

3.1 Description of the Study Area

3.1.1 Location

The study area is located in *Dendi* woreda, *west shewa* zone, *Oromia* regional state. *Dendi* woreda is one of the eighteen woradas of the *west shewa* zone. The woreda's capital, *Ginchi* is located seventy five kilometers west of *Addis Ababa* on the *Addis Ababa–Naqamite* road. it is situated between two towns : *Olankomi* and *Ginchi*. The woreda has a total area of 109,729hectars with altitudinal range from 2000–3200 m.a.s.l and also the population of the woreda is 2o9, 555(Dend woreda Report, 2014).

Hence, the location of the study area contributes for the rising of the price of crops for the farmers who are living in the study area. And also they have advantage to selling their crops to different towns than other local kebeles. So, this location of sample kebele is motivating the productivity of farmers in the sample area and they have obtained urban processed goods and their agricultural production sold to urban dwellers. As a result, the relationships between rural and urban areas are intertwined. As well as, this elevation of the study area is mostly suitable for the production of teff, wheat, barley, chickpea and grass pea. It implies that, these different sources of crops are the major sources of income for the households in the target area.

The woreda is bordered in the south by *Bacho* and Dawo woreda of south *west shewa* zone which has a length of 35kms separated by *Dalacho* river, in east by *Ejere* woreda which has a length of 35 kms separated by *Huluko* , in the west by *Ambo* woreda with 35kms, in the north by 40 kms *Jeldu* woreda. The woreda has good agro- ecological zones that made unique *Dandi*, among eighteen woreda of *west shewa* zone. Among the agro- ecological zones, dega comprises 29 percent and woina-dega 71 percent (Dendi woreda report, 2014). It indicates that this favorable climatic condition and land features of the woreda are comfortable for the diversity of agricultural production and so this sample woreda is a notable area by its surplus agricultural production among eighteen woredas. Therefore, these better conditions can be a reason why the living condition of households are enhanced in the sample woreda .

Out of the 48 local kebeles in *Dendi* woreda, *Dano Ejersa Gibe* has a good natural endowment which contributes for agricultural activities. The geographical location of this local kebele is between 38^0 05`E to $38^0$15`E and 9^0 00`N to $10^0$ 08`N, with elevation ranging from 2000 to 3200 m,a,s,l (melaku, 2003).This means that it is well endowed with varied natural resources: fertile soil and favorable climate. As a result, it is a notable kebele in Teff production.

Dano Ejersa Gibe was selected for this study because of its current high usage of extension inputs (e. g, chemical fertilizers and improved seeds), relatively diversified agricultural activities. And accessibility to transportation and also the farmer who has adequate income of agricultural production is located in this study area. The woreda has a rural and urban population. The rural population constitutes 82.48 percent and the rest 17. 52 present is urban population. From the total population: 50.51% are male and 49.49% female. So, currently, the largest numbers of population are residing in rural areas. Consequently, the study of this sample kebele indicates that within rural communities, different households have different potential accesses to alternative careers depending on their access to different opportunities and capabilities. This implies that the different wealth categories of the households have been identified in the study area.

Table3.1 Number of Population in Percentage and Sex in Rural and Urban Area

location	Year	M	%	F	%	Total	%
Rural	2014	87569	50.66	85273	49.34	172842	82.48
Urban	2014	18483	50.35	18231	49.65	36713	17.52
Total	**2014**	**106052**	**50.51**	**103504**	**49.49**	**209555**	**100**

Source: DWADO, 2014

The woreda is predominantly woina-dega which accounts for 71 percent and *Dega* agro ecology accounts for 29 percent. *Dendi* woreda receives moderate amount of rain fall ranging from 750mm to 1170mm annually. The indicated two agro –climatic zones are the most favorable ones for agricultural productivity in the selected woreda. In the targeted woreda the mean

maximum and minimum temperature are 23.8^0c and 9.3^0c respectively. This means that the moderate rainfall, favorable temperature and relatively fertile Dega and woina-degas together make *Dendi* one of the surpluses producing woredas in *western shewa* zone. These imply that environmental suitable conditions have an opportunity to provide an adequate food crops for the communities. Therefore, it is the basic factor to achieve self–sufficient food security for the communities in the sample woreda.

3.1.2 Topography

Dendi woreda is characterized by nearly flat topography. Among land features: 45% plateaus, 43% rugged and 12% mountain are located within this woreda(DADO, 2014). The altitude above 2000m is accounts for 40 percents of the total woreda. It assumed that the present land form or relief structure of the *Dendi* woreda is mountains, hills, plains and other natural phenomena are the result of geological and climatic events. On the other hand among the presented land forms, the study area has a plain land which is more suitable for mixed farming activities than high lands. It means that this physiographic of *Dano Ejersa Gibe* has more different climatic condition and flat land which are suitable for a different agricultural production than other land features. It indicates that, these favorable land forms and climatic condition are the most important factors that affect the living condition of households in the study area positively.

3.1.3 Soil

According to an assessment made on the basic of village records: 46 percent is red soil and 40 percent is black soil. The remaining is covered by yellow soil accounts for 8 percent and brown soil for 6 percents. Whereas, the widest portion of the *Dano Ejersa Gibe* is covered by black soil accounts for 95 percent and red soil for 5 percents in the targeted area (DADO, 2013).The major portion of the sample kebele is covered by black clay soil with the portion of alluvial soil. It means that the combination of black clay soil and alluvial soil has adequate nutrients which are the most important factors in agricultural production for better crop production. Due to its clay characteristics of soil; it is sticky and crack during summer and winter respectively. So, it is difficult to use for farming purposes. But the portion of the alluvial soil is very important for agricultural production in the study area. Due to the fertility of this soil, the largest numbers of

households are residing on it. As a result, fragmentation of the farm land is occurred. So, this condition influences the livelihoods of households in the target kebele negatively.

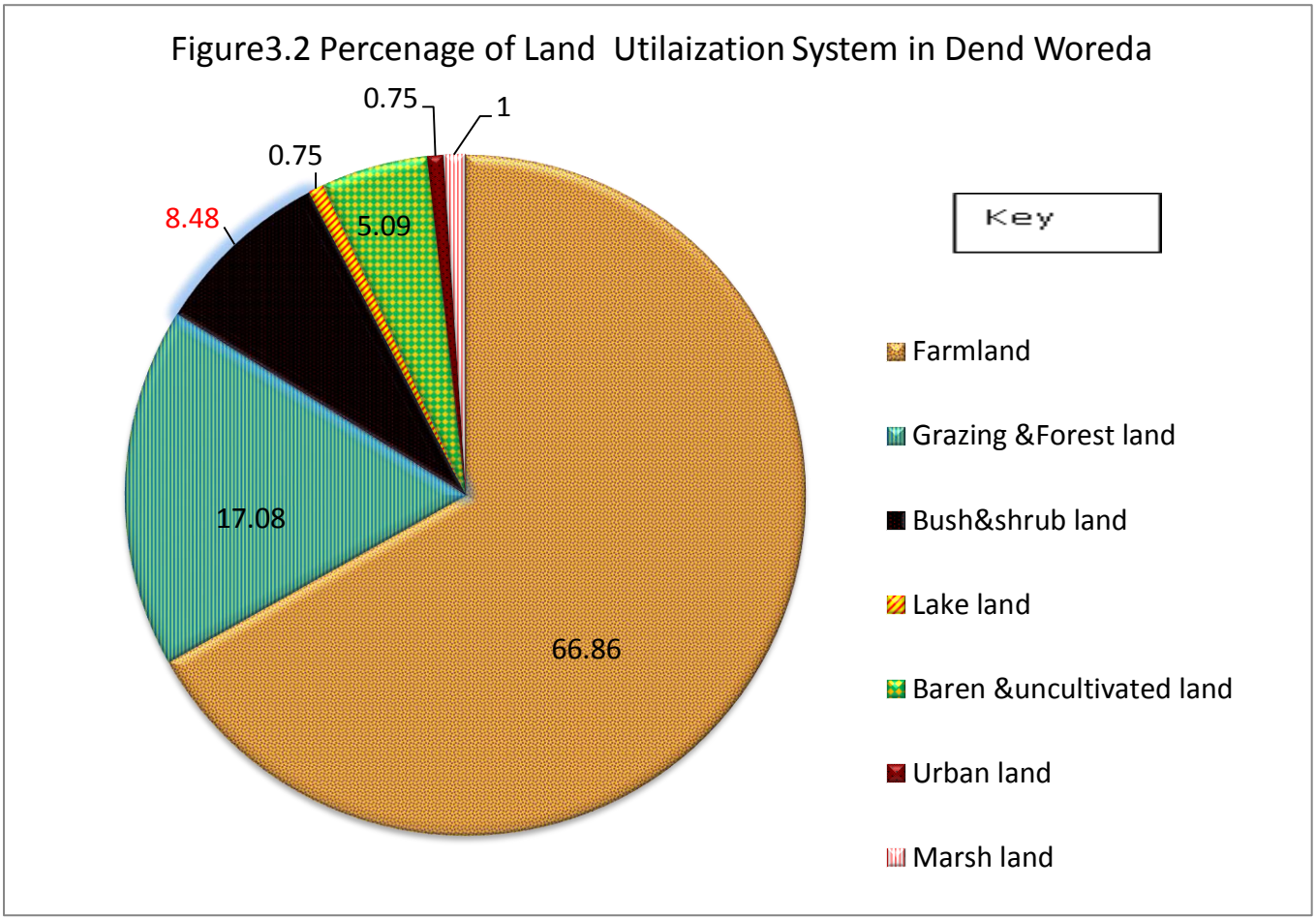
3.1.4 The Economic Characteristics' of Dendi.

A. Demographic Characteristics

The Ethiopian population growth rate in 2007 was 2.0 percent. It means that according to 2007 population and housing census of Ethiopia the total population of *Dendi* woreda are 112,377 among which 108,171 are male–headed households and the rest are 4,206 female–headed. The average family size per household varies between 3 and 5 persons. The economically active work force over 15 and below 65 years of age is estimated to be 49%. It implies that the highest percentage of the population in the study area is the young-age groups. And also it indicates that, the age dependence of the population is drawbacks for economic development of the sample households in the sample area.

B. Economic Activities and Sources of Livelihoods

The economic activities for the majority of the population of the woreda are characterized by mixed –farming. Like all rural part of Ethiopia regions, in *Dendi* woreda the dominant economic activity is agricultural sector where 83 % the population engaged in and followed by service sector. The agriculture is dominantly depend up on the seasonal rainfall and used old traditional method of farming in the sample woreda. So that the major crops grown in the study woreda are: teff, wheat, barley, chickpea and grass pea are the major one. As well as, some medium irrigation activities conducted across small rivers where there is annual flow of waters and plain lands. The crops that produced through irrigation are potato, tomato, cabbage, carrot, onion and pepper accounts for 73.39 percent, 1.52 percent 3.59 percent and 1.99 percent, 13.07 percent and 3.03 percent respectively produced traditionally and domesticated animals are also found in woreda with greater proportion. Among these: 41.90 percent cattle, 4.82 percent horse, 0.46 percents mule, 4.74 percent donkey and 22.76 poultry in the selected woredas (DADO, 2014). These indicate the major different sources of income for the farmers who are living in the study area. These the different sources of income highly contribute for the improvement of the livelihoods of households in the study area.



Source: DADO, 2005/06.

Figure3.2 reveals that farm land covers 66.86 percent of the total geographical area in the woreda and also grazing and forest, bush and shrub land cover 17.8 percent and 8.48 percent respectively. Uncultivated land and marsh land cover 5.09 percent and 1.00 percent respectively. A comparison of the land utilization in 2005 -2006 reveals that the farm land covers the largest area than the other geographical areas. It implies that the sample woreda has the widest size of cultivated land among the categories of geographical areas. So, it contributes for the enhancing the magnitudes of the agricultural production of the farmers. Therefore, this production helps to improve the livelihoods of the households in the target area.

Table3.2 Percentage of Livestock and Poultry Population in Dandi Woreda

S/No	Type of livestock	2004		2005		2006		2007	
		Quantity	%	Quantity	%	Quantity	%	Quantity	%
1	Cattle	169801	41.89	185540	42.70	204094	42.60	210255	41.81
2	Goat	18615	4.59	20476	4.71	22523	4.70	23202	4.66
3	Sheep	84151	20.76	92566	21.30	101822	21.25	103868	4.90
4	Horse	19768	4.88	11744	2.70	13918	2.90	24639	4.50
5	Mule	1999	0.49	2199	0.51	2418	0.51	2466	0.50
6	Donkey	19450	4.79	21395	4.93	23534	4.91	24244	4.82
7	Poultry	91596	22.60	10072	23.18	110830	23.13	114176	22.71
	Total	**405380**	**100**	**100830**	**100**	**479139**	**100**	**502850**	**100**

Source: DLD O, 2014.

Table 3.2 reveals that the cattle, sheep and poultry in *Dendi* woreda have been decreased from 2006 – 2007 E.C by 0.09 percent, 0.55 percent and 0.37 percent respectively. In 2007 E.C the poultry accounts for 22.84 percent and sheep accounts for 20.91 percent. Among the live stocks, the magnitude of mule is lowest for accounts of 0.50 percent in the study woreda in the year 2007 E.C. This table shows that in 2002 -2007 E.C, cattle, poultry, sheep, and goat accounts in average 42.10 Percent of the total livestock. Among the livestock cattle 42.10percent in average occupies the first place in the *Dendi* woreda. It indicates that the numbers of domestic animals in the study woreda are fluctuated in the different years. Hence, this condition retards the sustainability of the livelihoods of the households in local communities.

