

**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT**  
**MANAGEMENT**

*ASSESSMENT OF FACTORS AFFECTING FOOD INSECURITY IN SHASHOGO  
WOREDA SELECTED KEBELES AMONG RURAL FARM HOUSEHOLDS*

**BY**

**DERIBE DEBERO**

June, 2018

Addis Ababa, Ethiopia

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A thesis submitted to the Department of Public Administration and Development Management of Addis Ababa University in partial fulfillment of the requirements for the Degree of Masters in Public Management and Policy (MPMP)

June, 2018

Addis Ababa, Ethiopia

**CERTIFICATE OF APPROVAL**

This is to certify that the thesis prepared by Deribe Debero entitled “Assessment of Factors affecting Food Insecurity in Shashogo Woreda selected Kebeles among Rural farm Households”, which is submitted in partial fulfillment of the requirements for the Degree of Masters in Public Management and Policy (MPMP), complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## DECLARATION

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

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Date: \_\_\_\_\_

## **DEDICATION**

This thesis is dedicated to my beloved wife Aster Tufe and to all those who gave themselves and strive to serve people with passion, motivation, commitment in order to maximize welfare of the society.

## **ABSTRACT**

*The basic objective of the study was to assess and describe factors affecting food insecurity in the study area. To achieve the study objective, the study employed descriptive type of research design to show the opinion of the kebeles development agents and executives and household heads to identify the factors causing food insecurity in the study area. To accomplish this, the researcher used qualitative approaches with the light touch base on qualitative approach. The study used both primary and secondary source of information. Primary information was collected mainly from the selected 110 household heads through structured and semi-structured interviews. In addition to that, the researcher conducted focus group discussions with kebeles development agents and executives that consisted of 9 members. A total of 119 respondents and key informants were selected for both interview and focus group discussions by purposively sampling technique. The data collected from both interview and focus group were analyzed descriptively by using tables, figures, frequency and percentage of the responses to present different primary data in an organized way. In addition, the focus group discussion results were presented by summarizing the essence of the discussion and narrating the result in the text along with interview results. The study found that no education and/or lower level of education, limited income sources and uncontrolled population growth of the household heads are identified as some of the factors affecting food insecurity in the study area selected Kebeles.*

### *Key terms*

*Livelihood diversification, food insecurity, uncontrolled population growth, acute & transitory food insecurity.*

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## **EXPLANATION OF ACRONYMS**

CSA	Central Statistical Agency
DFID	Department for international Development
FAO	Food and Agriculture Organization
FGD	Focus Group discussion
Kcal	Kilo calorie
Km	kilo meters
NGOs	Non-Governmental Organizations
SNNPR	South Nations, Nationalities and Peoples Region
UNDP	United Nations Development program
WFP	World Food Program

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# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Back Ground of the Study

Food is one of the most important items in the world as it is critical to human survival together with clothing and shelter. These three items are usually classified as the man's basic needs. Food security in Africa has come under extremely threats due to some factors some of which are natural while some are artificial depending on the circumstances and some are socio-economic and political the countries involved. Ensuring food security remains a challenge in a world with a growing and more demanding population. Sub-Saharan Africa is the most vulnerable region in the world currently facing widespread chronic food insecurity as well as persistent threats of famine (Devereux and Maxwell, 2003). Ethiopia is one of the most food-insecure and famine affected countries. A large portion of the country's population has been affected by chronic and transitory food insecurity (African development bank 2014). Food insecurity is continuing critical challenge in Ethiopia that is Africa's second populous country after Nigeria. Over 80 percent of Ethiopian population live in rural areas and are heavily dependent on rain-fed agriculture; this makes them extremely vulnerable to changes in weather conditions (Anderson et al, 2009).

Food security situation in Ethiopia is highly linked to regular food shortage and famine in the country, which are associated to recurrent drought. Households with insufficient access to food often face other challenges related to food insecurity including poor health and a decline in productivity. These challenges can often create a *vicious circle* where households are unable to

produce enough food, even in good years, because they are battling chronic health issues and are unable to work to their full potential. The gravity of food insecurity, and its many rippling effects, has led much of the development agenda to search for specific areas for intervention given limited resources and growing populations in many developing countries (IFPRI, 2009).

On 5 March 2015, the Government of Ethiopia released the 2015 Humanitarian Requirement Document (HRD). The document identifies humanitarian food and non-food requirements for vulnerable groups in the country following on the multi-sectorial ground assessment conducted at the end of 2014 (UNICEF, 2015). The document states that an estimated 2.9 million people require relief food assistance in 2015, an increase from 2.7 million for the same period in 2014. All of the above data indicate that food security situation in Ethiopia has been a long-standing challenge to the government, donors, and other international organizations. Food security is perceived at the global, national, household and individual levels. However, food security at global level does not guarantee food security at the national level. Similarly, food security at the national level does not guarantee food security at the household or even the individual level (Duffour, 2010). Nowadays, food security/insecurity has gained great attention by policy makers, researchers, governmental and non-governmental organizations and development workers. In line with this, ensuring food security remains a key issue for the government of Ethiopia. In order to combat threats of famine and pervasive poverty and there by ensure food security for its population, the government strategy has rested on increasing the availability of food grains through significant investments in agricultural technologies (high yielding varieties of seeds and fertilizer), services (extension, credit, input delivery), and rural infrastructure (roads, markets). However, the impacts of these policies have been shadowed as there are still millions of people

who experience extreme hunger in the country. The agricultural sector is the backbone of the Ethiopian economy, making multifaceted contributions to the Ethiopian economy. The performance of agriculture, however, in terms of feeding the country's population is poor. According to reports, over 50 percent of the Ethiopian population of whom the majority reside in rural areas is food insecure in relation to the medically recommended daily intake of 2,100 calories per person per day (FAO, 1998). The problem of food insecurity has continued to persist in the country as many rural households have already lost their means of livelihood due to recurrent drought and crop failures (Bogale, 2002).

Despite the tremendous combined efforts of the Ethiopian government and Non-Governmental Organizations (NGOs) in fighting and monitoring hunger, food insecurity still affected a large number of the Ethiopia population. Food security is highly complex in that it is determined by a range of interrelated agro-environmental, socioeconomic, demographic, cultural belief system, institutional and individual capacity, political and biological factors, all of which have to be addressed not only at macro level but also micro level to conclude whether food security exists or not. The study therefore, aimed at searching for the truth behind the root causes of food insecurity at micro level in analyzing educational attainment, income diversification, and repaid population growth of rural farm households in the study area.

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

In Ethiopia, food insecurity has been a serious problem for decades. Since the 1970s, a series of production failures have resulted in chronic food insecurity (Kaluski et al, 2001). In the last few decades, several million people required immediate food assistance. Ensuring food security has been and continues to be one of the greatest challenges that Ethiopia has faced. It is the fact that

hunger and food shortages have been widespread in rural and urban Ethiopia for many generations. In the former imperial regime, there was deficiency in institutional management in aiming improving agricultural activities and achieving food security. Strong institutions of one type or another are required in all programs including agricultural planning, policy making, research, extension, credit, training, environmental protection and inter-country cooperation (Tekolla, 1997). All these have to be properly organized, run and managed if they are to serve the purpose they are intended for.

However, the issue of food security was not the concern in public policy of the government until the mid-1970s. Since Derg regime took the position, the issues of food security became a concern in public policy discourse and a variety of program initiatives were put in place to tackle the problem (Dessalegn et al, 2013). This means that before the Derg regime, there were few institutions operating in the food and agriculture sector and has not been increased awareness of the complex causes of food shortages and a growing determination on the part of decision makers to bring to an end the food shortage and hunger from the vulnerable people in the country. Food insecurity has become one of the defining features of poverty in Ethiopia. Poverty is widespread in both rural and urban areas. There are millions of people who have been facing food insecurity that can be explained as either chronic or transitory in nature (Dessalegn et al, 2013). Agriculture is the backbone of Ethiopian economy and smallholder farmers dominate it. More surprisingly, the smallholders' agriculture suffers from lack of technological know-how, soil degradation, recurrent drought and famine; and unfavorable external terms of trade etc.... This agricultural crisis and inefficiency has resulted in the country depend on food aid for a long time and food insecurity (Yenesew, 2015).

Ethiopia has a long history of persistent food insecurity. Mainly, people in the rural area suffer from fundamental, severe and persistent food insecurity. An estimated 4-5 million people are classified as chronically food insecure and despite significant external assistance; the situation does not appear to be improving. Chronic food insecurity in Ethiopia is closely correlated with poverty. Poverty, in turn, is primarily a rural concern with more than 85 per cent of the population living in rural areas, with little or no support from the state, relying on low productivity subsistence farming. Such conditions of poverty fuel Ethiopia's vulnerability to food shortages so that when there is even the smallest amount abnormality in food production or distribution, a food crisis will inevitably follow. The prevalence of chronic food insecurity in Ethiopia can be attributed to a series of mutually reinforcing interlinked factors including overdependence on subsistence farming, lack of assets, lack of technological know-how, poor infrastructure, lack of opportunities outside the sphere of agriculture, a fragile ecosystem, increased demand on limited resources, governance issues and institutional inefficiency, reliance on external food aid (Dessalegn et al, 2013).

The world food program (WFP, 2017), document reports that Ethiopia has made important development gains over the past two decades, reducing poverty and expanding investments in basic social services. However, food insecurity and under-nutrition still hinder economic growth. In 2015, it ranked 174 out of 188 in the UNDP Human Development Report. Due to the failure *Belg* (spring harvest) and *Meher* (main harvest) rains in 2015, in 2016 left 10.2 million people in need of emergency food and nutrition assistance (WFP, 2017). In August 2017, the Ethiopian Government requires humanitarian aid of to support more than 8.5 million people with

emergency food, nutrition, health, water and education programs (WFP, 2017). World Food Program supports the Ethiopian Government through a range of life-saving and resilience-building activities as well as providing assistance in refugee camps. They provide food, cash, nutrition assistance and innovative approaches to improve nutrition, empower women, build local capacities and enhance preparedness to climate-related shocks (WFP, 2017).

The Federal Government of Ethiopia has taken aggressive measures to ensure food security for all people. These measures have been included in growth and Transformation plan with several objectives and clearly stated annual targets. These objectives include increasing crop production by applying suitable agricultural practices, increasing cultivable lands, improving agricultural production and productivity, strengthening agricultural markets, increasing livestock production and productivity, and enhancing research. The effort made by the Ethiopian government resulted in a dramatic increase in food production and availability. Nevertheless, undernourishment and food insecurity remain at unacceptably high levels. There are many people who do not have the capacity to produce or buy enough food to meet their annual food needs even under normal weather and market conditions (FAO, 2014). For example, in 2016 more than 50% of Shashogo Woreda populations were food insecure; and did not have access to the minimum nutritional requirement of 2,100 Kcal/person/day (UNICEF, 2016). Most of the time, many people in the woreda are worried about food. Many farmers are only able to produce sufficient food to meet their food requirements for less than six months of the year. Because of having such food deficit, the Woreda become a regular food aid recipient from the Government, as well as the NGOs (Woreda Food and disaster prevention, 2016).

