

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
REGIONAL AND LOCAL DEVELOPMENT STUDIES**

**CHALLENGES AND COPING STRATEGIES FOR
DROUGHT-INDUCED FOOD SHORTAGE:
The Case of Humbo Worda, SNNPR**

**Thesis submitted in partial fulfillment of the requirements for the Master of Art
(Regional and Local Development Studies)**

By

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Addis Ababa University,
June 2006

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By

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DECLARATION

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

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Acronyms and Glossary of Local Terms

Acronyms

DPPA	Disaster Prevention Preparedness Agency
DPPC	Disaster Prevention Preparedness Communion
EGS	Employment generating schemes
ESFR	Ethiopian Strategic of food reserves
FFW	Food for work
FGDs	Focus group discussion
M & E	Mongering and Evaluation
NCFSE	New coalition for food security in Ethiopia
NDPPF	National disaster prevention and preparedness fund
NPDPM	National policy on disaster prevention and management
NPP	National Population policy
PLWHA	People living with HIV-AIDS
RKA	Rural kebele administration
SDPRP	Sustainable development and poverty reduction program
SNP	Safety net program
SNNPR	South Nations and Nationalities People Region
TOT	Training of Trainers
WFP	World food program
WVE	World vision Ethiopia
SERA	Strengthening Emergency Response Ability
NGO's	Non-Governmental Organization
SPSS	Statistical Package for Social Scientists
HH	Households
CSA	Central Statistical Authority
DAs	Development Agents
GC	Gregorian calendar
EG	Ethiopian calendar
KI	Key informant
WCDR	World Conference on Disaster Reduction
ZDA	Zonal Department of Agriculture

Glossary of Local Terms

<i>Amicho</i>	Porridge made out of <i>enset</i>
<i>Bulla</i>	<i>Meskel</i> festival food made out of <i>enset</i> root
<i>Dala</i>	Persons heard of livestock reaches one hundred or one thousand
Enset	“False banana”
<i>Kocko</i>	Bread made out of <i>enset</i> leaf
<i>Kosah</i>	Drought
<i>Yerbee</i>	Local livestock loan arrangement. Where, the poor households feed and care for the animal in return for a share of milk, butter or a share in sales price and benefit from the <i>yerbee</i> animal.

Abstract

So far the external intervention regarding responding to the hazard (drought) by different actors; government and NGO's mainly emphasized on distribution of food aid, besides filling the immediate need gap, it has contributed its share in making community vulnerable to bio-physical and Socio-cultural impacts. The key question which drives this research is why are the Humbo community remain vulnerable to the drought-induced food shortage regardless of the effort to withstand made by the Government, NGO's and the household them selves.

In order to explore the challenges and coping strategies for drought-induced food shortage the research used survey study method and conducted in three RKAs mainly on the bases of their history of chronic drought related food shortage. Data were collected from both primary and secondary source; primary data were obtained from stratified different wealth and women household head groups' sample surveys and FGDs, key informant and observation. Secondary data; obtained form published and unpolished sources, relevant government line offices, NGO's and website browsing. Analysis was done using tools such as SPSS, Microsoft Excel and Word.

Among the key causes of drought-induced food shortages, the major once are categorized under natural and man made stress; natural or environmental stress includes absence or shortage of rain, land degradation, soil infertility, inset/pest out break, and epidemic. Man-made stress includes inappropriate technology, poor management and use of resource, lack of alternative source of income, dependency on external intervention, interventions that lack sustainability, top-down approach, deterioration of households' asset and population density.

Enhancing of collaborative, integrated net work and information exchanges among different sector and actors will help in addressing the root causes of food shortage of this particular woreda and the country generally.

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Over the last decade human population have suffered from increasingly frequent environmental emergencies, natural and human-induced disasters such as droughts, floods, hurricanes, cyclones, earthquakes, landslide and forest fires that are happening all over the world with increasing redundancy severity (WCDR,2004:2).

Ethiopia among the countries has also been suffering from frequent disaster such as famine, epidemics, migratory pest infestation, bush fire, flooding, mass displacement and HIV/AIDS. Among the causes, however, hydro-meteorological hazard, particularly drought has remained the leading cause of disaster and human suffering in terms of frequency.

In Ethiopia, the first drought recorded in history occurred in 9th century followed by other ones in 12th and 14th centuries. The earliest of these happened in 1520 and was referred to as the “famine of cereals due to lack of rain”. Many cattle were known to have died as a result of the occurrence of this drought which had repeated just before the death of Emperor Lebna Denge in 1540. After the death of Emperor Gelawdeos, in 1559, there was a severe famine caused by changes in rain fall patterns for three years. In the era of Emperor Fasiladas (1635), famine that is probably caused by drought had taken the lives of many (Punkhurst 1985).

Generally, various types of disasters had occurred in Ethiopia between 1906 and 2005. Drought disaster had occurred 23 times and killed about 602,367 peoples. This resulted in death of 26,190 people, per event on average. It had also affected a total of 89,566,200 people, and 3,894,183 people per event were affected on average. As compared with other natural disaster events that took place in the same era, the drought disaster has been the leading effect in the country (Table 2.1).

**Table 2.1: Natural Disaster by types in Ethiopia
(1906 - 2005)**

Disaster	No of Events	Killed	Injured	Homeless	Affected	Total affected
Drought		602,367	0	0	89566200	89,566,200
ave.per.event	23	26,190	0	0	3894183	3,894,183
Earthquake		24	165	420	0	585
ave.per.event	7	3	24	60	0	84
Epidemic		10,9042			138,816	138,816
ave.per.event	15	730			9,254	9,254

Source: WWW.em-at.net-Universite

At the end of 1993, Wolaiyyta, among the victim zones in the country, had signaled for the first time. The drought problem was reported by NGOs but the government did not take significant measure until migration and famine-related death started to take place. The appeal, made in December 1993, was only for a population of 137,600. In April 1994, this was revised to 373,600 people and later to 500,000 people as the gravity of the situation become clearer. Due to the severity of the situation, NGOs had established feeding centers and the problem was brought under control by the end of June 1994 (Melaku et.al, 1997).