Table 3.3 Cultivated Land and Crop Production in Percentage

Types of crops	2007/2008		2008/.2009		2009/2010		2010/2011		2011/2012	
	Cultivated land (%)	Production (%)	Cultivated land (%)	Production (%)	Cultivated land (%)	Production (%)	Cultivated land (%)	Production (%)	Cultivated land (%)	Production (%)
Teff	33.39	28.30	30.41	25.77	33.24	28.17	33.59	28.47	33.61	28.49
Wheat	28.76	28.33	31.21	30.74	30.34	29.88	32.82	32.32	30.38	29.92
Barley	16.54	27.05	16.40	26.82	17.53	28.67	16.92	27.67	16.89	27.62
Maize	0.77	1.77	1.39	3.2	1.67	3.84	1.57	3.6	0.24	0.55
Sorghum	0.08	0.19	0.72	1.71	0.87	0.72	0.83	0.69	0.67	0.56
Lentil	3.82	3.55	0.95	0.88	0.67	0.62	0.37	0.34	0.58	0.54
Chickpea	1.13	0.51	3.82	1.72	4.96	2.24	5.71	2.58	5.83	2.63
Grass pea	4.28	4.49	4.23	8.33	4.67	9.2	3.66	7.21	5.35	10.54
Nugi	1.75	1.78	2.07	2.11	3.22	3.28	0.60	0.61	1.03	1.05
Telba	5.07	2.55	3.68	1.85	0	0	0.62	0.31	1.32	0.66
Others	0.77	0.23	2.18	0.52	0	0	0	0	0	0
Total	**96.36**	**98.75**	**97.06**	**103.65**	**97.17**	**106.62**	**96.69**	**103.8**	**95.9**	**102.56**

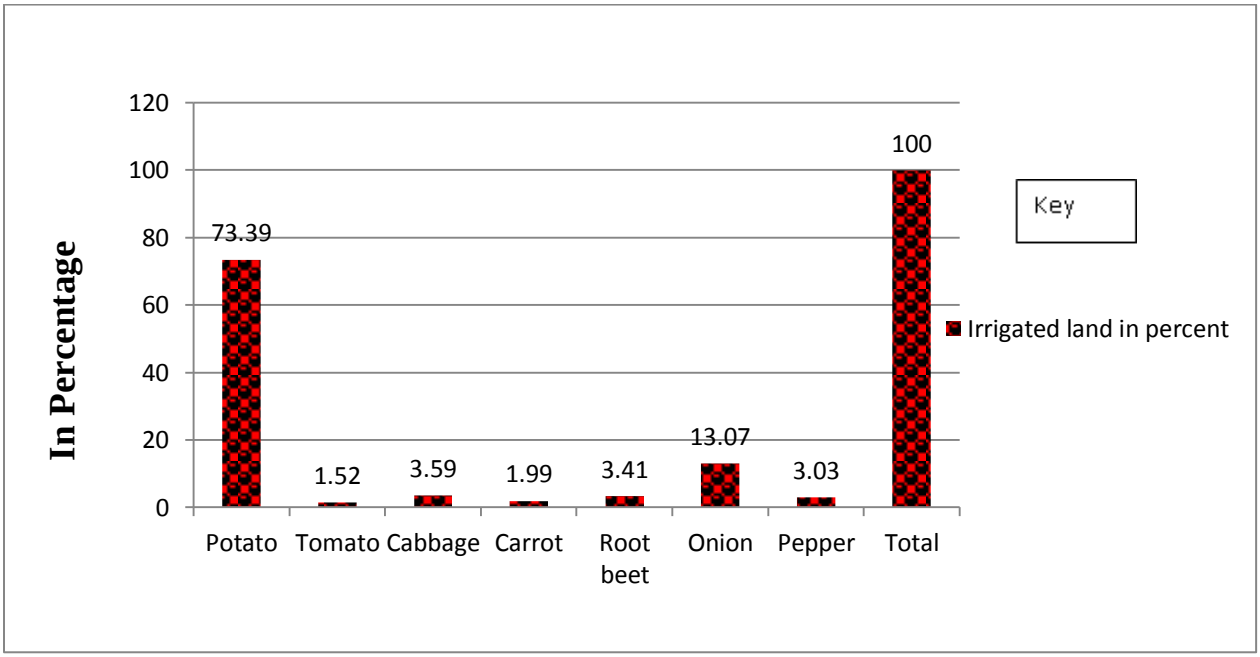
Source: DAD O, 2014

Diversity and diversification of crops may be taken overall to mean multiple and multiplying income sources that accelerate the livelihood of the economic development of the households. It is clear that out of total cultivated land; Teff 32.85%, Wheat30.70%, Barley16.86%, Grass pea 4.44%, Chickpea4.29%, Sorghum 3.17, Telba 2.14%, nugi 1.73%,lentil 1.28% and maize 1.13% of the plot land in average. Among cultivated land, teff, Wheat, Barely together covered the largest portion of the plot land than others in 2007-2012. According to the table 3.4, the teff

production is declined by2.53 % and 0.03% in the year 2008/09 and 2011/12 respectively. In contrasting, teff production is increased by 2.4% and 0.03% in 2009/10 and 2010/11 respectively.

In 2008/09 and 2010/11, the wheat production was increased by2.41% and 2.44% respectively. But, in 2009 /10 and 2011/12, it was reduced by0.86% and2.4%.Barley production was increased by 1.85% in the year2009/10. But, in 2008/09, 2010/11and2011/12, it was reduced by 0.23%, 1% and0.05%. While, maize production increased by 1.43%and 0.64% in the year 2008/09 and 2009/10 respectively. Whereas, in 2010/11 and 2011/12, it was reduced by 0.24% and3.05% respectively. This data reveals that a various agricultural crop production is fluctuated in different years. In other words, the sustainable crop production cannot see indifferent years. Hence, these unsustainable agricultural productions cannot bring sustainable livelihood of households' food security in the target kebele.

Figure 3.3: Net Areas Irrigated Traditionally Under Different Crops in Dendi Woreda



Source: DAD O, 2013/14

Figure3.3 shows that there are some medium irrigation activities conducted a cross small rivers where there is annual flow of water and plain land. This figure presents the distribution of net

irrigated areas with different crops through traditional way. The net areas irrigated are 1,056 ha. Of which potato accounts for 73.39ha percent, tomato for 1.52 ha percent, cabbage for 3.59 ha percent, carrot for 1.99ha present, root beet for 3.14 ha percent, onion for 13.07ha percent and pepper for 3.03 ha percent.

According to this data, potato crops covered the widest irrigated area for accounts 73.39 ha percent and the second largest irrigated area captured by onion for accounts 13.07 percent. While, the lowest irrigated areas are covered by carrot and tomato in *Dendi* woreda in the year 2013/14. These imply that the different agricultural irrigation activities are conducted in the sample woreda. So, this irrigation activity reduces some dependence on rain-fed agriculture. Hence, this irrigation activity contributes to ensure the food security of local communities.

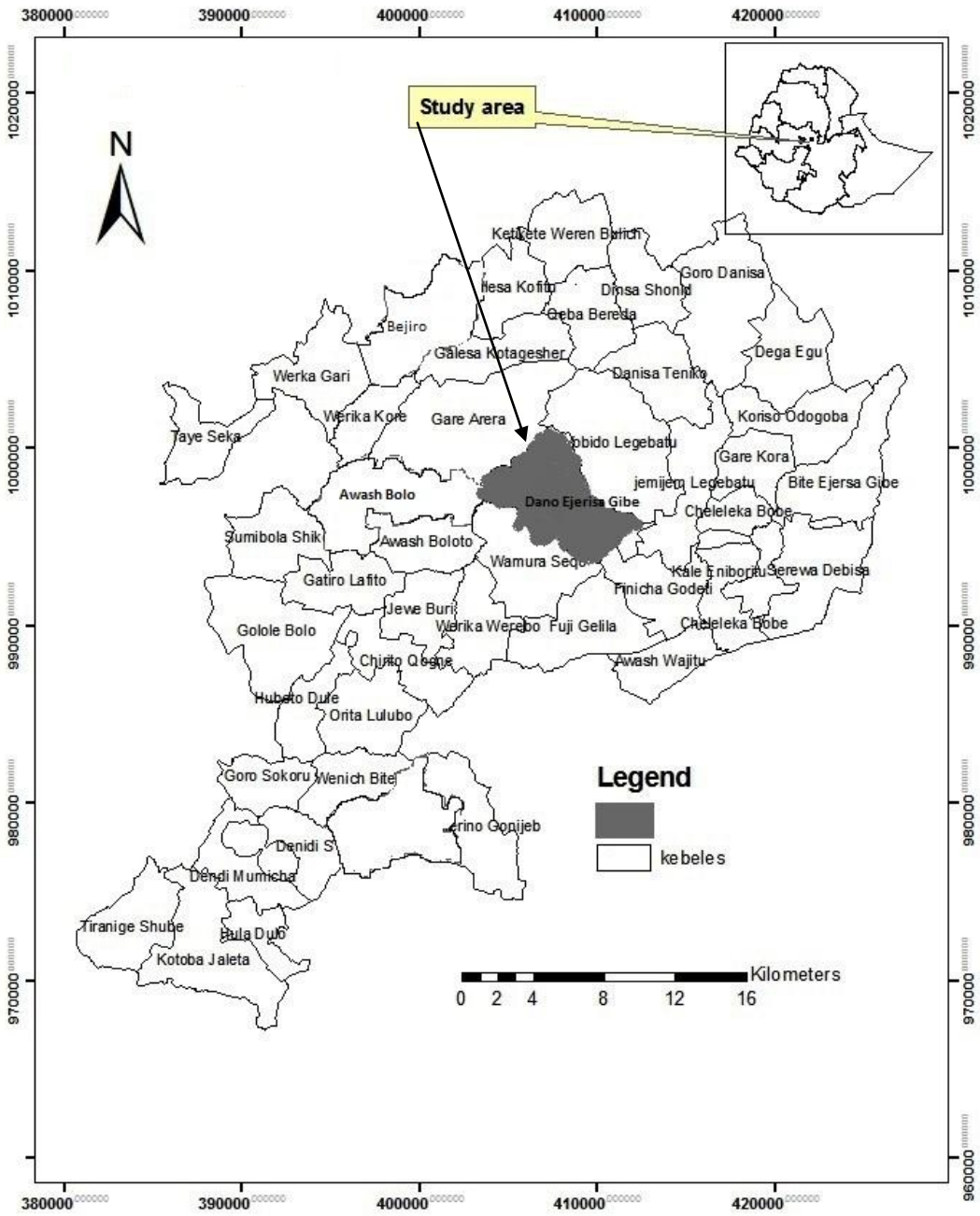
3.1.5 The Study Kebele

Dano Ejersa Gibe was selected purposively among 48 local kebeles. It is located between *Ginchi* town and *Olankomi* town adjacent to the *Danisa* high lands. It is also far apart70 km from *Addis Ababa* and nearest (merged to *Ginchi* town). The main road that is radiated from *Addis Ababa* is passing through the center of this kebele. This means that the topography of this kebele is plain land that is suitable for different agricultural activities. Ninety-five percent is Woina-Dega and 5 percent Dega agro-climatic zones, moderate temperature and rain fall are experienced in this kebele (DADO, 2014).

The targeted kebele covers an area of 2,652ha and is inhabited by 5175 people. The total households in the study kebele are 482 persons. Among which 80.29 percent is male and the rest is female accounted for 19.71 percent (DADO, 2014). It implies that the agricultural density is 27.36 persons per km^2 in the kebele. Consequently; an average land holding is 5.75ha with plot size varying from 0.43 ha to 2.87 ha in the sample households in the study area. Because of the shortage of land in the kebele, most of the people are forced to grazing their cattle around the borders of croplands and they use the remnant of crops. So, animal rearing is very difficult in the areas of shortage of grazing land is seen. It indicates that, the shortage of fodder is dwindling the breeding of animals.

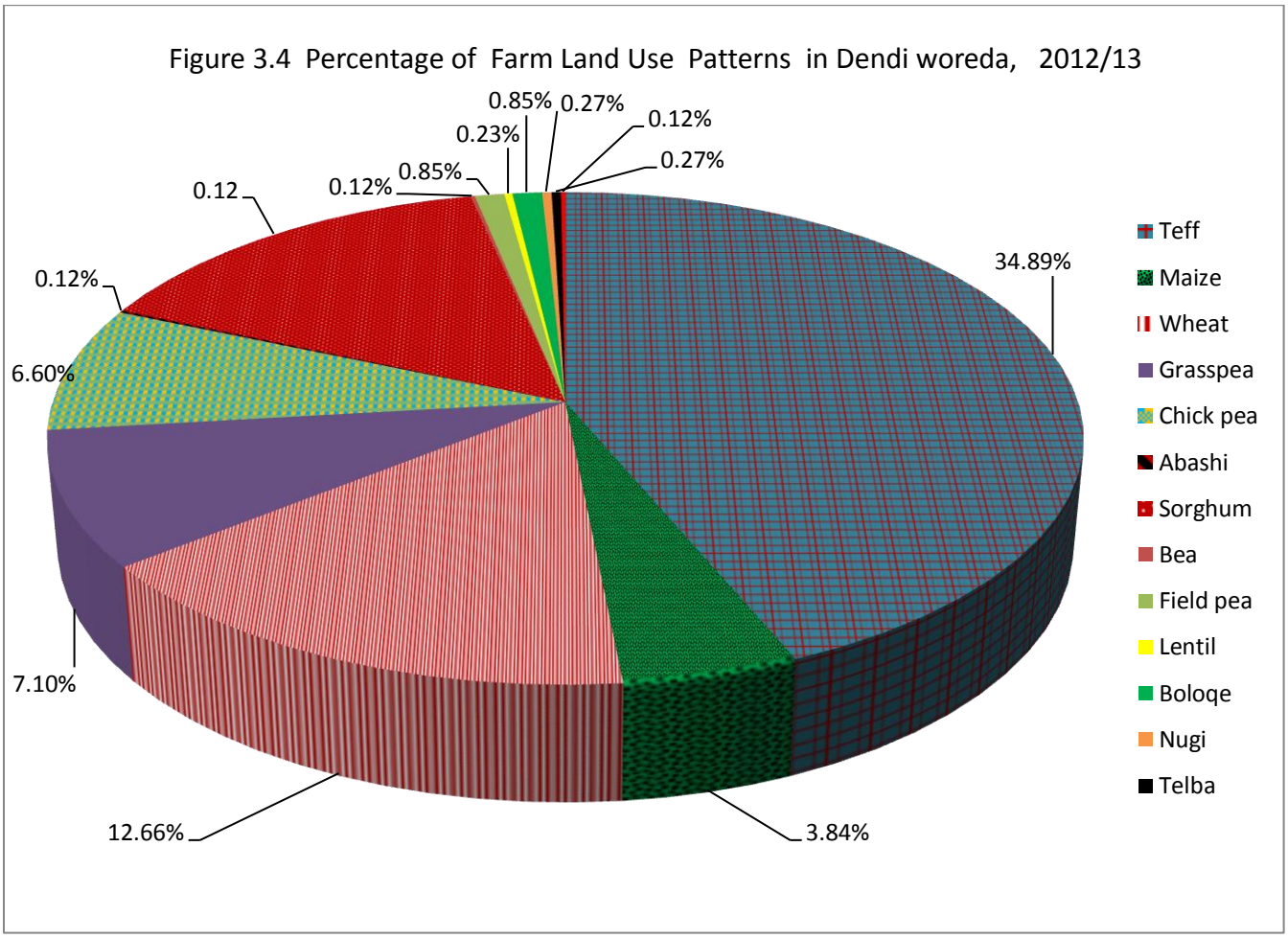
As it has been explicitly stated above, both quantitative and qualitative methods of study are used on the livelihoods of small holder farming households in the targeted local kebele. This case study is more focused on the three categories of households who are taken from the same agro-climatic zones and natural phenomena. Hence, this study attempts to focus on the determinate of livelihoods of peasant households. Such as: farmland, diversification of agricultural production, agricultural technologies and personal factors.