As far as food insecurity studies are concerned, most studies have focused on underlying causes of food insecurity in a global perspective and context neglecting the underlying causes of food insecurity at micro level in local community framework. This is reflected in studies mentioned below. Several studies have been carried out focusing on underlying causes of food insecurity with broader global perspectives and context. For instance; Tekolla in (1997) did a research on the puzzling paradox of the African food crisis with giving attention on searching for critical factors behind food crisis in Africa. His research focused on socio-economic, political and environmental factors aggravating food crisis in Africa. A study conducted by Devereux and Mexwel in (2000) Food security in Sub-Saharan Africa presented the underlying causes of food insecurity on global perspective linking food insecurity with climate and environment degradation. Ingram et al in (2010) did a research with wider scope on examining the links between food security and global environmental change. Young in (2012) did a study on food and development with giving more attention on identifying the complexity of a system that is leading simultaneously to crisis and obesity and hunger. Dessalegn et al in (2013) conducted a research on food security, safety nets and social protection in Ethiopia with analyzing Ethiopia's food security strategy and the safety net program. Workneh and Musahara in (2016) did a study on the impact of innovations in achieving sustainable food security in Eastern and Southern Africa with focusing institutional and technological innovation as the critical factors affecting food security.

All the above studies have its own benefits and fit its objectives in its wider context. Despite its huge benefits on its own context and content of food security challenges, examining the links between food insecurity and low educational status, limited income sources and uncontrolled population growth in the rural farm household has often been given less attention by the above

researcher to consider them as critical factors causing food insecurity in the rural farm household setting. Due to lack of the in-depth research conducted in considering the rural farm household, the critical factors causing food insecurity is still remain ambiguous (not clearly determined) in the case of Shashogo woreda selected kebeles among rural farm households. In considering this, the researcher in this study therefore has chosen to examine and describe how low educational status, limited income sources and uncontrolled population growth are linked with food insecurity among rural farm households in the study area.

### **1.3. Objective of the Study**

The basic objective of the study is to assess factors affecting food insecurity in the case of Shashogo woreda selected Kebeles.

### **1.4. Research Questions**

What are the factors affecting food insecurity in the study area among rural farm households?

### **1.5. Limitation of the study**

The research is delimited topically and geographically because of time and financial constraints. Regarding the geographical delimitation, it is confined to the Shashogo woreda only on specifically selected three kebeles namely, Bonosha, Bedika and Sheyanbe. Because of the time limitation, the study will only focuses on assessing and identifying the links between food insecurity and low educational status, limited income sources and uncontrolled population growth in the rural farm household of the study area. Concerning conceptual dimension, since the concept of food insecurity is multi-dimensional; the researcher could not cover all concepts and all critical factors causing food insecurity within short period and limited budget. The study

will therefore, focuses only on examining how low educational status, limited income sources and uncontrolled population growth causing food insecurity in the case of Shashogo Woreda selected kebel among rural farm households.

### **1.6. Significances of the Study**

The study will have both academic and policy significance. Understanding the contribution of low educational status, limited income sources and uncontrolled population growth will contribute to fill the gap of rural food insecurity literature of the Shashogo Woreda and the findings will show the way and necessities of empowering the community with education, diversifying income activities, and controlling rapid population growth to be food secure and become self-reliant rural farm households.

By identifying the links between food insecurity and low educational status, limited income sources and rapid population growth, the study will remind policy makers, local institutions, donors, investors and local NGOs to re-adjust their intervention approach and to pay attention on enhancing educational status, diversifying livelihood sources/activities and controlling rapid population growth. Moreover, the concerned organizations and institutions that have interest of interventions in the study area will get additional information and better understanding of local conditions so that enables them to design relevant programs that targets and aims at combating critical factors causing food insecurity among farm households of the study area. Further, by analyzing the challenges linked with food insecurity in the study area, the data obtained from the study will help as springboard for the researchers as they are conducting and investigating further study on related topics among rural farm households. Finally, the study will contribute for the development practitioners and policy makers to have better knowledge as they assess the need

for assistance, judge the effectiveness of existing programs design in helping such people with food insecurity as to where and how to intervene and respond food crisis situation in the study area.

### **1.7. Definitions of basic terms**

*Food insecurity* is defined as a state in which consistent access to adequate food is limited because of lack of money (means of income) or other resources. Food insecurity also refers to limited or uncertain availability of, or inability to acquire, nutritionally adequate, safe, and acceptable foods due to financial resource constraint. In addition, Food insecurity is defined as the limited or uncertain availability of nutritionally adequate and safe foods or the limited or uncertain ability to acquire acceptable foods in socially acceptable ways.

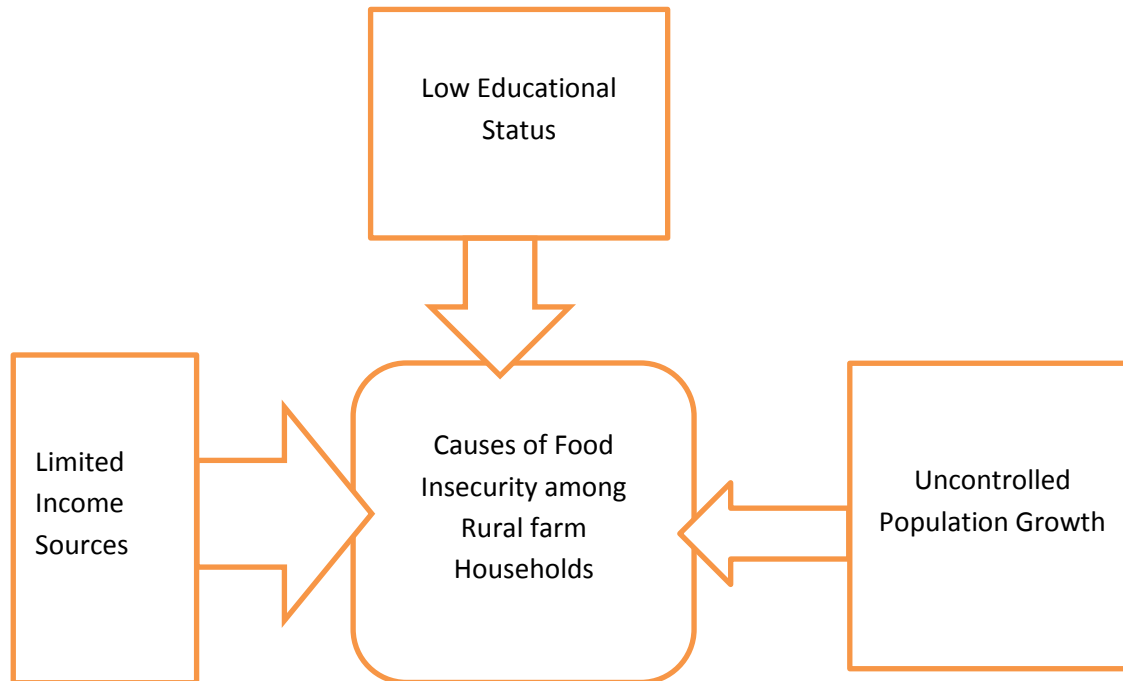
*Livelihood* is defined as a set of activities , involving securing water, food, medicine, shelter, clothing and the capacity to acquire above necessities working either individually or as a group by using .... It encompasses people's capabilities, assets, income and activities required to secure the necessities of life.

*Uncontrolled population growth* is defined as an increase in the number of people at fast rate that reside in a country, state, region, or city. It occurs when a species' population exceeds the carrying capacity of its ecological function. It means that if there are too many people in the same habitat, people are limiting available resources to survive.

*Educational status* is defined as the level of education and skill obtained within a discipline or profession, usually referred to as a generalist or specialist in a discipline.

*Educational attainment* is defined as the highest grade completed within the most advanced level attended in the educational system of the country where the education was received.

### 1.9. Conceptual Framework of the Study



**Figure 1.1 conceptual framework**

Concerning conceptual framework, Katani (1999) stated that a conceptual framework binds facts together and provides guidance towards the collection of appropriate data or information. Since there are various causes of food insecurity in rural farm households, the conceptual framework in this research was mainly focused on three underlying causes of rural food insecurity at local community framework. As can be clearly understood from what has been said so far, the study conceptualized causes of food insecurity as low educational status, having limited income sources and uncontrolled population growth. From the above underlying causes, some have a direct effect on one or more of the four dimensions of food security (availability, accessibility,

utilization and stability). Figure 1.1 gives us a conceptual framework indicating possible causes of food insecurity among rural farm households. According to this framework, low level of education, having limited income sources and uncontrolled population growth can causes and aggravates food insecurity situation and made the population to be vulnerable to lack of four dimension of food security.

### **1.10. Organization of the Thesis**

The thesis will have five chapters; the first chapter deals with the introductory parts consists of statement of the problem, research objective, research question, scope and limitation of the study, significance of the study, ethical consideration, operational definitions of key terms, conceptual framework of the study and organization of the thesis. The second chapter will cover review of related literature with examining the links between food security and education, livelihood diversification and repaid population growth. Chapter Three deals with the research methodology consist of study area background, research design, data sources and collection techniques, sampling techniques, and techniques of data analysis. Chapter Four will deals with findings/results and discussion of the study and the final Chapter (Chapter Five) covers conclusions, recommendations and policy consideration/implications.

## **CHAPTER TWO**

### **2. LITERATURE REVIEW**

#### **2.1 Introduction**

In this Chapter, attempt is made to briefly describe and present some of the contemporary writings of food insecurity particularly on issues related to definition of food insecurity, Types of food insecurity, the extent of food insecurity in Ethiopia, the linkages between education and food security, the linkages between Livelihood diversification and food security and the linkages between rapid population growth and food security.

#### **2.2. Definition of Food Insecurity**

The term food insecurity is defined as lack of capability or access to sufficient, safe and nutritious food by all people to meet their dietary needs and preferences for an active and healthy life (FAO, 1996). Food insecurity describes the state of food shortage for consumption at the household, community, regional, national and international level. Deterioration in food production and lack of income to purchase adequate food leads to poverty and food insecurity. Food insecurity occurs when there is limited access by some people in communities at certain times throughout the year to have enough food for an active and healthy life. This indicates that it is lacking of access to enough, good, healthy, and culturally appropriate food. The word enough indicates that it is about having certain amount of food to eat every day to stay healthy, active, and happy life while good refers that as his/her choices everybody deserves to eat food that they think is good and right. Having Healthy food is all about having nutritious reached food that is full of vitamins, minerals, fiber, energy, and all the other things that our bodies need to be happy. Having access to culturally appropriate food means that people have food that they are

familiar and comfortable with. It is about knowing how to shop for it or select it, prepare and cook it, and how to enjoy it.