Humbo, as most woredas in the country generally and in Woliyita zone particularly, has been suffering from frequent and sever drought-induced food shortage for many years. Drought, which was usually followed by excessive food shortages and epidemic, has been the most serious disaster responsible for the loss of human and animal population in the area.

1.2. STATEMENT OF THE PROBLEM

Humbo, is known to be one of the areas with highest level of environmental degradation in the region. The rate of soil erosion has generally increased through time while the intensity of deforestation has shifted towards lowlands in recent times. Shortage of rain, lack of oxen, and shortage of land, pests attack, and livestock disease are among the main

perceived causes for the chronic food insecurity facing households in the study area (SERA, 2002)

According to the nutrition household survey conducted by the World Vision Ethiopia (WVE) in Humbo woreda on March 2005, the food security situation in the eight lowland kebele administrations is at alarming stage. About 15 percent of the households surveyed reported that some of their members have already been migrated to other areas in search of wage labor due to food failure in small rain season (*belg*).

Out of the 300 households contacted during the survey, 15.8 percent of the households reported eating wild foods, since the school age children are responsible to take the grasses and fire wood to market to purchase food, same also engaged on off-farm activities thus, school dropouts has increased. Following the termination of food aid that has been distributed by NGO's particularly WVE and delay made on productive safety net program, local people began exercising different coping mechanisms, such as reduction of meals, eating wild foods, sell of grasses, woods, and wood products to obtain little money for grain purchase.

From the above situation, we understand that the problem of drought induced food shortage and dependence on food aid remains the main challenge of the local community. Therefore, it is important to identify the root causes, in order to undergo appropriate intervention that participate the local community for sustainable development.

Since, this particular woreda (Humbo) has been frequently subjected to the recurrent drought despite different interventions taken by government and NGO's. Therefore, this study is intended to understand the root causes and effects for drought induced food insecurity. Moreover, it will assess the dynamics of community coping strategies, the challenges of external interventions and prospective of sustainable development.

1.3 OBJECTIVES OF THE STUDY

- To explore the root causes for drought induced food insecurity.
- To assessing the dynamics of community coping strategies, the challenges of external interventions and prospective of sustainable development.
- To forwarded policy and action areas to be enhanced in order to improve food security and drought management.

1.4 SIGNIFICANCE OF THE STUDY

Drought is natural, recurrent event of the climate. The frequent occurrence has caused problems to the livelihood. Traditionally people know how to deal with drought, for instance, pastoralists move away from drought-stricken land into areas with more reliable source of water and better grazing, and latter when the rainfall returned they move back to their rangelands.

Wolaiytta is one of the most densely populated. Disaster-prone and famine stricken areas in southern part of Ethiopia, Its economy and employment is based on the agricultural sector with 96 percent of people being dependent on farming, directly or indirectly. The area is characterized by three major agro-ecological zones which reflect different altitudes. Maize and *enset* are the staple crops/diet, supplemented by foods particular to each agro-ecological zone. However, recurrent drought is a major problem markedly reducing food production and also income and assets (which have been spent on procuring food).

Limited availability of land among a growing number of households is resulting in a decline in the size of land holdings. This is seriously affecting traditional farming systems. It is contributing to an overuse of land, and thus increasing soil degradation and erosion, a situation aggravated by the increasing exploitation of dwindling forests and vegetation for fuel and fodder. These factors are also linked with a reduction in type and amount of crops being grown.

1.5 RESEARCH QUESTION

1. What is the root causes for the drought-induced food shortage
2. How does different wealth groups of household cop in adversity
3. What are the external institutional interventions and challenges

1.6 SCOPE OF THE STUDY

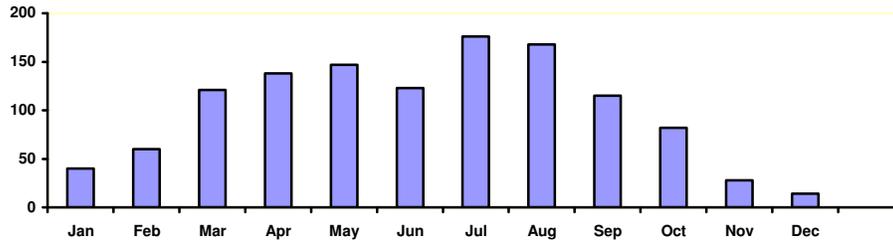
The study will investigate the root causes, challenges and coping mechanism toward the drought-induced food shortage and assessing the dynamics of community coping strategies, the challenges of external interventions and prospective of sustainable development.

1.7 THE STUDY AREA

Humbo Woreda is located at about 420 km south of Addis Ababa, while it is found in SNNPR particularity in Wolayta Zone Administratively. It is bounded by Sooddo Zuria Woreda of Wolayta Zone to the north, Boreda Abaya woreda of Gamo Gofa Zone to the south, Offa woreda of Wolayta zone to the west and Dale woreda of Sidama Zone to the east.

The woreda capital (Tebela) is located at 18 km south of Soddo town on the main road to Arba minch. It has a total population of 140,237, about 96.5 percent of population lives in rural areas. Mix agriculture is the main economic activities and population density is estimated at 283 person/ km² one of the highest density in Ethiopia (WBSDP 2005). The woreda is sub divided into 37 rural kebele administration (RKA) and two urban centers. Mean household size is estimated at 6.2. (CSA, 1994)

Figure 2.1 Average rainfall distributions



Source: Unpublished leaflets 2005, National Meteorological Service Agency (NMSA) Data archives (long-term average).