Map of the Study Area



Source: Ethio GIS 1997 and CSA 2007

3.1.6 Land Use Pattern and Farming System



Source: DWA and RDO, 2012/13

The cropping pattern depends on the elevation of the land, rain fall, fertility of soil, moderate of temperature, etc. In *Dano Ejersa Gibe* cropping pattern is influenced mostly by rain fall. Teff and wheat are the main crops grown in the area. Teff covers the widest area and it is mostly harvested as a rain fed crops. The areas under wheat, grass pea and chickpea, accounted for 18.73 percent, 10.50 percent and 9.76 percent of the total cropped area respectively. The area under maize, field pea, lentil, Abish, Sorghum, bean, boloqe, telba and nugi are, 5.68 percent, 1.25 percent, lentil 0.34 percent, 0.17 percent, 0.17 percent, 0.17 percent, 0.85 percent, 0.40 percent and 0.40 percent respectively. These totally accounted for 9.39 percent. Based on the data above teff and wheat are the major agricultural production. As a result, these two major crop productions are the fundamental source of livelihood in the study local kebele.

Table 3.4 Farm Land Use patterns by Different Crops, in 2012/13

S/No	Land use system	Areas of coverage in (ha)	%
1	Teff	909	34.89
2	Maize	100	3.84
3	Wheat	330	12.66
4	Barley	0	0
5	Grass pea	185	7.10
6	Potato	0	0
7	Chick pea	172	6.60
8	Abash	3	0.12
9	Sorghum	3	0.12
10	Bea	3	0.12
11	Field pea	22	0.85
12	Lentil	6	0.23
13	Boloqe	15	0.58
14	Nugi	7	0.27
15	Telba	7	0.27
16	Bush land	52	1.98
17	Grazing land	254	9.68
18	Forest land	302	11.50
19	Land in to non- agriculture	255	9.71
	Total	**2,625**	**100**

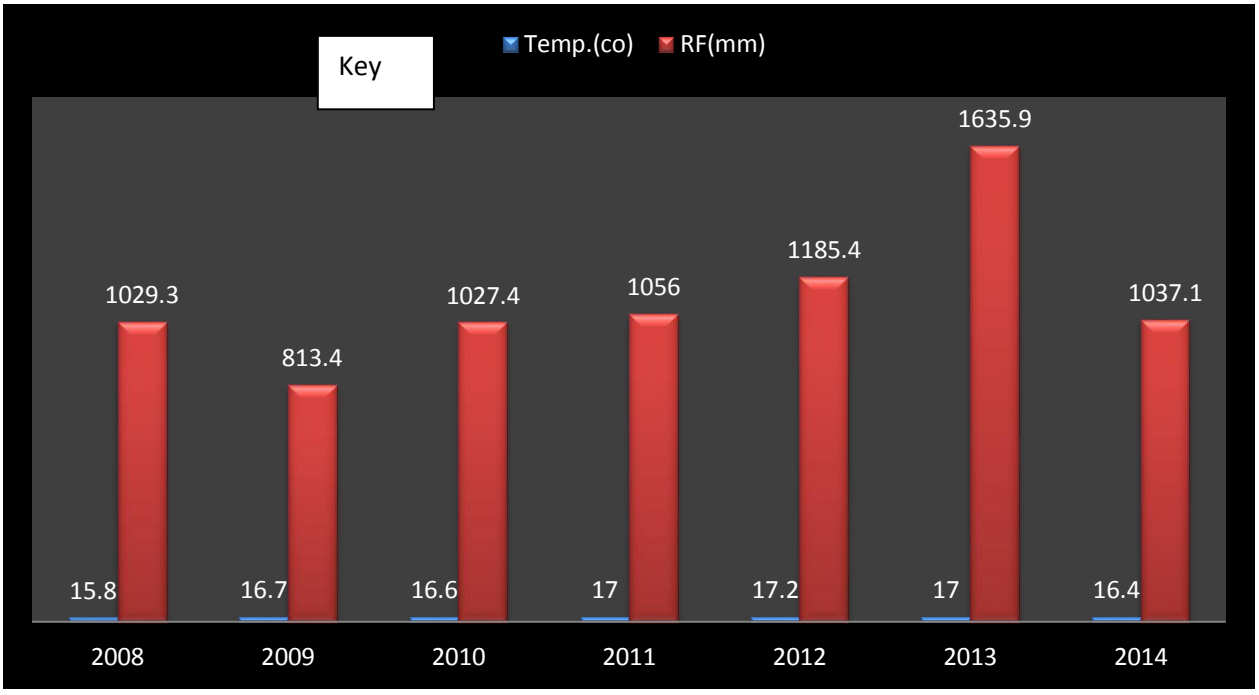
Source: DADO, 2014

Notice:-The total cultivated land in 2012|13 was 1762 ha, in percentage, 67.12.

The table3.4 reveals that cultivated lands cover 67.12 percent of the total geographical areas in the kebele. The forest land accounts for 11.50 percent and land put to non agricultural uses

accounts for 9.71 percent and bush land covers 1.98 percent. According to this data, the cultivated land (plot size) is the largest portion of the total geographical area. It implies that the widest agricultural land creates the wide job opportunities for farmers who are living there. So, it contributes to enhancing the livelihoods of households in the target kebele.

Figure 3.5 Yearly Average Rainfall and Temperature of *Dendi* Woreda, 2008- 2014



Source: Holota Research Center, Dendi Branch, 2014

The Woina-Dega –Zone area contains most of Ethiopia's agricultural land. The *Dano Ejersa Gibe* local kebele is mostly located in the Woina-Dega agro-climatic zone types. This area is characterized by moderate annual temperature on average 16.67 and moderate rainfall annual rain fall on average 1112.07mm. The amount of rain fall is varied from 813.4mm to 1635.9mm. Because of the elevation of the land is mostly plain land its magnitude of temperature is also mostly similar throughout the year. In general, the amount of rain fall and temperature in this kebele are very significant and favorable for agricultural production. The main Agricultural careers in this targeted kebele are the cultivation of crops and rearing of animals. The most food crops in the study area are Teff and Wheat. In addition, most of the cattle are indigenous breeds under traditional management. However, the climate is suitable for agricultural activities; almost

all of these activities are practiced through the traditional way. As a result, agricultural production is not adequate in the study local kebele

Table 3.5 Training Topics and Number of Participants in Farmer Trainings, in 2013/14

S/No	Topic of training	Number of participant		
		Male	Female	Total
1	Natural resource management	287	95	382
2	Using of BBM	307	90	397
3	Improved seed	287	85	372
4	Seed multiplication	360	85	445
5	Livestock healthing.	**30**	**75**	**105**

Source: DADO, 2013/14

The FTC in *Dano Ejersa Gibe* is not well organized and does not provide various training to the households of this kebele to improve their livelihoods. In 2013/14, numerous farmers were trained on the natural resource management about 382 people, on the using of BBM about 397 persons, on the improved seed about 372 persons and seed multiplication about 445 persons.

As DA of kebele said, the FTC could not operate properly because it did not have well-organized training house. It also suffered from scarcity of finance to demonstrate agricultural technology for the farmers. But, as the training was given for farmers, it did not bring an expected attitudinal change on the farmers' products. In addition, trainings such as, saving, respect for work and punctuality were not given for the local communities. As a result, the livelihoods of small holder farming households were not adequate in the targeted kebele in the year 2013/14.

The targeted local kebele has an incomplete farmer training center (FTC). It does not have a class room where the training is given for farmers. The farming training is given for farmers under shadow of trees for three or four days. According to the DA of kebele, the FTC has 1.5 ha farm land from which income generated for the activities of the farmers training. The FTC is located in 1.5 ha land that can be used for demonstration of new technologies. The participation of the kebele households in the government run extension package programs were limited to purchase of chemical fertilizers and improved seeds. Most of the farmers complained about the rising cost of fertilizers and improved seeds. Because of the rising cost of agricultural input especially medium and poor households could not use it. But, without chemical fertilizer, infertile farm land cannot give adequate production.

According to information obtained from the sample households there was no surplus agricultural production. Most farmers produce only for family consumption and the others cannot feed their family throughout the year. As well as because of high expenditure to purchasing chemical fertilizers and improved seeds, the farmers' capital formation and their living condition are weak

From interviewed farmers, explicitly understand that their agricultural productivity potential was hindered by climate change, shortage of land and finances. The targeted kebele has only 420 better off life household that was one in every 13 farmer house hold. They were better off life farmers when they were compared with other households who were residing within the some community. Among better off life sample household farmers, only one farmer was notable former in the target local kebele by his performance of activities.

The farmer training activities, about application of chemical fertilizers and improved seeds were given for peasant farmers.A-65years old better off life sample house hold farmers could not apply the scientific way. According to his opinion about the utilization of fertilizers, he cultivated plot land after chemical fertilizer was sowed and finally seeds were sowed on it. Moreover, he has many source of income generated from different agricultural production and non-farming. Among 9 members his family, all participate in economic activities and are hard workers. Furthermore, they do not waste their working time unreasonably as he informed me.

In general, the sources of income of this better off life farmers are teff, wheat, maize, chickpea, grass pea, lentil, selling milk and house rents from town. These sources of income help to enhance the quality of living of this farmer comparatively in the target kebele.

3.2 Research Methods

3.2.1 The Study Design

This case study is to explore personal attributes, economic, resources, agricultural technologies that allowed for improvement of livelihoods of small farming households. The study also makes an attempt to identify the different economic levels of households. To processed this case study, the agricultural production and income of sample households in the year 2013/14 used as the references.

3.2.2 Sampling Techniques and Sample Sizes

The study primarily focuses on the livelihoods of small farming households of *Dano Ejersa Gibe* kebele. This kebele was purposefully taken among forty eight local kebele in *Dendi* woreda. *Dano Ejersa Gibe* as the case study was selected based on the: Agro-ecology; the potential of production; population pressure and adoption of new technology.

Table 3.6 Population and Household Size in the Study Area

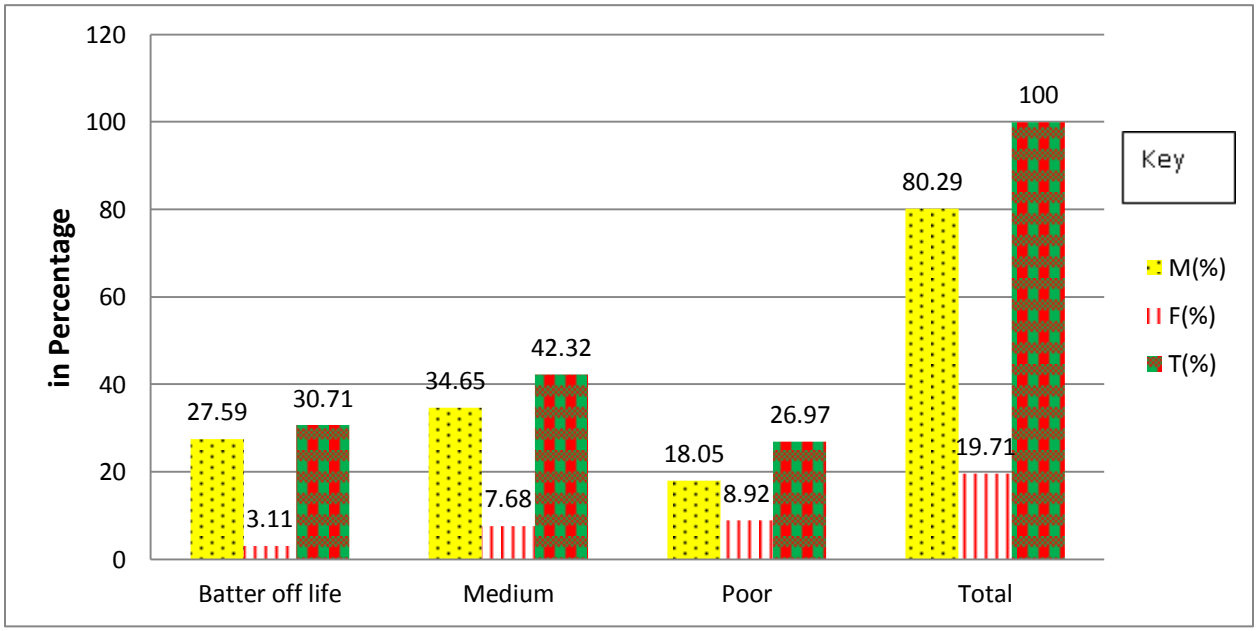
Categories	M	%	F	%	Total	%	Areas in(ha)
Population size	2475	48.83	2700	52.17	5175	100	2625
Household size	387	80.30	95	19.70	482	100	0

Source: DADO, 2014

The total population of the kebele is 5175 persons, of which females are 52.17 percent and the males are 48.83 percent. As table3.6 reveals, there are 482 households of which males are 80.30percent, and females are 19.70 percent in the kebele in the year 2014.

The study data has taken from three different wealth categories of households to investigate the status of the livelihoods of small farming households in the study area. Household heads were grouped in to three levels: They are: better off life, medium and poor households. The argument here is that one needs to design a differentiated approach either to food security (Dagnew, 1995), or poverty reduction (Bush, 2002).