The definition of food security is just the opposite of food insecurity that means having reliable access to enough good, healthy, and culturally appropriate food. It means that you or your families are not worried about paying for groceries, where your next meal might come from, or cutting back on food in order to pay the bills. Food security is measured by how much members of a household have access to nutritional food, and the capacity for obtaining food in the future through socially accepted means. Food insecurity on the other hand is characterized by the lack of and unreliable access to nutritional food sources. Higher probabilities of food insecurity are positively associated with low income, lower education level, female-headed household, large household size, limited access to social capita, and other related driving forces.

### **2.3. Types of Food Insecurity**

Food insecurity is conceptualized in a number of ways. It is conceptualized as transitory (when it occurs in times of crisis), and chronic (when it occurs on a continuing basis). Researchers and policy makers have begun to use the terms "permanent food insecurity" as chronic and "periodic food insecurity" as transitory to describe the different types of food insecurity (FAO, 2007). Individuals may experience "periodic food insecurity" if they do not have access to healthy food due to seasonal variation or for brief periods of time. "Permanent food insecurity" has been used to describe long-term periods without food. Chronic and transitory food insecurity refer to the time dimension of food insecurity: chronic food insecurity is a long-term or persistent inability to meet minimum food consumption requirements, while transitory food insecurity is a short-term or temporary food deficit. Chronic and transitory food insecurity refers explicitly to the

time dimension of food insecurity. Chronic food insecurity is long-term or persistent, while transitory food insecurity is short-term and temporary. “Chronic food insecurity occurs when people are unable to meet their minimum food requirements over a sustained period of time” (DFID 2004). Transitory food insecurity “refers to a sudden (and often precipitous) drop in the ability to purchase or grow enough food to meet physiological requirements for good health and activity” (Barrett and Sahn 2001). Chronic food insecurity is often explained in terms of “structural deficiencies” in the local economy or food system, and is explained in terms of “poverty,” “lack of assets” and/or “inadequate access to resources”. It follows that chronic food insecurity “is usually the result of persistent structural vulnerability” (FIVIMS 2002). Conversely, transitory food insecurity is primarily caused by short-term shocks and fluctuations in food availability and food access. The major sources of transitory food insecurity are year-to-year variations in international food prices, foreign exchange earnings, domestic food production and household incomes (World Bank 1986).

#### **2.4. The extent of food insecurity in Ethiopia**

Food security remains a critical issue for many households and for the country as a whole. Greater proportion the population of Ethiopia consumes food of less than 2,100Kcal/day. Vulnerable groups employ different survival strategies/mechanisms to handle hazard situations of food insecurity by mobilizing all available resources to resist the food insecurity problem in Ethiopia. Food security situation of rural households in Ethiopia is very poor and that a great majority of people suffer from deficiencies in their daily calorie intake and from problems relating to dietary diversity. A study reveal that food poverty occurrence in Ethiopia is about ‘50% at national level, 37% in urban areas and 52% in rural areas’ (Aklilu Dalelo, 2010, 15).

The same research states that for more than five decades, Ethiopia depends highly on foreign food aid trying to fill the scarcity. The FAO document states that in 2015/16 more than 15 million people are food insecure. About five to six million people are chronically food insecure every year. There are people who do not have the capacity to produce or buy enough to meet their annual food needs even under normal weather and market conditions. The remaining ten million are vulnerable with a weak resilience to any shock (FAO, 2008).

## **2.5. The Linkages between Education and Food Security**

Food insecurity and under education are still common in many developing countries. Lower educational levels are associated with food insecurity. Education is believed as powerful and pervasive resource for perpetuating and for changing ways of thinking and perceiving; ways of being; ways of doing and responding and contributes to rural development and useful in alleviating poverty in rural areas and can positively influence productivity (FAO, 2007). Education is a fundamental factor in achieving food security for rural populations in developing countries. Education is both basic and higher, an essential tool to fight against food insecurity in the rural areas of developing countries.

The study reveals that there is an established link between a lack of education and poverty, low income, poor health, malnutrition and food insecurity (FAO, 2007). Here Education is considered as a key to supporting overall food security. Higher education can provide a greater opportunity to increase incomes, positively influence accessibility, availability and stability of food, support enhanced health status, hygiene practices and basic nutrition awareness that all have a bearing on the consequent nutritional status of individuals. Those with no education or just with primary education are more likely to have unacceptable food consumption than those

with higher levels of education. Education is widely recognized as one of the key dimensions of development and has the critical role in achieving food security (FAO, 2007). It is one of the key factors that influence the food security status of households.

Education has big role in achieving food security. The influence of education on food security in low income countries is very high because it can play the instrumental role in tackling food insecurity. Education is believed as “one of the most powerful engine for reducing hunger and poverty” (FAO 2005, 14), the impact of education on food security is often exclusively conceived in economic terms. The same FAO report clarifies that “lack of education undermines productivity, employability and earning capacity, leading directly to poverty and hunger”. This reflects the human capital approach, following which education is relevant insofar as it increases personal earnings and productivity, and economic growth at national level (Psacharopoulos 1973). More specifically, in rural areas, education improves agricultural productivity, leading to food security.

Alkire (2005) in his study identified the main mechanisms through which rural people with more education are more likely to experience higher levels of food security. The various contributions of education to food security can be discussed as follows: First, the impact of education can occur through social and institutional change. As Robeyns claims, education has a key role in accessing public information, especially concerning food production, diversifying income sources, health, nutrition, and hygiene because it “can open the mind of people” (Robeyns 2006, 3). Even more relevant is the role of primary education and literacy in acquiring this type of information from written messages. Moreover, there is a gender aspect that does matter for

ensuring long-term food security. In fact, the specific impact of women's education is higher: girls who attend school and obtain at least the basic skills can even teach right health and hygienic practices to their children once they become mothers. This means that female education should be at the center of the analysis because it has an additional direct effect on nutritional status. Empirical research, such as that carried out by Glewwe (1997, 151), in Morocco, showed that mother's "education improves child health primarily by increasing health knowledge" and that it does not depend prevalently on the subjects studied in class, but on the very general abilities to read, write, reflect, analysis and process information.

Second, Educational attainment by the household head could lead to awareness of the possible advantages of modernizing agriculture by means of technological inputs; enable them to read instructions on fertilizer packs and diversification of household incomes which, in turn, would enhance households' food supply (FAO, 2007). The level of education is believed to influence the use of improved technology in agriculture and, hence, farm productivity. The level of education determines the level of opportunities available to improve livelihood strategies, enhance food security, and reduce the level of poverty. It affects the level of exposure to new ideas and managerial capacity in production and the perception of the household members on how to adopt and integrate innovations into the households' survival strategies. Third, Basic education can improve the capacity of individuals to live a decent life and to escape from the hunger trap (FAO, 2007). The basic idea is that being educated improves rural people's capacity to diversify assets and activities, to access information on agricultural mechanization, production enhancement and increase productivity in the agricultural sector. Education, then, is fundamental to promote a person's ability to pursue and realize goals that he or she values and

has reason to value (Sen 1999). Who is educated is more likely to find a job, but has also a capacity to use more rationally the resources he or she owns. Educated and informed people are more likely to select valuable objectives in life, such as having stable access to food for their household.

Fourth, more recently, the World Food Program (2006), publication on “Hunger and Learning” has contributed to systematize the relationship between education and food security. It states that improved education and health are also likely to contribute to productivity gains. This implies that limited farming knowledge is a key obstacle for both men and women in terms of applying appropriate agricultural techniques and technologies. The education of women is known to produce powerful effects on nearly every dimension of development, from lowering fertility rates to raising productivity, to improving environmental management and diversifying income activities.

Finally, education provides an inner contribution to food security, making people more ambitious and self-confident (FAO, 2007). Being educated is considered as a relevant weapon against feelings like shame and lack of hope, whose overcoming is indispensable to promote food security through the other mechanisms mentioned above. Education influences food security through the economic production channel. In rural areas, this is typically achieved through the increase of agricultural productivity and efficiency in that sector. That is, by increasing the amount of output per unit of input, and by choosing and allocating in the best way the inputs of production. It is good to conclude that an educated and skilled society can reduce food insecurity among rural people of low-income countries. This has important policy implications that the type

of education that could be useful for the purpose could go much beyond the simple functional literacy and agricultural extension services. Here combating food security challenges are dependent on the level of (formal) education countries invest in and offer for the purpose of alleviating rural food insecurity.

## **2.6. The Linkages between Livelihood Diversification and Food Security**

Income diversification refers to the increase in income sources or the balance share among the different sources. It is defined as “the process by which rural families construct a diverse portfolio of activities, assets and social support capabilities in order to survive and to improve their standards of living” (Ellis, 1998, 4). Income diversification is an increasingly important means for rural household living in arid and semiarid areas to managing environment risk and to overcome food shortage. It is believed that a rural household with multiple income sources will experience less variability of food security. Households who have a greater diversity of income sources have a comparative advantage over those with lower diversity. The concept of livelihood diversification is commonly understood as attempts by individuals and households to find new ways to raise incomes and reduce environmental risk. It includes both on-farm and off-farm activities which are undertaken to generate income additional to that of the main household agricultural activities. Diversification therefore supports farm households to accumulate income for farm expansion engagement in non-farm businesses (Dimova and Sen, 2010), and to solve immediate household needs (food, shelter, health care, payment of school fees etc.).

Diversification of livelihoods is a commonly applied strategy for coping with economic and environmental shocks and instrumental in poverty reduction and food security. Livelihood

diversification is one of the most remarkable characteristics of rural livelihoods. Seasonality of farming creates fertile ground for engaging livelihood diversity activities. Ellis (2000b), suggests that seasonality of farming resulting in labor idling during off farming seasons have led farm households to engage in activities (particularly non-farm activities) to use their full labor potential. Ellis (2000) classified the factors of diversification decision into two broad categories: necessity versus choice. Diversification by choice is related to voluntary decision of a household to diversify. In this case, a household chooses to diversify not for survival *per se* but also for accumulation. This is a proactive decision and leads to upward well-being mobility. The necessity driven diversification, on the other hand, is the result of desperation, the last resort of vulnerable households for survival. In this case, diversification may lead the household to end up in a more vulnerable livelihood system than the one adopted previously (Davies, 1996 cited in Ellis, 2000).

In Ethiopia income generating activities are classified as agricultural and off-farm income source as a major source of income. Agricultural activities is further divided into agricultural crops and livestock while off-farm activities is sub-divided in to agricultural wage employment, non - agricultural wage employment, non-farm self-employment , other non-labor income(remittance, transfer) generating activities. From this we can group income agricultural wage employment and non-agricultural wage employment as wage income. Agricultural activities consist of crop and livestock related activities which are carried out on “household-run farms”. Off -farm activities refers to activities other than those related to crops and livestock production that takes place away from household-run farms. Agricultural wage employment refers to agricultural related activities which involve the supply of paid labor on farms other than those owned by household members or working in on other household-farm for payment of wage. Non-

agricultural wage employment encompasses a wide range of work for wages and covers employment in public administration, in large corporations, small manufacturing factories, those working in construction and transportation and professionals in various sciences, education and training. Non -farm self-employment includes processing of any kind of goods for sale whose input materials can be either home-produced agricultural commodities or bought from markets. It also includes the provision of agricultural services which are provided on farms not run by the household.