1.8 ORGANIZATION OF THE PAPER

This study paper is divided into six chapters. Chapter One is an introductory part that briefs the background of the study and study area. Chapter Two presents the research methods and procedures that were applied. Chapter Three discusses some of the related literatures on the topic of the study. Chapter Four brief on core indicators, trends and levels of vulnerability in the study area from the secondary data. Chapter Five discusses on findings, and finally Chapter Six gives, concluding remarks and some recommendations.

1.9 LIMITATIONS OF THE STUDY

- Financial and time constraint
- Perception of different wealth groups in providing information; *better-off* very suspicious in providing the source of income, expenditure and asset owned. *Poor* group expecting assistance from the researcher and the general fear of losing the expected organizational relief and development supports.
- In estimating of annual income and expenditure the households have faced difficulties in providing information in terms of money, due to the problems in relation to conversion of local measurement into currency, memory to recall the price and amount, market inflation, in cash and kind sources, seasonal variation *belg* and *mehar*
- Not updated list of households

2 METHODOLOGY AND DESIGN OF THE STUDY

An exploratory survey was conducted in assumption that there is a lot that needs to be investigated for the root causes and effects of drought induced food shortage at different wealth groups and women headed household level. It also investigated community coping strategies in relation to the level and, source of income earning activities and external interventions such as food aid, food for work, productive safety net program, etc.

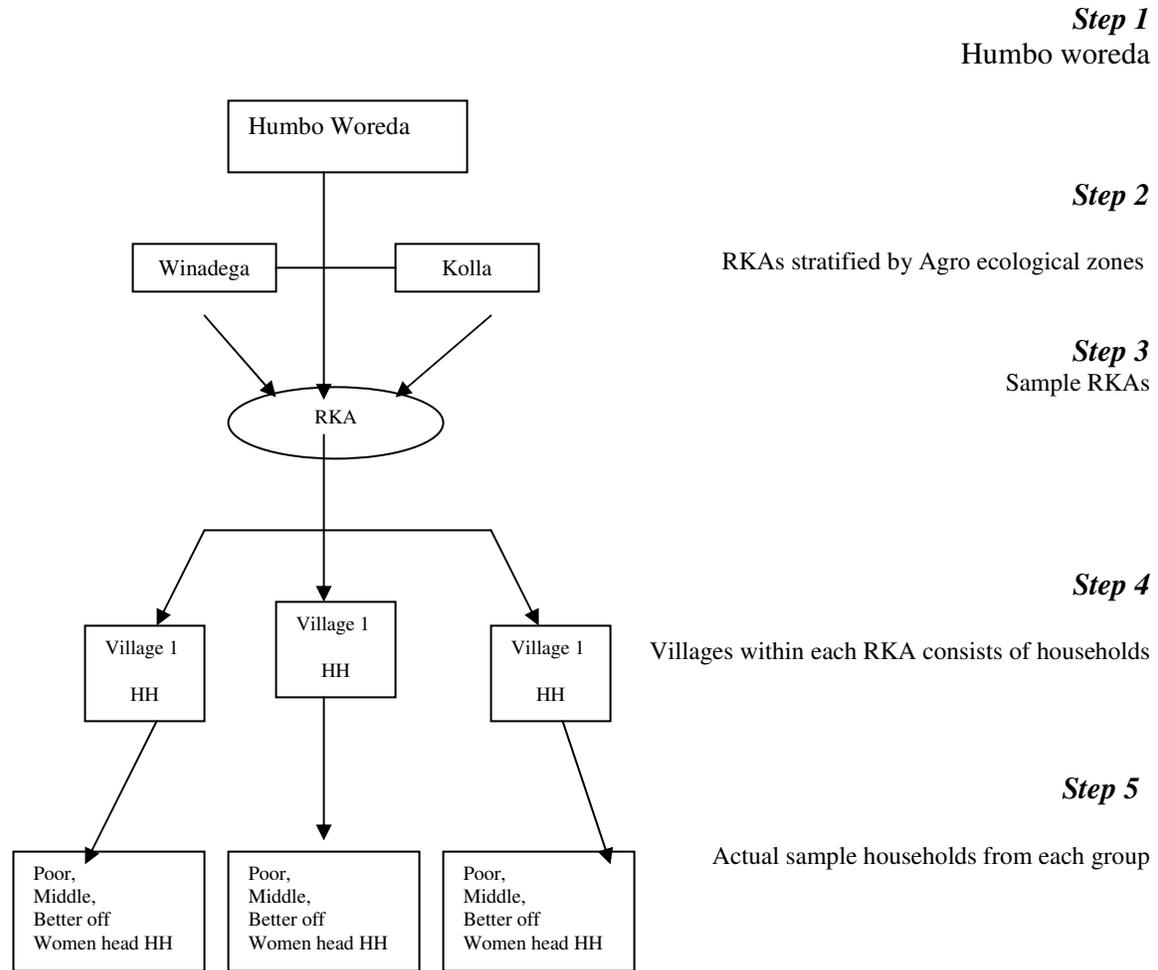
2.1 SAMPLING DESIGN AND PROCESS OF DATA COLLECTION.

This research explore the information taking into account the important variables of RKA such as agro-ecological Zone (*Kolla and windadega*), wealth ranking (the poor, the middle and better off) and gender issue (women house head households) as major stratifying factors.

Despite some limitation such as not up dated list of RKAs households, as a result of death of household heads, migration etc, the selected households from sample RKA, were done in consultation with office of RKA. Taking into account variations in wealth groups and women household head among RK households, the total population in sample RKAs was stratified into respective groups.

Figure 2.2

Stratification of Rural Households by their relative income categories and sample selection procedures



Step 1: Woreda selection

Humbo woreda purposely selected mainly on the bases of its history of chronic drought related famine crisis.