Figure 3.6 Category of Households in the Study Area in Percentage, in 2014



Source: D ADO, 2013/14

Figure3.6 shows that the total household heads constitute 482 persons, out of which males are 80.29 percent and females are 19.71 percent of the total population. Among the category of household heads, better off life males are 27.29 percent and females are 3.11 percent and totally account 30.71 percent. Medium males are 34.65 percent and females are 7.68 percent and totally 42.32 percent. Poor males are 18.05 percent and female 8.92 percent which is 26.97 percent of the total household heads. According to this data, medium household heads constitute the largest magnitude among the size of the household heads. Medium and poor sample household farmers totally account 69.24 percent. According to this data, the tremendous of household farmers are captured in the low quality of life in the target local kebele.

Table 3.7 Sampling Method and Sample Households' Selection from *Dano Ejersa Gibe* Local Kebele

S/No	Wealth category	Total households	Sample size	Method of selection
1	Better off life	140	12	Simple random sampling
2	Medium	204	24	Sample random sampling
3	Poor	130	24	Sample random sampling
	Total	**482**	**60**	

Source: DADO, 2014

The sample for the study was taken from *Dano Ejersa Gibe* local kebele households. The total households of the kebele are 482 persons, of which 12 person from better off life, 24 person from medium and 24 person from poor households were taken as sample for the study based on the researchers own judgment that selected sample size represents the remaining households.

Once the sample size was determined, the households were selected by simple random sampling method. The list of a different wealth categories of the households in the study kebele in the year 2014 were used as sampling frame. In sum, the samples are totally 12 from better off life, 24 from medium and 24 from poor households are selected by simple random sampling.

Table3.8 Household Heads are Classified in Different Wealth Categories in the Study Kebele

S/No	Wealth category	Features of wealth category	%
1	Better off life	Own house rent in town, two and above two pairs of oxen and also good quality of residential home, three and above three milk cows and have sufficient food crops and horse carts. Diversification of crop production implemented.	20
2	Medium	Own tin residential home, two oxen, one horse cart, and One-two milk cows and relatively have self-sufficient crop production.	40
3	Poor	Lack of oxen, grass residential home, shortage of food crops, possess quarter and less than from 1 ha. farm lands.	40

Source: DADO, 2013/14

3.3.3 Data Collection Methods

Both primary and secondary source of data are used for this study. Primary sources are used to get data on issues related to opportunities of livelihoods of small farming households and drawbacks of peasants. Data are collected directly from three different wealth categories of house hold heads who are residing in the site and agricultural development workers in the area. Secondary sources are included reports and statistical data that were collected from different offices.

i. **Sample Household Survey**: A household's survey was carried out to collect data from a total of 60 sample households: 12 were from better off life, 24 were from medium and 24 were from poor households selected from one kebele by random sampling.

ii. **Key Informant Interviews**: Interview, as an interchanges of views between two or more people atopic of mutual interest, sees the role of human interaction for knowledge production, and it lets the respondent to speak confidently (kvale, 1996). Hence, In-depth interview with key informants of farmers of house hold heads, developmental agents, and the three wealth category levels of households are purposively done. These people have

profound knowledge on the opportunities and challenges of livelihoods of households in the small farming activities.

iii. **Field Observation**: The importance of this method is to reduce the bias and to strengthen the actual information that was given by different actors .This method is independent of respondents' willingness to respond and as such is relatively less demanding of active cooperation on the case in the interview or the questionnaire method (C.R.Kothar, 2004).Hence, direct observation was conducted on the livelihoods of small farming households and their living condition. It was mainly emphasized to have clear information in comparison to the interview. The observation was conducted with the local kebele DA and local managers.

CHAPTER 4: DISCUSSIONS AND RESULTS

4.1 Data Analysis and Interpretation

Different information gathered from secondary and primary sources were analyzed using descriptive statistics, the data were tabulated using absolute figures and percentage followed by quantitative analyses or descriptions.

4.1.1 Household Characteristics

Table 4.1 The Age Composition of the Better Off Sample Household Farmer Respondents

Age	Male	Female	Total	%
30-40	1	0	1	8.33
40-50	2	0	2	16.67
50-60	3	1	4	33..33
60-70	4	1	5	41.67
Total	**10**	**2**	**12**	**100**

Source**:** Field Data, 2014

Table 4.1 reveals that, almost all of the better off sample household farmers are elders. Some of them are adults. Therefore, from this data it is possible to understand that the majority respondents' age is above 50 years old. It implies that75% better off sample household farmers are above 50 years old. So, those better off sample household farmers had obtained adequate of farm land during the land redistributed of the derg regime. As a result, they possess in average of 2.87ha as this case study indicated. So that, this adequacy of farm land holding is one of the factors that contributes for the improvement of the livelihoods of the better off sample households than others.

Table 4.2 The Age Composition of the Medium Sample Household Farmer Respondents

Age	Male	Female	Total	%
30-40	3	0	3	12.50
40-50	8	2	10	41.67
50-60	6	1	7	29.17
60-70	3	1	4	16.67
Total	**20**	**4**	**24**	**100**

Source: Field Data, 2014

Table 4.2 reveals that, the majority of the medium sample household farmers are adult and elders. Most of them are between 30-50 years old and it consists of 54.17%. Whereas, 45.83 % medium sample household farmers are above 50 years old. According to this data, nearest half of medium sample households had participated in the land farm redistributed of the derg regime. As a result, they have captured an average farm lands relatively to poor sample households. Therefore, it contributes for the improvement of their food security comparatively.

Table 4.3 The Age Composition of the Poor Sample Household Farmer Respondents

Age	Male	Female	Total	%
30-40	13	1	14	58.33
40-50	5	1	6	25
50-60	1	0	1	4.17
60-70	1	2	3	12.50
Total	**20**	**4**	**24**	**100**

Source: Field Data, 2014

Table 4.3 reveals that, the majority of the poor sample household farmers are between the ages of 30-40 years old. They account about 58.33%.As well as, 25% is found between the age group of 40-50 years old. A few above half the poor household farmers are between 30-40 years old. As the above data explicitly shows that almost all of the poor household farmers account for83.33% between the age group of 30-50 year old. According to this data, those poor households were young during the derg regime. As a result, the derg land redistributed had not considered the young people. So, they possess in average of 0.43ha as this case study indicated. Therefore, this landlessness is one of the major causes for poor sample households food insecurity in this study area in year 2013/14.

Table 4.4 Percentage of Educational Level of the Sample Household Heads

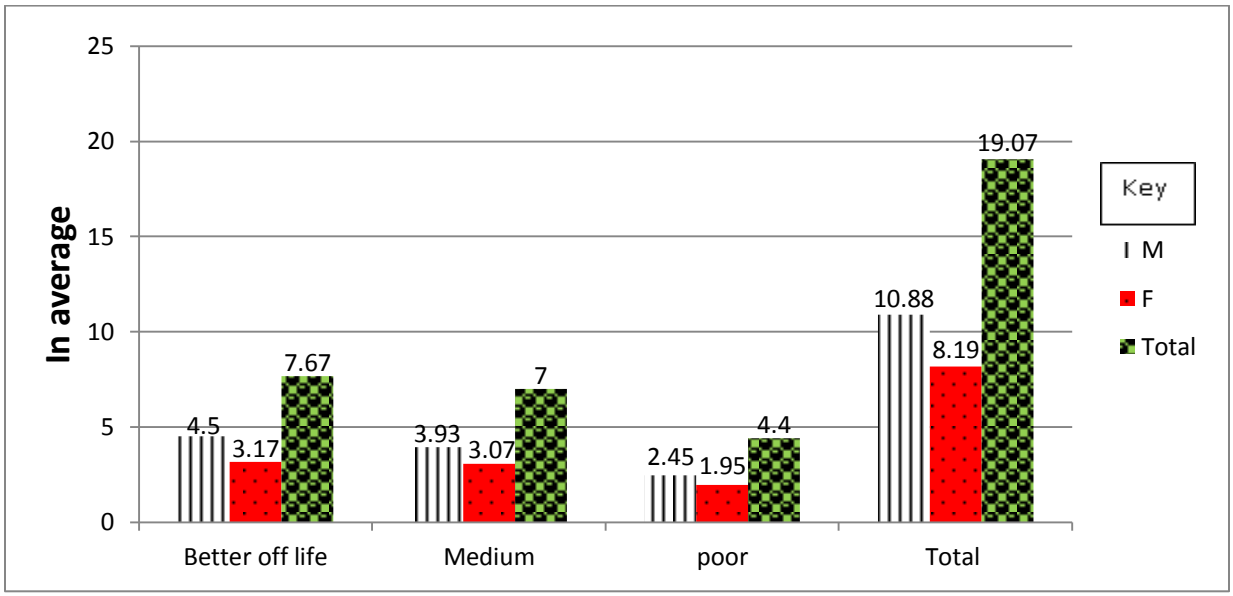
S. No	Category	Educational level																		
		Illiteracy						Primary education						Secondary education					Literacy	
		M	%	F	%	Total	%	M	%	F	%	Total	%	M	%	F	%	Total	%	%
1	Better of life	**2**	**3.33**	**2**	**3.33**	**4**	**6.67**	**6**	**10**	**0**	**0**	**6**	**10**	**2**	**3.33**	**0**	**0**	**2**	**3.33**	**13.33**
2	Medium	**18**	**30.0**	**4**	**6.67**	**22**	**36.67**	**2**	**3.33**	**0**	**0**	**2**	**3.33**	**0**	**0**	**0**	**0**	**0**	**0**	**3.33**
3	poor	**17**	**28.33**	**4**	**6.67**	**21**	**35**	**2**	**3.33**	**0**	**0**	**2**	**3.33**	**1**	**1.67**	**0**	**0**	**1**	**1.67**	**5.00**
Total		**37**	**61.66**	**10**	**16.67**	**78.34**	**78**	**10**	**16.66**	**0**	**0**	**10**	**16.66**	**3**	**5**	**0**	**0**	**3**	**5**	**21.66**

Source: Field Data, 2014

Table 4.4 reveals that the percentages of illiteracy and literacy are 78.34 percent and 21.66 percent respectively. Among the category of sample household heads, better off life sample household heads are 13.33 percent literate which is the highest. While, poor and medium sample

household heads are 5.00 percent and3.33 percent literates respectively. Therefore, the highest and the lowest household head literates are found in the better off life and in the poor sample household heads in the year 2013/14 respectively. The factors behind the impact on the improvement of livelihoods of farmers are very difficult deeply too recognized in the sample kebele. Anyhow, their low educational level may create favorable condition for problems of low economic development of farmers. As a result, low educational level of household heads is one of the factors which influence the economic development of household farmers negatively.

Figure 4.1 Average Family Sizes of Sample Households



Source: Field Data, 2014

Figure4.1 reveals that, better off, medium and poor sample households' posses in average of 7.67, 7.00 and 4.40 family size respectively from the total family size of 19.07 in averages. Among the category of sample households, better off life and poor sample households have the maximum and the minimum family size respectively. On the other hand, medium sample households have an average family size. The total family size of sample households is in an average of 19.07.Out of which malesare10.88 and females are 8.19 on average. According to this data, better off life posses the largest number of human labor power comparatively. Then, this largest number of human labor power contributes for improvement of livelihoods of better off sample households. While, the lowest human power dwindles the agricultural activities and

livelihoods of medium and poor sample house hold farmers in the study local kebele in the year 2013/14.

Table 4.5 An Average Age Distribution of the Family in the Sample Households

S/No	Category	Age group									Total average
		0-14			15-64			65and above			
		M	F	Total	M	F	Total	M	F	Total	
1	Better off life	0.67	0.90	1.57	3.69	2.27	5.96	0.14	0	0.14	7.67
2	Medium	1.34	1.62	2.96	2.59	1.32	3.91	0	0.13	0.13	7.00
3	Poor	1.20	1.12	2.32	1.25	0.7	1.95	0	0.13	0.13	4.4
	Total	**3.21**	**3.64**	**6.85**	**7.53**	**4.29**	**11.82**	**0.14**	**0.26**	**0.40**	**19.07**

Source: Field Data, 2014

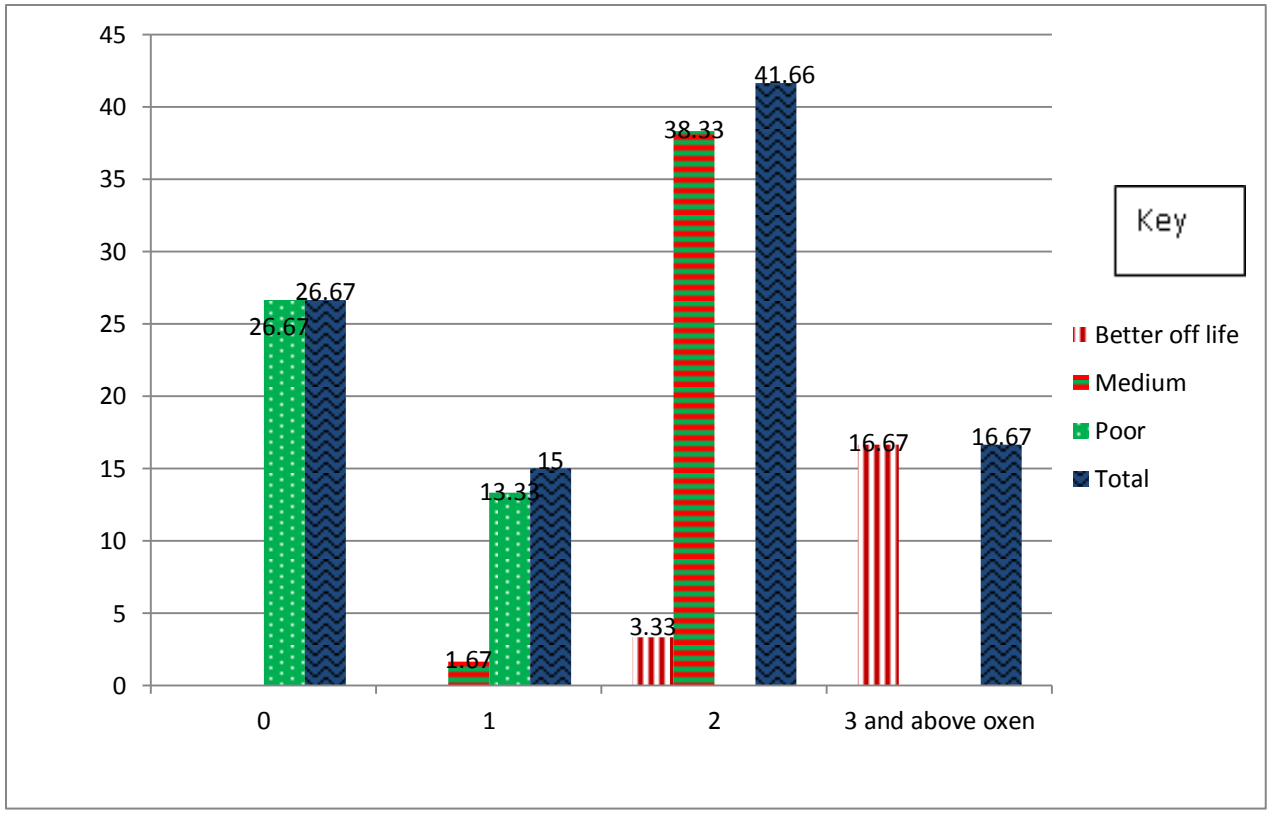
The total family size of the sample households on average is 19.07 persons of which females account for 8.19 and males account for 10.88 persons. The age composition pattern of the sample family size reveals that on average, 6.85 persons are in the age group of [0-14] years and on average, 11.82 persons are in the age group of [15-64] years and 0.40 persons in the age group of 65 and above 65 years. Table 4.5 shows that about 5.96, 3.91 and 1.95 persons on average independence in the family better off life, medium and poor sample households respectively. So, the largest number of family members of better off life participates in the economic careers. While, the lowest families of poor sample households participate in economic activities relatively. In contrast, about 1.71, 3.09and 2.45 persons on average dependence in the family better off life, medium, poor sample households respectively.

