SOCIO-ECONOMIC DETERMINANTS OF FOOD INSECURITY AMONG RURAL HOUSEHOLDS IN DEMBA GOFA WOREDA. GAMO GOFA ZONE, SNNPR.

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ACRONYMS

CIDA	Canadian International Development Agency
CSA	Central Statistical Authority
DGAC	Demba Gofa Administrative Council
DDPC	Disaster Prevention and Preparedness Commission
DFID	Department for International Development
DGW	Demba Gofa Woreda
EGS	Employment Generation Scheme
FAO	Food and Agricultural Organization
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
HFS	Households Food Security
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
KG	Kilogram
KM	Kilometer
NGO	Non Governmental Organization
PEDO	Planning and Economic Development Office
SSA	Sub Sahara Africa
SNNPR	South Nation Nationalities Peoples Reigns
UNDP	United Nations Development Program
USAID	United States Aid for International Development
WIBS	Woreda Integrated Basic Service

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DECLARATION

I hereby declare that the dissertation entitled "Socio Economic Determinates Of Food Insecurity among Rural Household In Demba Gofa Woreda, Gamo Gofa Zone, SNNPR" submitted by me for the partial fulfillment of the M.A in Rural Development to Indira Gandhi National Open University, /IGNOU / New Delhi is my own original work and has not been submitted earlier either to IGNOU or to any other institution for the fulfillment of the requirement for any course of study. I also declare that no chapter of this manuscript in whole or part is lifted and incorporated in this report from any earlier work done by me or others.

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Socio Economic Determinants of Food-Insecurity among Rural Households in Demba Gofa Wored, SNNPR, Ethiopia.

By
Girma Fisha (B. Sc)

ABSTRACT

The struggle to achieve food security at the household level in the rural areas of Ethiopia dated back a long period. Yet remained as a challenging goal. To intervene the problem, the need disentangle the interwoven factors which influence food insecurity, and to understand the livelihood strategies of the rural households have got paramount importance to development practitioners and policy makers to find the way out. In light of this, examination of the socio economic characteristics of the food insecure; identification of factors influencing food insecurity; and assessment of livelihood strategies of the rural households were undertaken in the study.

In this study sampling procedure was employed to selectd 5 Kebeles out of 35 kebles and 200 sample households was drown out 5 kebeles in the study area. For the purpose, survey questionnaire was prepared to collect the primary data from the sample households.

To analyze the data, descriptive statistics like mean, percentage, and frequency distribution were used to describe the socio economic characteristics of the sample households and used to identify the determinants of food insecurity. Those variables are include family size, annual income, amount of credit received, irrigation use, age of household head, status of education, cultivated land size, livestock ownership and number of ox owned.

The livelihood strategies of the rural households were also found to be diversification and integration of activities, and migration is also adopted when the shock to their livelihood becomes very serious.
Therefore, consideration of socio economical determinants of food insecurity; and the livelihood of the rural households are important because it provides information that would enable to undertake effective measures with the aim of improving rural livelihoods in general and food security in particular.

Key words: - food insecurity, socio economic, livelihood strategies, determinants

Chapter one

1, Introduction

1, 1 Background

The series of African food crises in the seventies and eighties have led to sustained interest in the various factors that influence peasant food security. The roles of crop conditions, government policy and peasant access to economic resources have received particular attention (Yared, 1999).

Deepening food crises in several developing countries specially those in Sub-Saharan Africa (SSA), has increasingly become the concern of many researchers, planners, donors and international development agencies, who have given high priority to the study of food system and the problem of food security (Gezahegn, 1995). Per capita food production in SSA including Ethiopia has been declining over the last three decades. Despite the available resources and the efforts made by governments in SSA, food insecurity remained one of the most crucial issues.

The gap between food production and consumption in most SSA countries is induced by the slowdown of the agricultural production growth rates. The major causes for the slow growth rates of agriculture include various factors such as unfavorable climatic conditions, undeveloped infrastructures, inappropriate agricultural policies and predominantly traditional production systems (Mohamed, 1995).

Ethiopia turned from a food exporter into a food importer during the period 1955-1959 (Mesfin, 1999).And it was not uncommon in 1960s and 1970s to speak of Ethiopia as having the potential to be the bread basket of the Middle East. It took two devastating famines for the “bread basket” argument to beat a reluctant retreat, and social analysts are now awakening to the fact that the periodic disasters that engulf rural Ethiopia are not aberrations but rather dramatic manifestations of a disease that have been afflicting the country for centuries, and continue to do so at present (Desalegn, 1988).

Ethiopia lies within one of the most food insecure regions in the world, with a large number of its population living at subsistence levels and dependent on farm production highly vulnerable to severe draughts. The smallholder peasant sector is the most important agricultural sub sector in the country. Its emphasis is on food grain crops where considerable improvements of cultivation practices, management and marketing need to be realized. The production volume of food grain crops as well as the per capita food production has shown tremendous fluctuations throughout the 1980s thus resulting in sever food shortage in the country. The main reasons for these are stochastic shocks such as recurrent draught, lack of incentives for the small-scale food producers and poor extension services for the small peasant households (Gezahegn, 1995).

More clearly, in Ethiopia, agriculture accounts for about 85% of the working forces, 90% of exports and 50% of the total gross domestic product (GDP). In the 1980s, the sector grew at only 0.1% per annum which is 2.9 percent below the rate of population growth (USAID, 1995; cited in Mohamed, 1996) while rural unemployment increased, nutrition level declined, and food aid imports increased, significantly.

The food insecurity problems of Ethiopia, the poorest country in the world, are well known. Famines have occurred throughout the country's history and in the last 20 years alone, four sever food crises have taken place (Webb, Von Broun, and Yohanness, 1991; as cited by Von Braun, 1991). More recently, disaster prevention and preparedness commission (DPPC) led multi-agency pre harvest assessment teams concluded that a total of 14.5 million people (about 21% of the total population) are estimated to be in need of emergency food aid. Presently, relief requirements are estimated at 1,461,679 MT (DPPC, 2003).

Adverse changes in climate, combined with long term factors (technology, environmental, institutional) led to a decline of land holding, soil degradation and a decline in yield per hectare. Moreover, policy induced stagnation of agriculture and internal conflict during the 1970s and the 1980s, resulted in continuous food gap for two decades or so that has to be covered with food aid. Having peaked at about 26.2 % in 1984/85, food aid imports amounted to a significant proportion of domestic production of food crops, often, about 10% or more (FDRE, 2001). Moreover, the same source further explained that harvest failure often leads to losses of assets and a fall into poverty. When weather conditions affect food production, the country's food situation deteriorates quite rapidly entailing emergency external food aid imports. In the last two decades, this has happened several times. Over the last fifteen years, Ethiopia has imported food aid on average 700,000 metric tons per annum to cope with the food insecurity in the vulnerable region of the country (FDRE, 2001). This shows an increase in vulnerability and food insecurity as well as an increase in the number of people who are failing to enough food from domestic sources.

Related to problems of food insecurity is the level of nutritional deprivation, stunting and wasting of children less than 5 years of age, which is quite wide-spread in Ethiopia. According to the 2000 Demographic and Health Survey, 52% of children under age 5 are under weight (FDRE, 2001).

Although food self-sufficiency has remained the stated goal of the Government of Ethiopia, the problem of food insecurity has continued to persist in the country. Many rural households have already lost their means of livelihood due to recurrent drought and crop failures (Ayalneh, 2002). Therefore, what is needed now is to comprehensively address the problem of food insecurity in the country. Hence, a study of this sort in addressing the problem has an important role at least in clearly identifying specific factors and the severity of the problem that pertain to the area.

1.2, statement of the problem

Poverty, inequality and food insecurity are the most crucial and persistent problems facing humanity. As the scale of human activities expands the capacity of eco-systems to regenerate the natural resource base becomes an increasingly binding constraint to further growth and development. With respect to agriculture, the combined effect of population growth on the developing countries, of increase per capital income of changes in dietary pattern linked inter alias to growing urbanization, will bring about sustainable increases in demand for food and other agricultural products (Kostas et al., 2001).

Both transitory and chronic food insecurity are severe in Ethiopia. Moreover, food insecurity is one of the defining features of rural poverty affecting millions of people particularly in moisture-deficit and pastoral areas. Even in years of adequate rainfall and good harvests, these people remain in need of food assistance (FDRE, 2001).

Draught, the longer term decline in the economic condition of households, and the resulting chronic and acute food insecurity have become a constant challenge and a way of life for millions of households in rural Ethiopia. In Wello and Hararghe, for example, there have been very few years without famine relief distribution since the 1970s, even in moderately dry or non-draught years. In the central Ethiopian highlands, where government development resources are believed to have been concentrated, food insecurity is now permanent. Despite massive reforestation programs, few trees have survived, and deforestation and soil erosion continue to affect wider areas each year with great loss to agricultural and pastoral production (Getachew, 1995). Despite the importance of agriculture in its economy, Ethiopia has been a food-deficit country for several decades, with cereal food aid averaging 14 percent of the total cereal production in the period 1984 - 99 with a growth rate of 3 percent per year, the country's population will double in less than 25 years. Unless action is taken urgently, therefore, the gap between food supply and demand will widen further and food insecurity will become even more pervasive (FAO, 2001).

Moreover, the same source further explained that at the root of Ethiopia's food deficit is its low agricultural productivity, cereal yields stagnated at around 1.2 tons per hectare between 1980 and 1997. The decreasing size of farm has led to a shorter fallow periods and even continuous cropping, and limited efforts to recycle crop residues or other organic matter into the soil have resulted in farmers having to invest in chemical fertilizer to produce enough for their subsistence requirement. Coming from the other side too, the challenge of inadequate growth of food production, high population growth rate and inappropriate government intervention in the economy as well as the prolonged civil war have made achieving food security, whereby each person has economic and physical access to sufficient food to lead a healthy and productive life, an arduous goal. Rural households are vulnerable to food insecurity not simply because they do not produce enough, but either they hold little in reserve or they usually have scant saving and few other possible sources of income to obtain adequate food to meet their daily subsistence food energy requirements (Ayalneh, 2002).

The dry land area of Ethiopia comprises about 70% of the total landmass and 45% of the arable land which includes arid, dry semi-arid and part of the sub-moist zone. However, these areas contribute only 10% of the total crop production (Kidane, 1999).This amount of production is not sufficient to sustain the households residing in the area. The situation is aggravated by the fact that productivity in those areas declines at the rate of 3-4 percent (Kidane, 1999).

Demba Gofa Woreda is categorized as a chronically food deficit Woreda of southern nations nationalities and peoples regional state (SNNPRS). Although a substantial food aid is distributed annually and some commercial food distribution is also made during severe draught years, the food balance sheet constructed for Demba Gofa showed that there prevailed a huge annual deficit during all the years

Agriculture in the rural part of Demba Gofa is rudimentary and low in productivity. The Woreda Integrated Basic Service (WIBS) has been functioning in Demba Gofa Administrative Council (DGAC) since 1995/96 fiscal year. One of the activities of this program is to ensure the rural household food security through provision of credit (Planning and Economic Development Office, 2000). Besides this, the council has launched different small scale irrigation schemes to bring about rural households food security. Moreover, different NGOs too, are functioning for the same purpose in the area. In spite of all these efforts, most farm households of the area are facing food shortage just 2-3 after months of harvest. To cope with this situation, farm households are moving to the town in search of job, but with little success, some even totally abandon the discouraging agricultural way of life. In addition to the general identification of food insecurity of the World, regional and country level, disaggregated information on the incidence of food insecurity is required both for proper policy design and adequately targeted interventions. This entails identification of different categories of the food in secured at the local and household level by sector of economic activity, occupational characteristics, and social status by age and gender (Kostas et al., 2001).

Furthermore, more than at any time in the last 30 years, it will be lack of information and analysis rather than ideology and conflict that will constrain the ability of policy makers to make choices that bring about food security both now and in the future (Kostas et al., 2001).

Hence, the researcher has taken the initiative to study this problem and to analyze with the socio economic factors that are associated with household food insecurity and the severity of the problem in Demba gofa woreda.

1.3, significance of the study

A study of socio- economic determinants of food insecurity is vital because it provides with information that will enable effective measures to be undertaken so as to improve food security status and bring the success of food security development programs. It will also enable development practitioners and policy makers to have better knowledge as to where and how to intervene in rural areas to bring food security or minimize the severity of food insecurity.

Moreover the empirical analysis carried out in this study was also expected to contribute towards better food gap estimation. Hence such studies are important in that they could help in designing food security development programs and food security related policies.

Furthermore, little work has been done about rural livelihood strategies in the study area. Hence, this study besides its narrowing potential of the wide gap of knowledge about livelihood strategies, it was also expected to equip the different organizations and policy makers with the more pertinent information of livelihood strategies adopted by the rural households of the area. In turn help them to design ways so as to build their intervention systems on the strength of the rural households.

1.4, Hypothesis and Research Questions

1.4.1 Hypothesis

Socio- economic factors such as gender, level of education, age, economical activities of each household member have significant effect on food insecurity.

1.4.2 Research questions

With the aim of addressing general and specific objectives of study, the research work was guided by the following specific questions.

1. What is the main income generating of the household?
2. What is the main cause of low productivity of the household?
3. What was the major causes of food shortages

1.5, objective of the study

Making their living on marginal and moisture stressed, and heavily degraded and less productive land, societies in the study area are facing continuous food shortage. On top of this ever decreasing holding size and increasing population in the study area have made the food situation worsened. Realizing this and other issues many governmental and non-governmental organizations are intervening at least to lessen the maladies of the food problem, but little success is yet achieved. Cognizant of these facts, this study will envisage in the area with the following objectives:

1.5.1General objective

- ❖ Study the socio-economic characteristics of the food insecure rural households in study area.

1.5.2 Specific objective

1. Identify the determinants of food insecurity among the rural household;

2. Examine the livelihood strategies of rural households.

1.6 Scope and Limitation of the study

The study was conducted to identify the socio economic factors of food insecurity at the household level and to assess the determinants of the problem at this level. The study covers only 200 of sample respondent but cannot collect all respondent survey because 20 sample respondents was failed because the researcher has cannot believe the collection of data. Moreover, the study deals with a limited number of households and focuses on the socio economic factors of food insecurity. Besides to this, the data were collected at one time period and during the time of severe food shortage faced by the households in the study area. The scope of this study was limited by budget and other resource limitation.

Even if the study will be restricted in terms of its coverage its outputs can be used as a spring board for more detailed and area specific studies.

Chapter Two

2, LITERATURE REVIEW

2.1 CONCEPTS OF FOOD SECURITY

A clear understanding of the concept of food security is an essential element to better explore the underlying causes and dimensions of food insecurity. Food security is a concept that can generally be addressed at global, regional, national, sub-national, community, household and individual levels (Kifle and Yosef, 1999). Since the world food conference of 1974, the concept of "food security" has evolved, developed, multiplied, and diversified. At the last count, there were close to two hundred definitions of the term (Smith et al, 1992; Cited in Maxwell, 1996).

The conceptual framework of food security has progressively developed and expanded based particularly along with the growing incidence of hunger, famine and malnutrition in developing countries. The concept of food security attained wider attention in the early 1980s after the debate on 'access' to food and the focus of unit of analysis shifted from national and global level to household and individual levels (Debebe, 1995). The history of thinking about food security since the World Food Conference can be conceptualized as consisting of three important and overlapping paradigm shifts. The three shifts are: from the global and the national to the household and the individual, from a food first perspective to a livelihood perspective, and from objective indicators to subjective perceptions (Maxwell, 1996).

As reviewed in Getachew Deriba (1995), Sen, and Dreze and Sen, started to argue that 'the mere presence of food in the economy, or in the market, does not entail a person to consume it' and thus starvation can set in without any obvious aggregate availability fall. To make it very clear available evidences indicate that during the last two decades, there has been an increasing trend in per capita food output in the world. In contrast, a significant proportion of the populations, particularly, in the developing world, have been suffering from hunger and malnutrition. In 1990, for example, the calorie supply at the global level was more than 110 percent compared to the total requirement. However, during the same period, more than 100 million people were affected by famine and more than a quarter of the world populations were short of enough food (Debebe, 1995). These facts indicate that availability at global level does not guarantee acquisition of food at national or household levels. Moreover increased attention has been given

to household and individual level food security because of the growing understanding that increasing food production, supply and sufficiency at the national level (although it is important) does not necessarily ensure that all households and their members are food secure (Kefile and Yoseph, 1999)

Food security is defined, in its most basic form, as access by all people at all times to the food required for a healthy life. Access to the needed food is necessary, but not a sufficient condition for a healthy life. A number of other factors, such as the health and sanitation environment and household and public capacity to care for vulnerable members of society, also come in to play Von Broun et al (1992). Food security has three major components: availability, access and utilization (Haddad, 1997; Kifle and Yoseph, 1999).

Food availability refers to the need to produce sufficient food in a way that generates income for small-scale producers while not depleting the natural resource base, and to the need to get this food into the market for sale at prices that consumers can afford (Haddad, 1997). According to Kifle and Yoseph (1999) availability is basically the household's capacity to produce the food it needs. The second component relates to people's ability to get economic access to this food. Economic access is typically constrained by income. If households cannot generate sufficient income to purchase food, they lack an entitlement to the food. The third component concerns an individual's ability to use food consumed for growth, nutrition, and health. In an environment lacking clean water, sanitation, child care, and health facilities, the ability to use food to promote health and nutrition will be impaired (Haddad,1997).

When any of the above food security components threatened seasonally or otherwise, households are said to resort to what are known as "coping strategies". These strategies involve behavioral changes with regard to food choice, frequency of eating, seeking other income sources, borrowing from kin, etc. In addition to this, households begin to sell their belongings or "assets" such as livestock, tools, personal possessions or household goods. The type of coping strategies adopted can vary from area to area, and from household to household. Thus household 'Asset creation' as a component of food security is very important (Kefile and Yoseph, 1999).

The many definitions and conceptual models all agree in that the defining characteristic of household food security is secure access at all times to sufficient food. Moreover, there are four core concepts, implicit in the notion of "secure access to enough food all the time." These are

sufficiency of food, defined mainly as the calories needed for an active, healthy life; access to food, defined by entitlement to produce, purchase or exchange food or receive as a gift; security, defined as the balance between vulnerability, risk and insurance; and time, where food insecurity can be chronic, transitory or cyclical (Maxwell and Frankenberg, 1992).