Step 2: *RKAs Stratified by Agro ecological Zone*

The agro ecological zone selection was made in dialogues with Woreda leaders, the total list obtained households for woreda was stratified by respective agro-ecological zone, namely *kolla* and *wina dega*.

Step 3: *Sample RKAs*

Out of the total RKAs of the woreda, based on history of critically drought-prone kebel, 7 and 5 from Kolla and winadega respectively were purposely selected and stratified, using systematical sampling: this means 2 from Kolla and 1 RKA from Winadega. The main reason for more samples from Kolla area is due to its vulnerability to drought than that of Winadega.

Step 4: *Stratifying by village*

With the intention of spatial representatives, each RKAs was divided into three villages (*Neuose*), and based on the list of households obtained from the RKAs in each village the households were stratified by wealth rank and age (poor, middle, better-off and women headed household).

The list of different wealth groups of household which was initial used for the purpose of SNP selection criteria and for other use with in RKA were obtained from the RKA, the major determinate variables of wealth ranking was the land, possession of asset, livestock, housing, household size and source of income. Further for more reliability of the wealth ranking the key informant (elders) from each RKA were invited to assure that the classification is true.

Step 5: Household from each group

At this stage actual sample households from each relatively homogenous group were selected using systematic random sampling methods.

Through such stratification procedures, lists of households classified by wealth and women household head groups in every sample RKA, with this sampling approach we were able to stratify 150 sample households (12%) from a total of 1,290 households of all wealth and women house headed groups.

This comprised sampling frame consisting of, 33 percent poor, 23 percent middle, 17 percent better off households and 27 percent women-headed were selected for the actual questionnaire based interviews. In addition, to ensure the reliability of the information obtained, about 6-8 group discussion with different wealth groups and women-headed households in each RKAs were conducted.

Furthermore, the key informants were 2 elders, 2 RKA leaders and 1 Development Agents (DA) from each RKAs and discussion in depth were made with woreda leaders and line offices.(the zonal Disaster and Prevention Offices and Zone Finance and Economic Development Departments).

2.2 Methods of data collection and analysis

1. Data Collection: Data were collected from two sources; *primary and secondary sources*.

1. **Primary data** were obtained from the household surveys, focus group discussion (wealth and women house headed), Key informant, and observation.

1.1.Key Informant Interviews were carried out to obtain information on community profile. The informants include Community Elders, DAs and RKA leaders. The

informal interviews and discussions with community informants found to be more valuable in providing context at a general level, and gave the researcher a wealth of knowledge about the community and an in-depth understanding of the root causes of drought, coping mechanisms and generally, socio-economic realities of peasant households.

Table 2.2 Number selected RKAs, type and number of Key Informants during informal interviews

Selected RKA	Numbers of key informant			
	Elder	RKA leader	DA	Total
Abela Mareka	2	2	1	5
Abela Sippa	2	2	1	5
Gututo larena	2	2	1	5
Total	6	6	3	15

Source: Field survey, 2006

1.2 Focus Group discussions were held in study communities. The participants are the individual who represents different wealth groups and women headed households (to maintain gender balance) within various villages. Each focus groups discussion was composed of about 5-7 persons per group. The participants freely (willingly) expressed their ideas, perceptions and experiences regarding the issues under study.

Table 2.3 Focus group discussions participants, type and composition in selected RKA

Selected RKA	Number of focus group discussion by wealth and women headed households group				Total
	Poor	Middle	Better off	Women house headed	
Abela Mareka	6	5	5	5	21
Abela Sippa	6	5	5	5	21
Gututo larena	6	5	5	5	21
Total	24	15	15	15	63

Source: Field survey, 2006

1.3 Household sample survey; survey was generated from wealth and women headed household groups. For this purpose, questionnaire (open-ended and close-ended) was

designed and pre tested before the actual survey. With the close supervision of the researcher, trained field assistance, carried out face-to-face interview with 150 sample households that were comprised of different groups. To facilitate data collection six people were selected with the help of RKA leaders, individuals with rural background and experiences in rural social-economic survey works. Also, intensive training was provided on surveying methods, objectives, and approach to rural wealth groups.

Table 2.4 Number of selected households for household sample survey by wealth and women house headed groups

Selected RKA	Number of Households by income and women house head group					Sample size	Ecological Zone
	Poor	Middle	Better off	Women house headed	Total household		
Abela Mareka	15	10	8	12	450	45	<i>Kolla</i>
Abela Sippa	15	10	8	12	315	45	<i>Kolla</i>
Gututo larena	20	14	10	16	525	60	<i>Winadega</i>
Total	50	34	26	40	1290	150	

Source: Field survey, 2006

1.4 Observation: This method were used for data collection regarding households conditions, and intervention that are undergone such as SNP activities, housing conditions, ownerships of livestock, and land holdings.

2. Secondary Data were obtained from published and unpublished sources. Levels and trends in vulnerability and socio-economic profile were assessed and collected from relevant government line offices, NGO's, other institutions and Internet browsing.

2.3 Data Analysis

The data gathered were analyzed in terms of the study objectives already designed. The process of analysis is carried out by using qualitative description and descriptive statistics, and computer systems that were used for analysis are software known as Statistical Package for Social Scientists (SPSS), Microsoft excel and Microsoft word.

3. LITERATURE REVIEW

3.1 Conceptual Framework and Definitions

Drought management has traditionally been viewed as an approach to the preparation for and management of discrete events, that have the potential to overwhelm the capacity of an affected community, province, country or region, and cause severe hardship and loss. Drought management polices and strategies should take into account variety of factors for effectiveness. These factors include aspect such as: (Backeberg et.al. 2003: 2)

- Socio-economic development level of the country
- Available institutions with degree of capacity.
- Indigenous traditions, culture and beliefs
- Sectors and people at risk
- Frequency of severe droughts
- Causes and impacts of droughts
- Available resources
- Knowledge level
- Level of political stability

It follows from the above examples that social, institutional, cultural, religious, economic, environmental, hydrologic, geographic, educational and political factors are all important.