In general, the age dependency ratio is about 2:6, 3:4 and 3:2 in the family better off life, medium and poor sample households respectively. As a result, the lowest and highest number of family dependence (non-working age) persons are found in the better off life and poor sample households respectively. Hence, the largest number of dependence (non working age) person is one of the factors that affect negatively the livelihoods of economic development of poor sample

households. While the largest number of independence (working age) person is another factors that improved self- food security of better off life sample households in the study area in 2013/14.

4.1.2 Livelihoods of Local People

Figure 4.2 Percentage of Ownership of Oxen by Sample Households, 2013/14



Source: Field Data, 2014

Oxen are one of the important assets for agricultural households in Ethiopia. Since almost all rural households earn their livelihood from farming. This traditional way of cultivating the land is one of the constraints that hindered the livelihoods of the households and also the shortage of oxen is the major problems that affect the food security of farmers in the context of the Ethiopia. The survey revealed that only about 26.67% of the sample households do not own oxen. 15% sample households have only one ox. 16.67% of sample households have three and above oxen. A few above the half (nearly 58.33%) have two and above oxen. Among poor and medium

sample households 41.67% persons have zero and one ox. Therefore, those persons who have a shortage of oxen are exposed to food insecurity in the study area 2013/14 as this cause study indicated.

Table 4.6 Average Farm Land Holding of Sample Households

S/No	Category	Farm land holding system								Total
		Own land size				Land rent size				
		Rich	medium	poor	Total	Rich	medium	poor	Total	
1	Better off life	1.88	0.57	0.42	2.87	0.45	0.50	0.60	1.55	4.42
2	Medium	0.83	0.42	1.20	2.45	0	0	0	0	2.45
3	Poor	0.18	0.10	0.15	0.43	0	0	0	0	0.43
	Total	**2.89**	**1.09**	**1.77**	**5.75**	**0.45**	**0.50**	**0.60**	**1.55**	**7.30**

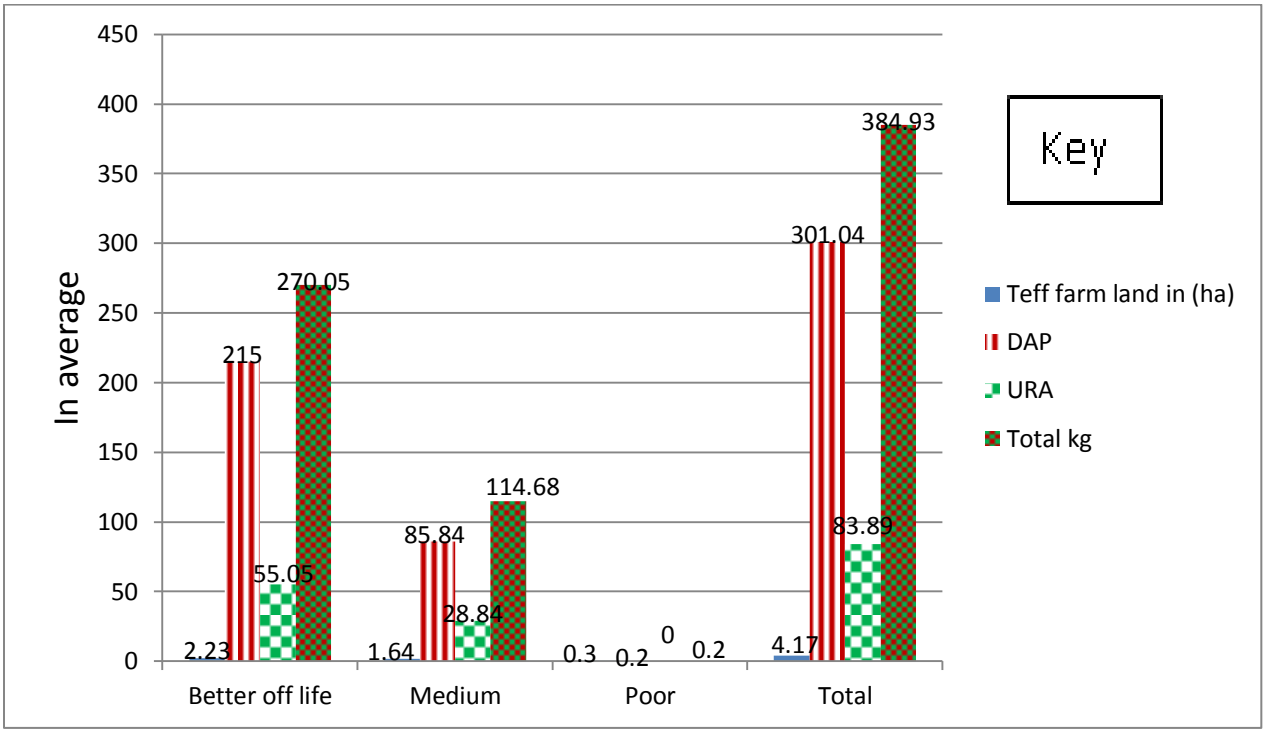
Source: Field Data, 2014

Agriculture is the base of livelihoods of all people in the target area, however, faces many problems. Of these problems shortage of farm land and landlessness the constraints that reducing the agricultural productivity of households in the sample kebele. The sample households possess 7.30 ha of farm land on average out of which better off life sample households' possess2.87ha, medium 2.45 ha and poor 0.43 ha. Among the sample households, better off life families possess an average of 1.55 ha of rented land in the study area. According to data in table 4.6, poor sample households possess less farm land in quantity and also in quality than better off life and medium sample households.

In general, better off sample households possess the highest amount of farm lands whereas the poor sample households possess the lowest amount. In addition, better off life households possess the highest amount of fertile farm land. Therefore, the fertile farm land and ranted land are one of the major factors that contribute for the increment of agricultural production and productivity of better off sample households. On the other hand, the infertile farm land and

landlessness are the major factors that hindered agricultural production of poor sample households in the study area in the year 2013/14.

Figure 4.3 Average of Farm Land and Fertilizer Utilization of Sample Households, in2013/14



Source: Field Data,2014

Agricultural technology and fertility of the land are the most important factors that enhancing the agricultural production. Currently, farm land cannot offer adequate crop production without using chemical fertilizers. So, figure 4.3 explicitly shows that on average 4.17ha Teff farm land consumed 384.93 kg fertilizer in the study area in the year 2013|14. Out of the total fertilizers, better off life sample households used on average 215kg DAP and 55.05kg URA fertilizer for an average of 2.23 ha farm lands, medium sample households used on average 85.84 kg DAP and 28.84 kg URA fertilizer for an average of 1.64 ha farm lands and poor sample households used on average 0.20 kg DAP fertilize for an average of 0.30 ha farm lands.

Among the different wealth categories of sample households, better off sample households used the highest amount of fertilizer on average for the specific farm land. While, poor sample households used the lowest amount of fertilizer on average for a specific farm land in the study

kebele. As this case study indicated that using adequate fertilizer is one of the factors that contributed for the succession of better off life sample households. On the other hand, using low amount of fertilizer is one of the causes for the reduction of agricultural production of poor sample households in the study area in year 2013/14.

Table 4.7 An average of Annual Crop Production in Quintal in Sample Households, 2013/14

S. no	category	Types and quantity of crops in quintal					Total in average
		Teff	Maize	wheat	Grass pea	Chickpea	
1	Better off life	26.2	3.15	4.50	5.60	6.20	45.65
2	Medium	14.20	0	1.64	2.92	3.92	22.68
3	Poor	3.1	0	0.35	0.90	0.50	4.85
	Total	**43.5**	**3.15**	**6.49**	**9.42**	**10.62**	**73.18**

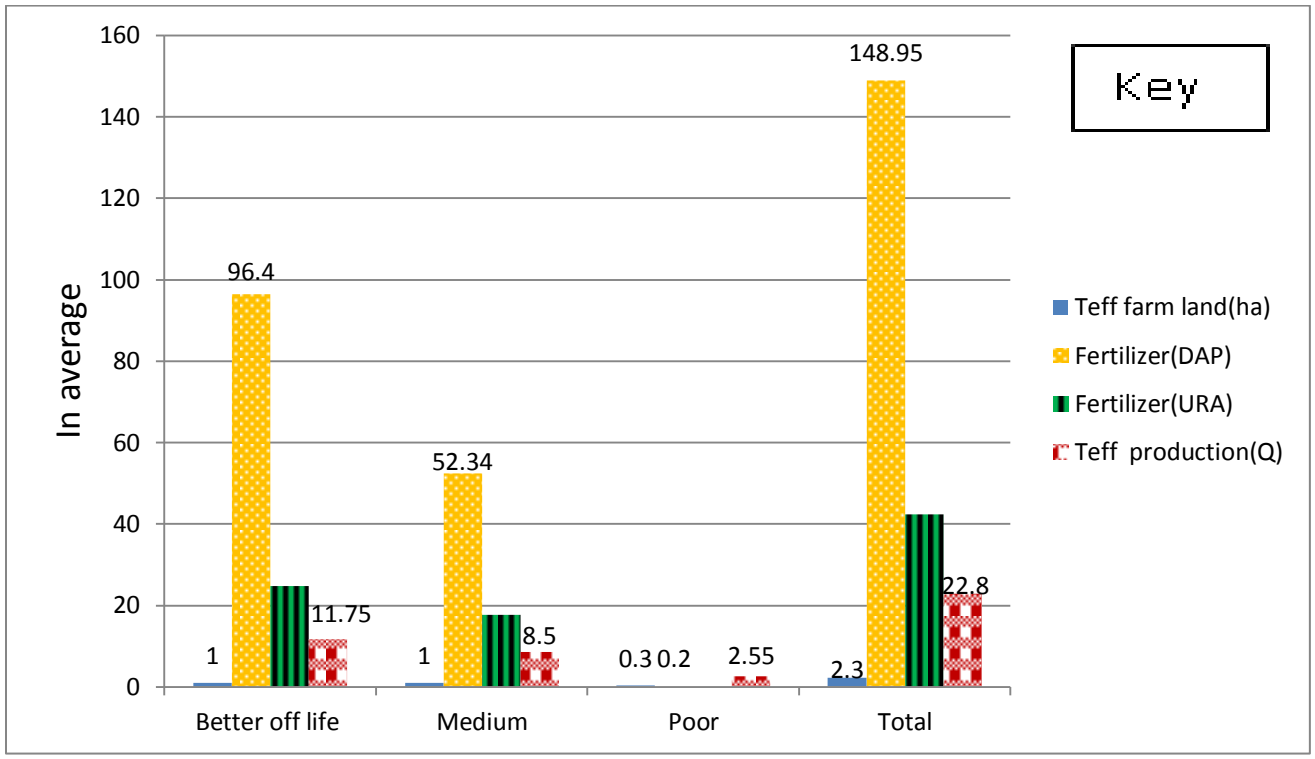
Source: Field Data, 2014

The sample household farmers cultivate a number of crops: Teff, chickpea, Grass pea, wheat and maize. However, all crops do not cover equal areas and also differ in their importance as food crops and cash crops in the study area. On the other hand, the sample households of this target area cover most of their farm land by Teff, wheat and barley. The total annual crop production of sample households in the target area in the year 2012/13 is on average73.18 quintals. Out of this quantum, better off life, medium and poor sample households posses 45.65, 22.68 and 4.85 in quintal on average respectively. According to table4.7 crop production on average is teff 43.5, maize 3.15, wheat 6.49, grass pea 9.42 and chickpea 10.62 quintal. These crops are the major sources of income for the sample households.

Therefore, better off life sample households possessed the highest crop production among other sample households. While, poor sample households posses the lowest crop production. So, those lowest crop productions could affect the income and food security of poor sample households negatively. On the other hand, the highest crop production is one of the causes for the increment

of income and ensures self-food security of better off life sample households in the study area in the year 2013/14.