The concept of "enough food" is presented in different ways in the literature. As reviewed in Maxwell and Frankenberg (1992) it is referred as a "a minimal level of food consumption", "target level", "basic food (needed)", as the food "adequate to meet nutritional needs", "enough food for life, health and growth of the young and for productive efforts", "enough food for an active, healthy life", "enough food to supply the energy needed for family members to live healthy, active and productive lives."

The same source also stated that from the above definitions some aspects of sufficiency or "enough" food can be distinguished. First the unit of analysis is the individual not the household. Only rarely (Eide, et al., 1985, 1986; Frankenberger and Goldestien, 1990; Jonsoon and Toole, 1991b; Cited in Maxwell and Frankenberger, 1992) the household considered as a unit. Second, although the definitions mostly refer to "food", the main concern is with calories and not with food quality and safety. Third, notwithstanding the difficulty of measurement, an important aspect of assessing whether people have access to "enough" food is to ask how far they fall below the threshold, i.e., to analyze food insecurity gap.

Maxwell and Frankenberger (1992) further elaborated that the concept of enough food appears to make sense to concentrate initially on calories, to define needs not just for survival, but also "an active, healthy life," to assess not just the fact of a shortfall but also its gravity, and to begin with individual needs and build up to the household.

A well elaborated understanding of underlying conceptual framework for food security should focus not only on the availability of food, but also on access (demand) and utilization (Webb and Von Broun, 1994; SLE 1999; cited in Ayalneh 2002). The concept "access" is the question of whether individuals and households (and nations) are able to acquire sufficient food. In other words, access indicates the ability of households to get command over food. For sufficient calorie intake, food availability in space and time may be a necessary but not a sufficient condition, for it does not guarantee effective demand for food. Accordingly, a decline in food availability does neither create hunger nor does necessarily improve household food security.

Hence ‘access’ to food plays a critical role in securing command over food which in turn is determined by production, exchange or transfer (Debebe, 1995).

It is often argued that the focus on access is the phenomenon of the 1980s, largely resulting from the pioneering work of Amartya Sen (1981, cited in Maxwell and Frankenberger, 1992) on food entitlement. However the idea was already commonplace in nutrition planning and had been amply demonstrated in field studies. Sen’s contribution, then, was to codify and theorize the access question, give it a new name, “food entitlement,” and demonstrated its relevance even in famine situation (Maxwell, 1996).

According to Sen’s entitlement frame work an individual’s entitlement is rooted to his/her endowment-the initial resource bundle-which is transferred via production and trade into food or commodities which can be exchanged for food. If the entitlement set does not include a commodity bundle with an adequate amount of food, the person must hungry; or the individual suffer an entitlement failure. In private ownership market economy, the entitlement relations of individuals are determined by what they own, what they produce, what they can trade, and what they inherit or are given. Consequently, he demonstrated that a decline in food availability was neither necessary nor sufficient to create hunger. Hence famine could occur in absence of any change in production, if the value of people’s production and work activities declined relative to the cost of staple food (Maxwell and Frankenberger, 1992).

An African regional workshop held in 1992 concluded that households will be food-secure when the conditions relating availability and accessibility are met, noting that availability includes adequacy in staples, vegetable and animal protein relishes, vitamin supplements and concentrated energy sources. These foods must meet cultural preferences and be safe.

Accessibility means that households are able to procure foods through the transformation of endowments (land, labor, capital and other resources, etc) into food entitlements (Republic of Zambia, 1992a; cited in Sutherland.A.J.et al. 1999). This implies that household food security (HFS) is not simply a function of household food production, but is linked, often in complex way, to the overall livelihood strategies of households (Frankenberger, 1992). Strategies include a household’s ability to convert endowments into food entitlements, even to go hungry, up to a point, to meet another objective, such as asset preservation (de Waal, 1989, cited in Sutherland A.J.et al., 1999).

The third main concept is “security:” secure access to enough food. This builds on the idea of vulnerability to entitlement failure, focusing more clearly on risk (Maxwell and Frankenberger, 1992). The risk condition may vary from natural to manmade factors (Debebe, 1995). Widespread crop failure, natural or other disasters as well as the risk of fluctuation in production is some risk conditions contributing to food entitlement failure. Moreover, variability in food supply, market and price variability, risks in employment and wages, and risks in health and morbidity, and conflict are also an increasingly common source of risk to food entitlements.

Considering its span of duration, World Bank (1986), Maxwell and Frankenberger (1992), Debebe (1995) Tesfaye and Debebe (1995), and Ayalneh (2002) made a distinction between chronic and transitory food insecurity, which are closely intertwined. A constant failure to food ‘access’ is distinguished as ‘chronic’ while a temporary decline is considered as ‘transitory’ food insecurity. Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. It affects households that persistently lack the ability either to buy enough food or to produce their own. Transitory food insecurity, on the other hand, is a temporary decline in a household’s access to enough food. It results from instability in food prices, food production, or household income-and in its worst form it produces famine (World Bank, 1986).

Transitory food insecurity can be further divided into cyclical and temporary food insecurity (CIDA, 1989, cited in Maxwell and Frankenberger, 1992). Temporary food insecurity occurs for a limited time because of unforeseen and unpredictable circumstances; cyclical or seasonal food insecurity when there is a regular pattern in the periodicity of inadequate access to food. This may be due to logistical difficulties or prohibitive costs in storing food or borrowing.

There are also important differences in household food security issues in rural and urban contexts. In urban areas, HFS is primarily a function of the real wage rate (that is, relative food prices) and of the level of employment. Further, the miserable health environment in poor urban areas sometimes makes the urban food security situation qualitatively different from the rural situation. Difference in calorie consumption and requirements exist between rural and urban areas. Typically, calorie consumption is lower in urban areas, partly because of differences in activity levels Von Broun et al. (1992).

From these definitions, in Ethiopian context, many agencies involved in food security related

activities adopt World Bank (1986) definition (Kifle and Yoseph, 1999). Accordingly for this specific study the definition of food security posed by World Bank (1986) was employed making the unit of analysis the household.

2.2 INDICATORS OF FOOD SECURITY

Assessment of food insecurity is a difficult issue as there are no universally established indicators which serve as measuring tools. Food security requires a multi-dimensional consideration since it is influenced by different interrelated socio-economic, environmental and political factors. Because of this problem, assessing, analyzing and monitoring food insecurity follow diversified approaches (Debebe, 1995).

Along with the development of the concept of food security, a number of food security indicators have been identified. As there are approximately 200 definitions of food security there are also 450 indicators of food security (Hoddinott, 2001). One volume on household food security by Maxwell and Frankenberger (1992) listed 25 broadly defined indicators. As Hoddinot reviewed Riely and Moock (1995) listed 73 such indicators, somewhat more disaggregated than those found in Maxwell and Frankenberger (1992). Chung et al. (1997) notes that even a simple indicator such as dependency ratio can come with many permutations. They listed some 450 indicators. With this abundance of indicators, an important methodological problem for researchers and development practitioners is to determine which indicators are appropriate. Nevertheless, the utilization of these indicators varies between the characteristics of the investigations, procedures and level of aggregation. In most cases, the purpose and depth of investigations highly influence the use of indicators. In some early warning systems, for example, three sets of indicators are often used to identify the possible collapses in food security. These include food supply indicators (rainfall, area planted, yield forecasts and estimate of production); social stress indicators (market prices and availability of produce in the market, labor pattern, wages and migration) and individual stress (which indicate nutritional status, diseases and mortality) (RRC, 1990, as cited by Debebe 1995).

Maxwell and Frankenberger (1992) made a distinction between “process indicators” which describe food supply and food access, and “outcome indicators” which describe food consumption. Many studies have found that process indicators are insufficient to characterize

food security outcomes. As Hodinnot (2001) quoted, Chung et al (1997) found that there is little correlation between a large set of process indicators and measures of food security outcomes.
This finding echoes the conclusion of some development agencies, that there is little correlation between area level food production and household food security (IFAD, 1997).
One critical dimensions of HFS is the availability of food in the area for the households to obtain. A number of factors or indicators play a role in limiting food supply or availability. Borton and Shoham (1991, cited in Maxwell and Frankenberger 1992) classified these types of indicators as risk of an event indicator. These are supply indicators that provide information on the likelihood of a shock or disaster event that will adversely affect HFS. They include such things as inputs and measure of agricultural production (agro-metrological data), access to natural resources, institutional development and market infrastructure, exposure to regional conflict or its consequences. On the contrary, Debebe (1995) argued that such supply indicators are in most cases aggregated and hardly serve to monitor food stress at household levels. Their application also varies between places depending upon the resource potentials of the area and economic activities of the people.
According to Maxwell and Frankenberger (1992) the importance of indicators that measure food access become apparent when it is realized that household food insecurity and famine conditions were occurring despite the availability of food. Food entitlement and effective demand of households are now seen as crucial to household food security. Socio-economic indicators are sought that represent the degree of stress being expressed by a population as economic and social conditions change and how they are responding to it. Recognizing that households are not passive to stress, a major aspect of vulnerability to HFS is the ability of households to cope with the stress. Borton and Shoham (1991, cited in Maxwell and Frakenberger 1992) referred to these types of indicators as coping ability indicators that provide information on the capacity of the population affected by a shock or disaster to withstand its effects.
Moreover, according to Debebe (1995) unlike supply indicators, food access indicators are relatively quite effective to monitor food security situation at a household level. Their use varies between regions, seasons and social strata reflecting various agencies in the process of managing the diversified sources of food; i.e., shift to sideline activities, diversification of enterprises, and disposal of productive and non-productive assets.

Given the cost and time involved with collecting intake data for households, outcome indicators are usually proxies for adequate food consumption (Maxwell and Frankenberger, 1992). In general, HFS outcome indicators can be grouped into direct and indirect indicators (Ibid 1988, cited in Maxwell and Frankenberger 1992). Direct indicators of food consumption include those indicators, which are closest to actual food consumption rather than marketing channel information or medical status. Indirect indicators are generally used when direct indicators are either unavailable or too costly (in terms of time and money) to collect.

According to Debebe (1995) outcome indicators can be disaggregated at lower level as opposed to food supply indicators. The problem with outcome indicators is that some of the indicators like anthropometric results may not exactly indicate the level of food crisis since nutritional intake is affected by a number of factors like health and care.

Table 1 Indicators of household food security

A. Supply indicators -Meteorological data -Information on natural resources -Agricultural production data -Marketing information	-Agro ecological models -Food balance sheets -Information on pest damage -Regional conflicts
B. Food access indicators -Land use practice -Dietary change -Diversification of income sources -Livestock sales -Sale of productive assets	-Diversification of livestock -Change of food source -Access to loan/credit -Seasonal migration -Distress migration
C. Outcome indicators -Household budget and expenditure -Food consumption frequency -Subsistence potential -Nutritional status	-Household perception of food security -Storage elements

Source: Debebe (1995) as adapted from Frankenberger (1992).

Moreover, the report of IFPRI (1992) on improving food security of the poor explained that given the multiple dimensions (chronic, transitory, short term and long term) of food security, there can be no single indicator for measuring it. Different indicators are needed to capture the various dimension of food insecurity at the country, household and individual levels, which include:

• Food security at the country level can, to some extent, be monitored in terms of demand and supply indicators; that is, the quantities of available food versus needs, and net import needs versus import capacity (import capacity is defined as foreign exchange earnings net of debt-service obligations and other necessary foreign exchange expenditure).

• Food security at the household level is best measured by direct surveys of dietary intake (in comparison with appropriate adequacy norms). However, they measure existing situation and not the downside risks that may occur. The level of, and changes in, socioeconomic and demographic variables such as real wage rates, employment, price ratios and migration, properly analyzed, can serve as proxies to indicate the status of, and change in, food security. Indicators and their risk patterns need to be continually measured and interpreted to monitor food security at the household level.

• Anthropometric information can be a useful complement because measurements are taken at the individual level. Yet such information is the outcome of changes in the above indicators and of the health and sanitation environment. This information however, indicates food security after the fact.

Measurement is necessary at the outset of any development intervention and investigation to identify the food insecure, to assess the security of their shortfall, and to characterize the nature of their insecurity. As food security at the household level is best measured by direct measure of dietary intake and since this study bases its measurement of HFS on household calorie acquisition, the next section focuses on measures of outcome indicators

2.3 MEASURING FOOD SECURITY OUTCOMES

Recent research on the multi-factorial nature of food security has provided a wealth of analytical insight, but measurement problems remain as a major challenge, not only for research, but particularly for targeting, program management, monitoring and evaluation (Maxwell D. et al, 1999). However the search for viable indicators is driven by the lack of a 'gold standard' measure for food security. Measures of consumption, poverty and malnutrition are all used as proxy measures, indicators of assets and income are used as more distal determining factors (Chung et al., 1997; Haddad et al., 1994; Bouis, 1993; Maxwell and Frankenberger, 1992; cited in Maxwell. D. et al (1999).

As further reviewed in Maxwell. D. et al (1999) the most common indicators of food security revolve around measures of food consumption (Bouis, 1993). A good measure of consumption requires data on household food consumption, household size, age and sex of individuals, as well as physical size and activity levels. Even if average size and activity levels are presumed, consumption measures capture only the physiological sufficiency elements of food security.

There are also problems with the representativeness of consumption measures, particularly when relying on cross sectional data. However, in practice measuring calorie intake or the adequacy of household food availability over time continues to be suggested as the main 'benchmark' measures for food security (Chung et al., 1997).

Many studies have found that process indicators are insufficient to characterize food security outcomes (Hoddinot, 2001). Accordingly, he outlined four measures of household food security outcomes: individual intakes, household calorie acquisition, dietary diversity, and indices of household coping strategies.

Individual food intake data: This is a measure of the amount of, or nutrients, consumed by an individual in a given time period, usually 24 hours. There are two approaches used to collect these data. The first is observational, in that an enumerator resides in the household throughout the entire day, measuring the amount of food served to each person. The amount of food prepared but not consumed is not measured. The enumerator also notes the type and quantity of food eaten as snacks between meals as well as food consumed outside the household. The second method is recall, in that the enumerator interviews each household member regarding the food he/she consumed in the previous 24 hours period.

While calculating this outcome measure, the data collected on quantities of food are expressed in terms of their calorie content, using factors that convert quantities of edible portions into calories. Then these intake data are compared against a definition of food needs. Individual calorie requirements reflect individual characteristics such as age, sex, weight, body composition, disease states, genetic traits, pregnancy, and lactation status, and activity levels as well as climate.

Household calorie acquisition: This is the number of calories, or nutrients, available for consumption by household members over a defined period of time. The principal person responsible for preparing meals is asked how much food was prepared for consumption over a period of time. After accounting for processing, this is turned in to a measure of the calories available for consumption by the household.

While generating these caloric acquisition data, a set of questions regarding food prepared for meals over a specified period of time, usually either 7 or 14 days, is asked to the person in the household most knowledgeable about this activity. In constructing these questions it is necessary to specify the lists of foods exhaustively, to unambiguously distinguish between the amount of food purchased, the amount prepared for consumption, and the amount food served. And it is not also uncommon for individual to report consumption in units other than kilograms or liters. In such cases it is necessary to convert to a standard unit.

In converting these data into calories, first convert all quantities into a common unit such as kilogram, then convert these into edible portions by adjusting for processing; and lastly convert these quantities into kilocalories using the standard kilocalorie conversion.

Dietary diversity: This is the sum of the number of different foods consumed by an individual over a specified time period. It may be a simple arithmetic sum, the sum of the number of different foods within a food group, a weighted sum, when additional weight is given to the frequency by which different foods consumed. The method for generating dietary diversity data is one or more persons within the household are asked about different items they have consumed in a specified period. In turn there are two possible methods of calculation for this measure. The first one is calculating a simple sum of the number of different foods eaten by that person over the specified time period. The second is calculating a weighted sum, where the weights reflect the frequency of consumption and not merely the number of different foods.

Indices of household coping strategies: This is an index based on how households adopt to the presence or threat of food shortage. The person within the household who has primary responsibility for preparing and serving meals is asked a series of questions regarding how households are responding to food shortages.

2.4 DETERMINANTS OF HOUSEHOLD FOOD INSECURITY

Food security is generally affected by two major determinants: Availability of food and accessibility to it (Andersen, 1997). Same source also showed that human resource development, non-food factors, including education, health care, and clean water; population growth, urbanization and displacement of people greatly influence food insecurity and human nutrition. This source further stipulated that natural resource and agricultural inputs are critical determinants of food security.

Food insecurity is due to a variety of reasons, and the FAO/UNDP (1987) cited in Getachew (1995) suggested, i) the relatively high density of human and livestock populations and the resulting squeeze of land resources; ii) the inability of agricultural practices to sustain the required productivity levels of land; iii) insufficient level of adoption of modern farm technology; iv) extensive and often irreversible levels of land degradation; v) the value placed on livestock, specially cattle, in the social economic system and the accomplishing desire to maintain large livestock holdings.

A case study of resource and food security (likewise food insecurity) of Wobera District of East Hararghe Zone (Getachew, 1991) showed that sufficient conditions exist for chronic and transitory food insecurity among the households. These conditions are: first, land, one of the most important resources for food production, is scarce among the study households. Second, other household resources such as livestock have fallen dramatically. Third, due to climatic hardship, even cereal major producing areas remain deficit, leaving both cereal and cash crop dependent households in a disadvantaged food supply position. Fourth, the administrative apparatus of Ethiopia (both past and present) neglected the rural sector with no or realistic development strategies to reduce risks of food insecurity.

The same source further showed that agro-ecological induced variation of holding size and plot distribution and ox-ownership, as an important factor in determining household resource endowment and the ability to perform agricultural activities, came out to be factors

Which determine the food security situation among the sample households. Moreover, other factors that were given due attention in the study were labor, land-to-man ratio, ability of the area to offer cash crop and off-farm income, grazing land, household indebtedness, cash block (off farm employment income, cash crop income, livestock income and borrowing), market price, household expenditure (obligation to the state, rural institution, the household itself and other households).

In a case study of Social and Demographic Characteristics Habro woreda, using logistic regression model, Getachew (1993) showed that there is a statistically significant relationship between resources held by a household and its level of food security. It was confirmed that those households which hold land less than three Timed, do not own any oxen, have a small household adult equivalent size and earn non-farm income of less than Birr 500 (or nothing at all) are those most at risk of food insecurity among the sample population. Consequently, the researcher showed that the levels of income and farm size are the most important resources determining food security when other factors such as favorable climatic conditions and low pest outbreak are satisfied. In other words, a larger land size and high income increase the chances of maintaining food security.