3.2. Definition and Classifications of Drought

i Definition

Drought “*Kosha*” defined by different wealth group of community, as shortage or absence of rain including a late start and uneven distribution of rainfall and other environmental stress such as low productivity and soil infertility, land degradation etc which expose the household to the shortage of food.

Women household head, poor and most middle wealth groups defines drought, going with out food, eating wild and less preferred food, going closer to death or dying as a

result of drought. Whereas, the better-off and same middle wealth group defines drought, reducing the stock, and food intake, death of livestock and going closer to the poor wealth group.

Drought in my research is contextualized as a phenomenon that leads households face chronic food shortage, as a result of natural and man made environmental stress such as absent or lack of rain, soil infertility, insect or pest outbreak, loss of livestock, inappropriate technology application, poor management, entitlement and/or over utilization of the resource, lack of transparency and good governance.

Coping or survival strategies, generally, it involves managing resources effectively, such as land, tools, seed for crops, livestock, draught animals, cash, jeweler, other items that could be sold (tangible assets mobilization), storable food stocks, as well as skill and labor power, as a mechanisms for defend, solving and handling the stress such as drought induced food shortage.

Food Security refers to access by all people at all times to sufficient food for an active and healthy life (CFSE, 2003:2).

Food insecurity stated as the lack of access by people to enough food for active, productive and health life (World Bank, 1986)

Food Shortage as serious (acute) food shortages which result from unprecedented disaster. “Exceptional’ food shortages have been the result of several different factors, usually associated with periodic failure of the rains Dagneu (2001).

ii. **Classifications of Drought**

Drought could be classified as meteorological, agricultural, hydrological and Socio-economic drought.

Meteorological drought is situations were a region-specific expression of precipitations of rainfall happens below normal for specific period of time.

Agricultural drought, a situation where “the rainfall happens to be below the normal to furnish the soil with moisture for crop growth and development at different growth stages”

Hydrological drought is a state where “prolonged rainfall causes the lowering of stream flow, depletion of soil moisture and fall in ground water level and disruption of water supply occurs” (cited in Melaku et. al. 1997)

Socio-economic drought deals with drought in terms of supply and demand for goods and services. The physical water shortage starts to affect people and the ripple effect can therefore be traced through economic systems (Backeberg et. al. 2003: 4).

3.4 Historical Background of Drought in Ethiopia

Ethiopian’s population currently estimated to be 75 millions (CSA-2005), that stands the country second largest in sub-Saharan Africa and the growth rate is approximately 3 percent every year regarding to the food need it reveals that there are about 2.2 million mouths to feed next year alone.

According to the 2000 UNDP report, the human development of Ethiopia ranked 171st country out of 174 and the life expectancy at birth averages only 43.3. In the context of Ethiopia different policy makers and aid agencies interchangeably used drought and famine and many others have made reference to drought as a general explanation of famine (Getachew, 1995).

Melaku et. at (1997) the first drought in the Ethiopian history occurred in 19th, followed by 12th and which resulted in the death of many cattle and subsequent to the famine and epidemic that occurred in 14th century. Also about six famine were recorder in sixteenth

and at the beginning of the seventeenth century, the earliest of these happened in 1520 and was referred to as the “famine of cereals due to lack of rain” which was before the death of Emperor Lebna Dengle in 1540.

Pankhurst (1985) revealed that there was the famine in the era of Emperor Fasiladas (1635) which was probably caused by drought.

According to Melaku et. al (1997) drought induced famine situation mostly and highly affecting the northern part of Ethiopia. However, drought was also reported in the south of the country at about same time, although no date was specified. In 1892 rain had failed in Shewa and southern Ethiopia as a result there was a considerable rise in the price of all food items.

Pankhurst (1985) correlated the effect of drought on the price of grain which increased by one to two hundred times, whereas the plough oxen increased by twenty to thirty fold, and the price of shoes had increased by more than twenty times. The value of salt bar also increased substantially, apparently because of increased transportation cost caused by the shortage of pack animals, the exchange value of the dollar, which was eight to twelve bars of salt in 1889, decreased to two and two and a half bars in 1890.

In the period 1888-1892, famine caused largely by the loss of cattle due to rinderpest, but compounded by drought, army worm and caterpillar attacks, has caused the greatest horror in the country. It is estimated that the famine and the subsequent epidemics have killed about one-third of the entire human population and 90 percent of the cattle (Pankhurst, 1985).

Generally, the several droughts of varying magnitude have stricken the country after the traumatic experience of the Great famine. The most notable of all as measured by the level of disaster are the 1973/74 and 1984/85 (Melaku et. al 1997).

3.5 The Drought Scenario and Future Probability

I. Drought Scenario

Concerning the drought scenario, from the available records, drought is known to be the major immediate cause of famine in Ethiopia. Out of 39 famines, excluding 19 whose causes are not mentioned, that occurred up to 1992, at least 18 were triggered by drought alone or in combination with other factors.

According to Melaku et. al (1997) the occurrence of drought every year is now an established fact in the drought prone areas. What is not regular is the geographical extent of its coverage and the severity. An analysis of drought occurrence in the past indicates that it reoccurs after 3 – 5 and 6 – 8 years in northern Ethiopia and after 8 -10 years in the whole country.

For instance, at the 20 years period of 1958 – 1977, famine, largely induced by drought, was a yearly phenomenon although it varied in magnitude and coverage. Except the widest spread in 1974 covered 61 awrajas out of 102 and most localized in 1969 about only 4 awrajas were affected. On the average about 20 percent of the country was under famine every year (Mesfin 1984, cited in Melaku et.al (1997).