The significance of livelihood diversification for economic development and household food security is undeniable. It is the fact that diversification to non-farm livelihood strategies rather than relying only on subsistence farming enables households to have better incomes, enhance food security, increase agricultural production by smoothing capital constraints and also to better cope with environmental stresses (Ellis, 2000). Diversification tendencies are not unique to developing countries. Farmers even in the developed countries diversify not only for risk mitigation but also for enhancing better financial returns and ensure food security (Barbieri and Mahoney, 2009). This has led poverty reduction policies to emphasize the creation of opportunities for enabling the rural households for diversification.

Non-farm activities have undoubtedly become an important component of livelihood strategies and diversification among rural households. Non-farm household enterprises income refers to any source of income not generated through agricultural activities and encompasses own account workers and working proprietors of unincorporated enterprises. These include profits earned from non-farm enterprises own by households or individually operated cottage industries like handicrafts, petty trade, transport, small industry, services and miscellaneous non-farm activities.

In developing countries, the significance of engaging in rural non-farm activities is undeniable because of the following reason: First, it is believed that rural non-farm income is an important factor in household economies and therefore also in food security, since it allows greater access to food. This source of income may also prevent rapid or excessive urbanization as well as natural resource degradation through overexploitation. Second, in the face of credit constraints, rural non-farm activity affects the performance of agriculture by providing farmers with cash to invest in productivity-enhancing inputs. Furthermore, development of rural non-farm activity in the food system (including agro processing, distribution and the provision of farm inputs) may increase the profitability of farming by increasing the availability of inputs and improving access to market outlets. In turn, better performance of the food system increases rural incomes and lowers urban food prices.

Diversification of household income, assets and activities has significant contribution for the wellbeing of the people. It is the fact that in order to survive in risk prone and uncertain world, poor people have to diversify sources of livelihood. Household income diversification should be either seen as a matter of necessity and survival, where diversification is born out of desperation, or driven primarily by the household's poverty status. However, it can also be a matter of choice and opportunity motivated by a desire to improve household living standards. Ellis (1998:2) notes that, "livelihood diversification may be associated with success at achieving livelihood security under improving economic conditions and provides households the opportunity to increase incomes, reduce risks associated with climate dependent agriculture and consequently food security".

Diversification among rural households is mainly influenced by differences in resource endowments such as land, labor, capital including access to markets and institutions (Barrett et al., 2001:326). In addition to that, there are others contributing factors of income diversification such as: age, market access, gender, credit access, productive asset ownership, irrigation, good road network, electricity, water, credit access. A lack of their own capital source and credit access creates an entry barrier for farm households to engage particularly in the non-farm sector.

## **2.7. The Linkages between Rapid Population Growth and Food Security**

It is believed that Rapid Population growth is one of several demographic factors likely contributing to the current food crisis. Uncontrolled population growth has very direct impact on the growth in food demand. Todaro and Smith (2012) claims that repaid population growth can have serious consequences for the well-being of all of humanity. The relationship between population growth and food security is not limited to increased demand for food. Repaid population growth can also have an impact on the food supply and access. In many areas population growth has been associated with land fragmentation and resettlement schemes in fragile environments that directly affect food production. Specifically, land fragmentation contributes to inefficient and destructive farming practices and increased cultivation of marginal land, which often reduces food production. Population growth can play an important role in the increasing and changing nature of the demand for food, while also constricting supply and access to food. It is the fact that rapid population growth has impact on food supply and demand and is projected to continue. In the absence of significant policy reforms and technological change, repaid population growth will likely continue to affect food security in coming decades.

There are two competing theories regarding the relationship between population growth and food insecurity. According to Malthusian theory the growth of human populations always tends to do

better than the productive capabilities of land resources. Population increases in a geometric progression while food production increases in arithmetic progression. Therefore, unless population increase is checked, it tends to outstrip food production and famine or starvation will occur. Thus Malthus developed the theory of rapid population as a cause of food shortage or famine. Malthus' theory, however, is criticized for his failure to consider the technological improvements in agriculture which would enhance productivity (Marquette, 1997).

Different argument is also forwarded by claiming that population growth will create a condition for expanding labor force in agriculture and food production. According to this thinking population growth is a stimulant to productivity. Society is better off with a large population than with a small as a result of their being more knowledge creators in a large population. Ester Boserup argues that population growth can create a kind of crisis situation that stimulates the invention of new technology. Shrinking supplies of land and other natural resources would provide motivation to invent better means of utilizing scarce resources or to discover substitute for them. This assumption bases its argument on the principle of "necessity is the mother of invention" (Brehanu, 2001).

In general, Population pressure has become a factor in accelerating food insecurity in situations where: all accessible land is fully under cultivation; failures to improve upon the old methods of cultivation; and opportunity for alternatives employment are absent (Brehanu, 2001). In Ethiopian case population growth is increasing at the rapid rate now it is estimated at over 80 million (World Bank, 2010) and since 1960 the population has almost quadrupled. At current rates, the population is estimated to grow to 118 million by 2025, and to 170 million by 2050, however, food production shows little increase (Ararso et al., 2009). So in Ethiopian case since much of the Ethiopians livelihood is depending on agriculture and until people shift from

agriculture to other sectors of the economy for their livelihood, population pressure on agricultural land can be cause of food insecurity in Ethiopia (Vadala, 2009).

The impact of population growth is manifested on farm size; and it leads to high land fragmentation in those way small landholdings and finally reduces productivity. On the other hand some authors try to argue that small land holding do not have impact on country economy for example China people land holding and even lower than Ethiopia but their economy growing rapidly. But this idea is not comparable with Ethiopia because the productivity level in Ethiopia and China are not the same. In China productivity of land is productive and highly mechanized but in Ethiopia land productivity is low. So that small land holding have negative impact on Ethiopian economy. Over the past three decades, the population of developing countries has increased dramatically, while food production has grown slowly. On the average, Africa's population has been growing at an accelerated rate of 3 percent while food production has been expanding at a sluggish rate of about 1.6 percent annually (Tekolla, 1997). Therefore, rapid population growth of Ethiopia should be viewed as an existing or potential problem that limits further growth of the country because, it aggravates the underlying social, and economic conditions of underdevelopment problems such as absolute poverty, gross inequality, widespread unemployment (especially among women), limited female access to education, malnutrition, food insecurity and poor health facilities. It could cause the principal cause of poverty, low levels of living, malnutrition, ill health, environmental degradation, and a wide array of other social problems (higher dependency burdens, lower savings, less investment, slower economic growth). Unless wisely used natural resources, an accelerated population growth also aggravates the mutually reinforcing effects of poverty and environmental degradation. As the population increases, natural resources are over exploited, land holdings are fragmented, living trees are

chopped down for fuel, grasslands are overgrazed by livestock, fallow periods are shortened, crop lands are over-ploughed, the air is polluted and near-shore waters are over-fished (Tekolla, 1997).

Rapid population growth has been regarded as one of the major causes of food insecurity in Ethiopia. The population has increased from 53.5 million in 1994, to 73.8 million in 2007 and it is estimated to reach over 84 million (CSA, 2011 DHS). Although, the population growth rate declined from 3.1 percent in 1984 to 2.9 and 2.6 percent in 1994 and 2007 respectively, this figure is sufficiently large to increase the population and put pressure for food production. In spite of the fact that more than 80 percent of the population has been employed in food production, Ethiopia fails to feed relatively large proportion of population from its domestic production. And more importantly, the populations do not have the productive capacity to earn money to commend its additional food requirements through commercial imports (Bikora, 2003). Studies have also shown that the health problems of a large proportion of the population has emanated from lack of adequate and balanced diet. Malnourishment, which encompasses undernourishment, diminishes people's ability to work, care for themselves, and ultimately exposes them to disease (Ali et al., 2011).

Evidence suggests that rapidly growing populations draw down heavily on the Earth's resources and decrease our ability to adapt to climate change. The poor people, who struggle at the edge of subsistence, are primarily concerned with their day-to-day survival (Tekolla, 1997). As the Earth's resources become increasingly strained, there is little reason to think that a rapidly growing population without the technology, stable governance or national policy to help attend to its needs in the short term will increase maternal deaths, overburden education systems, impact on efforts to adapt to climate change, increase political instability in the long-term and

many more intractable and difficult problems. Typically, very poor people likely to have many children and cannot afford to send their children to school, and their children in some case start working at a young age to contribute to the family. Usually, very educated people tend to have fewer children and they could afford to send their children to school. This is very true in Shashogo Woreda, because children who belongs to the poor families are likely to migrates to cities like (Addis Ababa, Hawassa etc...) and other countries such as (South Africa, Arab Emirates etc...) to search for better life so that cause them to lose their attention for education.

## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY**

#### **3.1. Introduction**

This Chapter deals with the details of all the procedures used in this study. The attempt is made to briefly present description of the study area, research design used, Sampling Frame and Size, Methods of Data Collection and Methods of data analysis and research ethics.

#### **3.2. Description of the Study area**

The study was conducted in the SNNPR of Hadiya zone of the Shashogo Woreda, in selected kebeles namely, Bonosha, Shayenbe and Bedika. Part of the Hadiya Zone, Shashogo Woreda is bordered on the south by the Kembata Tembaro Zone, on the west by Limo, on the northwest by Ana Lemo, on the northeast by the Silte Zone, and on the southeast by the Alaba special Woreda. The Woreda covers a total area of 32,320 hectares by crops and it is about 235km south of Addis Ababa and 54 km north east of Hosanna. The Woreda has a total of 36 kebeles and one administrative town. The Woreda has an agriculturally suitable land in terms of topography. Flood is a series problem in the flat topography areas. The rainfall of the study area is highly influenced by the movement of inter-tropical convergence zone and the development of tropical easterly Jet Stream. The main rainy seasons in this area are from July to October and March to June.

### **3.3. Research Design**

This study employed descriptive type of research design to assess the opinion of the kebeles development agents and executives and household heads to identify the factors causing food insecurity in the study area. To this end, the researcher used qualitative approaches with the light touch base on quantitative approach. Research in such a situation is a function of researcher insights and impressions. Furthermore, in this study qualitative research approach is used to assess the opinion of the respondents towards the underlying causes, factors, their assumptions and the problems they faced.

### **3.4. Sampling Frame and Size**

The sampling frame is the list of all elements from which the sample is drawn. For this research, the sampling frame is list of farm household heads, development agents, and executives living in selected kebeles (in the study area), the list of household heads, development agent and executives in these kebeles obtained from each kebeles and Shashogo Woreda official document. The set of sampling unit considered for this study include household heads, kebeles development agents and executive which are found in the study area.

The total household heads included in the survey interview were 110. By considering the total number of household heads in the study area, the proportional number of respondents has taken and selected for structured and semi-structured interview purposively from each kebeles household heads. Besides that, 9 individuals (among development agents and executives) are selected for focus group discussion purposively to support the purpose of this research.