Poor target groups often lack access to institutions and services which could help them in improving their subsistence production and income (SLE, 1999; cited in Ayalneh 2002).

Moreover, it is a combination of availability, access and the chance of receiving external assistance that determines the households' food security.

As explained in FAO (1991) the problem of household food security is not simply one of agricultural output, but encompasses all factors affecting a household's access to an adequate year round supply of food. Thus, the problem of household food security is not simply one of next season's crops, but can also include factors as diverse as deforestation, seasonal variations in food supply, availability of fodder and other forest foods, shifts from subsistence to the cash economy, and even the timing of cash needs as school fees.

Lathan (1997) has clearly indicated that income received from cash crops or wage earnings and prices paid for purchased items influence a rural population's food security. Further, the author stated that inadequate land holdings; landlessness and sharecropping are all potent causes of family insecurity. Lathan has also identified that a 'shock' often precipitates household food

insecurity. The shock can adversely influence food production (suddenly threatening farm food availability). There are many different kinds of shocks, like serious illness, which may result in reduced agricultural production in a farm family; loss of rural job; farm production crises, such as failure of the rains, or a plague of locusts or some other agricultural catastrophe. Any crisis that has an adverse impact on the livelihood of the family may also result in household food insecurity.

Ayalneh (2002) in his study of Land Degradation, Impoverishment and Livelihood Strategies of Rural Households in Ethiopia, showed that factors that have contributed to transitory and chronic food insecurity in rural Ethiopia are manifold and varied, ranging from political and socio-economic to environmental. Among the political factors he listed inappropriate agricultural and marketing policies, and political conflict both at national and local level.

Among the socio-economic factors are demographic characteristics of rural households, inadequate resource endowments, inadequately developed infrastructure such as school, hospital and roads, etc.

The same source further stated that food security concerns in rural households depend to a large extent on the size and age structure of household members. The number of the household member capable of contributing to food production and/or who can be employed in non-farm income earning activities will greatly determine households own production and its capacity to acquire food through enhancing exchange entitlement.

On the other hand Gezahegn (1995) explained that the major causes of transitory food insecurity are failure in agricultural production or instability in food supplies resulting from stochastic shocks such as recurrent draught, lack of incentives to small scale food producers, and poor extension services for the small peasant households. The weak system of marketing and transport operations to procure and collect agricultural products from widely dispersed rural producers and to distribute essential agricultural inputs on time contributes not only to the fall in production in some years, but also to the problems caused by failure to move the available food itself to needy areas.

Further, while Ayalneh (2002) explaining the feature of food insecure groups, he also implicitly explained the factors that determine food insecurity. In that the largest group of food insecure households is those who live on the edge of subsistence, often located in remote areas far from

markets. They lack the important asset of good quality land and access to productive assets.
Lack of draught power severely handicaps farmers, as doe's lack of access to credit, agricultural input and technology. Lack of male labor in female-headed households is another important constraint. They usually work in an insecure and low productivity occupation.
Another determinant of food insecurity is gender discrimination. Subordination of women in Society, their over-burdening and the greater difficulties faced by female-headed households Contribute to food insecurity (Lathan, 1997).
Getachew (1993) in a case study of Adama Boset reported that there are statistically multiple relationships between resources owned by a household and level of food security. Accordingly, it was confirmed that amongst the sample population it is those households which hold land less than or equal to 3 Timads, do not own any oxen, have a small household adult equivalent size, are unable to use fertilizer, and earn a non-farm income of less than Birr 500 (or not at all) which are most at risk of food insecurity. Thus ox-ownership, level of income and land size is the most important resources determining food security when other factors such as favorable climatic conditions and low pest out break are satisfied. In other words, an increased size of land, ox ownership, high income and use of fertilizer increase the chances of maintaining food security.
In his study of Kembata and Hadiya district Getachew (1993) tested the significance of the relationship between household resources and food security. For the test he included six variables viz, farming systems, land size, production output, livestock, household size and fertilizer. Using logistic regression model (logic for short), he showed that there is statistically significant relationship between food insecurity and each of the above determinants except farming system. Moreover, in this study all the variables are negatively related with food insecurity except household size.
According to Hoddinott (2001) HFS issues cannot be seen in isolation from broader factors. He viewed these factors as physical, policy and social environment. And he argued that the physical factor play a large role in determining the type of activities that can be undertaken by rural households. Government policies on the other hand toward the agricultural sector will have a strong effect on the design and implementation of household food security interventions.
Likewise the presence of social conflict, expressed in terms of mistrust of other social groups or

Even outright violence, is also an important factor in the design and implementation of interventions.

Hoddinott (2001) expressed that resources or endowments that food security of households can be divided into two broad categories: labor and capital. Labor refers to the availability of labor for production. It incorporates both physical dimension-how many people are available to works well as “knowledge” or human capital dimensions. On the other hand, capital refers to those resources such as land, tools for agricultural and non agricultural production, livestock, and financial resources; that when combined with labor produce income. In turn the house- holds allocate this endowment across different activities such as food production, cash crop production and non-agricultural income-generating activities in response to the returns each activity generates. In addition, households may receive transfer income from different sources, which determines household income.

Hoddinott (2001) further described that households face a set of prices that determine the level of consumption that can be supported by the given level of income. Accordingly, consumption is divided between those goods that affect household in individual food security and all other goods. Goods that affect food security include food consumption at the household level (referred to as food access in much of food security literature), goods directly related to health care; and goods that affect the health environment. These three goods affect illness & individual food intake, which in turn generates nutritional status or food utilization.

2.5 LIVELIHOOD STRATEGIES

What is important to be noted is that vulnerability and poverty go hand in hand. One feature of poverty is the inability to recover from sudden shocks such as losing a job, becoming ill or a poor harvest. In the context of sustainable livelihood approach, vulnerability includes: long-term trends (such as demographic trends, e.g. migration, or changes in the natural resource base); recurring seasonal changes (such as prices, production or employment opportunities); short-term shocks (such as illness or disease, natural disaster or conflict) (DIFD, 2001).

The livelihoods approach seeks to promote choice, opportunity and diversity. This is nowhere more apparent than in its treatment of livelihood strategies- the overarching term used to denote

the range and combination of activities and choices that people make/undertake in order to achieve their livelihood goals (including productive activities, investment strategies, reproductive choices, etc)(DIFD, 2001).

The same source further stated that some version of livelihood analysis uses the term ‘adaptive strategy’, instead of ‘livelihood strategies’. Adaptive strategies are distinguished from coping strategies adapted in times of crisis.

Again this source elaborated that recent studies have drawn attention to the enormous diversity of livelihood strategies at every level- within geographic areas, across sectors, within households and over time. This is not a question of people moving from one form of employment or ‘own account’ activity (farming, fishing) to another. Rather it is a dynamic process in which they combine activities to meet their various needs at different times. A common manifestation of this at the household level is ‘straddling’ where by different members of the household live and work in different places, temporarily (e.g. seasonal migration) or permanently. Social patterns such as this clearly complicate and underline the importance of viewing households and communities within their wider context. Since goods, financial resources and people are all mobile, an accurate picture of livelihoods cannot be gained if artificial boundaries are drawn. Thus links between urban and rural centers will need to be explored, as will the implications for decision-making and asset usage of split families.

The more choice and flexibility that people have in their livelihood strategies, the grater their ability to withstand-or adapt to-the shocks and stresses of the vulnerability context (Kostas et al. 2001).

Chapter three

3, Methodology

3.1 Description of the study area

The researchwere conducted in Demba Gofa woreda. The woreda is located in Garmo Gofa Zone of the Southern Nations Nationalities and Peoples' Regional State (SNNPRS). It is among the fifteen woredas of the zone. Administratively, the woreda is organized in to thirty-eight kebeles. The principal town of the woreda is Sawula and it is the main urban center found in the woreda. The woreda lies between 8°71'81" North and 43°89'85" East. It is situated at 305 km and 515 km from the regional capital Hawassa and Addis Ababa respectively. The woreda has 93,184 populations size, out of which 21,826 or 7006 household are under the problem of food insecure. This can show how the area is prone to food insecurity and catastrophes, thus, the site was selected using purposive sampling method to examine socio economic determinants of food insecurity in the woreda.

3.2, Methods of sampling

In an effort to generate the necessary data and information from the representative sample of the survey population, which is relatively homogeneous, the woreda purposively selected from the targeted woreda in region, in the woreda there are 93,184 population sizes, which are 7,006 households or 21,826 individuals are under the problem of food insecure. Out of the 35 kebeles which are 5 kebeles are selected using simple random sampling methods. Then using systematic sampling technique, a sample size of 200 household was drawn from the selected kebeles proportional to the size of each category. The reason for using systematic sampling technique is that there is a complete name list of food in secured, facilitating the use of this particular sampling method. Therefore, the specific sampling procedures to be followed are the following.

1. Selected five kebeles among the thirty-five kebles which are under the problem of food insecure in the woreda using simple random sampling technique.

2. Obtained the name list of food in secure households in the selected kebeles from agriculture and rural development office of the woreda.
3. Prepared a new sampling frame with sequential numbers on the basis of which the systematic sampling can be conducting for each kebeles.
4. Conducted of systematic sampling for each of the five selected kebeles.

3.3, Methods of data collection

The research was base on both qualitative and quantitative data and information that was gathered from households, national, regional, woreda and kebele government bodies as well as from all the relevant bodies, using the following data collection instruments.

Questionnaire administration- administration of questionnaires was the chief instrument for the collection of data in the research; accordingly, a multiple pages of questionnaire, asking both qualitative and quantitative questions responded by each of the informants with the help of enumerators.

Focus group discussion- this were conducted by forming some small homogeneous groups of selected informants from the survey population with some 8 to 12 individuals in each group. This is an appropriate instrument for qualitative data collection in that it provides some quality control on the accuracy of the responses given by the participants, as the participants in the focus group discussion are checked on each other's opinion. Moreover, it was give the chance of gathering valuable information from many people at a time.

Semi-structured-interview - This was extensive and qualitative interview conducted mainly with the respective officers of the woreda and kebeles on the more complicated. In addition to this, some officers from the woreda Bureau of Agriculture and Rural Development, woreda Disaster Prevention and Preparedness Office and other relevant bodies were also be interviewed.
Direct observation- the researcher, along with the enumerators and other relevant bodies make some personal observations to kebeles and households considered in the study in order to perceive the characteristics of the households, their living situations and other related conditions of food security in kebeles level.

3.4 Method of data analysis

In analyzing the data both qualitative and quantitative data analysis was used depending on the nature of the data. The qualitative data was analyzed using percentage, tables and narrative description where as qualitative data were analyzed using narrative accounts. And respondent's data matrix was prepared then the data was coded and filled in SPSS and Ms-Excel was also used for some constructive summery.

Chapter Four

Results and Discussion

4.1 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENT

Socio - economic characteristics of sample households by age, sex, household size, and education level summarized in relation to the food security status at household level. Possible explanations on factors supposed to have contribution on household food insecurity will present in this section.

4.1.1 Age of the Respondents

Age composition is one of the very important socio economic characteristics of the study population. Out of 180 respondents, 6.7 % were between the ages of 21-30, 37.2 % were 31-40, 38.9 were between the ages of 41-50 and the remaining 17.2% were found 50 and above.

Tables 2, 82.8 percent of the respondents were within the age category of 21-50 and above. The economically active age member was 15-50 years age group (Kidane G.1999).

Table-2 Distribution of Age

Age	Frequency	Percent	Valid Percent	Cumulative Percent
21-30	12	6.7	6.7	6.7
31-40	67	37.2	37.2	43.9
41-50	70	38.9	38.9	82.8
above 50	31	17.2	17.2	100.0
Total	180	100.0	100.0	

4.1.2 Sex of the Respondent

The summary of basic household characteristics for the 180 sample households indicated that the total size of households were 788 people and females accounted for about 443 (56%). Respondent's sex ratio was analyzed and 12% were female headed and 88% were male headed households.

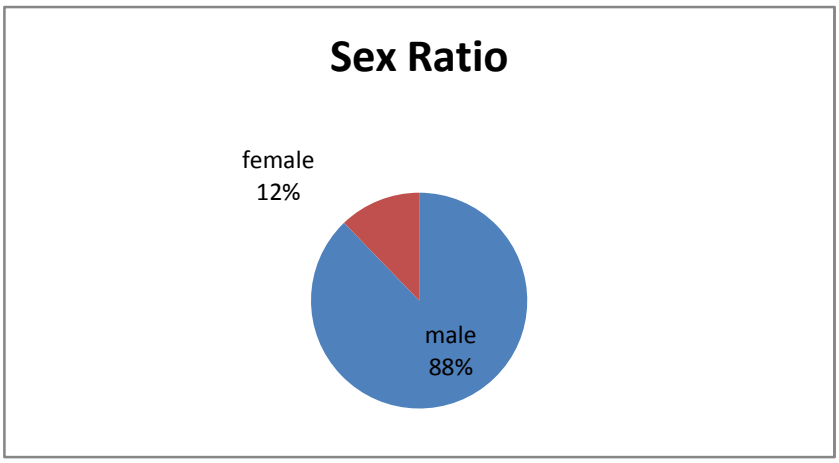

Figure 1 sex of the HHs

4.1.3 Family Size of the Respondents

Family size is identified as one of the important Scio economic factors that affect households' food insecurity status. In light of this it was hypothesized that family size has positive relationship with food insecurity status of a household, in such a way that households with large family size have better chance of being food insecure and the number of mouths to feed from the available food increases. In this study About 45.6 percent of surveyed HHs constitute family size of the range 8-10 and more than 45 members (25%) including those with family size of 11- 13. The largest family size of the sample households was 15 and the smallest was 2.

Table-3 Family size

Family size	Frequency	Percent	Valid Percent	Cumulative Percent
<=4	1	.6	.6	.6
5-7	28	15.6	15.6	16.1
8-10	82	45.6	45.6	61.7
11-13	45	25.0	25.0	86.7
>=14	24	13.3	13.3	100.0
Total	180	100.0	100.0	

4.1.4 Education

Knowing the educational level of the farming household has importance in identifying and determining the type of development and extension service approaches. The role of education is obvious in affecting household income, adoption of technologies, demographic, health and as a whole the socio-economic status of the family. The possible explanation is that household head education largely contributed on working efficiency, competency, diversify income and becoming visionary in creating conducive environment to educate dependants with long term target to ensure better living condition than illiterate ones. This is due to educated household head plays a significant role in shaping household members. Thus, being literate reduces the chance of becoming food insecure in the households. *(kefle lemma and yosef G/hiwot 1999).*

It was hypothesized that literate household heads are more productive than the illiterate. The survey result indicated that 72.8 percent of the respondent were illiterate and only 27.2 percent of the respondent were literate.

Table-4 Education status

Educational status	Frequency	Percent	Valid Percent	Cumulative Percent
literate	49	27.2	27.2	27.2
illiterate	131	72.8	72.8	100.0
Total	180	100.0	100.0	

4.2. Determining of food insecurity

Food insecurity is multi-dimensional under taking which is influenced by number of interrelated factors including the social, economic, and environmental factors prevailed in the area of the concern. On the other hand food security is generally affected by two major determinants: Availability of food and accessibility to it and human resource development, non-food factors, including education, health care, and clean water; population growth, urbanization and displacement of people greatly influence food insecurity and human nutrition (Andersen, 1997). This source further stipulated that natural resource and agricultural inputs are critical determinants of food security.

4.2.1. Household size based on sex and age.

The total sizes of sample households were 180 out of those 12% and 88% were female and male, respectively. All household heads were more than 20 years old. The economically active members, 15-50 years, constituted 82.8 Percent. Thus, the remaining 17.2 percent were above 50 years. This indicated that the majority of household heads were in productive age group. The distribution of sample household heads by age group and sex is given in Table 5.

Table-5 Household by sex, age and family size

Age	Family size	Sex		Total
		Male	Female	
21-30	<=4	0	1	1
	5-7	2	0	2
	8-10	5	0	5
	11-13	2	0	2
	>=14	2	0	2
	Total	11	1	12
31-40	5-7	8	1	9
	8-10	27	3	30
	11-13	11	2	13
	>=14	13	2	15
	Total	59	8	67

41-50	5-7	14	0	14
	8-10	28	2	30
	11-13	12	9	21
	>=14	5	0	5
	Total	59	11	70
above 50	5-7	3	0	3
	8-10	15	2	17
	11-13	9	0	9
	>=14	2	0	2
	Total	29	2	31

4.2.2 Farm land Vs Family size

The conceptualization of food security demands the analysis chains of elements in place and consideration land vs. family size. Land is by far the most important resource in agriculture. The fertility status, location and other attributes of land in association with its size made it a binding resource in agriculture.

As can be seen from table 6, the finding illustrates that more than 91.7% (165) of HHs posses farm land size ranging from 0.25 up to more than 1hectare. And the reaming (8.3% HHs) have no land. More than 27.8% of HHs possessed land size of 0.25-0.5 hectare, 10.6% have 0.75-1 hectare. 5 % of HHs have 0.5-0.75 hectare to produce and feed the yield for their family members.

Table 6 Distribution by farm size and family size

Respondents family size	How wide is it						Total
	<0.25	0.25 -0.5	0.5 -0.75	0.75 -1	>1	nothing	
<=4	0	0	0	1	0	0	1
5-7	11	4	0	8	5	0	28
8-10	28	22	2	6	13	11	82
11-13	16	16	2	2	5	4	45
>=14	7	8	5	2	2	0	24
Total	62	50	9	19	25	15	180
Percentage%	34.44	27.78	5.00	10.56	13.89	8.33	100

And the remaining 34.4% HHs owned land less than 0.25 hectare and 8.3% of the HHs do not own land. 70.6% of HHs has family size ranging from 8 to 13. And one has <4 household size. While 24 HHs (13.3%) have >14 members.