II. Future probability

It is established that drought is a result of the fluctuation of large scale atmospheric circulation which is a natural phenomena (Tefaye 1988, cited in Melaku, et. al 1997). In addition, human activities such as deforestation, overgrazing and over cultivation particularly in semi-arid zone and the pollution of industrial zone are found to be causes for global climatic variation thought influencing changes in the ecosystem that puts the lives in risk.

Melaku et. al (1997) pointed out that unless appropriate action are placed to minimize the effect of drought, based n these theoretical grounds and previous experiences, more serious droughts should be expected in the country in the future.

3.6 Theoretical framework for Drought management

From a theoretical perspective the procedure to determine effective strategies to manage droughts for a country or region can be summarized as follows (cited in Backeberg et.al 2003):

- Determine the probabilities of droughts of different dimensions to occur in a country or region
- Determine the extent and nature of the impacts (social, environmental, political; direct and indirect; short and long term; positive and negative; etc.) for droughts of different dimensions and probabilities.
- Determine the cost and effectiveness of different measures and application levels of measures as well as for different combinations of measures and strategies to reduce the negative impacts of droughts of different dimensions and probabilities.
- Integrate the above information within a cost-benefit or multi-criteria decision analysis framework to determine the most effective combination and level of measures and strategy to mange the impacts of droughts optimally.

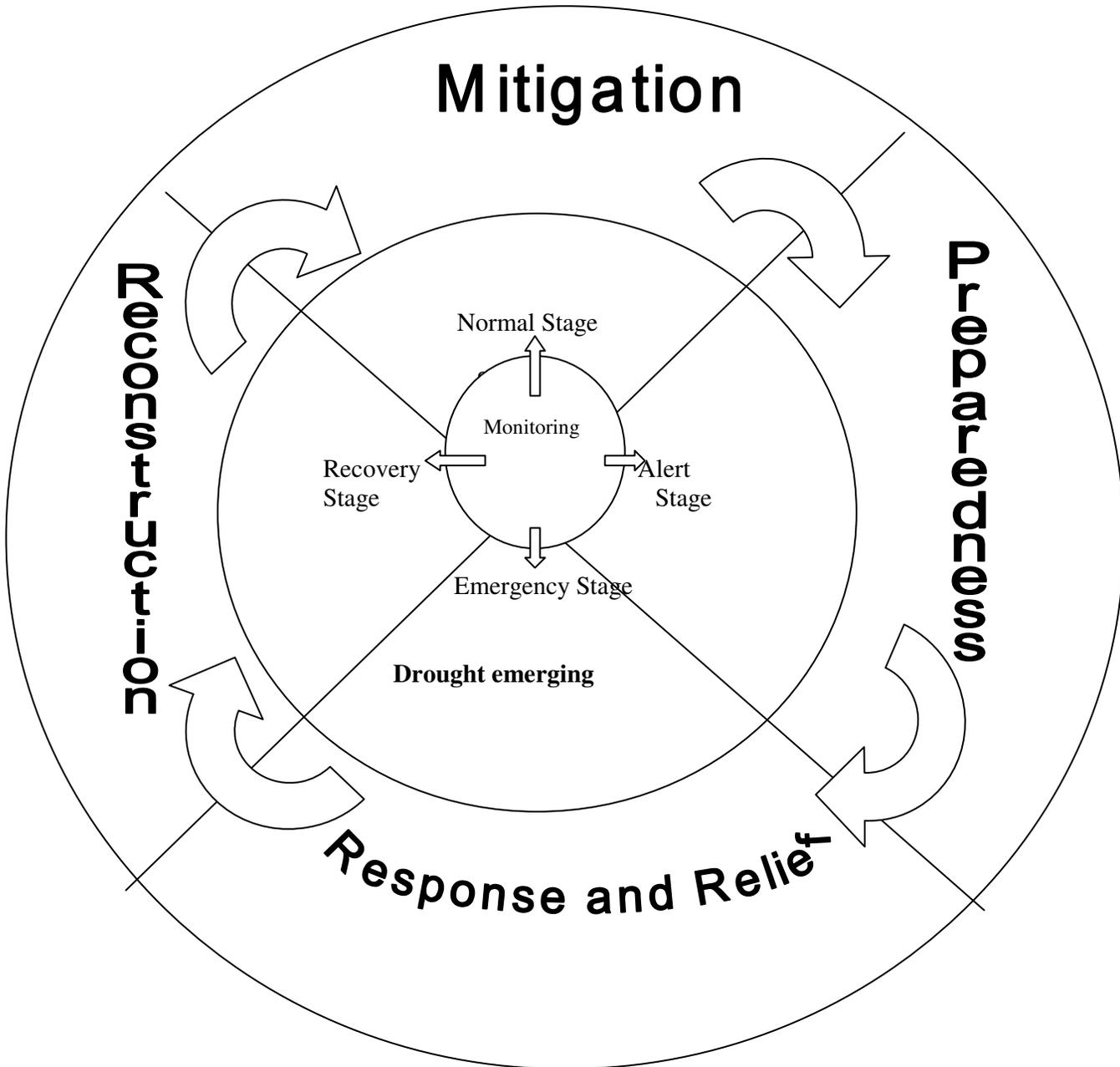
From this brief synopsis it should be noted that information about the impacts of droughts and the effectiveness of different measures to reduce the negative impacts of droughts are crucial for determining an effective drought management strategies.

3.7 Drought Cycle

(IIRR 2004), A disaster occurs only if a hazard (such as drought) affect livelihood who are vulnerable, drought is not a disaster it is a hazard that causes a disaster only if it combined with a vulnerability such as the inability to move some where with more water, or a lack of other sources of income (*Hazard x vulnerability = disaster*). Drought tends to follow a cycle. The cycle begins with a “*Normal*” situation with good rain. Conditions

gradually deteriorate through an “*Alert*” stage, when water pasture and other resource are becoming harder to find, to an “*Emergency*” stage, when they are very scarce and widespread famine and disease may occur. When the rain eventually does again fall, water supplied and vegetation recover, and people can rebuild their livelihoods at the stage of *recovery*.