Figure 4.4 Averages of Farm Land and Fertilizer Utilization and Annual Teff Production

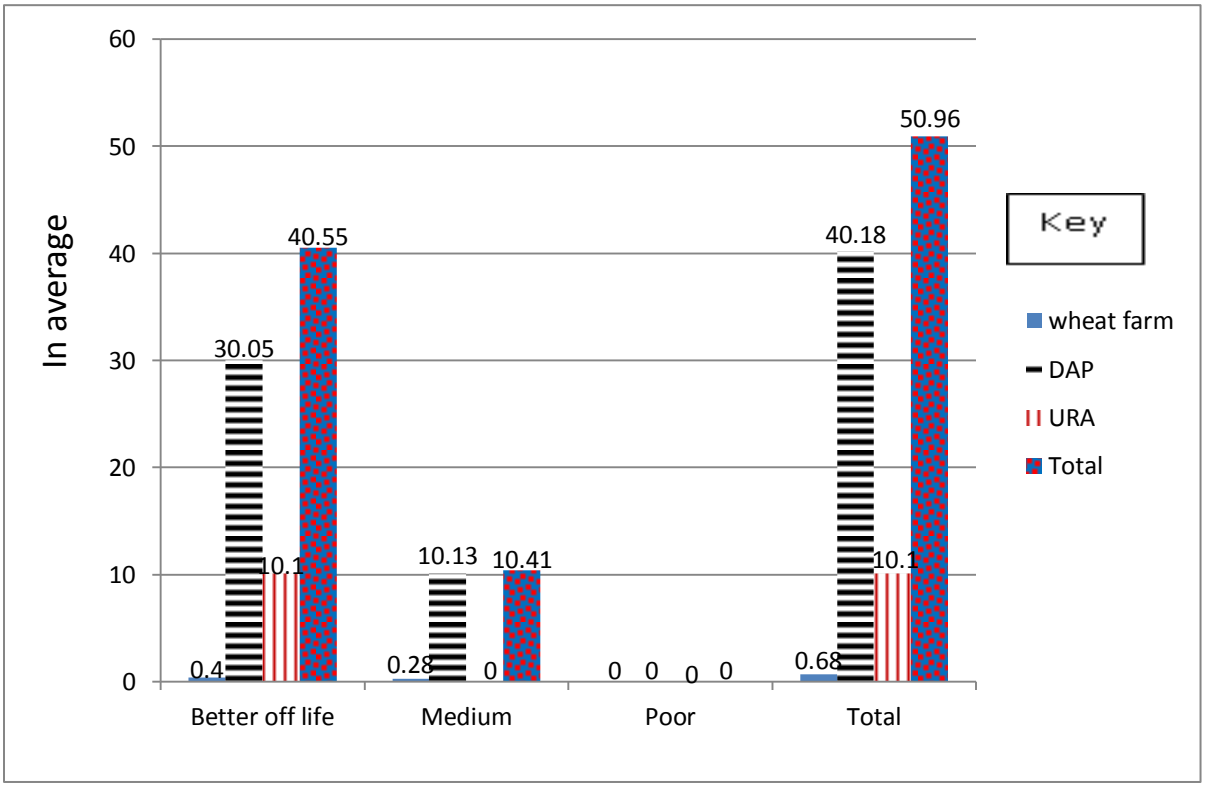


Source: Field Data, 2014

Agriculture is the bases of livelihoods of all people in the study area, however, faces many problems. Of these problems scarcity of land and increasing of agricultural inputs like chemical fertilizers and improved seeds. Land scarcity and uprising of chemical fertilizers forces households' agricultural production reduced. Figure 4.4 shows that better off life sample households used 96.4 kg DAP fertilizer on average and 24.69 kg URA for1ha teff farm land and medium sample households used 52.34 kg DAP fertilizer on average and 17.59 kg URA for 1ha teff farm land. Poor sample household farmers have 0.30 ha teff farm land on average. As a result, they obtained 2.55 Quintals teff. According to this data, better off life households obtained on average11.75 quintals of teff and medium sample household farmers have obtained on average 8.50 Quintals of teff per hectare annually. Therefore, better off life and poor sample households have obtained the maximum and the minimum teff production respectively.

Consequently, from this data, it is possible to say that chemical fertilizer is one of the factors that increase agricultural production of better off sample households. On the other hand, lack of chemical fertilizer is the other constraints that reduced agricultural production of poor sample households. In general, this agricultural technology contributes for increment of food security in the study area in year 2013/14.

Figure 4.5 Average of Wheat Farm Land and Fertilizer Utilization of Sample Households



Source: Field Data, 2014

Figure4.5 shows that the total wheat farm land on average 0.68 ha consumed on average 50.96 kg DAPS and URA fertilizer. Out of this quantum, better off sample households used on average 30.05 kg of DAP and 10.10Kg of URA fertilizer for average of 0.4 ha. Medium sample households used 10.13 kg DAP on average for average of 0.28 ha. According to this data, better off sample households used the highest amount of fertilizer for specific wheat farm land. Poor sample households do not have wheat farm lands. Therefore, scarcity of wheat farm land and landlessness are the other constraints for the low income of medium and poor sample households

respectively. In general, the three categories of sample households are not used adequate fertilizers for wheat farm lands in the study area in the year 2013/14.

Table 4.8 Average of Livestock and Poultry Population of Sample Households

S/No	Category	Livestock and poultry					Total
		Cattle	Sheep	Goat	Donkey	Poultry	
1	Better off life	11.42	1.45	0.3	6.65	12.17	31.99.
2	Medium	5.82	0.39	0	2.10	5.27	13.58
3	Poor	2.87	0.85	0	0	2.51	6.23
	Tota1	**20.11**	**2.69**	**0.3**	**8.75**	**19.95**	**55.80**

Source: Field Data, 2014

The surveyed households of the sample kebele are rearing livestock. These households rear cattle, sheep, goat and equines. But the numbers of livestock they rear vary within the study area. The rearing of livestock in the study area is affected by shortage of grazing land. As well as, the management of animals is back ward. As a result, the rearing of livestock is not adequate and their outcomes are extremely low. So, the livelihoods of households are affected by these sectors.

Table 4.8 shows that the total livestock and poultry population of the sample households are on average 55.80 of which cattle account for 20.11, sheep 2.69, goat 0.3, donkey 8.75 and poultry 19.95 on average. According to this data, better off life, medium and poor sample households' possessed31.99, 13.58 and 6.23 on average respectively. Cattle occupy the first place in an amount of 20.11 on average. Among sample households, better off life posses the grazing land at the boarder of crop farm land and remains of crops. As a result, they breed adequate livestock comparatively. While poor sample households have the scarcity of fodder sources. As a result, they breed the lowest livestock. Therefore, adequate animal breading is another cause for additional improving the income of better off sample households. On the other hand, low amount of animal breading is another additional constraints for the low income of poor sample households in the study area in the year 2013/14

Table 4.9 Percentage of Sample Households' of Supplementary Agricultural Activities and Non-farming Activities

S/No	Category	Type of occupation									
		Fattening and milk production						Non- farming activities			
		Cattle	%	Sheep	%	Milk	%	Rented house	%	Cart	%
1	Better off life	7	11.67	1	1.67	5	8.33	5	8.33	1	1.67
2	Medium	3	5	4	6.67	1	1.67	-	-	1	1.67
3	Poor	-	-	-	-	-	-	-	-	-	-
4	**Total**	**10**	**16.67**	**5**	**8.34**	**6**	**10**	**5**	**8.33**	**2**	**3.34**

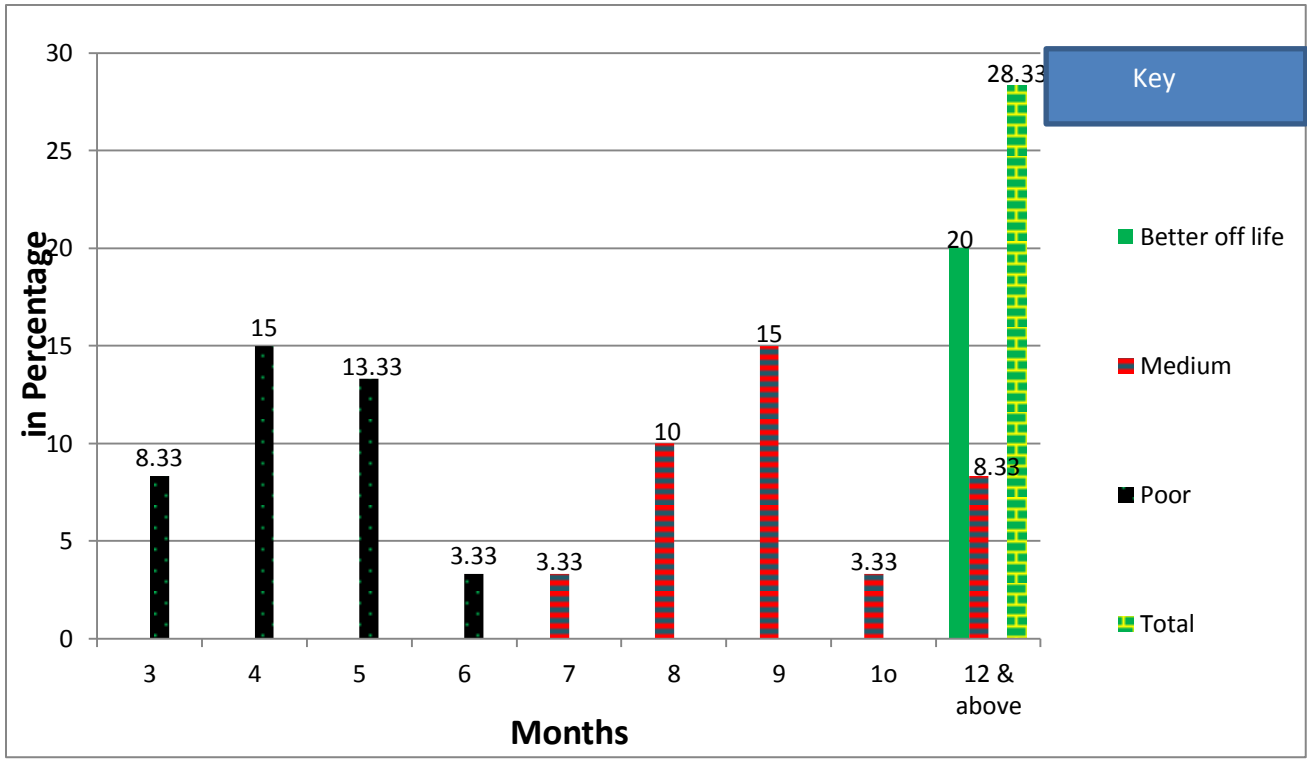
Source: Field Data, 2014

Restrictions on business movements will retard the economic development of all sample households. person who has a comparative advantage in production of a good can produce that good more cheaply than others can (Richard,1980:118).So that, the expanding employment opportunities are resulted the diversification of source of income of local households and focusing only on crop and livestock production would not solve the problems of the livelihood of households.

Table 4.9 shows that 16.67% sample households have done cattle fattening, 8.34% sample households' sheep fattening, 10% sample households milk production, and also 8.33% sample households possess rented house and 3.34% sample households possess horse cart. Among better off life sample households, 11.67%, 1.67% , 8.33% , 8.33% and 1.67% have conducted cattle fattening, sheep fattening , milk production, rented house and horse cart respectively. While 5%, 6.67%, 1.67%, and 1.67% medium sample households have done cattle fattening, sheep fattening, milk production and horse cart respectively. Poor sample households cannot participate in the supplementary agricultural activities and non- farming activities. According to this data, the participation of sample households in the supplementary agricultural activities and non-farming activities are very weak. Therefore, the low supplementary activities and non-

farming activities are the other problems that affected the economic development of medium and poor sample households negatively. On the other hand, these supplementary activities and non-farming activities contribute in the economic development of better off life sample households in the study area in the year 2013/14.

Figure 4.6 Annual Crop Production Time Span Conception Sample Households in Percentage



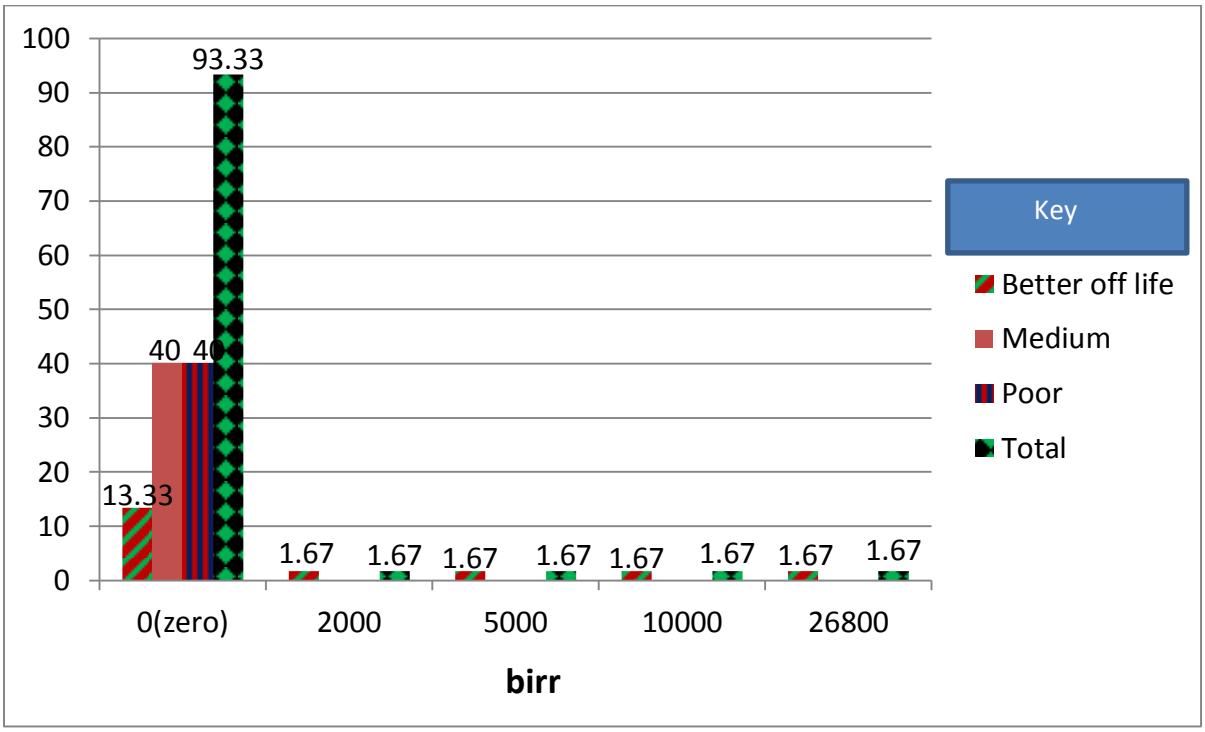
Source: Field Data, 2014

The availability and access of food are not the conditions that must be met in order to ensure household food security. The distribution of food among the members of households can also determine the attainment of households' food security. Food insecurity is widespread and severe in rural areas though the magnitude and intensity of the problem is higher in the study area.