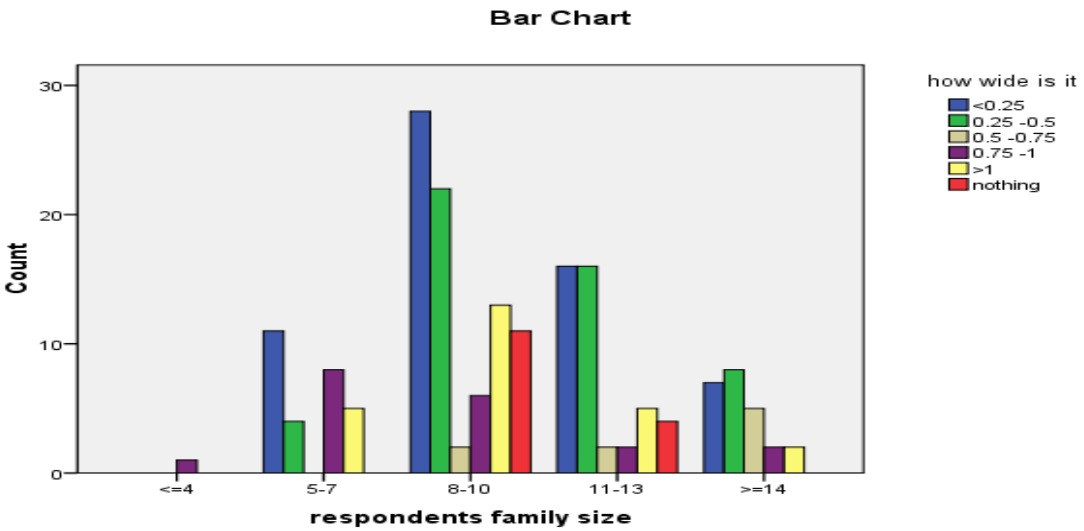

Figure 2 HHs size based on Sex and Age

4.2.3. Crop Production

Peasants cropping strategies are a function of concerns such as dietary and cash needs, risk aversion and the need to adapt to the micro-ecology in the form of land types, crop rotation, inter cropping, staggered planting and relay cropping have often been identified as ways to maximize their options and reduce risk of crop loss (Chen 1991: 110; Morris, 1989: 211: Thomas 1990), even though income maximization is constrained (Scott, 1976; cited in Yared, 1999).

The major crops grown in the study area are sorghum, maize, teef and potato, groundnut and soybean. 8.3 percent of sample farmers do not have land for vegetable and perennial crop production.

4.2.3.1 Cereal production

Cereal production is one of the potential of the study area. 61% of the HHs produced maize in 2012 production season. Where as 37.2% of HHs produced sorghum. The remaining 41% produced teff (table 7).

Table 7, Cereals production on 2012

Amount of production	Maize	%	Sorghum	%	Teff	%
100-2000 kg	34	19	11	6.1	18	10
2100-4000 kg	56	31	32	17.7	42	23.3
4100-6000 kg	8	4.4	24	13.3	14	7.7
Above 6000 kg	12	6.6	-	-	1	0.5
Total	110	61.1	67	37.2	75	41.6

4.2.3.2 Perennial production of sample HH

Table 8 showed that from 180 HHS 96 (53.3%) of respondents have produced groundnut in 2012 production season and 88 (48.8%) of respondent produced soybean.

Table 8 Perennial production in 2012

Amount of production	Groundnut	%	Soybean	%
100-1000 kg	61	34	53	29.4
1100-2000 kg	12	6.6	16	8.8
2100-3000 kg	17	9.4	14	7.7
3100-4000 kg	6	3.3	5	2.7
Above 4000 kg	-	-	-	-
Total	96	53.3	88	48.8

4.2.4 Resource Availability at HHs level

4.2.4.1Food availability

Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. It affects households that persistently lack the ability either to buy enough food or to produce their own (World Bank, 1986). According to Kifle and Yoseph (1999) availability is basically the household's capacity to produce the amount of food required by the family. Table 9 showed that 93.3% of were not able store any yield due to low production and loss of production by the cause of disease, past, climate change and insufficient rainfall. And the remaining 6.7% were having food availability in store for their family.

Table 9 HHs capacity of yield storing

Do you have stored yield	Frequency	Percent	Valid Percent	Cumulative Percent
yes	12	6.7	6.7	6.7
not	168	93.3	93.3	100.0
Total	180	100.0	100.0	

4.2.4.2 Farm Equipment

Table 10 showed that all HHs (180) do not have modern farm equipment to cultivate their lands and this implies that the dissemination of technology in the study was very low. 62.8%, 67.8%, 65.5%, 58.3%, 62.8% and52.8% of respondents possessed cultural farm equipments such as sickle, kaso(local name), spade, rake, trowel and fork respectively.

Table 10, HHs distribution by farm equipment availability

Material	Yes	%	No	%	Total
Modern plugging	-	-	180	100	180
Sickle	113	62.8	67	37.2	180
Kaso	122	67.8	58	32.2	180
Spade	118	65.5	62	34.4	180
Rake	105	58.3	75	41.7	180
Trowel	113	62.8	67	37.2	180
Fork	95	52.8	85	47.2	180

4.2.4.3 Household utilities

49.4% of respondents possessed two or more combination of household utilities and the reaming respondent possessed bed, chair, table, TV, radio and other household utilities (table 11).

Table 11, material owned by respondent

Material type	Frequency	Percent	Valid Percent	Cumulative Percent
Bed	36	20.0	20.0	20.0
Chairs	33	18.3	18.3	38.3
Table	13	7.2	7.2	45.6
TV	6	3.3	3.3	48.9
Radio	2	1.1	1.1	50.0
Any 2 or more combination of above	89	49.4	49.4	99.4
All	1	.6	.6	100.0
Total	180	100.0	100.0	

4.2.4.3 Jewelers Own by HHs

Figure 3 showed that 21.7% of respondents do not have jewelers like gold, silver and clocks and the more than 78% of respondent do not possess any type of jewelries. This implies that more than the half of respondent are cannot access for lingerie's good.

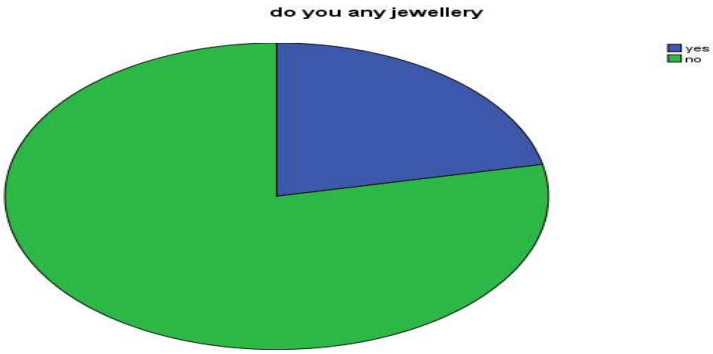

Figure 3, jewelers own by sample HH

4.2.5 Livestock Holding

Livestock production plays an important role in the crop producing in the study area.

Livestock provide milk, meat, traction power and transport to accumulate wealth that can be disposed during times of need, especially when food stock in the household deteriorates.

Livestock that are owned by the households include cattle, sheep and goat and poultry. 15.6% of the HHs do not have livestock production and the while the remaining (84.4%) practiced livestock production (table 12).

Table-12 Do you have livestock?

Response	Frequency	Percent	Valid Percent	Cumulative Percent
yes	152	84.4	84.4	84.4
no	28	15.6	15.6	100.0
Total	180	100.0	100.0	

Livestock availability is vital in farming household as the agriculture depends on traditional farming system and it is also a source of income for the household. Livestock is an integral part of crop production activities in the study area. It provides substantial non-human labor and manure to the soil. In the study area the total livestock population owned by the respondent was 724. Out of this, 27.7 % respondent possessed cattle production like ox and cow. 43.5 percent of HHs possessed shoat production. And the reaming 28.7 percent of respondent have chicken production (table 13).

Table 13, Number of livestock

Livestock type	Number	Percents share
cattle	201	27.7
Shoat	315	43.5
chicken	208	28.7
Total	724	100

4.2.6 Credit

Credit is one of the most important inputs for economic development. As most of the farming households are being financially self-insufficient credit (loan) from formal financial institutions or informal institutions like the moneylenders, friends or from relatives is vital for the development of economic activities. This is due to the fact that credit gives the household an opportunity to be involved in income generating activities so that derived revenue increases financial capacity and purchasing power of the household to escape from risk of food insecurity. In general, credit is a possible locomotive to bring in other equally important inputs such as marketing, facilities, management and technology. Looking through this view sample households were asked whether they have information about the existence of credit facility/institution in the woreda. Credit for the purpose of consumption or purchase of agricultural inputs like improved seed, chemical fertilizer, etc improves the food security status of households. In the study area different organizations and local leaders provide credit to bring food security. The purpose of such organizations is somehow met as revealed from the table 14. Most of the households, more than 74% received credit from different organization. Only 25.6% of respondents have not access to credit.

Table-14 Access to credit service

Access to credit service		source of credit				%	Total
		local FM	neighbor	safetynet	nothing		
	yes	35	11	90	0	76	136
	no	0	0	0	44	25	44
Total		35	11	90	44	100	180

Most of respondent have credit access from safetynet 90 (67%) and only 35 (26%) of respondent have credit access from local Micro Finance (MF), 11 (8%) respondent have credit from their neighbor. While the reaming respondent 44 (25%) have not any credit access.

Table 15 credit received

Amount of credit	Frequency	Percent	Valid Percent	Cumulative Percent
1000-1500	26	14.4	14.4	14.4
2000-2500	2	1.1	1.1	15.6
2500-3000	20	11.1	11.1	26.7
3000-3500	4	2.2	2.2	28.9
3500-4000	84	46.7	46.7	75.6
nothing	44	24.4	24.4	100.0
Total	180	100.0	100.0	

28.8% of respondent have credit amount from 1000-3500 birr. And 84 (46.7%) respondents have credit amount from 3500-4000 birr and the reaming 44 (24.4%) respondents did not have credit service.

4.2.7 Relief Food Aid

The primary objective of food aid is to alleviate food insecurity problem resulting from temporary or structural food deficits. Food aid can play a role in food security as part of a comprehensive sustainable development strategy. Food aid is essential to relieve many (though not all) humanitarian emergencies stemming from natural disasters, armed conflict, or a combination of the two.

Food to the household is acquired either from own production or through purchase. When households deplete their own produce, they attempt to entitle themselves to the food they want through purchase. However, households mostly fail to do so due to the fact that income from other sources is not sustainable and hence they depend on relief food aid.

Food aid plays a role to lessen the households from being vulnerable to sever food insecurity. In this study it was hypothesized that households who received more aid will be more likely to escape from being vulnerable to food insecurity than those who received less.

Table16 showed that 92.7% of respondent have received food aid from food aid organization and 7.2% of respondent did not receive food aid.

Table 16, Access to food aid

Have you got food aid		Where did you get this aid				Total	%
		Gov	NGO	CBO	nothing		
	yes	13	149	5	0	167	92.7
	no	0	0	0	13	13	7.2
Total		13	149	5	13	180	100

Relief food aid accessed the respondents was from different source of food aid. 89.2% of respondent received from local NGOs. And the remains 10.7% of respondent received from Gov and CBO.

4.2.8 Use of Agricultural Inputs

The level of agricultural income and productivity determines rural poverty. Thus, the problems of rural poverty and food insecurity cannot be overcome unless agricultural productivity improves by enabling economic policy environment. The other possible alternative way of increasing agricultural production is through raising productivity by applying improved agricultural technologies and sound crop and animal husbandry practices. Many new technologies apparently offers opportunity to increase production and hence productivity. Better access to new varieties, chemical inputs and irrigation are expected to encourage small farmers to switch more quickly. This alternative seems practical tangible in the study area.

Table17 showed that the distribution of sample households by status of use of services. It was observed that 6.11%, 65.6% and 67.8% of the overall households are users of irrigation, fertilizer and improved seed, respectively. And 93.8%, 34.4% and 32.2% of the households are non uses of irrigation, fertilizer and improved seed, respectively.

Table 17 status of use of services

Service	user	Non user	Total
Irrigation	6.11	93.8	100
Fertilizer	65.6	34.4	100
Improved seed	67.8	32.2	100

In general, as it can be seen from Table 18 that the adoption of fertilizer, improved seed and irrigation have been too low in terms of quantity and rate of application mainly due to high cost, inaccessibility of inputs (fertilizer & improved seed) to the poor farmer, late delivery and inadequate feeder roads that connect the capital of the woreda with PAs, and risk of drought (erratic rainfall).

4.2.9 Household income

Household income in the study area not only depends on the agricultural potential and the relative price obtained by the farmers for agricultural produce and livestock and livestock products, but also on the time of sale and the type of off farm activities a household performs. In the study area, as it is observed from the survey results the relative share of income from cereal to the total annual household income is the largest. Hence, cereal production is the most important source of income in the study area. It is followed by livestock production, off-farm activity and vegetable production, and other source like gift and remittance respectively.

Table-18 Annual income per year**.**

Annual income	Frequency	Percent	Valid Percent
<1000	149	82.8	82.8
1000-2000	6	3.3	3.3
2000-3000	16	8.9	8.9
3000-4000	3	1.7	1.7
above 4000	6	3.3	3.3
Total	180	100.0	100.0

The respondent annual income was 149(83%) less than 1000ETB. And 3.3% of respondent income was 1000-2000ETB, 16 (51.6%) of respondent earned average annual income was 2000-3000 ETB. And the reaming 6 (3.3%) of respondent was earned over 4000 ETB.

4.2.9.1 Income from livestock

Livestock, especially sheep, cows, goat production in the study area is important in a way that it serves as a buffer stock and lessens the vulnerability of farm households to food insecurity. Second to crop production livestock production is the major source of income for the rural households in Demba Gofa woreda.

Income from the sale of live animals, mainly shoat and livestock products like milk and egg.

Table19 showed that 37 % of households earn on average annual income less than Br. 250 from the sale of livestock and livestock production only 3.3 % of the households earn more than 500 ETB from the same source. And most of respondent 46% are including earn 250-500 ETB.

The remaining respondent 13% are did not earn income from livestock production.

Table 19 Income from livestock and production.

Income from livestock	Number	Percent
<250	67	37.2
250-500	83	46.1
>500	6	3.3
Nothing	24	13
Total	180	100

4.2.9.2 Income from Off-farm

In the study area Non-farm income sources are generally limited. However, such income occupy an importance greater than the amount of income that household derive from them because they help households in meeting critical cash and food deficits that agriculture cannot full fill and also enable them to avoid or reduce grain or livestock sales thereby preventing undesirable leakages in household resources.

Households in the study area perform various off farm activities like livestock trading, grain, vegetable and cereals trading etc. The income from such activities greatly improves the households' entitlement potential in the study area especially during time of stress. Table20 showed that the distribution of households by income from off farm activity. The result revealed that 17.2% of respondent are did not have off-farm income for their family as it is showed there family was depend on only agricultural income. The result revealed that about 33 % of the

households earn less than Br. 250 from off-farm activity. Above 3.3 percent of the HHs earn more than Br. 500 from off-farm activity and 22.7% of HHs earn Br. 251-400. 11% and 13% of respondent earn Br. 501-600 and Br.401-500. From different types off-farm activities.

Table 20, off- farm income in birr.

Amount of In come	Number	Percent
<250	60	33
251-400	41	22.7
401-500	24	13
501-600	20	11
>600	4	2.2
Nothing	31	17.2
Total	180	100

4.2.9.3 Income from Remittance, Gift and Pension

The other important incomes to household were transfers as remittance, gifts or other transfer (pension). Among the respondents 7 (26.9%) of them were received as remittance from non-resident household member, relative of the household member, government/organization; 17 (65.3%) received gift from relatives, friends, and 2 (7.6%) received pension from government. However, this income is not received at regular intervals it could be either quarterly or annually. The result showed that the source and type of income among the respondents vary (table 21).

Table 21, Income from remittance, gift and pension

Source of income	Number	Percent
Remittance	7	26.9
Gift	17	65.3
Pension	2	7.6
total	26	100

4.2.10 Household expenditure

Households usually allocate their income to meet food and non – food needs of their family. The analysis presented here is based on data collected on sample household's expenditure, which consists of mainly expenses for food (purchase of grain and the like) and non food (private goods like clothes and school payment), agricultural inputs such as fertilizer and improved seed, commodities such as kerosene, matches and soap etc.

Expenditure on farm inputs or other valuable assets would indicate less vulnerability as opposed to expenditure on food grains to supplement the households' food requirements which could not be met by farm outputs.

Table22 showed that the distribution of households by expenditure on food items and total expenditure in the year 2012. The farm households in the study area on average spent Br. <250 is 25.5% for food items and other expenditure. And the next 52% of respondent are average expenditure was 250-450 ETB. Household expenditure, i.e., including non-food items, the highest average expenditure of the sample households was > 550 ETB there are 10%. And the reaming respondent was 450-550 ETB. The total expenditure on average was spent on food items. Hence, in the study area households spend most of their income for food consumption.

Table 22, Expenditure on food items

Amount of Expenditure	Number	Percent
<250	46	25.5
250-350	52	29
350-450	41	23
450-550	23	12.7
>550	18	10
Total	180	100

4.3. LIVELIHOOD STRATEGIES IN THE STUDY AREA

Mixed farming, both rain fed and irrigation based, agriculture is the primary source of livelihood with mainly sorghum and maize grown as staple food crops, vegetables predominantly tomato and onion, and chat and coffee are some perennial cash crops. However, even though all these crops are grown in the area.

The other important livelihood activity, which plays an indispensable role in the mixed farming operation, is livestock production. Of the different livestock species in the production system holders pay greater emphasis to the small ruminants, sheep and goat, production. Moreover, livestock in addition to their contribution to the nutritional requirement of the household and their gravity to increase household income, they provide better social status to the holder. In other words, a household who has large number of livestock especially can have more than 100-150 livestock population deserves greater respect and influential power in the locality. This was observed in the sample respondent.

As there are uncertainties and risks involved around crop and livestock production, and inadequate returns from the sector, to maintain the household for the entire year, many rural households are performing different off farm activities to boost their income. These activities include participation in employment generation scheme, livestock trading 31(32.6%), grain and vegetable trading 46 (48.4%), handcraft, fuel wood and charcoal selling 18(19%).These activities 64% households performed only for 5-6 months while 36% households still perform throughout the year. The scale of these activities reaches to its climax during the dry period.

Having these means of livelihoods, rural households of the area follow diversification strategies to achieve increased income and food security there by sustain their livelihood.