Figure 3.1 Drought Management Cycle Module



Source: IIRR, (2004)

Normal Stage: Strengthen resource management, develop infrastructure promote income generation, plan contingencies, Education, family planning.

Alert Stage: Strategically stockpile cereals, rehabilitate critical boreholes, promote livestock marketing, intervene in human and animal health, and provide supplementary feed for livestock.

Emergency Stage: Intervene in human and animal health; provide emergency water supplies, supplementary food for vulnerable groups.

Recovery stage: Restock and rehabilitate dams, building capacity, develop infrastructure, food –for –work, cash for –work (SNP), and Natural resource management.

Drought that affect Ethiopia is usually slow-onset that comes gradually and last long, if adequate intervention or system are in place, it can be predicted and planned for, if not it will continue tragedy to the coming generation. Below the diagram show the behavior of slow-onset disaster such as drought.

3.8 DROUGHT VULNERABILITY

People living in drought-prone areas may always be vulnerable to drought to some extent because their livelihoods depend on the limited rain that falls as a result they may lose their livelihood and be forced to seek another one or they may die because they don't have safety net.

Through time, people have developed their ways to coping with drought, and surviving even though no rain falls for many months, it only when their coping mechanisms no longer exists, as a result of the recurrent drought they become vulnerable to drought.

Dessalegn(1992:8) has expressed the vulnerability factors specially to the poor into three dimensions, (a) their greater self- exploitation through a more active engagement in economic and income generating activities (b) their greater exploitation of social relationships (both inter-and intra-class), and of the ethic of communal cooperation and (c) their greater investment in custom and traditions.

There are different factors that make people vulnerable to the drought, especially in the developing country particularly in Africa. DPPA- TOT- NPDPM (1996). In the Ethiopian context, vulnerability is particularly about access to food: some people in some communities are more vulnerable to food insecurity and famine than other; there are some factors that contribute to vulnerability such as;

- ***Geographical/ location factors:*** Some people live remote, and in more drought prone areas, where no or less access to preparedness and response measures.
- ***Socio-cultural factors:*** these include beliefs about the causes of disaster, level of awareness, the degree of peace and social interaction and population growth.
- ***Economic factors:*** Poor economies, resource of people and nation to response, lack of capital which results in poor infrastructure.
- ***Technological factors:*** Level of technology in agricultural, communicational construction and system of early warning and predication.

- *Organizational factors:* political policies, planning and decision making power system and processes.
- *Land management factors:* method, technology to reduce environmental degradation and promote conservation.

3.9 ACCESS TO RESOURCE AND COPING IN ADVERSITY/ HARDSHIP

According to Piers (1997:46) ‘Access’ model focuses on the way unsafe condition arise in relation to the economic and political processes that allocate assets, income, and other resource in a society, But it also allows us to integrate nature in the explanation of hazard impacts, because we can include nature itself, including its extremes, in the working of social process.

Yared (1999:56), explains the main engine of economic resource in peasant households, such as land, oxen , other livestock and labor, as the important economic resource that form the foundation of the household economy.

Societies are a group of people with different ownership to the resource and capacity to cop or to respond to a hardship depending on their resource. Also access to resource varies between household and as a result such difference in access have for potential loss and rate of recovery.

Those with better access to information, cash, rights to the means of production, tools and equipment, and the social networking to mobilize resources from outside the household, are less vulnerable to hazards such as drought, and may be in a position to avoid disaster or their losses are frequently greater in absolute terms but less in relative terms, and they are generally able to recover more quickly (Piers 1997:47).

Dessalegn (1988) has expressed the household with poor access to resource’ it is in the years of recovery that the seeds of famine are actually sown’, it to illustrate that when the better-off households recover from the hardship as a result of access to resource, the poor

households are seeds of further hardship might have been sown because they have no or poor access to resource.

3.10 COPYING STRATEGIES

Piers (1997:63), has linked the coping strategies for survival with the Maslow's hierarchy of human needs at different level of the society. Often it is assumed that the objectives of coping strategies are survival in the purposes. Maslow, hierarchy involves identifying distinct levels of needs, with each level incorporating and depending on the satisfaction of needs below in the hierarchy. The lower ones still may include adequate shelter and food for healthy survival, while other needs near the bottom of the hierarchy will include minimum security from violence and starvation.

However, it is important not to oversimplify and over generalize the expectations and priorities in live of vulnerable people or those affected by a disaster. (Cited in Piers, 1997), elaborated that there is no standard coping strategies, but the victims have there own criteria of well-being. Specially, the poor households may involve in different activities that are discouraged by membership of a social groups, caste or by gender and chose to engage in demeaning activities by losing respect in order to secure a minimum food supply.

Dessalegn(1987:164) has pointed out that the survival strategies have been acquired though the experience recurrent drought; according to him indigenous disaster survival involves the adoption of emergency induced resource management measures, the effective use of natural resource, divestment of saving and disposal of assets, and greater and more efficient use of the market system. Further, the indigenous survival are grouped into four sequential series of activates, namely;

- (a) Austerity and reduced consumption (use of stored food/food stock, wild food, inter-family transfer and loans or pawn).

- (b) Temporary migration (moving to less hazarded places, especially poor households)
- (c) Divestment (sale of smaller stock such as sheep, goats and often young calves, followed by the cows, and finally working oxen)
- (d) Crisis migration (when the situation is beyond the above three coping strategies, mass migration will take place to rescue their lives).

Piers (1997:65), according to him once the hazard which had been foreseen, understood, and prepared for actually befalls a population, the precautionary mechanisms what he calls ‘post-event coping strategies’ are put into practices. When potential food shortages is anticipated adoptions in consumption patters should be made including substitution of lower quality and wild foods, followed by calling on resources from others(family and kin), this usually involves reciprocal social interaction and avoids usurious rates of interest.