Figure4.6 presents the adequacy of food crops production for sample households. The total sample households are 60; out of this sample households 8.33% of them produce crops that can feed them for 3 months; 15% of them 4 months; 13.33% of them 5 months; 3.33% of them 6 months; 3.33% of them 7 months; 10% of them 8 months; 15% of them 9 months; 3.33% of them 10 months and 28.33% of them 12 months and above. Among the 60 sample households

20% and 8.33 % sample households which are better off life and medium households respectively produce sufficient food for one year or above. According to this data, the majority of the sample households have not gotten adequate food crops from their farm lands in study area in the year 2013/14. Therefore, low agricultural production is one of the problems that exposed household farmers for food insecurity. As this case study showed that, especially, the families of poor sample households are suffered by this shortage of food crops in the target area.

Figure 4.7 Percentage of the Distribution of Sample Households in Capital Formation

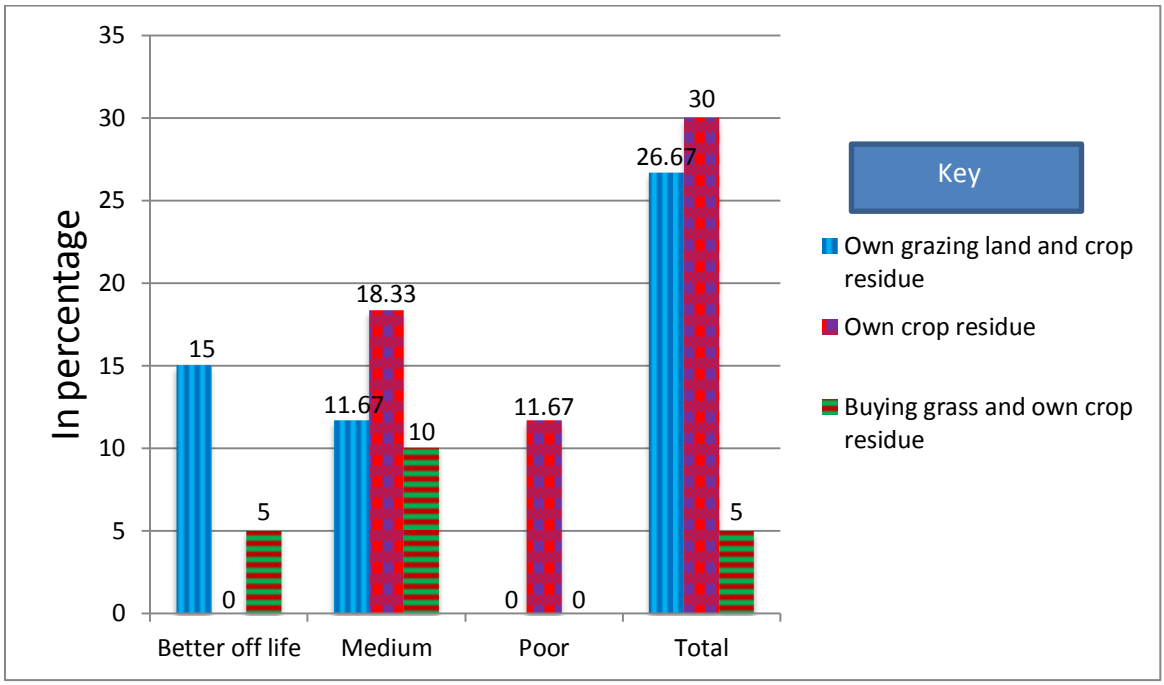


Source: Field Data, 2014

The source of income in the study area is very restricted because of the sample households only focused on the confined crop production and also the habit of the saving of community is very week. So, the capital formation of sample households in the target area is not adequate. Figure 4.7 show that 93.33 percent of the sample households cannot save capital. Whereas, 1.67 percent sample households save 2,000 birr. 1.67 percent saved 5000 birr. On the other hand, 1.67 percents save 10,000 birr and another 1.67percents save 26,800 birr. According to this data, the lowest number of sample households about 6.67 percents save capital and the largest number of households about 93.33 percent cannot save any capital. Therefore, lack of saving capital is one of the major problems that affected the economic development and the living standard of

households. In other words, the majority of sample households in the study area are exposed for low standard of living in the year 2013/14.

Figure 4.8 The Major Sources of Fodder for Livestock of Sample Households



Source: Field Data, 2014

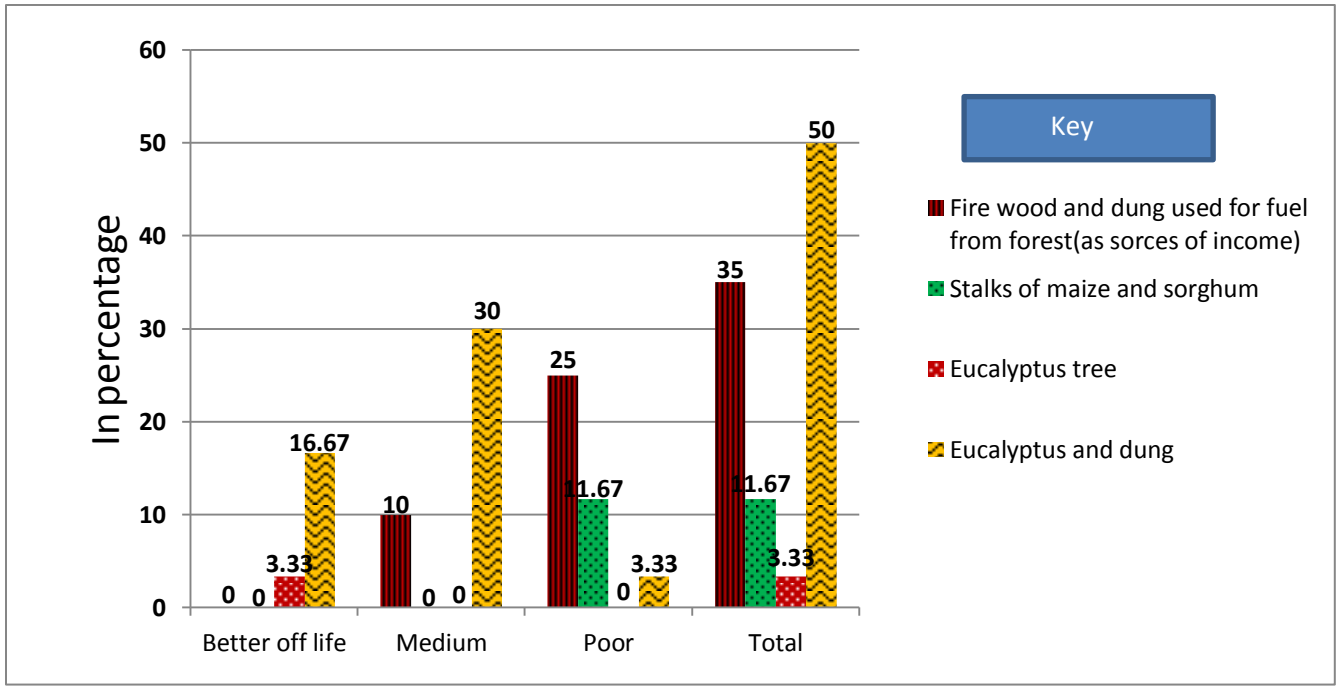
Notice: - crop residue comprises stalks of maize, teff, grass peas, wheat and barley.

The major sources of animal food are own grazing land and crop residue for 26.67% , only own crop residue for 30% and buying grass and own crop residue for 5% of households who keep their livestock on them in the sample local kebele. This own grazing land is not a permanent grazing land, rather farmers leave some strips part of their crop lands for grazing purpose that can be tilled when it is needed.

Figure 4.8 show that15% of the better off households' use own grazing land and crop residue, while 5% of them use own crop residue and buying grass for their livestock. Out of the medium households11.67% the medium sample households use crop residue and10% buying grass and own crop residue.11.67% of the poor sample households use own crop residue for their livestock. According to these data, the major source of fodder for livestock in the study area was crop residue and followed by grazing land. Therefore, shortage of fodder was one of the

problems that affected the breeding of animals of poor and medium sample households. Whereas having grass land contributed for adequate animal breading for better off sample households in the study area. This law animal breading is one of the constraints that regresses the livelihood of sample households in the year 2013/14.

Figure 4.9 Percentages of Sources of Fuel for Sample Households



Source: Field Data, 2014

Figure.4.9 reveals that 35 Percent sample households have used wood fuel and dung from forest and field respectively for fuel energy. And 50 percent sample households have used eucalyptus and dung for fuel energy from their garden. Almost all poor sample households have obtained wood fuel from forest, dung and crop residues. While, better off sample households have gotten wood fuel from eucalyptus and dung from their garden. According to this data the major sources of fuel energy are eucalyptus and dung. As a result, stalks of maize, sorghum and dung were used as fuel energy was one of the problems that affect the fertility of farm land and also 35% sample households have obtained income from selling of wood fuel and dung from forest and field respectively in the study area in the year 2014.

4.2 Opportunities and Challenges

Livelihoods of small holder farming households in *Dano Ejersa Gibe* local kebele examined have been facing enormous problems. Most of them are similar in nature. Then, it requires common solutions to address the problem that is found within small holder farming households in the target local kebele.

4.2.1 Opportunities

4.2.1.1. The Opportunities of Market Information and Rural- Urban Relationships

The *Dano Ejersa Gibe* kebele is merged with *Ginchi* town and the relationships between them are strong and they have also used the latest instruments of mobile to get market information.

Market information system is required to disseminate up-to–date market information such as price, time specific demands and quality information to all peasant farmers as market participants. The targeted local kebele is located nearest to *Ginchi* town and *Addis Ababa* relatively. As a result, peasants obtained new (up -to-date) market information without delay and they supply their product to the market using the available infrastructure and labor power.

4.2.1.2 Raising the Demand of Food Crops

The regional specialization of food crop production in *Dano Ejersa Gibe* local kebele is teff so that the price of this crop is an average 1350 birr and also the price of one ox is on average 30,000 birr on the *Ginchi* market as a result of the demand of the number of population is rapidly increasing for those that stated above items.. .

In particular, the demand for teff is high in the town of *Ginchi* and also in *Addis Ababa* because of its qualities. This condition motivates farmers; they produce teff crops interestedly and it will provide opportunities for small holder farmers to expand agricultural production.

4.2. 1.3 Experience Related Farmers

Most of better off farmers have well experienced in agricultural activities. Not all, subtle better off life household farmers are well experienced in both agricultural diversification and off/ non–

farming activities. Indeed, the most important factors for the successful better off farmers have more experience of the farming system; such as improved farming practice and natural resource management skills, credit for the purchasing of inputs and counseling of DA contribute for the success of better off farmers. In addition to the above farming system, subtle better off farmers are more experienced and matured by labor managements; most of the interviewed betters off farmers have more or less similar experience and behavior. They are hard workers and free from addiction and they are praised for their success.

Among the better off farmers, one farmer was praised repeatedly by his performance of careers. This successful farmer is 63 years old and his educational level was grade 7. He was a soldier of the Derg and returned to this career after the Derg collapsed. He lives in Dano EJersa Gibe and elaborates his style of activities by saying:

> *I lead 9 members in my family. Among them 3 are students. The rest 6 are agricultural workers. Among them 4 are employed. Those workers participate actively in the different activities according to their capability without wasting work time and also I have follow them in order to see whether they do their work correctly and timely. If they made mistake I advise them peacefully.*
>
> *When I taken land by rent I compare and contrast its price with what I will get from the land. In addition to that I use chemical fertilizers for plot land out of DA command. That is, first sew fertilizers on the prepared plot of land and till it simply. After it was tilled and well prepared finally seed is sown over it. This way of using chemical fertilizer is very important according to him, the reason here is that the root of cereals easily gets fertilizers from nearby.*

Here, an innovator was defined as someone who develops new ideas without support from formal research and extension (Kibwana, 2001:134).

According to him; he owned 7 ha of farm land. Among this 7 hectare 4 ha is fertile land and he has rented 3ha land from other farmers. On this farm land he has produced different types of cereals. These are Teff, Wheat, maize, chick peas, Grass peas and lentils. For these different kinds of crop he has used 700kg fertilizers. In addition to these crops he is also engaged in

supplementary agricultural activities, such as cattle fattening and cow milking. Furthermore, in addition to the above agricultural activities he also has houses in Ginchi town from which he obtained additional income by renting them. The one problem here is low demand for milk production and the low price of it.

These different sources of these incomes contribute for the improvement of economic growth of these sample household farmers relatively. It means that these better off sample household farmer is a notable by his source of income and magnitude of income but the living standard of this person and his magnitude of income are not matched. This means that as his income is improved his living condition cannot be changed as I have observed his home.

4.2.2 Challenges

The challenges discussed below are not new but it has been chronic within the community. These challenges are also brought uncertainty on the livelihoods of small holder farmers. The major challenges are stated as bellow**:**

4.2.2.1 Personal Factors

Individuals are assumed to have consciousness that allows them to do more than merely respond to environmental constraints. Their consciousness enables them to take actions that they perceive to be in their best interest.

In contrast to the theoretical perspective of other disciplines, economics does not view individual behavior as passive reaction to the external forces of the immediate environment and the internal forces of genetic structures and physical conditions. Individuals are assumed to have "wants," "desires, " or "preferences " that make their actions "inner directed ,"purposeful, and in part an influence on the environment. As opposed to reacting to the environment, individuals are perceived to operate within constraint on the environment, in such away as to achieve the greatest extent possible those goals that they themselves envision (Richard, 1980).

As a result, Personal factors impacting the livelihoods of house hold farmers. For most among these are factors related to the character of individuals including early adoption of technology, risk taking behavior, identifying opportunities and competitiveness are the most important

attributes to produce surplus production which transferees the livelihoods of households from low to high standard of living.

In contrast, hate hard working and low commitment are the major problem that leads to low living condition. As the entire interviewed better off life and medium sample household farmers criticized that the above problems are the hindrance of the livelihoods of some households and also regressed from their targeted goal.

4.2.2.2 Land Lessens and Utilization

The inadequate access to farm land has been a major challenge to livelihood of house hold farmers. These challenges can be studied from different angles; water logged land, the quality of farm land (fertile and infertile land), landlessness, unequal distribution of land, secretly selling farm land for town residual people and renting farm land for other farmers are the critical problems in terms of land tenure.

Several rounds of land redistribution during the EPRDF-led Amhara regional government in 1997 resulted in fragmentation of plots. Consequently as succinctly put by (Dessalegn, 2009: 139). Each generation of peasants [in the Amhara region] inherits land which is smaller than before.