The most important and leading livelihood strategy adopted in the study area is diversification of activities. This came into being because increasing household income through intensification, increasing farm size, became almost impossible. As the group discussion demonstrated, the ever

Increasing population and the associated gradual fragmentation of cultivated land and the increasing demand for food, the dwindling potential cultivable land, low return from

Mono cropping, the in availability of sufficient moisture and agricultural input at reasonable price necessitated the adoption of diversification of livelihood activities as a prime strategy in the area.

As it is already noted at the beginning of this section, households diversified their agricultural production within crop and livestock production; and between crop and livestock production.

The diversification within the crop production ranges from annual to perennial crop production.

Among the sample households all the respondents had crop land for annual crop production whereas about 50 percent of them had land for perennial crop production. Likewise, the diversification within livestock production is expressed through the production of different species of animals, like cattle, sheep and goat, camel, poultry, and donkey. Therefore, farmers by integrating these two diversified, crop and livestock production activities are trying to sustain their livelihoods.

Diversification was also made possible between farming and off farm activities. Some of the household members, in order to increase their income and meet their food requirement throughout the year, engaged themselves in off farm activities like trading, daily laborer work while other active household members are making themselves busy on crop and livestock production. Most of the time active female household members are engaged in selling agricultural products like grain, vegetables, egg, butter, and milk either from home production or through purchase for resale from neighboring districts of SNNPR region. Male household members also try to boost the household income through sale of live animals from either source. This was observed in the sample respondent. 611 farmers of the area also consider the employment generation scheme (EGS) program as their supportive means of livelihood wherein the income obtained from these activities invested on purchase of live animals, farm inputs, and to fulfill social obligations.

In the study area households also use different institutions as a beneficial strategy for their livelihood. Of the different institutions *Equb* is the one most frequently all the households are involved in. *Equb* is voluntary money pooling association rotating the sum among the members either weekly, biweekly or monthly (Abue, 1998, cited in Ayalneh, 2001). However, it is only traders or those involved in off farm activities are practicing this *Equb* in monetary terms.

Otherwise, the most frequent type of *Equb*, known as *Equbian* locally, wherein almost all households who have milking cow involved in is pooling the daily produce of milk to a member of 4-6 women. Every member gets exactly equal quantity of milk what she has contributed to each member in every 4-6 days. As the group discussion demonstrated, this type of *Equb* has got its own advantage and disadvantage. However, what so ever the condition may be it would not be shared among the members. Rather, the individual member who gets the chance will take it completely. If the price of milk rises the individual will get better benefit than the other.

Likewise, if the price falls or if the milk is not sold by chance or so all the risk will be to the individual on time of the turn. Nevertheless, this strategy is very helpful to get better sum of income to invest on new animals, farm inputs, to buy clothes for special days, wedding and holidays.

Moreover, rural households of the area mostly face severe and repeated challenges related with moisture shortage and crop production failure. Under such situation, households try to cope with food shortage through different coping strategies like reduction, smoothening and escaping of meals, participation in EGS, sale of productive assets, relief aid, borrowing from neighbors and relatives, and performing different off farm activities.

Usually they do these activities in combination. About 14.78 percent of the sample households reported to cope with the problem through sale of animals and purchase of food, about 17.39 percent through animal sales, relief aid and borrowing; and the remaining 48.39 percent of the households coped the problem through relief aid, sale of animals, borrowing and doing off farm activities.

However, for the households affected by disastrous crop failure and when the condition starts to claim the live of the household head and his members, he/she decides to abandon his/her place to migrate to towns. The researcher has observed draught-hit people in the study area when migrating to Sawla towns and adjacent regional states and towns.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

Food insecurity is the most crucial and persistent problem facing millions of rural households in Ethiopia. Even though the country has considerable agricultural potential, more than half of its rural households are unable to feed themselves throughout the year and yet food availability in the country is largely determined by domestic staple food production by subsistence agriculture.

In the subsistence agriculture and low income country like Ethiopia, where smallholder farming dominates the overall national economy, farmer households often face food shortage. The reason for this might be manifolds.

To list some low agricultural productivity, lack of appropriate technology, climatic factors, continuous cropping, high population growth which trigs increased demand for food, lack of employment opportunities other than agriculture, inappropriate government intervention, weak link between research and extension, undeveloped infrastructure, poorly developed marketing, soil degradation etc. are major food insecurity causes. Though producing enough food and achieving food security can be made possible through increased agricultural productivity, increased off-farm income and improving the ability of rural households to smoothen and stabilize their income and purchasing power, this problem remained as a top and major challenge than ever met by the Ethiopian government. The study area is not an exception of the above facts. The adverse climate nature of the environment coupled with poor soil fertility, lack of sufficient moisture and traditional way of cultivation pulled back the productivity of agriculture and ultimately resulted in food insecurity to many of the rural households. Cognizant of these problems, the study was carried out with major objectives of identifying the socio economic determinants of food insecurity and the socio-economic characteristics of both the food in secured households, and the livelihood strategies of the rural households in the study area were also taken care of. To accomplish these objectives primary data on demographic & socio-economic characteristics, livestock and crop diversity, access to productive resources, etc. were gathered at the household level from 5 randomly select sample kebele.

Based on the survey data, an attempt was made to describe the socio-economic characteristics of the food insecure sample household groups. On the other hand, farm size per capita, amount of credit received, agricultural material availability, food availability, jewelry owned and income from livestock production also describe the economic conditions of sample respondent.

In general from the finding of the study it was concluded that the variables are related positively or negatively with food insecurity at the study area.

As the result revels that the variables family size and number of oxen was influenced the household food insecurity positively. This means the probability for the household becoming food insecure increase as the household size increase. The likely explanation is that in an area where households depend on less productive agricultural land, increasing household size results

In increased demand for food. But this demand will not be matched with the existing food supply so ultimately end up with food insecurity. And the other positively relation with food insecurity was number of oxen the possible reason might be households do not use oxen for farm operation up to a point where they can realize its benefit. Generally to concluded that two variables was positive relationships with food insecurity in the study area.

Educational status of the household also exhibited that the variables are inversely relation with food insecurity. This means literate farm households' heads are more willing to adopt better production technology, accept technological advice from extension workers and diversifying their source of income than illiterate ones in the study area. As the result of findings shows that 72.8 percent of sample respondent was illiterate.

Total annual income as the prior expectation has negative relation with food insecurity. This means increasing the household total annual income affected the household food insecurity negatively. Based on the survey finding 82.8 percent of respondent annual income was less than 1000 birr.

Amount of credit received were also another significant variables come out to be negatively related with food insecurity. 76% of respondent have access to credit services. At the same time households who have received sufficient amount of credit could have better access to perches agricultural inputs and increase their production. As table 16 show that 75.6 percent of sample respondent have received 3500-4000 birr.

Use of irrigation who have use of irrigation can increase food production and have chance to escape from risk of food insecurity will be increased. This is also confirmed by the result where irrigation is negative relation with food insecurity. As the table 18 show that 93.8 percent of respondent cannot have access to small scale irrigation at the study area.

Livestock holding this variable is agreement with the prior expectation come out to be negative relation with food insecurity. This is due to the fact that livestock both directly and indirectly contribute to household's energy requirement and income. As the table 12 show that 84.4 percent of sample respondent have livestock holding in the study area.

Lastly, it was also made possible to conclude the livelihood strategies of the rural households. These were found to be a composite of different activities adopted in search of their sustainable livelihoods. These activities include mixed crop-livestock farming, diversification of crop production, diversification of livestock production, integration of crop production with off-farm activities, and integration of livestock production with off farm activities. Moreover, the importance of social institutions, especially Equb, was also found to be an important social capital in their day-to-day livelihood activities.

5.2 RECOMMENDATIONS

Possible recommendations that emanate from the results of the research study area presented as follows:

1. As family size and food insecurity are positively related serious attention has to be given to limit the increasing population in the study area. This can be achieved by creating sufficient awareness to affect family planning in the rural households. Even thought every individual has a natural right to multiply himself with his willing partner, this right should be affected with the ability to furnish his descendants with all the necessary or basic needs, especially food.
Otherwise, the ever-shrinking productive resources in the study area coupled with increasing population would hamper any development intervention from achieving its objectives. So, along with creation of effective family planning through effective extension services some methods of incentives, such as material reward for those households accepting a given number of children by the end of reproductive age, to limit the family size should be considered.

2. Productive resources especially land is very limiting and highly binding resource in the study area. And hence, even if the result showed farm size and food insecurity have inverse relationship, tackling the problem of food insecurity through increasing farm size would not bring any sustainable improvement. So a medium and longer-term food insecurity strategy through increased food production must be introduced. In a medium or shorter term, distribution and allocation of cultivable land, which was not under cultivation, thereby increasing output should be made. This would give short period relief from the problem; otherwise the amount of return from such a strategy would not be by any means sufficient and sustainable to up-root the problem from the present setting. As a result, strong effort should be made to improve the production and productivity in the agricultural sector in the longer term. The possible measures that can be undertaken to achieve this strategy include crop diversity, runoff and flood harvesting, timely and low cost supply of inputs like fertilizer, improved seed, agrochemicals, further development of micro-irrigation.

3. Sustainable food security intervention must not exclude the improvement of production and productivity of agricultural sector through use of irrigation. As the findings of this study assured, irrigation and food insecurity are negatively related in the study area. Therefore, development strategies, programmes, or any intervention related with food security through agricultural production should not neglect the paramount importance of irrigation.

Hence, the already launched irrigation development programmes should be further strengthened. However, it should be integrated with proper management of water use and input supplies. Therefore, farmers who have irrigable farmland should be encouraged to use inputs such as fertilizer, improved seed, and pesticides through effective extension services and credit facilities.

4. Moreover, improving production and productivity of agriculture has strong tie with research, extension and education. Blanket recommendations of fertilizer use, improved seed and management practices should be banned. Research that solves the specific problems of the rural households should be encouraged. The link between research and extension should also need to be revised. However, what strong the link between research and extension is also determined by the awareness, understanding and knowledge of the small farmers. So, in order

to bring food security at the household level the development strategy need to encompass education programmes to the smallholders. Formal schooling at this level to adults might be very costly. So, short-term trainings should be practiced whenever necessary.

5. Sticking to the findings of this study, livestock sub sector plays a great role in the struggle to eliminate food insecurity. Its contribution to the household food energy requirement and total income is significant. Hence, necessary effort should be made to improve the production and productivity of the sector. This can be done through the provision of adequate veterinary services, improved water supply points, introduction of timely and effective artificial insemination services to up-grade the already existing breeds, launching sustainable and effective forage development program, provision of training for the livestock holders on how to improve their production and productivity, improving the marketing conditions, etc.

6. Rural households in the study area have very limited room for generation of income. Hence, for these households to enhance their welfare in general and food security in particular, they must have diversified access to income alternatives. In the face of this, provision of credit must be taken as a measure, though not the only one, to build the capacity of farmers to invest in the agricultural sector, such as purchase of fertilizer, pesticides, improved seed, live and productive animals. Moreover, development strategies should be able to identify income alternatives other than agriculture. In light of this, non-governmental organizations that are focusing only on agriculture should also channel their scarce resources to creation of income generating activities, trading, crafting, etc. which would greatly help in strengthening off-farm activities which would enable the households to secure their food through purchase.

7. The finding of this study with regard to food aid conveys important policy implication. Where DPPC policy for distribution of food aid was not properly implemented. So, necessary steps should be followed to screen the food in secured from the food secured households prior to mitigating the problem then distribution should be done only to the food in secured households. Otherwise, more dependency to food aid by all the households would be aggravated.

REFERENCE

Ayalneh Bogale (2002). Land Degradation, Impoverishment and Livelihood Strategies of RuralHouseholds in Ethiopia: Farmers' Perceptions and Policy Implication. Vol. 8. Shaker Verlag,Germany.

Borton. J. and J. Shosham.(1991). Mapping Vulnerability to Food Insecurity: Tentative Guidelines for WFP Office. mimeo. Study Commissioned by World Food Programme. London: Relief and Development Institute.

Bouis, H. (1993). Food Consumption Surveys. How random are measurement errors? In:Von Braun, J.; Puetz, D. (eds).Data Needs for Food Policy in Developing Countries. International Food Policy Research Institute, Washington, D.C.

Braun, J. Von and Paulino, L. (1990). Food in Sub-Saharan Africa: Trends and Policy Challenges for the 1990s. IFPRI Reprint, no, 200; 505-517 Washington D.C.

Chung, K., Haddad, L., Ramakrishna, J., and Eiely, F. (1997). Identifying the Food Insecure: The Application of Mixed Method Approaches in India. Washington D.C.: International Food Policy Research Institute.

CIDA. (1989). Food Security: A Working Paper for the 4As. Area Coordination Group. July.
de Waal, A. (1989). Famine that Kills: Darfur, Sudan, 1984-1985.Clarendon Press, Oxford.

Debebe Habtewold (1995). Food Security: A Brief Review of Concepts and Indicators. In: Mulat, D.; Wolday, A.; Enui, S. and Tesfaye, Z. (ed.): Food Security, Nutrition and Poverty Alleviation in Ethiopia: Problems and Prospects. Proceedings of the Inaugural and First Annual Conference of the Agricultural Economics Society of Ethiopia. Addis Ababa, Ethiopia.

de Waal, A. (1989). Famine that Kills: Darfur, Sudan, 1984-1985.Clarendon Press, Oxford.

Dessalegn Rahmato (1988). The Crisis of Livelihood in Ethiopia- Working paper No. 4. Ethiopia Research Program College of Arts and Science University of Trondheium N. 7055 Dragoll, Norway.

DFID. (2001). Sustainable Livelihoods Guidance Sheets.UK.

Disaster Prevention and Preparedness Commission (2003). Food Security Prospect in 2003. Early Warning System. Report.

Eide, W. Barth, et al (1985). Introducing Nutritional Considerations into Rural Development Programmes with Focus on Agriculture: A Theoretical Consideration. Development of Methodology for the Evaluation of Nutritional Impact of Development Programmes. Institute for Development Research. Report No 1. University of Oslo, June.

Eide, W. Barth, et al. (1986). Introducing Nutritional Considerations Into Rural Development Programmes with Focus on Agriculture: Towards Practice. Development of Methodology for the Evaluation of Nutritional Impact Development Programmes. Institute for Nutrition Research. Report No 2. University of Oslo, March.

FAO (1990). Food and Agriculture Organization of the United Nations-Production Yearbook 1990. Vol. 44,Rome, Italy.

FAO (1991). Household Food Security and Forestry: An Analysis of Socio- Economic Issues. Rome: FAO.

Federal Democratic Republic of Ethiopia (FDRE). (2001). Regional Conservation Strategy. The Resource Base, Its Utilization and Planning for Sustainability.Vol.1.SNNPR, Ethiopia.

Getachew Deriba (1995). A Case Study of Kembata Hadya: Housholds and Their Resouces. . In: Getachew Deriba (1995). Ethiopia at the Crossroads: Famine and Rural Food Security in Rural Ethiopia. Addis Ababa, Ethiopia.

Getachew Deriba (1991). A Case Study of Habro: Social and Demographic Characteristics. In: Getachew Deriba (1995). Ethiopia at the Crossroads: Famine and Rural Food Security in Rural Ethiopia. Addis Ababa, Ethiopia.

Getachew Deriba (1995). A Case Study of Kembata Hadya: Housholds and Their Resouces. . In: Getachew Deriba (1995). Ethiopia at the Crossroads: Famine and Rural Food Security in Rural Ethiopia. Addis Ababa, Ethiopia.

Getachew Deriba (1995). Economy at the Crossroads: Famine and Food Security in Rural Ethiopia. CARE International in Ethiopia. Addis Ababa, Ethiopia.

Gezahegn, K. (1995). Agricultural Marketing Policies and Food Security in Ethiopia. In: Mulat, D.; Wolday, A.; Enui, S. And Tesfaye, Z. (ed.): Food Security, Nutrition and Poverty Alleviation in Ethiopia: Problems and Prospects. Proceedings of the Inaugural and First Annual Conference of the Agricultural Economics Society of Ethiopia. Addis Ababa, Ethiopia.

Haddad, L. (1997). Human Nutrition in The Developing World. Ithaca, New York. U.S.A.

Hoddinott, J. (ed). (2001). Method for Rural Development Projects. Food Security in Practice, Vol., 1., IFPRI, Washington D.C.
International Fund for Agricultural Development (IFAD). (1998) Annual Report, 1997. Rome.

Kidane Georgis (1999). Agronomic Technique for Higher and Sustainable Crop Production in the Dry Land Area of Ethiopia Food Security Perspective. In: Taye Asefa (eds.): Food Security Through Sustainable Land Use. Proceedings of the First National Workshop of NOVIN Partners. Forum on Sustainable Land Use. NOVIN, Addis Ababa.

Kifle Lemma and Yosef Gebrehiwot (1999). The Food Security Situation in Ethiopia. Concept, Status and Trends. In: Taye Assefa (ed.): Food Security Through Sustainable Land Use. Proceedings of the First National Workshop of NOVIN Partners. Forum on Sustainable land Use. NOVIN, Addis Ababa.

Kostas G. Stamoulis (2001). Food, Agriculture and Rural Development- Current and Emerging Issues for Economic Analysis and Policy Research. FAO, Rome.

Maxwell, S. (1996). Food Security: A Post-Modern Perspective. Food Policy.21, (2), 155-170.

Maxwell, S. and Frankenberger, T. R. (1992). Household Food Security: Concepts, Indicators and Measurements. A Technical Review. United Nation Children's Fund and International Fund for Agricultural Development, New York and Rome.

Mesfin Woldemariam (1999). The Chronic Problem of Food Security. Can we overcome it? In : Taye Asefa (eds.): Food Security Through Sustainable Land Use. Proceedings of the First National Workshop of NOVIN Partners. Forum on Sustainable Land Use. NOVIN, Addis Ababa.

MoARD (2004). Safety Net Implementation Manual. Addis Ababa. Morduch J. and M. Sharma. 2002, "Strengthening Public Safety Nets from Bottom Up", World Bank Social Protection Discussion Paper No.0227, Washington D.C., USA.

Mohammed, M. (1995). Livestock and Food Security in Ethoipia: An Overview. In: Mulat, D.;Wolday, A.; Enui, S. And Tesfaye, Z. (ed.): Food Security, Nutrition and Poverty Alleviation in Ethiopia: Problems and Prospects. Proceedings of the Inaugural and First Annual Conference of the Agricultural Economics Society of Ethiopia. Addis Ababa, Ethiopia.