### **3.5. Methods of Data Collection**

#### **3.5.1. Primary Sources**

For the purpose of this study, structured and semi-structured interviews and focus group discussion data collection tools were used. To gather information from the respondents of the selected sample, the researcher developed the interview questions which containing open and closed-ended questions. The interview question were administered and filled by the researcher. The interview and discussion questions were prepared in English language and translated into Amharic to make the questions simple for the respondents. To check the clarity of the feedback questions, reliability and validity tests have been conducted before the data collection. After the test, some modifications were made on the interview guide and questionnaire.

All interview and focus group discussion questions were prepared and conducted with three types of target groups (selected household heads, development agents and executives) of the research in March and April 2018. All the interview and focus group discussion questions were asked and filled by the researcher properly. In addition, the researcher conducted focus group discussion with kebeles development agents and executives to seek in-depth information and to triangulate the data gathered about the factors causing food insecurity and challenges which affect the efforts of household heads in the study area.

#### **3.5.2. Secondary Source**

The study obtained secondary source from the kebeles and Woreda official documents, Central Statistics Agency document, FAO official report, policy manuals, journals, working papers, articles, different reports, books, and internet sources.

### **3.6. Methods of data analysis**

After collecting data, raw data were sorted, coded, verified and separated. Data were pre-processed by identifying problems that are in the raw data by correcting and elimination of unusable data including interpretation of ambiguous answers and contradictory data from related interview and discussion questions. A coding system was developed and refined to facilitate sorting and reviewing data. The data collected from respondents and key informants (different target groups) by employing structured and semi-structured interview and focus group discussion methods were analyzed descriptively by using tables, figures, frequency and percentage of the responses to present different primary data in an organized way. In addition, the focus group discussion result was presented by summarizing the essence of the discussion and narrating the result in the text along with interview results.

### **3.7. Research Ethics**

The concerned people in Shashogo Woreda study area were communicated through a formal letter from Addis Ababa University public administration and development department office. The objectives of the research were clearly explained to focus group discussants, key informants and other concerned parties who have been involved in the research. At the time of data collection, consent was sought from participants to confirm their willingness to participate in the study. Accordingly, participation was voluntarily and measure has been taken in keeping the respect, dignity and freedom of each predication.

## **CHAPTER FOUR**

### **4. THE FINDINGS AND DISCUSSION**

#### **4.1. Introduction**

In this Chapter, attempt is made to present key findings and discussion on the linkages between educational status and food insecurity, the linkages between limited income sources and food insecurity and the linkages between uncontrolled population growth and food insecurity.

#### **4.2. The Linkages between Educational status and Food Insecurity**

Recognizing the inter-linkages between rural people deprivations such as lack of education on the one hand, and food insecurity and malnutrition on the other, is fundamental to a more comprehensive view of the Millennium Development Goals. Education is believed to have positive influence on household food security. As shown in the literature reviews earlier, as the level of education increases, the percentage of food secure households increases. This literature suggests that with increase in the level of education, individuals will be able to adopt more modern farm technologies on their farms thus improving their productivity and again have access to better job opportunities in the labor market.

##### **4.2.1. Educational status of the respondents**

The Ethiopian government recognizes the importance of education for national development. Policy is mainly aimed at expanding the education sector, improving quality and ensuring that educational content is harmonized with the country's economic needs. It is the fact that education can be linked to the process of information flow that enables the rural people to be creative in order to fight against food insecurity so that can further enable them to increase production and

productivity of the rural people. Those people having a better educational background are expected to have the better skill of enhancing agricultural productivity strategically compared with those academically less qualified. By considering the links between education and food security, the researcher asked the respondents some questions related with the respondents' educational status. The responses are shown in Table 1 below.

Table 1: The respondents' educational status

Level of Education	Number	Percentage
Illiterate	73	66.4
Primary education	21	19.0
Secondary education	9	8.2
College education	7	6.4
Total	110	100%

Source: Own Field Data 2018

Table 1: shows the levels of education among the rural farm household heads' in the study area. As Table 1 shows, the highest percent (66.4%) of the respondents had not attended formal education at all (they cannot read and write) while (19.0%) of the respondents attended primary school education. Whereas, (8.2%) of the respondents attended secondary school education while few respondents (6.4%) attended college education. The focus group discussion with development agents and kebele executives is also supporting this result and point out the underlying reason to have low educational status. As identified by the group discussant, majority of the people in the study area face economic problem. Because of the economic problem, most

of the people engaged in the workforce at an early age for the survival of their family and themselves so that causes most household heads' to have lower educational status/no schooling in the study area.

#### 4.2.2. Food insecurity by respondents' educational status

Education is believed to have helpful influence on household food security. As indicated in the earlier literature review, this is because naturally, with increase in the level of education, individuals will be able to diversify livelihood activities and establish different coping mechanism during food crisis. By considering this, the researcher asked the respondents some question related the linkages between food insecurity and educational status to examine household welfare to check food security position. The responses are depicted in Table 2 below.

Table 2: Food insecurity by household heads' educational status

Educational level	Food insecure		Food secure	
	Number	percentage	Number	percentage
Illiterate household	61	83.6	12	16.4
Primary school educated	5	23.8	16	76.2
Secondary school educated	2	22.2	7	77.8
College education	1	14.3	6	85.7

Source: Own field data 2018

Table 2: presents information of food insecurity by household heads' educational status. As Table 2 showed, the highest percent (83.6%) of respondents among illiterate were food insecure while (16.4%) were food secure households. Whereas, from those attended primary school

education (23.8%) were food insecure while (76.2%) of the respondents were food secure. On the other hand, from those who attended secondary school education, (22.2%) were food insecure while (77.8%) of the respondents were food secure. Whereas, from those attended college education, (14.3%) of the respondents were food insecure while (85.7%) of the respondents were food secure. The result indicates that household heads with no formal education or who have had no schooling at all (illiterate) were likely to be food insecure than those who have attained primary, secondary and college education respectively. The implication is that farm households who attended some level of formal education are likely to be food secure than households with no educational attainment. The focus group discussions result with the development agents and kebeles executives is also supporting that those who have at least some basic education are better than those who do not attended any level of education by using improved technology in agriculture such as application of fertilizer, modern selected seed, highbred livestock production, diversifying livelihoods, using row planting technology, agricultural productivity etc...

The implication is that lacking at least some basic and having low educational attainment could be seen as a possible obstacle in the applications of modern technology in various productive activities in the study area. This suggests that the more the household heads' educated, the more likely to be food secure. On the other hand, the less household heads' educated, the more likely to be food insecure. The overall implication of the result is that Household food security was associated with household heads' educational attainment. This shows that the probability of being moderately or severely food insecure linked with increased level of education –simply higher educational attainment has a positive effect on food security. As Table 2 showed, the

highest percent of household heads' is household heads' with no education and low educational status in the study area, therefore, this can be interpreted as achieving household food security is dependent on the level of household heads' educational attainment. In other word, having no education and/or low educational status could be a possible obstacle in accessing, producing and utilizing food among rural farm households that resulted food insecurity.

This finding is consistent with other studies that showed food security to be associated with the level of education. For instance, similarly Amaza et al (2006) which revealed that, the level of educational attainment helps farmers to use production information efficiently, as a more educated person acquires more information and, to that extend, it is a better producer. Lockheed, et al. (1980) in their study found that education is positively correlated with efficacy, productivity and food security. The 2005 State of Food Insecurity Report (FAO 2005) highlighted the strong relationship between food insecurity on one hand and illiteracy and lack of education on the other hand. As indicated in this study and various previous research findings, illiteracy and low educational status indeed could be a possible obstacle in accessing, producing and utilizing food among rural farm households in the study area.

#### **4.2.3. Information of respondents with Access to media**

The media plays a vital role in increasing agricultural production and in creating awareness on food security and influencing policy within the country among rural farm households in communicating information that promotes inclusive agricultural productivity growth, better nutritional outcomes and strengthened livelihood resilience. Media enhances the capacity of rural farm households in distribution of valuable information about food availability, food access, and

food utilization for both men and women among rural farm households. By considering this, the researcher asked the respondents some questions related with access to media. The responses are described in Table 3 below.

Table 3: Household heads' with access to media

Educational level	Household with no access to Radio		Households with access to Radio	
	Number	percentage	Number	percentage
Illiterate household	67	91.8	6	8.2
Primary school educated	7	33.3	14	66.7
Secondary school educated	1	11.1	8	88.9
College education	0	0	7	100

Source: Own field data 2018

Table 3 presents the respondents accessibilities of media for information. As portrayed, among illiterate household heads' the highest percent (91.8%) of the respondents had no access to Radio while (8.2%) of the respondents had access to Radio. Whereas, from those who attended primary school (33.3%) of the respondent had no access to radio while (66.7%) of the respondent had access to radio. On the other hand, from those who attended secondary school (11.1%) of the respondents had no access to radio while (88.9%) of the respondents with access to radio. Finally, among the respondents, all those who attended college education (100%) had access to radio. The focus group discussion result with development agent and kebele executives is also

supporting that the majority of the people with no education and/low educational status have no access to radio in the study area. This means that those who do not have access to radio do not have access to have valuable information conveyed by media. As Table 3 shows that, the highest percent (68.2%) of the respondents had lacking the information and knowledge acquired through media that facilitating condition for effective use of the message and lessons concerning accessibility, availability and utilization of food and its coping strategies for food crisis conveyed by radio. Lack of access to media can be interpreted as lack of access to have vital information in accessing, producing and utilizing food among rural farm households in the study area so that enables rural farm household heads' to make decision in order to achieve food security.

This finding is consistent with other studies that showed food security to be associated with having access to information related with availabilities, accessibilities and utilization of food. For instance, similarly, De Muro and Burchi (2007) found that education for rural farm households has a key role in fighting food insecurity problems and influences food security through access to information on best agricultural production, accessibility, utilizing food, and sanitation; increased efficiency, hence increased production and better decision making as well as the pride that comes with education.

#### **4.3. The Linkages between Limited Income Sources and Food Insecurity**

As observed by the researcher, the rural farm households in the study area are increasingly becoming food insecure, since their land is no longer able to meet the requirements of food for the family because they have limited income sources. Diversifying livelihoods therefore, has been identified as an important theme in the development work, particularly concerning the poverty reduction and food security program. By considering this, the researcher asked the

respondents some questions related with number of livelihood activities the household heads' engaged in in the study area. The responses are shown in Table 4 below.