We lack reliable evidence to show how land holdings have evolved in the last four decades, but one can safely argue taking into account population growth and environment degradation that land sub –divisions have became a standard practice and holdings have grown smaller over the period since the 1960s, if not earlier. As a result, land in Dano Egersa Gibe continues to be an extremely scarce asset.

As a result, low farm land holding house hold farmers are seen in the sample local kebele. In deed the farm land holding sizes range is 2.44 ha on average in sample house hold farmers. It means that the lowest and the highest farm land holding size are 0.43ha and 2.87ha on average respectively and their farm land holding sizes range is 2.44ha. Then, it resulted; the different levels of standard of living condition in the householder farmers The study showed that the size and fertility of the farm land of better off farmers are more similar with medium householder farmers.

According to the interviewed almost all farmers revealed that there is no high variation regarding farm land size and its fertility between better off life farmers with medium sample household farmers. But, the significant variation is the way of using farm land, experience of persons, commitment and hard working. Indeed, a special quality of better off life farmers is renting farm land from wisdom women and elder farmers and increasing their agricultural production. As some community members informed, qualities of personal features are the most determinant factors to improve the living condition of the house hold farmers.

4.2.2.3 The Constraints of Applying Chemical Fertilizers and Improved Seeds.

In the MPPII (1981-1984) the farmer extension approach model was replaced by producer's cooperative approach. This program was said to be constrained by institutional changes and lack of support facilities. This argued that most of the time, research and extension services have been disintegrated and ineffective for any technological diffusion among local communities. To bring effective agricultural productivity on the livelihood of small holder farming house hold, research and extension services would be integrated. All of the interviewed different levels of house hold farmers expressed that they use chemical fertilizers than traditional fertilizers. But, they do not use them according to the instruction of agricultural extension services.

As a kebele's DA explicitly revealed, almost all medium and poor farmers apply fertilizers far less than that recommended by DA because of the finance problems. Most of the farmers complain that the rising price of fertilizers and improved seeds has made their work very difficult. As a result, most of medium and poor farmers use inadequate chemical fertilizers due to lack of finance and expensiveness of fertilizers.

As the study indicated, the better off farmers used 96.4 DAP and 24.69 URA fertilizer on average per 1ha teff farm land. On the other hand, medium sample households used 52.34 DAP and 17.59 URA fertilizer on average per 1 ha of teff farm land. However, poor farmers who have quarter and half hectares farm lands do not use fertilizers at all. According to the World Bank, there has not been any productivity increase in the last decade despite increased use of chemical fertilizers by small farmers (2007a). This means that the agricultural surplus will continue to be far less than what is needed to provide the stimulus to increased industrial output.

4.2.2.4 The Problem of Financing Agriculture and Access to Credit

Most small holder farmers have not saving from their low incomes, that bottle necked for the economic development of household farmers. As the data described that among the total sample house holds 93.33 percent sample household farmers in targeted area could not formed capital accumulation throughout the years. As a result, they could not buy agricultural input to enhancing agricultural productivity. As majority of farmers complained that the credit is given from the government is not adequate to invest or to create business to generate income from different activities. For instance, to fattening a cattle it requires aplenty of money. Furthermore, most of the Medium and poor household farmers have not an ability to buy chemical fertilizers and improved seeds, because of shortage of finance. As a result, their agricultural production is very low as this case study showed. Finally, the livelihoods of farmers are degraded by above indicated constraints.

4.2.2.5 Low of Agricultural Diversification

Livelihood diversification can define 'as the process by which households construct a diverse portfolio of activities and assets in order to survive and to improve their standard of living' (Ellis, 2000). This argued that the diversification of the resources of income contributes for improving of standard of living. But, as **i**nterview results showed that most of better off life farmers and others farmers are depend up on the confined agricultural activities. They are not engaged in supplementary and various agricultural careers. Most of farmers are not awarded as various activities help to enhancing their income. For instance, supplementary agricultural activities, such as fattening cattle and sheep, poultry, honey production are conducted by limited farmers.

As this case study clearly showed that except a limited better off farmers depend up on the various agricultural productions. Due to low a warrens the other all farmers mostly emphasizes on the confined agricultural activities. In addition, most of better off farmers activities are not market- oriented agriculture. As a result, their source of income is not adequate. As a result, their standards of living are insufficient.

4.2.2.6 Dung and Grain Stalk used as a Source of Energy

The energy sources for the farmers' own cooking needs will be cow dung, manure, maize stalks and sorghum stalks. If the grain stalks, dung and manure that are used as fuel instead; the fertility of the soil becomes victimized, resulted in the decrease of land productivity. As this case study revealed that almost all sample households used cow dung and grain stalks as supplementary sources of energy for food cooking in the studied area.

4.2.2.7 Climatic Related Change and to Food Insecurity

The main environmental hazard factors associated with farming are particularly uncertainty with the amount and time of rainfall. This is a constant source of concern for farmers dependent on rain-fed agriculture and also crops are vulnerable to attack by insects, frost and weeding. As majority of farmers and kebele's DA informed, especially, the types of weeding that are named locally "Sinsy" and " Gurra hantuuta" are not eliminated by previous 2-4D herbicide. The latest Pales herbicide has an ability to eliminated the above two weeding. But the problem here is the price of the pales herbicide is expensive to buy it (The price of one litter pales herbicide is 2,000.00 Ethiopian birr). So, farmers cannot use it. As a result, crops are affected by these weeding in the target local kebele.

4.2.2.8 Problems Related to Livestock

Livestock is the major resource base up on which the livelihoods of local households are dependent and is the integral part of nearly all farming systems in Ethiopia. The three major livestock categories held by local households in the study kebele are cattle, goat and sheep. But, plenty of cattle were lost by animal disease in this area. In addition to this problem, the protection of this animal diseases were taken by the government was very weak. As a result, most of the farmers have lost many cattle. MOA, argued that due to the prevalence of livestock disease the country lost about 8.10 percent of cattle, 14.16 percent of sheep, and 11.1percent of goats per year.

As this case study indicated that 61.11 % households used only crop residues and 66.67% households used by buying grass and crop residues as fodder for their live stock So that, most

of farmers have not an interest to breeding live stock. As a result, the constraint of fodder is drawbacks for livestock breeding so that the source of the income of households is victimized.

5.1 Conclusion

The concluding points stated in this section are based on the findings made with different wealth categories of household farmers in terms of their livelihoods.

The main objective of the study is to investigate the opportunities and challenges of livelihoods of small farming households in the west shewa zone on the basis of Dandi wereda, particularly, in the Dano Ejersa Gibe kebele. This local kebele is characterized by high utilization of chemical fertilizers and improved seeds and in contrast, the lowest and non- utilization of agricultural inputs (chemical fertilizers and improved seeds).

Most of the better off farmers and their plot land have suited a strong association with agricultural inputs, especially with chemical fertilizers. In contrast, the poor household farmers and their plot land have not a relationship with new technology, especially with chemical fertilizers because of the financial barrier is located between them. .As a result, they are not associated with chemical fertilizers. Currently, farm land cannot offer adequate production and productivity without using better technologies, better ways of managing modern farm inputs, biological fertilizers and crop rotation. The dissemination of these ways of crop production through the community is the most important issue to transfer from subsistence food production to surplus production and self- sufficient in food security. In the target local kebele, house hold farmers are grouped in to three wealth categories based up on their status of livelihood. Almost all these household farmers are residing in the same mid- high land areas (95% is woina-dega).

As this case study clearly revealed that the causes for the level of their livelihood different are the human made factors than climatic factors. The human made factors such as personal factors, new technology and land holding system are the major causes for the occurrences of three different wealth categories of household farmers. The experiences of the different household farmers in the target local kebele were examined through both quantitative and qualitative research method. The different data were gathered from secondary and primary sources were

analyzed using descriptive statistics, the data were tabulated using absolute figures and percentage followed by quantitative analyses or description.

As the results of the study expressed that better off farmers are resulted from hard working (putting a lot of effort into a job and doing it well hard working nurses) and applied agricultural extension services and also owned the quality of farm land than other medium and poor farmers. While the poor house hold farmers are exposed to food insecurity as a result of landlessness, oxenlessness, the price of chemical fertilizers are uplifted and personal problems are the major constraints that exposed for food insecurity in the target local kebele.

5.2 Recommendations

Based on the finding of the case study the following suggestive remarks are forwarded:

1. The main vehicle for improving peasant agriculture has been used agricultural new technology. So that, *Dendi* Woreda Agricultural Extension and Service Department should be training peasants regarding to various new technology (technical) packages. It is also the most important for the successful of farmers in their agricultural performances; the first issue here is the attitude of farmers should be changed towards using new technology in appropriate way. In addition to this, particularly, the local kebele DA will be more matured and skill full to training farmers and also showing them new farm methods through demonstration way.

2. Land and oxen are the basic resource for livelihood of household farmers in rural communities. Especially land and peasant are inter-wined in the context of rural Ethiopia. Then, most of the poor household farmers are landless and ox- less. So, without these two interesting resources they cannot self-sufficient in food security in rural areas. As a result, they are exposed to the food insecurity. Therefore, *Dendi* Woreda Risk and Disasters Management Department should take attention and create new business or job opportunities through Micro-cooperative system and help them finically for those who have not the above resources

3. Building capacity of peasant in new technology and information contributes for sustainable agricultural production. Then, almost all farmers revealed that the agricultural productions in 2013/14 were declined by half when it was compared with the 2012/13 production. Because of the climate is changed. From their point of view, almost all segments of farmers were regressed

one pace from their successful of the performance. Therefore, always the refined information and new technology should be needed to up-date the mind of peasants through local kebele DA.

4. Most of better off farmers are taken land rent from oxen less and elder household farmers. And they benefited from land rents. Then, the *Dendi* Woreda Agriculture Development Office will support and strength this practice. Due to it ensures food security of the households in the target area. Therefore, *Dendi* Woreda Risk and Disasters Management Department should take attention and create micro- business employment for those who have not the above resources

5. The contribution of formal education for better off household farmers is verified by this study. As a result, education is an important key for enhancing of livelihood of household farmers. Then, *Dendi* Woreda Educational Office should attempt to disseminate the primary education that supported by practice for all local communities through adult education.

6. New and improved technology is the heart of economic development and requiring more investment. However, better off household farmers used sufficient chemical fertilizers, they were not obtained adequate agricultural production and productivity as this case study has indicate that means, better off sample household farmers used on average 96.4 kg and 24.69 kg for 1ha teff farm land. But they have earned on average 11.75 Quintal from one ha teff farm land. So, they will need technical supporting from DAs.

7. Well decomposed organic matter is vital for maintaining physical, chemical and biological properties of soil to maintain its productivity. Most of the household farmers used low amount of chemical fertilizers because of the lack of agricultural finances. Therefore, the using of decomposed organic matter and manure will be required as additional input to reduce the expenditures of the chemical fertilizers. So, local DA should support them technically.

8. Saving and credit cooperatives are the most important processing agricultural activities. Especially, saving is making valuable contributions to the success of the targeted goal. Almost all sample household farmers have not saved or capital accumulation. Therefore, non-farming activities or off-farming activities such as trading, weaving and black- smithing should be enhanced the ability of capital accumulation. To be implemented these activities, credit should be offered through the *Dendi* Woreda Input supply and Credit Service Department for those who

have an interest to conduct the indicated activities. In addition to that, during the times of the existence of surplus production they lost many things. Then, teaching them the habits of saving money will be required.

9. Food is the basic necessity for human being to exist and to participate in economic activities. Then, the families of the most medium and poor house hold farmers are faced by food problems. As a result, they are not fed their families throughout the years. Therefore, *Dendi* Woreda Risk and Disasters Department will give more attention and mobilize them for hard working and create conducive environment to ensure food security. Particularly, those people who are severed chronically by food insecurity should be supported by Productive Safety Net Program (PSNP).

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ANNEX-I

This questionnaire is designed by the prospective graduate to find primary data for my research so that the following questions are prepared for livelihood small holder farming households' respondents

1. Respondents background; Sex: M____ F____

   Age: _____

   Types of occupation: _____

   Educational level: Grade _____

2. How many family members do you have?

   M____ F____ Total _____

3. Under which age group your families are categorized among the following age groups?

   0-14. Male ____ 61 and above Male _____

   Female ____ Female ____

   15-60. Male _____

   Female _____

4. How many hectares of land do you have?

   4.1. Fertile land (ha) _____

   4. II. Medium (ha)……

   4. III. Poor (infertile) in ha _____

5. How many hectares of land do you get in rent form?

   5. I. Fertile land (rich) in ha _____

   5. II. Medium land in ha _____

5. III. Infertile land in ha _____

6. How many hectares of land did you cultivate to produce the following crops?

   6. A. Teff (ha) _____

   6. B .Wheat (ha) _____

   6. C .Maize (ha) _____

7. How many quintals of fertilizer did you use last year per one hectare for farm land?

   Per 1ha teff farm land DAP (kg) ____

   URA (kg) _____

   Per 1ha wheat farm land DAP (kg) _____

   URA (kg) _____

8. How many quintals did you get last year in each of the following crops?

   8.1. Teff……

   8.2. Wheat……

   8.3. Maize……

   8.4. Grass pea……

   8.5. Chick pea…..

9. How much birr do you get from the selling of the following crops?

   9. A. From teff---------

   9. B. From wheat-------

   9. C. From maize----------

9. D. From grass pea--------

9. E. From chickpea----------

10. How many livestock and poultry did you have in the last year?

10. 1. Cattle;

Ox ____

Cow ____

10. 2. Goat _____

10. 3. Sheep ____

10. 4. Donkey ____

10. 5. Poultry ____

11. How much do you get birr from the following items annually?

11. A. From milk product _____

11. B. From house rent _____

11. C. From fattening cattle _____

11. D. From fattening ship _____

12. For how many months did your crop feed your family?

12. A.1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12 and above

13. How much birr did you save within one year?

14. From where did you get fodder for your livestock? And what type of fodder do you use?

15. What do you use as a fire wood? And from where do you get?

16. What did you have problem? Can you explain them?

ANNEXES-II

Interview

1. What are the cause that encourages or hinders your livelihoods?
2. What kind of attributes should be needed to promote your life style?
3. To improve your livelihood, what kind of the quality of work should be needed as you think?
4. When you compare the crop production of this year with last year which one is significant in terms of quantity and quality?
5. What do you have a problem regarding to the livestock breeding?
6. What do you get assistance from the government?
7. What do you get an opportunity from the Ginchi town?