Planning and Economic Development Office of Demba gofa woreda (2000). Report on Situation Analysis of Saving and Credit Services Ethiopia.

Smith, M., Pointing, J. and Maxwell. (1992). Household Food Security, Concepts and Definitions: An Annotated Bibliography, Development Bibliography No. 8. Institute of Development Studies, University of Sussex, Brighton

USAID/Ethiopia (1995). Food Security and Economic Growth in Ethiopia: An Action Plan for Sustainable Development. Unpublished Paper. Office of Agriculture and Natural Resource, USAID/Ethiopia.

Webb, P.; Braun, J. and Yohannos, Y. (1991). Famine in Ethiopia : Policy Implication of Coping Failure at National Land Household Levels. Washington D.C. International Food Policy Research Institute.

World Bank (1986). Poverty and Hanger: Issues and Options in Developing Countries. A World Bank Policy Study, Washington, D.C.

SOCIO ECONOMIC DETERMINANTS OF FOOD INSECURITY AMONG RURAL HOUSEHOLDS' DEMBA GOFA WOREDA, GAMO GOFA ZONE, SNNPR.

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1, INTRODUCTION

1,1BACKGROUND

The series of African food crises in the seventies and eighties have led to sustained interest in the various factors that influence peasant food security. The roles of crop conditions, government policy and peasant access to economic resources have received particular attention (Yared, 1999).

Deepening food crises in several developing countries specially those in Sub-Saharan Africa (SSA), has increasingly become the concern of many researchers, planners, donors and international development agencies, who have given high priority to the study of food system and the problem of food security (Gezahegn, 1995). Per capita food production in SSA including Ethiopia has been declining over the last three decades. Despite the available resources and the efforts made by governments in SSA, food insecurity remained one of the most crucial issues.

The gap between food production and consumption in most SSA countries is induced by the slowdown of the agricultural production growth rates. The major causes for the slow growth rates of agriculture include various factors such as unfavorable climatic conditions, undeveloped infrastructures, inappropriate agricultural policies and predominantly traditional production systems (Mohamed, 1995).

Ethiopia turned from a food exporter into a food importer during the period 1955-1959 (Mesfin, 1999).And it was not uncommon in 1960s and 1970s to speak of Ethiopia as having the potential to be the bread basket of the Middle East. It took two devastating famines for the “bread basket” argument to beat a reluctant retreat, and social analysts are now awakening to the fact that the periodic disasters that engulf rural Ethiopia are not aberrations but rather dramatic manifestations of a disease that have been afflicting the country for centuries, and continue to do so at present (Desalegn, 1988).

Ethiopia lies within one of the most food insecure regions in the world, with a large number of its population living at subsistence levels and dependent on farm production highly vulnerable to severe draughts. The smallholder peasant sector is the most important agricultural sub sector in the country. Its emphasis is on food grain crops where considerable improvements of cultivation practices, management and marketing need to be realized.

The production volume of food grain crops as well as the per capita food production has shown tremendous fluctuations throughout the 1980s thus resulting in sever food shortage in the country. The main reasons for these are stochastic shocks such as recurrent draught, lack of incentives for the small-scale food producers and poor extension services for the small peasant households (Gezahegn, 1995).

More clearly, in Ethiopia, agriculture accounts for about 85% of the working forces, 90% of exports and 50% of the total gross domestic product (GDP). In the 1980s, the sector grew at only 0.1% per annum which is 2.9 percent below the rate of population growth (USAID, 1995; cited in Mohamed, 1996) while rural unemployment increased, nutrition level declined, and food aid imports increased, significantly.

The food insecurity problems of Ethiopia, the poorest country in the world, are well known. Famines have occurred throughout the country's history and in the last 20 years alone, four sever food crises have taken place (Webb, Von Broun, and Yohanness, 1991; as cited by Von Braun, 1991). More recently, disaster prevention and preparedness commission (DPPC) led multi-agency pre harvest assessment teams concluded that a total of 14.5 million people (about 21% of the total population) are estimated to be in need of emergency food aid. Presently, relief requirements are estimated at 1,461,679 MT (DPPC, 2003).

Adverse changes in climate, combined with long term factors (technology, environmental, institutional) led to a decline of land holding, soil degradation and a decline in yield per hectare. Moreover, policy induced stagnation of agriculture and internal conflict during the 1970s and the 1980s, resulted in continuous food gap for two decades or so that has to be covered with food aid. Having peaked at about 26.2 % in 1984/85, food aid imports amounted to a significant proportion of domestic production of food crops, often, about 10% or more (FDRE, 2001). Moreover, the same source further explained that harvest failure often leads to losses of assets and a fall into poverty. When weather conditions affect food production, the country's food situation deteriorates quite rapidly entailing emergency external food aid imports. In the last two decades, this has happened several times. Over the last fifteen years, Ethiopia has imported food aid on average 700,000 metric tons per annum to cope with the food insecurity in the vulnerable region of the country (FDRE, 2001). This shows an increase in vulnerability and food insecurity as well as an increase in the number of people who are failing to enough food from domestic sources.

Related to problems of food insecurity is the level of nutritional deprivation, stunting and wasting of children less than 5 years of age, which is quite wide-spread in Ethiopia. According to the 2000 Demographic and Health Survey, 52% of children under age 5 are under weight (FDRE, 2001).

Although food self-sufficiency has remained the stated goal of the Government of Ethiopia, the problem of food insecurity has continued to persist in the country. Many rural households have already lost their means of livelihood due to recurrent drought and crop failures (Ayalneh, 2002). Therefore, what is needed now is to comprehensively address the problem of food insecurity in the country. Hence, a study of this sort in addressing the problem has an important role at least in clearly identifying specific factors and the severity of the problem that pertain to the area.

1.2, STATEMENT OF THE PROBLEM

Poverty, inequality and food insecurity are the most crucial and persistent problems facing humanity. As the scale of human activities expands the capacity of eco-systems to regenerate the natural resource base becomes an increasingly binding constraint to further growth and development. With respect to agriculture, the combined effect of population growth on the developing countries, of increase per capital income of changes in dietary pattern linked inter alias to growing urbanization, will bring about sustainable increases in demand for food and other agricultural products (Kostas et al., 2001).

Both transitory and chronic food insecurity are severe in Ethiopia. Moreover, food insecurity is one of the defining features of rural poverty affecting millions of people particularly in moisture-deficit and pastoral areas. Even in years of adequate rainfall and good harvests, these people remain in need of food assistance (FDRE, 2001).

Draught, the longer term decline in the economic condition of households, and the resulting chronic and acute food insecurity have become a constant challenge and a way of life for millions of households in rural Ethiopia. In Wello and Hararghe, for example, there have been very few years without famine relief distribution since the 1970s, even in moderately dry or non-draught years. In the central Ethiopian highlands, where government development resources are believed to have been concentrated, food insecurity is now permanent. Despite massive reforestation programs, few trees have survived, and deforestation and soil erosion continue to affect wider areas each year with great loss to agricultural and pastoral production (Getachew, 1995).

Despite the importance of agriculture in its economy, Ethiopia has been a food-deficit country for several decades, with cereal food aid averaging 14 percent of the total cereal production in the period 1984 - 99 with a growth rate of 3 percent per year, the country's population will double in less than 25 years. Unless action is taken urgently, therefore, the gap between food supply and demand will widen further and food insecurity will become even more pervasive (FAO, 2001).

Moreover, the same source further explained that at the root of Ethiopia's food deficit is its low agricultural productivity, cereal yields stagnated at around 1.2 tons per hectare between 1980 and 1997. The decreasing size of farm has led to a shorter fallow periods and even continuous cropping, and limited efforts to recycle crop residues or other organic matter into the soil have resulted in farmers having to invest in chemical fertilizer to produce enough for their subsistence requirement.

Coming from the other side too, the challenge of inadequate growth of food production, high population growth rate and inappropriate government intervention in the economy as well as the prolonged civil war have made achieving food security, whereby each person has economic and physical access to sufficient food to lead a healthy and productive life, an arduous goal. Rural households are vulnerable to food insecurity not simply because they do not produce enough, but either they hold little in reserve or they usually have scant saving and few other possible sources of income to obtain adequate food to meet their daily subsistence food energy requirements (Ayalneh, 2002).

The dry land area of Ethiopia comprises about 70% of the total landmass and 45% of the arable land which includes arid, dry semi-arid and part of the sub-moist zone. However, these areas contribute only 10% of the total crop production (Kidane, 1999).This amount of production is not sufficient to sustain the households residing in the area. The situation is aggravated by the fact that productivity in those areas declines at the rate of 3-4 percent (Kidane, 1999).

Demba Gofa Woreda is categorized as a chronically food deficit Woreda of southern nations nationalities and peoples regional state (SNNPRS). Although a substantial food aid is distributed annually and some commercial food distribution is also made during severe draught years, the food balance sheet constructed for Demba Gofa showed that there prevailed a huge annual deficit during all the years. Agriculture in the rural part of Demba Gofa is rudimentary and low in productivity. The Woreda Integrated Basic Service (WIBS) has been functioning in Demba Gofa Administrative Council (DGAC) since 1995/96 fiscal year. One of the activities of this program is to ensure the rural household food security through provision of credit (Planning and Economic Development Office, 2000). Besides this, the council has launched different small scale irrigation schemes to bring about rural households food security. Moreover, different NGOs too, are functioning for the same purpose in the area. In spite of all these efforts, most farm households of the area are facing food shortage just 2-3 after months of harvest. To cope with this situation, farm households are moving to the town in search of job, but with little success, some even totally abandon the discouraging agricultural way of life.

In addition to the general identification of food insecurity of the World, regional and country level, disaggregated information on the incidence of food insecurity is required both for proper policy design and adequately targeted interventions. This entails identification of different categories of the food in secured at the local and household level by sector of economic activity, occupational characteristics, and social status by age and gender (Kostas et al., 2001).
Furthermore, more than at any time in the last 30 years, it will be lack of information and analysis rather than ideology and conflict that will constrain the ability of policy makers to make choices that bring about food security both now and in the future (Kostas et al., 2001).

Hence, the researcher will taken the initiative to study this problem and to analyze with the socio economic factors that are associated with household food insecurity and the severity of the problem in Demba gofa woreda.

1.3, SIGNIFICANCE OF THE STUDY

A study of socio- economic determinants of food insecurity is vital because it provides with information that will enable effective measures to be undertaken so as to improve food security status and bring the success of food security development programs. It will also enable development practitioners and policy makers to have better knowledge as to where and how to intervene in rural areas to bring food security or minimize the severity of food insecurity.
Moreover the empirical analysis carried out in this study was also expected to contribute towards better food gap estimation. Hence such studies are important in that they could help in designing food security development programs and food security related policies.

Furthermore, little work has been done about rural livelihood strategies in the study area. Hence, this study besides its narrowing potential of the wide gap of knowledge about livelihood strategies, it was also expected to equip the different organizations and policy makers with the more pertinent information of livelihood strategies adopted by the rural households of the area. In turn help them to design ways so as to build their intervention systems on the strength of the rural households.

1.4, HYPOTHESIS AND RESEARCH QUESTIONS

1.4.1 HYPOTHESIS

Socio- economic factor such as gender, level of education, age, economical activities of each household member are significant effect on food insecurity.

1.4.2 RESEARCH QUESTIONS

With the aim of addressing general and specific objectives of study, the research work will be guided by the following specific questions.

4. What is the main income generating of the household?
5. What is the main cause of low productivity of the household?
6. What was the major causes of food shortages

1.5, OBJECTIVE OF THE STUDY

Making their living on marginal and moisture stressed, and heavily degraded and less productive land, societies in the study area are facing continuous food shortage. On top of this ever decreasing holding size and increasing population in the study area have made the food situation worsened. Realizing this and other issues many governmental and non-governmental organizations are intervening at least to lessen the maladies of the food problem, but little success is yet achieved. Cognizant of these facts, this study will envisage in the area with the following objectives:

1.5.1GENERAL OBJECTIVE

- Study the socio-economic characteristics of the food insecure rural households in study area.

1.5.2 SPECIFIC OBJECTIVE

3. Identify the determinants of food insecurity among the rural household;

4. Examine the livelihood strategies of rural households.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

The study was conducted to identify the socio economic factors of food insecurity at the household level and to assess the severity of the problem at this level. The study covers only 5 of the 29 PAs of the study area. Moreover, the study deals with a limited number of households and focuses on the socio economic factors of food insecurity. Besides to this, the data will be collected at one time period and during the time of severe food shortage faced by the households in the study area. The scope of this study was limited by budget and other resource limitation.
Even if the study will be restricted in terms of its coverage its outputs can be used as a spring board for more detailed and area specific studies.

2, LITERATURE REVIEW

2.1 CONCEPTS OF FOOD SECURITY

A clear understanding of the concept of food security is an essential element to better explore the underlying causes and dimensions of food insecurity. Food security is a concept that can generally be addressed at global, regional, national, sub-national, community, household and individual levels (Kifle and Yosef, 1999).

Since the world food conference of 1974, the concept of "food security" has evolved, developed, multiplied, and diversified. At the last count, there were close to two hundred definitions of the term (Smith et al, 1992; Cited in Maxwell, 1996).

The conceptual framework of food security has progressively developed and expanded based particularly along with the growing incidence of hunger, famine and malnutrition in developing countries. The concept of food security attained wider attention in the early 1980s after the debate on 'access' to food and the focus of unit of analysis shifted from national and global level to household and individual levels (Debebe, 1995). The history of thinking about food security since the World Food Conference can be conceptualized as consisting of three important and overlapping paradigm shifts. The three shifts are: from the global and the national to the household and the individual, from a food first perspective to a livelihood perspective, and from objective indicators to subjective perceptions (Maxwell, 1996).

As reviewed in Getachew Deriba (1995), Sen, and Dreze and Sen, started to argue that 'the mere presence of food in the economy, or in the market, does not entail a person to consume it' and thus starvation can set in without any obvious aggregate availability fall. To make it very clear available evidences indicate that during the last two decades, there has been an increasing trend in per capita food output in the world. In contrast, a significant proportion of the populations, particularly, in the developing world, have been suffering from hunger and malnutrition. In 1990, for example, the calorie supply at the global level was more than 110 percent compared to the total requirement. However, during the same period, more than 100 million people were affected by famine and more than a quarter of the world populations were short of enough food (Debebe, 1995). These facts indicate that availability at global level does not guarantee acquisition of food at national or household levels.

Moreover increased attention has been given to household and individual level food security because of the growing understanding that increasing food production, supply and sufficiency at the national level (although it is important) does not necessarily ensure that all households and their members are food secure (Kefile and Yoseph, 1999)

Food security is defined, in its most basic form, as access by all people at all times to the food required for a healthy life. Access to the needed food is necessary, but not a sufficient condition for a healthy life. A number of other factors, such as the health and sanitation environment and household and public capacity to care for vulnerable members of society, also come in to play

Von Broun et al (1992). Food security has three major components: availability, access and utilization (Haddad, 1997; Kifle and Yoseph, 1999).

Food availability refers to the need to produce sufficient food in a way that generates income for small-scale producers while not depleting the natural resource base, and to the need to get this food into the market for sale at prices that consumers can afford (Haddad, 1997). According to

Kifle and Yoseph (1999) availability is basically the household's capacity to produce the food it needs. The second component relates to people's ability to get economic access to this food. Economic access is typically constrained by income. If households cannot generate sufficient income to purchase food, they lack an entitlement to the food. The third component concerns an individual's ability to use food consumed for growth, nutrition, and health. In an environment lacking clean water, sanitation, child care, and health facilities, the ability to use food to promote health and nutrition will be impaired (Haddad,1997).

When any of the above food security components threatened seasonally or otherwise, households are said to resort to what are known as "coping strategies". These strategies involve behavioral changes with regard to food choice, frequency of eating, seeking other income sources, borrowing from kin, etc. In addition to this, households begin to sell their belongings or "assets" such as livestock, tools, personal possessions or household goods. The type of coping strategies adopted can vary from area to area, and from household to household. Thus household

'Asset creation' as a component of food security is very important (Kefile and Yoseph, 1999).

The many definitions and conceptual models all agree in that the defining characteristic of household food security is secure access at all times to sufficient food. Moreover, there are four core concepts, implicit in the notion of "secure access to enough food all the time."

These are sufficiency of food, defined mainly as the calories needed for an active, healthy life; access to food, defined by entitlement to produce, purchase or exchange food or receive as a gift; security, defined as the balance between vulnerability, risk and insurance; and time, where food insecurity can be chronic, transitory or cyclical (Maxwell and Frankenberg, 1992).

The concept of "enough food" is presented in different ways in the literature. As reviewed in Maxwell and Frankenberg (1992) it is referred as a "a minimal level of food consumption", "target level", "basic food (needed)", as the food "adequate to meet nutritional needs", "enough food for life, health and growth of the young and for productive efforts", "enough food for an active, healthy life", "enough food to supply the energy needed for family members to live healthy, active and productive lives."

The same source also stated that from the above definitions some aspects of sufficiency or "enough" food can be distinguished. First the unit of analysis is the individual not the household. Only rarely (Eide, et al., 1985, 1986; Frankenberger and Goldestien, 1990; Jonsoon and Toole, 1991b; Cited in Maxwell and Frankenberger, 1992) the household considered as a unit. Second, although the definitions mostly refer to "food", the main concern is with calories and not with food quality and safety. Third, notwithstanding the difficulty of measurement, an important aspect of assessing whether people have access to "enough" food is to ask how far they fall below the threshold, i.e., to analyze food insecurity gap.

Maxwell and Frankenberger (1992) further elaborated that the concept of enough food appears to make sense to concentrate initially on calories, to define needs not just for survival, but also "an active, healthy life," to assess not just the fact of a shortfall but also its gravity, and to begin with individual needs and build up to the household.

A well elaborated understanding of underlying conceptual framework for food security should focus not only on the availability of food, but also on access (demand) and utilization (Webb and Von Broun, 1994; SLE 1999; cited in Ayalneh 2002). The concept "access" is the question of whether individuals and households (and nations) are able to acquire sufficient food. In other words, access indicates the ability of households to get command over food. For sufficient calorie intake, food availability in space and time may be a necessary but not a sufficient condition, for it does not guarantee effective demand for food. Accordingly, a decline in food availability does neither create hunger nor does necessarily improve household food security.

Hence ‘access’ to food plays a critical role in securing command over food which in turn is determined by production, exchange or transfer (Debebe, 1995).