#### 4.3.1. Number of livelihood activities household heads' engaged in

Table 4: Number of livelihood activities the household heads' engaged in

Number of livelihood household heads' engaged in	Number of households		List of livelihood activities pursued by farm households
	Frequency	Percentage	
Households engaged in crop farming only	71	64.6	Non-diversified households (hand to mouth production)
Households engaged in two livelihood activities	29	26.4	Crop farming and animal husbandry
Households engaged in Three livelihood activities	10	9.0	Crop farming, animal husbandry and remittance transfer/employment wage
Total	110	100%	

Source: Own Field data 2018

Table 4 shows number of livelihood activities the household heads' engaged in. As Table 4 depicts, the highest percent (64.6%) of the household heads' depend solely on crop farming for their household existence while (26.4%) of the household heads' were engaged in only two

livelihood activities such as crop farming and animal husbandry. Whereas, the remaining (9 %) of household were engaged in three livelihood activities namely; crop farming, animal husbandry and remittance transfer and/or job salary. For the purpose of this study, it is good to categorize the study results as diversified households and non-diversified households. The highest proportion (64.6%) of household heads' categorized as non-diversified (relying only on crop farming for survival, source of income and overall expenditure) while (35.4%) were diversified household heads' (those who engaged in various livelihood activities). The focus group discussion result with the development agent and kebeles executives also supporting that majority of the household heads' in the study area are non-diversified while some household heads' diversified. Some household heads' received remittances incomes from spouses and relatives living in mainly in South Africa, Arab Emirates and other countries. Remittances were used to expand farming and to provide for household needs. In some cases, remittances are received in kind. For instance, receipt of items such as mobile phones, laptop, clothes etc. was observed among farm households.

#### **4.3.2. Constraints to diversifying livelihood amongst household heads'**

Livelihood diversification is an important survival strategy for the rural households in the developing countries. However, there are several constraints to successful livelihood diversification. Identification of constraints for a particular study area is crucial for future policy formulation. By considering this, the researcher asked the respondents some questions related with constraints to diversifying livelihood among household heads' in the study area. The responses are portrayed in table 5.

#### 4.3.2.1. The Amount of cultivable land size of the respondents

Farm size is the total amount of land for agricultural production that cultivated by each farm household respondents. In the rural setting, for those who the main source and means of survival is agriculture, the availability and amount of cultivable land they holdings are significant to diversify livelihood activities.

Table 5: the amount of farm land holdings by household heads' in the study area

Amount of Farm land by hectares households hold	Frequency	Percentage
Between 1 and 2	72	65.4
Between 3 and 4	24	21.9
5 and above	14	12.7
Total	110	100%

Source: own field data 2018

Table 5: shows the amount of farm sizes of household in the study area. As it portrayed, the highest percent (65.4%) of the respondents had cultivated the farm land between 1 and 2 hectares. This could be regarded as small farm size. Whereas (21.9%) of the respondents were cultivated the farm land between 3 and 4 hectares while few proportions (12.7%) of household heads' were cultivated the farm land 5 and above hectares. This suggests that majority of the respondents were small scale and subsistence farmers. The FGD result with the kebeles development agents and executives is also supporting that crop farming in the study area, is practiced on a subsistence scale because of having small size of cultivable lands that results food

insecurity. Household with more land have a possibility of having larger number of crops and more marketed surplus which results increase in total income of the household's which will expanding and creating other income generating activities. The implication of this to food security is that with the small size of cultivable land, the food production will remain at a subsistence level and this can lead the farm households not to diversity their livelihood to be food secure.

This finding is consistent with other studies that showed household food security to be associated with the increased size of cultivable land. For instance, similarly, Mensah, (2014), found that increasing the size of cultivable land for farm households brings with it increased food production, thereby allowing them increase the shares of food obtained from their own production and also, increased production resulting from improved access to cultivable land would mean increased cash resources, some of which could be used to purchase productive assets, access nutritious food as well as serve as an incentive for investment in other non-farm income generating activities. Allis (1999) also asserted that livelihood systems practiced amongst farm households is undergoing transformation from the traditional over-dependence on subsistence agriculture to the development of rural enterprises. Reddy *et al.* (2004) found that small farm holdings may result to low productivity, low income, and the incidence of food insecurity among the farm households. This outcome is consistent with the finding of Asogwa and Umeh (2012) who speak out that household food security increases with increase in area under cultivation.

#### 4.3.2.2. Availability of micro credit facilities for initial start-up of income generating activities

Availability of micro credit facilities helps both directly and indirectly in livelihood diversification. Micro credit finance provides an opportunity to invest in alternative enterprises. Several researchers have noted that the lack of micro credit facilities creates an entry level barrier for the resource-poor households in diversifying their livelihood options particularly towards high-end remunerative non-farm activities. By considering this, the researcher asked the respondents some questions related with access and availability of micro credit finance to diversify livelihood activities in the study area. The responses are shown in Table 6 below.

Table 6: Accessibility of credit facilities for respondents

Year	Accessed Credit facilities		Not accessed Credit facilities	
	Frequency	Percentage	Frequency	Percentage
2016	25	22.8	85	77.2
2017	27	24.5	83	75.4

Source: Own field data 2018

Table 6: shows the availability of credit facilities for respondents in the year of 2016 and 2017. As Table 6 portrays, the highest percent (77.2%) of the respondents were not accessed micro credit facilities while (22.8%) of the respondents were accessed micro credit facilities in the year of 2016. In the year of 2017, in the same way, the highest percent (75.4%) of the respondents were not received micro finance credit, while only (24.5%) of respondents accessed credit funds.

As Table 6 depicts that the majority of the respondents were not accessed micro credit facilities in both years. The implication is that there is limited availability of micro credit facilities for initial start-up to engage in additional livelihood activities in the study area. The focus group discussion with the development agents and kebeles executives is also supporting that community members in the study area like other rural areas have to contend with very little cash resources and efforts to source cash for capital requirements are constrained by the limited availability of credit facilities. Given that households have limited cash options, they prioritize activities that do not pose a further demand on already insufficient cash resources. This can be interpreted as that due to inadequate availability of credit facility, most household heads' in the study area cannot invest in productivity enhancing technologies and diversifying livelihood activities. This means that credit constraints prevent household heads' to engage in multiple livelihood diversification activities in the study area.

This finding is consistent with other studies that showed livelihood diversification to be associated with adequate availability of micro credit facilities. A number of studies have confirmed that the ability of a household to diversify is determined by availability of micro credit facilities. For instance; similarly, Ersado's (2003) study on livelihood diversification in rural and urban Zimbabwe noted that access to credit appears to improve conditions for diversification in rural areas, but not so in urban areas. Therefore credit constraints prevent households from engaging in lucrative diversification options. In the absence of formal credit, the main source of funds is often from the savings and or assets of the (extended) household. Initiatives from NGOs in the area and government to promote micro-finance facilities have been very limited in

coverage is still incomplete. Davies (2004) found that constrained access to credit and financial savings can hinder acquisition of assets necessary to diversify out of crop agriculture to non-farm activities and restricted access to capital is the major obstacle to investment and entrepreneurship. Smith et al., (2001) identifies lack of access to financial services or the lack of credit as a constraint to potential diversification into non-farm economic activities in two districts of Kumi and Rakai in Uganda. Reardon in his study established that in the absence of lending facilities, households will engage in activities that generate cash funds to be utilized in purchasing agricultural inputs or farm equipment (Reardon, 1997 quoted in Ellis 2000).

#### **4.3.3. Livelihood Diversification by educational attainment**

Availability of knowledge and skills play a pivotal role in determining the extent to which households diversify livelihood activities. Incentives to diversify livelihood activities can either be strengthened or weakened by knowledge and skills available. Community members engaged in diversification either had the skills passed down in the family or at one time benefited in some training outside in the targeted study area. This means that those persons wishing to engage in nonfarm livelihoods continue to be constrained by lack of knowledge, skills and training opportunities locally. By considering this, the researcher asked the respondents some questions related with how household heads' educational status linked with livelihood diversification in the study area. The responses are shown in Table 7 below.

Table 7: Livelihood diversification by educational attainment

Level of education	A number of livelihood engaged in	Frequency	Percentage
Illiterate	Crop production only	68	61.8
Primary education	Crop production and animal husbandry	18	16.3
Secondary education	Crop production, animal husbandry and other	9	8.1
College education	Crop production, animal husbandry, employment	7	6.3
Total		110	100%

Source: own field data 2018

Table 7 shows the household heads' livelihood diversification by educational attainment. As Table 7 describes, the highest percent (61.8%) of the respondents were illiterate and they engaged in only crop farm production for the survival of their household while (16.3%) of respondents were those who attended primary education engaged in crop production and animal husbandry. Whereas, the remaining (14.5%) of respondents were those who attended secondary and college education were engaged in more than two livelihood activities (crop farm production, animal husbandry, trade, and employment). This result can be attributable to the fact that more than half of household heads' have had no schooling and even for household heads'

that have attained some level of education, it is mostly basic, thereby placing a limitation on the extent to which households can diversify livelihood activities. Therefore, the study suggests that the educational attainment level of household heads was found to be an important contributor of livelihood diversification. The focus group discussion result with the kebeles development agent and executives is also supporting that as the level of education of household head increases, the number of household heads' livelihood activities engaged in increases in the study area. Thus, the implication is that the level of household heads' educational attainment to be associated with the number of livelihood activities the household heads' engaged in. The focus group discussion result with the kebeles development agents and executives is also supported that Household heads' those having primary education, secondary education, and other education diversify their income greater than those household heads' without any level of education.

The result implies that school education increases the human capital levels and provides the necessary skills which enable the entry into more remunerative labor markets especially for non-farm activities such as non-farm wage labor or self-employment and increasing the productivity of agricultural sector which will be invested in any other income generating activities. This can be interpreted as that as the level of education increased, the household heads' likely to be diversify their livelihood options through opting for salaried jobs, self-employment activities, daily wage etc., whereas low-educated and illiterate persons engage themselves in limited livelihood activities. Therefore, investing in education and increasing access to higher education will help the rural households in getting alternative income. Improvement in the educational level will increase the probability of engagement in rural non-farm activities and livelihood diversification.

This finding is confirmed and consisted with various studies that showed low educational status can serve as an entry barrier to engage in multiple livelihood activities, better paying non-farm employment or self-employment in rural farm household. For instance, similarly, Davies (2004) identifies education as critical since better-paid jobs require formal schooling and that there is a correlation between education with rural non-farm business success and livelihood diversification. Owusu, et al. (2011) study on non-farm work and food security in Ghana, suggested that schooling was an important determinant of diversification and participation in diversifying livelihood and non-farm work. Barrett et al (2001) also asserted that Educational attainment proves one of the most important determinants of income diversification especially in more remunerative salaried and skilled employment in rural Africa.

#### **4.4. The Linkages between Uncontrolled Population Growth and Food Insecurity**

The concept of food security is closely linked with the human population because with the increase of people, the demand for food goes up, the land required for agriculture goes up, related environmental consequences goes up, and the food security of the globe get worse. Therefore, the household size can possibly influence and linked with food security at household level. By considering this, the researcher asked the respondents some questions related with household size. The responses are shown in Table 8 below.

##### **4.4.1. Information of Household size**

Table 8: information of the respondents' household size

**Table 8: shows information of the respondents' household size**

No.	Number of household with children	Frequency	Percentage
1	1-4	29	26.4
2	5-8	67	60.9
3	9 and above	14	12.7
	Total		100%

Source: Own field data 2018

Table 8: shows the respondents' family size in the study area. As Table 8 shows, the result revealed that (26.4%) of the respondents households had family members ranging from 1-4 persons while the highest percent (60.9%) of the respondents households had family members ranging from 5-8 persons. Whereas, (12.7%) of the respondents households had family members ranging from 9 and above person. Based on the above data, the household sizes in the study area could be said that household sizes are considerably large. The focus group discussion result with the kebeles development agents and executives is also supporting that household sizes tend to have large family sizes as compare to urban household sizes; this is due to households influenced by cultural and geographical settings and other factors.