It is often argued that the focus on access is the phenomenon of the 1980s, largely resulting from the pioneering work of Amartya Sen (1981, cited in Maxwell and Frankenberger, 1992) on food entitlement. However the idea was already commonplace in nutrition planning and had been amply demonstrated in field studies. Sen’s contribution, then, was to codify and theorize the access question, give it a new name, “food entitlement,” and demonstrated its relevance even in famine situation (Maxwell, 1996).

According to Sen’s entitlement frame work an individual’s entitlement is rooted to his/her endowment-the initial resource bundle-which is transferred via production and trade into food or commodities which can be exchanged for food. If the entitlement set does not include a commodity bundle with an adequate amount of food, the person must hungry; or the individual suffer an entitlement failure. In private ownership market economy, the entitlement relations of individuals are determined by what they own, what they produce, what they can trade, and what they inherit or are given. Consequently, he demonstrated that a decline in food availability was neither necessary nor sufficient to create hunger. Hence famine could occur in absence of any change in production, if the value of people’s production and work activities declined relative to the cost of staple food (Maxwell and Frankenberger, 1992).

An African regional workshop held in 1992 concluded that households will be food-secure when the conditions relating availability and accessibility are met, noting that availability includes adequacy in staples, vegetable and animal protein relishes, vitamin supplements and concentrated energy sources. These foods must meet cultural preferences and be safe.

Accessibility means that households are able to procure foods through the transformation of endowments (land, labor, capital and other resources, etc) into food entitlements (Republic of Zambia, 1992a; cited in Sutherland.A.J.et al. 1999). This implies that household food security (HFS) is not simply a function of household food production, but is linked, often in complex way, to the overall livelihood strategies of households (Frankenberger, 1992). Strategies include a household’s ability to convert endowments into food entitlements, even to go hungry, up to a point, to meet another objective, such as asset preservation (de Waal, 1989, cited in Sutherland A.J.et al., 1999).

The third main concept is “security:” secure access to enough food. This builds on the idea of vulnerability to entitlement failure, focusing more clearly on risk (Maxwell and Frankenberger, 1992). The risk condition may vary from natural to manmade factors (Debebe, 1995). Widespread crop failure, natural or other disasters as well as the risk of fluctuation in production is some risk conditions contributing to food entitlement failure. Moreover, variability in food supply, market and price variability, risks in employment and wages, and risks in health and morbidity, and conflict are also an increasingly common source of risk to food entitlements.

Considering its span of duration, World Bank (1986), Maxwell and Frankenberger (1992), Debebe (1995) Tesfaye and Debebe (1995), and Ayalneh (2002) made a distinction between chronic and transitory food insecurity, which are closely intertwined. A constant failure to food ‘access’ is distinguished as ‘chronic’ while a temporary decline is considered as ‘transitory’ food insecurity. Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. It affects households that persistently lack the ability either to buy enough food or to produce their own. Transitory food insecurity, on the other hand, is a temporary decline in a household’s access to enough food. It results from instability in food prices, food production, or household income-and in its worst form it produces famine (World Bank, 1986).

Transitory food insecurity can be further divided into cyclical and temporary food insecurity (CIDA, 1989, cited in Maxwell and Frankenberger, 1992). Temporary food insecurity occurs for a limited time because of unforeseen and unpredictable circumstances; cyclical or seasonal food insecurity when there is a regular pattern in the periodicity of inadequate access to food. This may be due to logistical difficulties or prohibitive costs in storing food or borrowing.

There are also important differences in household food security issues in rural and urban contexts. In urban areas, HFS is primarily a function of the real wage rate (that is, relative food prices) and of the level of employment. Further, the miserable health environment in poor urban areas sometimes makes the urban food security situation qualitatively different from the rural situation. Difference in calorie consumption and requirements exist between rural and urban areas. Typically, calorie consumption is lower in urban areas, partly because of differences in activity levels Von Broun et al. (1992).

From these definitions, in Ethiopian context, many agencies involved in food security related activities adopt World Bank (1986) definition (Kifle and Yoseph, 1999). Accordingly for this specific study the definition of food security posed by World Bank (1986) was employed making the unit of analysis the household.

2.2 INDICATORS OF FOOD SECURITY

Assessment of food insecurity is a difficult issue as there are no universally established indicators which serve as measuring tools. Food security requires a multi-dimensional consideration since it is influenced by different interrelated socio-economic, environmental and political factors. Because of this problem, assessing, analyzing and monitoring food insecurity follow diversified approaches (Debebe, 1995).

Along with the development of the concept of food security, a number of food security indicators have been identified. As there are approximately 200 definitions of food security there are also 450 indicators of food security (Hoddinott, 2001). One volume on household food security by Maxwell and Frankenberger (1992) listed 25 broadly defined indicators. As Hoddinot reviewed Riely and Moock (1995) listed 73 such indicators, somewhat more disaggregated than those found in Maxwell and Frankenberger (1992). Chung et al. (1997) notes that even a simple indicator such as dependency ratio can come with many permutations. They listed some 450 indicators. With this abundance of indicators, an important methodological problem for researchers and development practitioners is to determine which indicators are appropriate. Nevertheless, the utilization of these indicators varies between the characteristics of the investigations, procedures and level of aggregation. In most cases, the purpose and depth of investigations highly influence the use of indicators. In some early warning systems, for example, three sets of indicators are often used to identify the possible collapses in food security. These include food supply indicators (rainfall, area planted, yield forecasts and estimate of production); social stress indicators (market prices and availability of produce in the market, labor pattern, wages and migration) and individual stress (which indicate nutritional status, diseases and mortality) (RRC, 1990, as cited by Debebe 1995). Maxwell and Frankenberger (1992) made a distinction between “process indicators” which describe food supply and food access, and “outcome indicators” which describe food consumption.

Many studies have found that process indicators are insufficient to characterize food security outcomes. As Hodinnot (2001) quoted, Chung et al (1997) found that there is little correlation between a large set of process indicators and measures of food security outcomes.

This finding echoes the conclusion of some development agencies, that there is little correlation between area level food production and household food security (IFAD, 1997).

One critical dimensions of HFS is the availability of food in the area for the households to obtain. A number of factors or indicators play a role in limiting food supply or availability. Borton and Shoham (1991, cited in Maxwell and Frankenberger 1992) classified these types of indicators as risk of an event indicator. These are supply indicators that provide information on the likelihood of a shock or disaster event that will adversely affect HFS. They include such things as inputs and measure of agricultural production (agro-metrological data), access to natural resources, institutional development and market infrastructure, exposure to regional conflict or its consequences. On the contrary, Debebe (1995) argued that such supply indicators are in most cases aggregated and hardly serve to monitor food stress at household levels. Their application also varies between places depending upon the resource potentials of the area and economic activities of the people.

According to Maxwell and Frankenberger (1992) the importance of indicators that measure food access become apparent when it is realized that household food insecurity and famine conditions were occurring despite the availability of food. Food entitlement and effective demand of households are now seen as crucial to household food security. Socio-economic indicators are sought that represent the degree of stress being expressed by a population as economic and social conditions change and how they are responding to it. Recognizing that households are not passive to stress, a major aspect of vulnerability to HFS is the ability of households to cope with the stress. Borton and Shoham (1991, cited in Maxwell and Frakenberger 1992) referred to these types of indicators as coping ability indicators that provide information on the capacity of the population affected by a shock or disaster to withstand its effects.

Moreover, according to Debebe (1995) unlike supply indicators, food access indicators are relatively quite effective to monitor food security situation at a household level. Their use varies between regions, seasons and social strata reflecting various agencies in the process of managing the diversified sources of food;

i.e., shift to sideline activities, diversification of enterprises, and disposal of productive and non-productive assets. Given the cost and time involved with collecting intake data for households, outcome indicators are usually proxies for adequate food consumption (Maxwell and Frankenberger, 1992). In general, HFS outcome indicators can be grouped into direct and indirect indicators (Ibid 1988, cited in Maxwell and Frankenberger 1992). Direct indicators of food consumption include those indicators, which are closest to actual food consumption rather than marketing channel information or medical status. Indirect indicators are generally used when direct indicators are either unavailable or too costly (in terms of time and money) to collect. According to Debebe (1995) outcome indicators can be disaggregated at lower level as opposed to food supply indicators. The problem with outcome indicators is that some of the indicators like anthropometric results may not exactly indicate the level of food crisis since nutritional intake is affected by a number of factors like health and care.

Table 1 Indicators of household food security

A. Supply indicators -Meteorological data -Information on natural resources -Agricultural production data -Marketing information	-Agro ecological models -Food balance sheets -Information on pest damage -Regional conflicts
B. Food access indicators -Land use practice -Dietary change -Diversification of income sources -Livestock sales -Sale of productive assets	-Diversification of livestock -Change of food source -Access to loan/credit -Seasonal migration -Distress migration
C. Outcome indicators -Household budget and expenditure -Food consumption frequency -Subsistence potential -Nutritional status	-Household perception of food security -Storage elements

Source: Debebe (1995) as adapted from Frankenberger (1992).

Moreover, the report of IFPRI (1992) on improving food security of the poor explained that given the multiple dimensions (chronic, transitory, short term and long term) of food security, there can be no single indicator for measuring it. Different indicators are needed to capture the various dimension of food insecurity at the country, household and individual levels, which include:

• Food security at the country level can, to some extent, be monitored in terms of demand and supply indicators; that is, the quantities of available food versus needs, and net import needs versus import capacity (import capacity is defined as foreign exchange earnings net of debt-service obligations and other necessary foreign exchange expenditure).

• Food security at the household level is best measured by direct surveys of dietary intake (in comparison with appropriate adequacy norms). However, they measure existing situation and not the downside risks that may occur. The level of, and changes in, socioeconomic and demographic variables such as real wage rates, employment, price ratios and migration, properly analyzed, can serve as proxies to indicate the status of, and change in, food security. Indicators and their risk patterns need to be continually measured and interpreted to monitor food security at the household level.

• Anthropometric information can be a useful complement because measurements are taken at the individual level. Yet such information is the outcome of changes in the above indicators and of the health and sanitation environment. This information however, indicates food security after the fact.

Measurement is necessary at the outset of any development intervention and investigation to identify the food insecure, to assess the security of their shortfall, and to characterize the nature of their insecurity. As food security at the household level is best measured by direct measure of dietary intake and since this study bases its measurement of HFS on household calorie acquisition, the next section focuses on measures of outcome indicators

2.3 MEASURING FOOD SECURITY OUTCOMES

Recent research on the multi-factorial nature of food security has provided a wealth of analytical insight, but measurement problems remain as a major challenge, not only for research, but particularly for targeting, program management, monitoring and evaluation (Maxwell D. et al, 1999). However the search for viable indicators is driven by the lack of a 'gold standard' measure for food security. Measures of consumption, poverty and malnutrition are all used as proxy measures, indicators of assets and income are used as more distal determining factors (Chung et al., 1997; Haddad et al., 1994; Bouis, 1993; Maxwell and Frankenberger, 1992; cited in Maxwell. D. et al (1999).

As further reviewed in Maxwell. D. et al (1999) the most common indicators of food security revolve around measures of food consumption (Bouis, 1993). A good measure of consumption requires data on household food consumption, household size, age and sex of individuals, as well as physical size and activity levels. Even if average size and activity levels are presumed, consumption measures capture only the physiological sufficiency elements of food security.

There are also problems with the representativeness of consumption measures, particularly when relying on cross sectional data. However, in practice measuring calorie intake or the adequacy of household food availability over time continues to be suggested as the main 'benchmark' measures for food security (Chung et al., 1997).

Many studies have found that process indicators are insufficient to characterize food security outcomes (Hoddinot, 2001). Accordingly, he outlined four measures of household food security outcomes: individual intakes, household calorie acquisition, dietary diversity, and indices of household coping strategies.

Individual food intake data: This is a measure of the amount of, or nutrients, consumed by an individual in a given time period, usually 24 hours. There are two approaches used to collect these data. The first is observational, in that an enumerator resides in the household throughout the entire day, measuring the amount of food served to each person. The amount of food prepared but not consumed is not measured. The enumerator also notes the type and quantity of food eaten as snacks between meals as well as food consumed outside the household.

The second method is recall, in that the enumerator interviews each household member regarding the food he/she consumed in the previous 24 hours period.

While calculating this outcome measure, the data collected on quantities of food are expressed in terms of their calorie content, using factors that convert quantities of edible portions into calories. Then these intake data are compared against a definition of food needs. Individual calorie requirements reflect individual characteristics such as age, sex, weight, body composition, disease states, genetic traits, pregnancy, and lactation status, and activity levels as well as climate.

Household calorie acquisition: This is the number of calories, or nutrients, available for consumption by household members over a defined period of time. The principal person responsible for preparing meals is asked how much food was prepared for consumption over a period of time. After accounting for processing, this is turned in to a measure of the calories available for consumption by the household.

While generating these caloric acquisition data, a set of questions regarding food prepared for meals over a specified period of time, usually either 7 or 14 days, is asked to the person in the household most knowledgeable about this activity. In constructing these questions it is necessary to specify the lists of foods exhaustively, to unambiguously distinguish between the amount of food purchased, the amount prepared for consumption, and the amount food served. And it is not also uncommon for individual to report consumption in units other than kilograms or liters. In such cases it is necessary to convert to a standard unit.

In converting these data into calories, first convert all quantities into a common unit such as kilogram, then convert these into edible portions by adjusting for processing; and lastly convert these quantities into kilocalories using the standard kilocalorie conversion.

Dietary diversity: This is the sum of the number of different foods consumed by an individual over a specified time period. It may be a simple arithmetic sum, the sum of the number of different foods within a food group, a weighted sum, when additional weight is given to the frequency by which different foods consumed.

The method for generating dietary diversity data is one or more persons within the household are asked about different items they have consumed in a specified period. In turn there are two possible methods of calculation for this measure. The first one is calculating a simple sum of the number of different foods eaten by that person over the specified time period. The second is calculating a weighted sum, where the weights reflect the frequency of consumption and not merely the number of different foods.

Indices of household coping strategies: This is an index based on how households adopt to the presence or threat of food shortage. The person within the household who has primary responsibility for preparing and serving meals is asked a series of questions regarding how households are responding to food shortages.

2.4 DETERMINANTS OF HOUSEHOLD FOOD INSECURITY

Food security is generally affected by two major determinants: Availability of food and accessibility to it (Andersen, 1997). Same source also showed that human resource development, non-food factors, including education, health care, and clean water; population growth, urbanization and displacement of people greatly influence food insecurity and human nutrition. This source further stipulated that natural resource and agricultural inputs are critical determinants of food security.

Food insecurity is due to a variety of reasons, and the FAO/UNDP (1987) cited in Getachew (1995) suggested, i) the relatively high density of human and livestock populations and the resulting squeeze of land resources; ii) the inability of agricultural practices to sustain the required productivity levels of land; iii) insufficient level of adoption of modern farm technology; iv) extensive and often irreversible levels of land degradation; v) the value placed on livestock, specially cattle, in the social economic system and the accomplishing desire to maintain large livestock holdings.

A case study of resource and food security (likewise food insecurity) of Wobera District of East Hararghe Zone (Getachew, 1991) showed that sufficient conditions exist for chronic and transitory food insecurity among the households. These conditions are: first, land, one of the most important resources for food production, is scarce among the study households. Second, other household resources such as livestock have fallen dramatically.

Third, due to climatic hardship, even cereal major producing areas remain deficit, leaving both cereal and cash crop dependent households in a disadvantaged food supply position. Fourth, the administrative apparatus of Ethiopia (both past and present) neglected the rural sector with no or realistic development strategies to reduce risks of food insecurity.

The same source further showed that agro-ecological induced variation of holding size and plot distribution and ox-ownership, as an important factor in determining household resource endowment and the ability to perform agricultural activities, came out to be factors which determine the food security situation among the sample households. Moreover, other factors that were given due attention in the study were labor, land-to-man ratio, ability of the area to offer cash crop and off-farm income, grazing land, household indebtedness, cash block (off farm employment income, cash crop income, livestock income and borrowing), market price, household expenditure (obligation to the state, rural institution, the household itself and other households).

In a case study of Social and Demographic Characteristics Habro woreda, using logistic regression model, Getachew (1993) showed that there is a statistically significant relationship between resources held by a household and its level of food security. It was confirmed that those households which hold land less than three Timed, do not own any oxen, have a small household adult equivalent size and earn non-farm income of less than Birr 500 (or nothing at all) are those most at risk of food insecurity among the sample population. Consequently, the researcher showed that the levels of income and farm size are the most important resources determining food security when other factors such as favorable climatic conditions and low pest outbreak are satisfied. In other words, a larger land size and high income increase the chances of maintaining food security.

Poor target groups often lack access to institutions and services which could help them in improving their subsistence production and income (SLE, 1999; cited in Ayalneh 2002).

Moreover, it is a combination of availability, access and the chance of receiving external assistance that determines the households' food security.

As explained in FAO (1991) the problem of household food security is not simply one of agricultural output, but encompasses all factors affecting a household's access to an adequate year round supply of food.

Thus, the problem of household food security is not simply one of next season's crops, but can also include factors as diverse as deforestation, seasonal variations in food supply, availability of fodder and other forest foods, shifts from subsistence to the cash economy, and even the timing of cash needs as school fees.

Lathan (1997) has clearly indicated that income received from cash crops or wage earnings and prices paid for purchased items influence a rural population's food security. Further, the author stated that inadequate land holdings; landlessness and sharecropping are all potent causes of family insecurity. Lathan has also identified that a 'shock' often precipitates household food insecurity. The shock can adversely influence food production (suddenly threatening farm food availability). There are many different kinds of shocks, like serious illness, which may result in reduced agricultural production in a farm family; loss of rural job; farm production crises, such as failure of the rains, or a plague of locusts or some other agricultural catastrophe. Any crisis that has an adverse impact on the livelihood of the family may also result in household food insecurity.

Ayalneh (2002) in his study of Land Degradation, Impoverishment and Livelihood Strategies of Rural Households in Ethiopia, showed that factors that have contributed to transitory and chronic food insecurity in rural Ethiopia are manifold and varied, ranging from political and socio-economic to environmental. Among the political factors he listed inappropriate agricultural and marketing policies, and political conflict both at national and local level.