#### 4.4.2. Household family size with food security position

The majority of recent reports on the food crisis focus principally on rapid population growth and an increasing demand for food. Population growth, however, is one of several demographic factors likely contributing to the current food crisis. Since food requirements increase with the number of persons in a household, the household's size could possibly be an important cause of food insecurity. The relationship between population growth and food security is not limited to increased demand for food only but also population growth can have an impact on the food supply and access. In many areas population growth has been associated with land fragmentation and resettlement schemes in fragile environments that directly affect food production. By considering the relationship between population growth and food security, the researcher asked the respondents some questions related with household size by their food security position/status. The responses are shown in Table 9 below.

Table 9: information of household size by food security position/status

No.	Family size	Food secure		Food insecure	
		Frequency	Percentage	Frequency	Percentage
1	1-4	20	69.0	9	31.0
2	5-8	17	25.3	50	74.7
3	9 and above	2	14.2	12	85.8

Source: Own field data, 2018

Table 9 shows household sizes with food security position in the study area. As Table 9 shows, the result demonstrates that among the respondents the household size ranged 1-4 persons

(69.0%) were food secure while (31.0%) were food insecure households. In second place, among the respondents the household size ranged from 5 to 8 persons (25.3%) were food secure while (74.7%) were food insecure households. Finally, among the respondents the household size ranged from 9 and above (14.2%) were food secure while (85.8%) food insecure in the study area. The result revealed that the more the household size increase, the less likely to be food secure. This can be interpreted as that large household size tend to be more food insecure than small size families. The focus group result with the kebeles development agents and executives is also supporting that large size of household requires more resources and food so that results food insecurity.

The overall implication of the result is that large sizes of households were more likely to become food insecure, as compared with small size families. The more children a family has, the more likely they are to remain food insecure. This can be interpreted as that the status of households' food security is affected by the family size and increasing numbers of people often drive up demand for food, which typically results in additional use of arable land and water. This is especially true in the absence of adequate food production technology and integrated programs that simultaneously address community needs for food and reproductive health.

This finding is consistent with other studies that showed food insecurity associated with an increased number of people. For instance, similarly, Maxwell (1996) found that large family size has significant relationship with much greater risk of poverty. Obamiro et al (2003) reported that an increase in household size would likely being the household membership to food insecure group. Institute of Agricultural and Food Economics research (2012) found that the rapid growth

of the world's population resulting mainly from the high birth rate in the developing countries, mostly African as well as in some countries of Asia and South America, means that feeding the population is one of the most important and challenging issues in their continent. The same research reported that there are serious imbalances in the level of nutrition of the world's inhabitants resulting from the uneven distribution of food production (the largest areas of food demand are not the same as the largest areas of food production) and inadequate distribution of food, as well as improper political and institutional solutions. Wilson and Wilson (2010) examined population growth and food security in Nigeria. In their assertion, they found that repaid population growth has adverse effect on food security. In the same research, they also claim that when addressing the challenge of eradicating chronic hunger and malnutrition in the decades to come, it is critically important to understand the full dimension of the problem. It is not just a question of producing more food, but of understanding population dynamics and changes in food consumption. FAO (2016) research claims that the world's rapidly increasing population puts pressure on all aspects of human existence and must be put on top over all efforts to achieve food security. Adejobi (2004) claims that Population growth increases demand for food agricultural and production sector cannot cope with the increase demand of the population we live and breed like rabbit. World Bank (2008) document asserts that uncontrolled Population growth will greatly increase the amount of food needed to feed adequately therefore, global food demand is expected to grow significantly in upcoming decades that will be caused mostly by population growth. The implication is that Population growth has been and will be a significant influence in determining the increase in overall demand for food. Adpoju and Adejere (2013) found that an increase in one family member increases the chances of a household becoming

food insecure by indirectly reducing income per head, expenditure per head, and per capita food consumption.

#### 4.4.3. The household size with age ranges and classification

Table 10: number of children/person categorized by age

Children Age category	Number of children/person	Percentage
Age between 1 and 15	10,701	62.1
Age between 16 and 30	3,257	18.9
Age between 31 and 60	2446	14.2
Age 61 and above	819	4.8
Total	17,223	100%

Source: Shashogo Woreda health office survey 2017

Table 10: shows the household size categorized by age range. As Table 10 shows, the Shashogo Woreda health office survey revealed that from the total population of the study area, the highest percent (62.1%) of the population age ranged between 1 and 15 years. This could be regarded as children who could not directly engaged in crop production and animal rearing, while (18.9% ) of the population were aged between 16 and 30 regarded as young people who can actively engaged in production. Whereas, (14.2%) of the people were age ranged between 31 and 60, could be regarded as middle age, while (4.8%) of the people were age ranged between 61 and above could be regarded as fairly old. In general, from the total population of the study area, the highest percent (66.9%) were categorized under the age of children and elderly, this could be regarded as dependent because they could not supply labor and material needed for farm work

while the remaining (33.1%) were categorized as adult population, this could be regarded as productive labor supply for farm work in the study area. The household size and age could have great implications for labor supply for farm work and also food security. A large household is expected to cultivated large farm size but the contrary is also possible especially when there are many children and elderly people dependents in the family. The focus group discussion result with the kebeles development agents and executives is also supporting that because of the larger proportion of children in the household in the study area, the farmers suffer with labor shortage. This implies that majority of the families members in the study area are not in a productive farm work age because of the majority of the population age categorized under children and elderly people. This kind of population growth pyramid could be regarded as a greater economic and food security burden for the study area. This can be interpreted as that when a country has a high number of children, it is said to have a youthful population that cannot supply labor for agricultural production, while when a country has a high number of elderly people, it has an ageing population both of these situations can give rise to a number of problems that puts strain on education and health services, food supplies, available accommodation etc.

This finding is consistent with other studies that showed food security to be associated with supply of the productive labor for farm work. In simple terms, the possibility of engaging in multiple livelihoods and boosting agricultural production is dependent on the age of family sizes. This finding directly contrasted with Reardon's (2001) assertion that large family sizes maximize households' welfare and secures livelihoods by deploying active household members to engage in other wage employment opportunities. A possible reason for this result lies in the fact that about more than half of (66.9%) household members are dependents in the study area, limiting

the availability of labor to support additional livelihoods and to boost agricultural production. As dependency ratio increases, the ability of a household to meet its subsistence needs become difficult. Based on the above findings, the possible conclusion is that low dependency ratios promote economic growth while high dependency ratios decrease economic growth due to the large amounts of dependents.

#### 4.4.4. Household Heads' Attitude on Contraceptive Utilization

Family planning is believed to be significantly contributes to reduce fertility and thereby maintain high and unintended population growth which has been negatively affecting the development of a nation where there is steady and low economic development and food crisis. The provision of the family planning service is one of the important strategies to control rapid population growth. Even though, the decision to utilize family planning methods among rural farm household is determined by households' head attitude. By considering this, the researcher asked the respondents some questions related with their attitudes' on contraceptive utilization. The responses are shown in Table 11 below.

Table 11: household heads' attitude on contraceptive utilization

Respondents attitude	Contraceptive users		Contraceptive non user		Total percentage
	Frequency	percentage	Frequency	percentage	
Positive	22	20	12	11	31%
Negative	14	12.7	62	56.3	69%

Source: Own field survey 2018

Table 11 shows household heads' attitude towards contraceptive utilization in the study area. As Table 11 shows, from the total respondents (31%) had positive attitude towards contraceptive utilization, however, (11%) of the respondents were not applied family planning. Whereas, the highest percent (69%) of the respondents had negative attitude on the contraceptive utilization, however, (12.7%) of the respondents utilized family planning for different reasons. In general, the highest percent (67.3%) of the respondents were not utilizing family planning while (32.7%) of the respondents utilized contraceptive methods. The focus group discussion result with the kebeles development agents and executives is also supporting that majority of the people in the study area had negative attitude on the use of contraceptive method because of the culture they live in and the belief they hold in. The finding shows that the majority of the respondents' decision to utilize contraceptive method in the study area was affected by their attitude and perception.

The finding is consistent with similar studies that showed utilization of contraceptive methods to be associated with the household heads' attitudes. Similarly, Adebeyo (2012) found that household heads decision to apply family planning could be determined by their understanding and the world view they hold. Therefore, it should better to provide awareness creation training about the utilization of family planning methods for rural household heads' and their wives.

## **CHAPTER FIVE**

### **5. CONCLUSION AND RECOMMENDATIONS**

#### **5.1. CONCLUSION**

##### **Introduction**

In this chapter, attempt is made to briefly conclude the main findings on the linkages between low educational status and food insecurity, the linkages between limited income sources and food insecurity, and the linkages between uncontrolled population growth and food insecurity. Additionally, it provides the policy recommendations on concentrating promoting educational attainment, encouraging engaging on diverse livelihood income activities and controlling rapid population growth in order to achieve food security.

##### **5.1.1. The Linkages between Low Educational status and Food Insecurity**

Educational attainment demonstrated as one of the important instruments to achieve food security for the rural households in the developing countries. The previous literature review indicated that educational attainment has significant impacts on households' food security status. As examining the links between lower educational status and food insecurity in the study area, the study found the following results: First, the extent of educational attainment is comparatively low and most of the household heads' had even no schooling or with lower educational status. As the main findings implies that household heads' with no formal education and/or who have had lower level of education were food insecure than household heads' who attended high school and college education. In other words, household heads' who attended high school and college education were most likely to be food secure. This can be interpreted as the more the household heads' educated, the more likely to be food secure households. On the other hand the less the

household heads' educated, the more likely to be food insecure households. Therefore, the household heads' have no education and/or with lower level of education had causing food insecurity in the household level in the case of the study area.

Secondly, the extent of access to media is comparatively low and most of the household heads' had no access to radio in the study area. The finding indicates that those households with access to radio were likely to have valuable information than households who had no radio. This means that household heads with same formal education have more access to have media than households with no formal education. Having access to radio is depends mainly on the education the household heads' obtained and the capacity to receive properly the message, the lessons, and the information concerning accessibility, availability and utilization of food and its coping strategies for food crisis conveyed by radio. Based on the result, this findings could be interpreted as the more the household heads' attended some formal education, the more likely to have access to valuable information concerning accessibility, availability and utilizing food so that enables them to make right decision concerning achieving food security. To sum up the above discussion, education is demonstrated to be relevant in fighting food insecurity and promoting development. Therefore, Governments and donors aiming to tackle these problems should focus their attention (and investments) on this sector.