Among the socio-economic factors are demographic characteristics of rural households, inadequate resource endowments, inadequately developed infrastructure such as school, hospital and roads, etc. The same source further stated that food security concerns in rural households depend to a large extent on the size and age structure of household members. The number of the household member capable of contributing to food production and/or who can be employed in non-farm income earning activities will greatly determine households own production and its capacity to acquire food through enhancing exchange entitlement.

On the other hand Gezahegn (1995) explained that the major causes of transitory food insecurity are failure in agricultural production or instability in food supplies resulting from stochastic shocks such as recurrent draught, lack of incentives to small scale food producers, and poor extension services for the small peasant households.

The weak system of marketing and transport operations to procure and collect agricultural products from widely dispersed rural producers and to distribute essential agricultural inputs on time contributes not only to the fall in production in some years, but also to the problems caused by failure to move the available food itself to needy areas.

Further, while Ayalneh (2002) explaining the feature of food insecure groups, he also implicitly explained the factors that determine food insecurity. In that the largest group of food insecure households is those who live on the edge of subsistence, often located in remote areas far from markets. They lack the important asset of good quality land and access to productive assets.

Lack of draught power severely handicaps farmers, as doe's lack of access to credit, agricultural input and technology. Lack of male labor in female-headed households is another important constraint. They usually work in an insecure and low productivity occupation.

Another determinant of food insecurity is gender discrimination. Subordination of women in Society, their over-burdening and the greater difficulties faced by female-headed households Contribute to food insecurity (Lathan, 1997).

Getachew (1993) in a case study of Adama Boset reported that there are statistically multiple relationships between resources owned by a household and level of food security. Accordingly, it was confirmed that amongst the sample population it is those households which hold land less than or equal to 3 Timads, do not own any oxen, have a small household adult equivalent size, are unable to use fertilizer, and earn a non-farm income of less than Birr 500 (or not at all) which are most at risk of food insecurity. Thus ox-ownership, level of income and land size is the most important resources determining food security when other factors such as favorable climatic conditions and low pest out break are satisfied. In other words, an increased size of land, ox ownership, high income and use of fertilizer increase the chances of maintaining food security.

In his study of Kembata and Hadiya district Getachew (1993) tested the significance of the relationship between household resources and food security. For the test he included six variables viz, farming systems, land size, production output, livestock, household size and fertilizer. Using logistic regression model (logic for short), he showed that there is statistically significant relationship between food insecurity and each of the above determinants except farming system. Moreover, in this study all the variables are negatively related with food insecurity except household size.

According to Hoddinott (2001) HFS issues cannot be seen in isolation from broader factors. He viewed these factors as physical, policy and social environment. And he argued that the physical factor play a large role in determining the type of activities that can be undertaken by rural households. Government policies on the other hand toward the agricultural sector will have a strong effect on the design and implementation of household food security interventions.

Likewise the presence of social conflict, expressed in terms of mistrust of other social groups or even outright violence, is also an important factor in the design and implementation of interventions.

Hoddinott (2001) expressed that resources or endowments that food security of households can be divided into two broad categories: labor and capital. Labor refers to the availability of labor for production. It incorporates both physical dimension-how many people are available to works well as "knowledge" or human capital dimensions. On the other hand, capital refers to those resources such as land, tools for agricultural and non agricultural production, livestock, and financial resources; that when combined with labor produce income. In turn the house- holds allocate this endowment across different activities such as food production, cash crop production and non-agricultural income-generating activities in response to the returns each activity generates. In addition, households may receive transfer income from different sources, which determines household income.

Hoddinott (2001) further described that households face a set of prices that determine the level of consumption that can be supported by the given level of income. Accordingly, consumption is divided between those goods that affect household in individual food security and all other goods. Goods that affect food security include food consumption at the household level (referred to as food access in much of food security literature), goods directly related to health care; and goods that affect the health environment. These three goods affect illness & individual food intake, which in turn generates nutritional status or food utilization.

2.5 LIVELIHOOD STRATEGIES

What is important to be noted is that vulnerability and poverty go hand in hand. One feature of poverty is the inability to recover from sudden shocks such as losing a job, becoming ill or a poor harvest. In the context of sustainable livelihood approach, vulnerability includes: long-term trends (such as demographic trends, e.g. migration, or changes in the natural resource base); recurring seasonal changes (such as prices, production or employment opportunities); short-term shocks (such as illness or disease, natural disaster or conflict) (DIFD, 2001).

The livelihoods approach seeks to promote choice, opportunity and diversity. This is nowhere more apparent than in its treatment of livelihood strategies- the overarching term used to denote the range and combination of activities and choices that people make/undertake in order to achieve their livelihood goals (including productive activities, investment strategies, reproductive choices, etc)(DIFD, 2001).

The same source further stated that some version of livelihood analysis uses the term ‘adaptive strategy’, instead of ‘livelihood strategies’. Adaptive strategies are distinguished from coping strategies adapted in times of crisis.

Again this source elaborated that recent studies have drawn attention to the enormous diversity of livelihood strategies at every level- within geographic areas, across sectors, within households and over time. This is not a question of people moving from one form of employment or ‘own account’ activity (farming, fishing) to another. Rather it is a dynamic process in which they combine activities to meet their various needs at different times. A common manifestation of this at the household level is ‘straddling’ where by different members of the household live and work in different places, temporarily (e.g. seasonal migration) or permanently. Social patterns such as this clearly complicate and underline the importance of viewing households and communities within their wider context. Since goods, financial resources and people are all mobile, an accurate picture of livelihoods cannot be gained if artificial boundaries are drawn. Thus links between urban and rural centers will need to be explored, as will the implications for decision-making and asset usage of split families.

The more choice and flexibility that people have in their livelihood strategies, the grater their ability to withstand-or adapt to-the shocks and stresses of the vulnerability context (Kostas et al. 2001).

3, METHODOLOGY

3.1 Description of the study area

The researchwere conducted in Demba Gofa woreda. The woreda is located in Garmo Gofa Zone of the Southern Nations Nationalities and Peoples' Regional State (SNNPRS). It is among the fifteen woredas of the zone. Administratively, the woreda is organized in to thirty-eight kebeles. The principal town of the woreda is Sawula and it is the main urban center found in the woreda. The woreda lies between 8°71'81" North and 43°89'85" East. It is situated at 305 km and 515 km from the regional capital Hawassa and Addis Ababa respectively.

The woreda has 93,184 populations size, out of which 21,826 or 7006 household are under the problem of food insecure. This can show how the area is prone to food insecurity and catastrophes, thus, the site will selects using purposive sampling method to examine socio economic determinants of food insecurity in the woreda.

3.2, Methods of sampling

In an effort to generate the necessary data and information from the representative sample of the survey population, which is relatively homogeneous, the woreda purposively selected from the targeted woreda in region, in the woreda there are 93,184 population sizes, which are 7,006 households or 21,826 individuals are under the problem of food insecure.

Out of the 35 kebeles which are 5 kebeles will selects using simple random sampling methods. Then using systematic sampling technique, a sample size of 200 household will drawn from the selects kebeles proportional to the size of each category. The reason for using systematic sampling technique is that there is a complete name list of food in secured, facilitating the use of this particular sampling method. Therefore, the specific sampling procedures to be followed are the following.

1. Selected five kebeles among the thirty-five kebles which are under the problem of food insecure in the woreda using simple random sampling technique.
2. Obtained the name list of food in secure households in the selected kebeles from agriculture and rural development office of the woreda.

3. Prepared a new sampling frame with sequential numbers on the basis of which the systematic sampling can be conducting for each kebeles.
4. Conducted of systematic sampling for each of the five selected kebeles.

3.3, Methods of data collection

The research will base on both qualitative and quantitative data and information that will be gathered from households, national, regional, woreda and kebele government bodies as well as from all the relevant bodies, using the following data collection instruments.

Questionnaire administration- administration of questionnaires will be the chief instrument for the collection of data in the research; accordingly, a multiple pages of questionnaire, asking both qualitative and quantitative questions, will be responded by each of the informants with the help of trained enumerators.

Focus group discussion- this will be conducted by forming some small homogeneous groups of selected informants from the survey population with some 8 to 12 individuals in each group. This is an appropriate instrument for qualitative data collection in that it provides some quality control on the accuracy of the responses given by the participants, as the participants in the focus group discussion are checked on each other's opinion. Moreover, it will give the chance of gathering valuable information from many people at a time.

Semi-structured-interview - This will be extensive and qualitative interview conducted mainly with the respective officers of the woreda and kebeles on the more complicated. In addition to this, some officers from the SNNPR Bureau of Agriculture and Rural Development, SNNPR Disaster Prevention and Preparedness Office and other relevant bodies will also be interviewed.

Direct observation- the researcher, along with the enumerators and other relevant bodies will make some personal observations to kebeles and households considered in the study in order to perceive the characteristics of the households, their living situations and other related conditions of food security in kebeles level.

3.4 Method of data analysis

In analyzing the data both qualitative and quantitative data analysis will use depending on the nature of the data. The qualitative data will analyze using percentage, tables and narrative description where as qualitative data will analyze using narrative accounts. And respondent's data matrix will prepared then the data will coded and filled in SPSS and Ms-Excel will be use for some constructive summery.

5. Schedule of the research

No	Research activities	time required
1	Identification of the problem	
2	Review of literature	
3	Identification objective	
4	Preparing the proposal for the research	
5	Questionnaire development and collecting sample data	
6	Collecting the main data the informants (field work)	
7	Analyzing the data collected	
8	Write the first draft of the thesis	
9	Rechecking of the previously collected data, filling gape in the analysis, collecting further data and reanalyzing of data	
10	Writing the final draft and the submission of the thesis	

Budget schedule of the research

Item no	Expense description	unit	Quantity	Unit price in birr		Total price in birr	
				Birr	cent	Birr	cent
1	**Stationery and equipment expenses**						
1	Duplication paper	ream	6	83	00	498	00
2	Squared paper	ream	3	35	00	105	00
3	Lined paper	ream	3	35	00	105	00
4	Note pad	pieces	5	10	00	50	00
5	Pens	pieces	25	1	00	25	00
6	Flush disk	pieces	2	500	00	1000	00
7	Walkman tap-recorder	pieces	1	600	00	600	00
8	Audio cassettes	pieces	5	5	00	25	00
9	calculator	pieces	1	150	00	150	00
10	bag	pieces	1	600	00	600	00
	Sub-total					3,158	00
2	**Secretarial services expenses**						
1	Photocopy(materials)	page	1,000	0	50	500	00
2	Printing (materials)	page	1,000	1	00	1,000	00
3	Final printing and binding	page	100x5	120	00	600	00
	Sub- total					2,100	00
3	Travel and perdiem expense						
1	Transportation to kebele (six)	Trip	6x6	40	00	1520	00
2	Perdiem for researcher	days	50	70	00	3,500	00
3	Perdiem for local guides (seven)	days	7x10	40	00	2,800	00
	Sub - total					**7,820**	**00**
	total					**13,078**	**00**
	Contingency (10%)					**1,307**	**80**
	Grand total					**14,385**	**80**

THE SURVEY QUESTIONNAIRE

Date of Interview,----------

SECTION 1: GENERAL INFORMATION

1. Name of enumerator ----------
2. Name of household head --- ----------
3. Zone ----------
4. woreda----------
5. kebele----------

- Household composition and characteristics

No	Name Of HH Member	Sex (See Code)	Age	Marital Status (See Code)	Educational Level(See Code)	Main Occupation	Religion (See Code)
1							
2							
3							
4							
5							
6							
7							

CODE DESCREPTION

1/ Sex- 1=Mail 0=Female

2 /Marital Status – 1=Married 2=Un-Married

3/ Educational Level – 1 =Illiterate 2=Literate

4/ Religion 1= Orthodox 2=Protestant 3

3=Muslim 4=catholic 5=others

SECTION 2: HOUSEHOLD ASSETS

1. Does anyone in this household currently own any of the following items?
   - A) Tools/ equipment
   - B) Household goods
   - c) valuables
   - d) Stored agricultural produce

2. Have you sold any of items in the last 2 years? A/ yes B/ no

3. If the Q2 answer yes list the following table

No	Types of sold	No of sold	Amount sold in birr	Reason for sold

SECTION 3. CREDIT

1/ during the last two years have you taken out a loan of any amount, in cash or in Kind?

Yes =1 no = 2.

2/If yes, what are the sources of credit?

3/ Why did you want to obtain a loan?

4/ Amount borrowed. Give amount in birr, if in kind please give amount in kind including the unit.

5/ in which year/month was it borrowed?

6/ is there any part of the loan not paid back?

7/ In the last 2 years have you ever given a loan of any amount in kind or in cash to another household?

8/ If yes, amount in Birr _____ Amount in kind/birr _____

9/ is there any part outstanding?

SECTION 4. OFF FARM INCOME, BUSINESS ACTIVITIES AND REMITTANCES

1/ Do you or any member of your family have off-farm job? Yes = 1 No = 0

2/If yes to question 1. Indicate the type of work and annual income.

3/ has the household received any other income (such as remittances, gifts) in the last year?

Yes, = 1 No = 2

4/ If yes, complete the following table

Type of receipts	Person who received income	Amount received
total		

SECTION 5 LAND RESOURCES

1/ Do you have your own land? Yes =1 No = 2

2/ If yes to question No 1, what is the total size of your land holding?

3/ what is the total area of land you cultivated last year? _____ timed

4/ Do you think that your piece of land is enough to support your family? Yes =1 no=2

5/ If no to question No 4. State your reasons

6/ what proportion of your cultivated land is allotted to:

a) Annual crops_____ timed b) Perennials _____ timed

SECTION 6: FARMING METHODS

1/Have you ever used any of the following methods? Yes =1 no=2

A / Row planting E/ Crop rotation

B / New storage system F/ Terracing

C / Manu ring G/ Drainage canals

D /Fallowing H/ Drainage with raised bed

Others, specify

2/ No if no give reasons

SECTION 7. CROP OUTPUT AND SALES

1/ List the type of crops you cultivated and their average production (including garden crops) for the last two years.

2002		2003	
Types of crop	Amount of production	Types of crop	Amount of production

2/ is what you produce last year enough for year family? Yes = 1 No = 0

3/ If yes to question 2, what amount of grain stock was transferred to this year _____ Qt.

4/ Have you sold any part of the last year harvest? Yes = 1 No = 2

5/ If yes where do you sell your farm products?

6/ what is the nearest distance to the main market? ___ Km

7/ what means of transport do you use to transport your produce to the market? ____

8/ When (at what particular time of the year) do you sell most part of your produce? During _____ Month

9/ Do you get reasonable price for your produce at this particular time? Yes = 1 No = 2.

10/ If no to question No 9, what are the reasons?

11/ what do you think are the main causes of food deficit?

12/ during which months is food shortage severe? During _____ month(s)

13/ How does you cover the deficit?

14/ If relief food aid is a means to cover the deficit for how long have you been getting food aid? _____ Years

15/ Indicate the amount of food aid your household received in the past two years,

Type of food aid	unit	2002	2003

16/ Do you use any irrigation scheme? Yes = 1 No = 2

17/ If yes to question 16 what type of it?

18/ If yes to questions 16 what types of crops did you produce using irrigation?

Type of crop	2001		2002	
	Area (timed)	Production (qt)	Area (timed)	Production (qt)

SECTION 8: USE OF MODERN AGRICULTURAL INPUTS

1/Do you use chemical fertilizers? Yes = 1 No=2

2/If yes to question no. 1 for how many years have you been using fertilizer?

3/Have you been using fertilizer every year? Yes = 1 No = 2

4/If no to question No 3 why?

5/If yes to question No 1, indicate the amount of fertilizer used in the last 2 years

Type of crops	2001		2002	
	Fertilizer (qt)	Area (timed)	Fertilizer (qt)	Area (timed)

6/Do you use improved seed on your farm? Yes = 1 No = 2

7/ Have you lost your crop during the last year? Yes = 1 No = 2

8/If yes to question No 7, what were the courses?

9/If yes to question No. 7 specifies the type of crop lost along with the extent of the loss?

Type of crop	Area (timed)	Causes for losses	Extent of losses (in qt)

8/ Do you apply chemicals on your corps? Yes = 1 No = 2

9/ If no to question No 8, why?

SECTION 9. LIVESTOCK OWNERSHIP

1/Do you own livestock? Yes = 1 No. 2

2/If yes, gives details

Type of livestock	number owned and present at your farm	did you sell any of your animal in the past two years? yes-1 no-2			how many were slaughtered
		No soled if non write 0	Total sales value of all sold	Reason for sale	

3/ Do you use oxen for your farm operation? Yes = 1 No = 2

4/ If yes to question No 3. Are your oxen enough for your farm operations? Yes = 1 No = 2

5/If you do not have enough oxen, how do you get additional oxen you need?

6/ Do you have enough feed for your animals? Yes = 1 No = 2

7/ If yes to question No 6, what are the sources?

8/ Is animal disease a problem to you? Yes=1 No=2

9/ If yes to question No 8, do you get enough drugs to treat your animals yes = 1 No = 2

SECTION 10. AGRICULTURAL EXTENSION SERVICES

1/ Has your household received any type of extension from any government and/or nongovernment organizations? Yes = 1 No = 2

2/Have you participated in the agricultural extension package program? Yes = 1 No = 2

3/ If yes to question No 2, for how long? ____ Years.

4/ if no to question no2 what the reason?

SECTION 11. INCOME FROM AGRICULTURE

1/ Would you please state how much the household has earned annually from the following income sources (in 2003)

Sours of income	unit	quantity	Total sales (birr)	Time of sale (name of the months)
Crop sales (by type)				
1.1 cereals				
1.2				
Livestock sales (by type				
1.1 oxen				
1.2				
Total income				

SECTION 12. EXPENDITURES

1/Indicate the type and amount of expenditures of your family for the year 2002/2003

No	Type of expenditure	Amount (birr)
1		
	Total expenditure	

SECTION 13. FOOD EXPENDITURE AND CONSUMPTION

1/What type and amount of food the household made available for consumption?

No	Types of food for consumption	Amount of food (qt)

BIOGRAPHY

The author was born in October 16, 1989 in Dessie town, at Amhara Region. He started his education at Ginbot haya Elementary School and completed his senior secondary education at Kombolcha Junior Secondary School. Upon his successful completion of his high school studies, he joined then Arba minch University in September 2008 and graduated in B. Sc.Degree in Agriculture (Rural Development and Agricultural Extension), in June 2010. After completion of his undergraduate studies, he was employed in the Marketing and co-operative unite in the Sawla town SNNPR. Until now.