### **5.1.2. The Linkages between Limited Livelihood Sources and Food Insecurity**

Livelihood diversification is an important survival and raising income strategy for the rural households in the developing countries. The previous literature review indicated that income diversification has significant impacts on households' food security status. As examining the links between the limited income sources and food insecurity in the study area, the study found

the following results: First, the extent of income diversification is comparatively low and most of the people are vulnerable as they depend only on agriculture related activities for their livelihood and non-availability of other income sources. The researcher related this finding as that households who engaged in various livelihood activities were likely to be food secure than households who have no or limited livelihood sources. Households with limited or no diversification tend to be more vulnerable to food insecurity than for those who are highly diversified livelihood. In other word, it means that the households who engaged in multiple livelihood activities tend to be more food secure than those who were engaged into fewer activities. For poor farm households who do not engage in any form of diversification or limited livelihood diversification, coping with food insecurity could be challenging. This is because diversification is one of the livelihood strategies that provide additional income to rural household. It enhances household economy and food security by giving additional income and decrease food deficit when agricultural production falls short and also minimizes the sales of farm produce that should be consumed.

Secondly, the larger cultivable land holdings are comparatively low and most households are small size cultivable land holdings. As evaluating the relationship between small size cultivable land holdings and livelihood diversification, the result shows that households with larger cultivable land holdings were more diversified livelihoods than households with less cultivable land holdings. This means that as cultivable land size increases, the household tend to be more diversified livelihoods activities. The implication for food security is that households with larger farm sizes tend to be more food secure than those households with smaller sizes, and vice versa.

Thirdly, adequate access to institutional credit facilities is comparatively low and most households had no access to institutional credit facilities in the study area. This means that inadequate and lack of access to institutional credit facilities restricted households to diversify livelihood activities. In the absence of credit support from the institutional agencies; the resource most of the poor households could not able to start their own nonfarm business or enterprises and profitable diversification options. It is the fact that in the absence of formal institutional credit facilities, it is difficult to expand effective income sources. Access to credit can create an opportunity to be involved in economic activity that generates revenue to households. The poor households in the study area need credit facilities to develop their livelihood strategy. Most Households without access to institutional credit in the study area could not able to undertake any income-generating activity which requires some initial investment so that putted them into food insecurity position as a result.

Finally, most of the household heads' are comparatively no schooling and/or with lower level of education. This means that no education and/or with lower level of educational status hindered most households to diversify livelihood activities in the study area. The more the household heads educated, the household likely to be diversify their income through opting for salaried jobs, self-employment activities, etc., on the other hand, illiterate household heads' engaged themselves in only agricultural activities which are mostly valuable to weather and other damage. This finding implies that no education and/or with lower level of education can serve as an entry barrier to engage in multiple livelihood activities, better paying nonfarm employment or self-employment so that affected food security situation of most households.

### **5.1.3. The Linkages between Uncontrolled Population Growth and Food Insecurity**

The rapid growth of the population is resulting mainly from the high birth rate means that feeding the population is one of the most challenging issues. The earlier literature review revealed that uncontrolled population growth has significant impacts on households' food security status. As examining the links between uncontrolled population growth and food insecurity in the study area, the study found that the extent of utilization of contraceptive methods is comparatively low and most households had negative attitudes towards contraceptive methods. The investigation indicated that most household had larger family size; this implies that the rate by which population is rapidly growing because of lack of utilization of contraceptive methods. The implication for food security is that larger household size requires an increased number of resources that would lead to a decrease in household food security status and puts food security burden for the households in the study area because as the number of children and elderly people increases, the dependency ratio also increases so that puts problem on food production and supplies. A high number of children could have great implications for labor shortage for rural farm work so that would lead food insecurity. This can be interpreted as that household heads' that have not controlled rapid growth of his household members are most likely to be food insecure. In other words, it means that as household size increases, the chance of household becoming food insecure because of higher dependency ratio and high demands of food. Since food requirements increases with the number of persons in household, it is the fact that uncontrolled population growth/repaid population growth could have adverse effect on food security.

## **5.2. RECOMMENDATIONS**

The data analysis has brought out some findings that have important implication on policy formulation. Based on these findings, the following recommendations are offered towards promoting educational attainment, encouraging engaging on diverse livelihood income activities and controlling rapid population growth in order to achieve food security in the study area:

It is the fact that the contribution of an educated society goes beyond the economic growth of a country, and does affect positively the life of people, especially that of the least advantaged so that indicates the importance of investing in education with a specific emphasis on rural areas because of the dramatic incidence of illiteracy, food insecurity, and mortality in these places. Therefore, the government and non-government organization should intensify effort on the importance of formal education and advocate and enhance household heads' educational attainment. Relevant formal education contributes to rural development that can positively influence productivity and can help imparting life skills which are useful in alleviating poverty in rural areas therefore, the multi-sectorial efforts should concentrate in the study area household heads' to develop basic education geared towards rural development and food security.

For poor farm households who do not engage in any form of diversification or limited diversification, coping with food insecurity could be challenging. Therefore, income diversification should be encouraged among farm households in the study area to enable them, raise their total household income to address household food demands and for accumulation and investment purposes. By considering this, the development actors should improve access to credit and introduce innovative micro-credit packages so as to promote remunerative livelihood

income activities. Such initiative should be self-sustaining and whose savings and loan schemes are organized to suite rural residents. For increasing the extent of income diversification, the study provides the policy recommendations that government should continue its efforts to generate income earning opportunities in the rural areas and support the farmers to enhance agricultural production through supportive policies needed for agricultural inputs to these farmers. In order to encourage in diverse livelihood income activities, it is important that development actors should build capacity in vocational and skills training for farm households. Whether in rural or urban areas, training and skill development is a pre-requisite for entering into the labor market and also tend to enhance one's ability to engage in diverse economic activities. Also, functional education for farm household heads' should be strengthened in the study area. Such adult literacy programs can help improves literacy levels of farm household heads and their family members as well as enhances their capacity to engage in diverse livelihood portfolios. Such infrastructure has an immense potential to facilitate improved rural livelihoods and poverty reduction through promoting integration with national economies, transfer of information, efficient markets, improving the working mobility of people, resources and outputs.

Access to credit can create an opportunity to be involved in economic activity that generates revenue to households. Development partners operating in the study area should implement adequate provision of credit to eligible households using targeting criterion that reflects actual characteristics of food insecure households and should be given opportunity to participate in varied income generating activities in both agriculture and nonagricultural ventures and rural development programs which would enhance their livelihood diversification activities and living standard be initiated and encouraged; the effect of education on household food insecurity cannot

be over-emphasized therefore strengthening both formal and informal education and vocational or skill training should be promoted to reduce food insecurity in the study area. Moreover, the Government should promote growth in agriculture especially the production of food crops through timely provision of farm inputs (especially fertilizer, selected seed of all crops both cash and food crops) and encouraging irrigation activities in locations with such potentials and should promote the empowerment of the household through integrated entrepreneurship and technical training so as to promote remunerative and diverse livelihood income activities.

The rate by which population is rapidly growing today, there is need for rapid government intervention more than ever before through production incentive such as the farmer's micro credit aid, fertilizer and improved seeds at subsidized rate should be provided starting from the grass root level especially in rural area where such provision will be more useful. Farmers should be assisted to embark on dry season farming. This is to guarantee that the necessary food items are made available for the rural households at reasonable prices all year round. Government should encourage the real farmer in aspect of adequate provision of resources to be used to ensure that more food production is provided.

As the study portrayed, large household size had negative impact on the food security status of households and level of income diversification. Therefore, the family planning program should be further focus on and more awareness should be created among the rural farmers on the need to reduce their family size for food insecurity reduction and improvement in households' welfare. Proper attention should be given to limit rapidly increasing population. This could be achieved by proper awareness creation about practicing family planning.

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## **APPENDICES**

### **Interview and Focus group Discussion Guide Questions**

#### **PART ONE**

#### **Interview Guide Questions on the Linkages between Educational Status and Food Insecurity**

1. Would you please introduce yourself and tell us your educational background?
2. How many times you and any household members do have meals in a day?
3. Do you ever have problems in getting enough food for your household? Would you please describe the reasons?
4. Have you ever been worried about how to make your food supply last longer? Would you like to mention?
5. Have you ever been worried to have enough food for your household?
6. In your opinion, when and why was the problem of food insecurity started and persisted?
7. Have you got any kind of food aid from the government and other concerned bodies constantly?
8. In your opinion, what do you think is the relationship between access to media and food security? Would you please describe?
9. How do you and your family get valuable information that relates with accessibility, availability and utilization of food? Would you like to mention?
10. Do you have any other suggestion regarding the issues?

### **Focus Group Discussion Guide Questions**

1. Do you think promoting education for rural farm household would support to achieve food security? How?
2. What do you think in your opinion are the impact of lower education in enhancing agricultural production?
3. What is the means the farm household do access information concerning food accessing, production and utilization?
4. What do you think are the relationship between lower level of education and access to information?
5. What do you think is the importance of education for the rural farm households in relation to food security?
6. What do you think should be done to improve educational and food security status of households?
7. Do you think households in the study area need any assistance to empower in order to fight against food insecurity?
8. Any final issues you would like to mention?

### **PART TWO**

#### **Interview Guide Questions on the Linkages between Limited Income Sources and Food Insecurity**

1. What resources do you have to meet you and your household food needs? Would you please mention?

2. What are your occupation and/activities you employ for food security of your household?
3. How many livelihood activities are you engaged in? Would you like to mention?
4. How much hectares the total cultivable land do you have?
5. Have you got adequate access to have institutional micro credit facilities for initial start-up new business? Would you please mention the reasons?
6. What do you think in your opinion are constraints to diversify livelihood activities? Would you please describe?
7. Have you got any kind of training and support from the development actors so far in order to effectively diversify livelihood activities? What do you think should be done to improve the situation?
8. Do you have any other suggestion related with the problem of livelihood diversification?

### **Focus Group Discussion Guide Questions**

1. How many household heads' do you think are engaged in various livelihood activities? Would you please describe?
2. What are the income sources the most household head got from? Would you like to describe?
3. What do you think is the relationship between small size of cultivable lands and food security? Would you like to mention?
4. Do you think household heads' have got adequate institutional micro credit facility?
5. What do you think in your opinion are the strength and weakness of the institutional micro credit approach for farm households? What do you think should be done to improve its weakness?

6. In your opinion, what do you think is the relationship between livelihood diversification and educational attainment? Would you please mention?

### **PART THREE**

#### **Interview Guide Questions on the Linkages between Uncontrolled Population Growth and Food Insecurity**

1. How many children do you have in your household? And how old they are?
2. Do you able to meet you and your household member food needs sufficiently?
3. At what age classification the household members considered to be? Would you like to mention?
4. Have you got any kind of training from the Woreda health office so far in order to utilize contraceptive methods?
5. How do you perceive the application of contraceptive methods? Would you like to mention?
6. In your opinion do you believe family planning is linked with food security?

#### **Focus Group Discussion Guide Questions**

1. How many household members in average the household heads' do have?
2. How many family members in household are involved and supplied labor for farm work? Would you like to mention?
3. In your opinion, what do you think is the relationship between the application of contraceptive methods and food security? Would you please describe?
4. How many household do you think are familiarized with utilization of contraceptive methods?