Getachew (1995:263) describes the household coping or survival stages into two major contexts;

(a) *Social contexts* which deal about the ways the household manage to keep all or some of their family members alive especially during the famine event that took place in Ethiopia 1983/85 it includes rural welfare insurance, intra and inter household food distribution and to the extend of programmed migration (settle outside the area).

(b) *Economic context*; identifying the available alternatives to ensure survival within existing social and economic institution such as welfare distribution of land, market and households, cropping diversity (rational management).

Coping in a subsistence economy in Africa where the production and productive processes are still embedded in the economy of affection, the net work of support, communication and inter-actions among structurally defined groups that are connected by

kinship, community or other affinities. Table 3.1 below describes the response at different levels.

Table 3.1

Subsistence breakdown and crisis response, at domestic (household), community and state level

Crisis Response / coping levels		
Safety First (agronomic /domestic level)	Subsistence security Via norm of reciprocity (community level)	Moral economy (regional/State/global level)
Agronomic risk aversion: <ul style="list-style-type: none"> • Inter cropping, crop mixture, crop rotation, moisture preservation. Short maturing millet etc Exploitation of local environmental – <ul style="list-style-type: none"> • famine foods/ wild foods • Secondary resources – dry season crafts. Domestic self-help and support	Inter-family insurance <ul style="list-style-type: none"> • Risk sharing, extended kin groups, reciprocity, gift, exchange, mutual support, elite redistribution to the poor. • Storage, ritual sanction • Anti-famine institutions; • Patron-clientage; • Communal work groups 	<ul style="list-style-type: none"> • Global (Regional) and ecological interdependence; • Local and regional trade in foodstuffs from surfeit to deficit regions; Role of the state <ol style="list-style-type: none"> a) Central granaries based on grain tithe b) State relief and tax modification

Source: Watts 1984:128 cited in Getachew (1995:33)

3.11 CHALLENGES OF COPING STRATEGIES

In country like Ethiopia where agriculture is less than subsistence level, the effect of drought is felt in situation where there are no reserves from previous harvests or other income source which will be enough to counter production shortfalls that could be caused by drought.

Tesfahun el. at (2003) expressed the need of alternative source of income, since the rural economies often relay heavily on a few economic activities, making them vulnerable to downward shifts in economic fortunes, alternative activities and employment

opportunities are needed to give rural community additional security in times of crop failure or during the lean seasons between harvests.

According to Melaku et. al (1997) some of the major factors that make the population highly vulnerable to disaster are; low productivity of land (as a result of land degradation, poor technology and insecurity of land tenure) , low labor productivity (as a result of seasonal unemployment, small holding and fragmentation and poor health), resource limitation (includes oxen, seed, and tools), endemic crop pests, shortage of pastures, ineffective pastoral development(failure in the program such as off-take from areas to promote export trade, supply highland farmers with drought oxen and improve the living condition of the pastoralist), socio-cultural factors (exaggerated ceremonial expenditure), terms of trade (imbalance trade between farm production and manufactured goods) and recurrent of drought.

3.12 GOVERNMENT INITIATIVES

The climax of drought, led to the 1973/74 hidden famine, that is responsible for the death of citizens and livestock in the Ethiopian history has underlined the need to establish a commission that coordinates and facilitates the food aid for the victims.

The former Relief and Rehabilitation commissions (RRC) was, then established in 1974. The main objectives of setting up the commission as an independent government body was mainly to save lives and reducing suffering, by carry on the responsibilities of coordinating the relief aid and rehabilitation activities (DPPC-NPDPM-TOT, 1996).

According to “New Coalition for Food Security in Ethiopia” (NCFSE), the Ethiopian government has set different strategies and policies that will help the road map for Sustainable Development and Poverty Reduction Program (SDPRP) and as a measure that have created the enabling environment for the implementing of the programs. Such as NPDPM, Rural Development policies and strategies, Federal Food Security Strategies,

National population policy (NPP) and National Disaster Prevention and Preparedness Fund (NDPPF).

- **Objectives and Principles of National policy on Disaster prevention and Management (NPDPM).** Relief and emergency actions have been undertaken in the context of NPDPM formulated in 1992.

<p>Box 3.1</p> <p style="text-align: center;"><u>Objectives of NPDPM</u></p> <ol style="list-style-type: none"> 1. No human life shall perish for want of assistance in time of disaster 2. Adequate income shall be ensured to disaster affected households through relief programs to allow them access to food and to other basic necessities 3. The quality of life in the affected areas shall be protected from deterioration due to disaster and the adverse impact mitigated in time with utmost urgency 4. Relief efforts shall reinforce the capabilities of the affected areas and population, and promote self-reliance 5. Contribution to sustainable economic growth and development shall be given due emphasis in all relief effort 6. The assets and economic fabric of the affected areas shall be preserved to enable speedy post disaster recovery 7. Provision of relief shall protect and safeguard human dignity and reinforce the social determination for development 8. Disaster prevention programs shall be given due emphasis in all spheres of development endeavors 9. All endeavors in relief programs shall be geared to eliminate the root causes of vulnerability to disaster 10. The best use of natural resource endowment of the areas shall be promoted. 	<p style="text-align: center;"><u>Principles of The NPDPM</u></p> <p>Government or NGO should follow the following four basic principles in all relief intervention.</p> <ol style="list-style-type: none"> 1. The community shall ply the leading role in the planning, programming, implementation and evaluation of all relief project, and line departments role in these regard would be sub-servant to this 2. The urgency of different measures shall be carefully assessed and resources shall be deployed for the more urgent measures of the moment; and precedence shall be given to areas where lives and livelihoods are more threatened. 3. There can be clearly defined focal points of action for different tasks at different levels; and centre of coordination shall be properly empowered. 4. Relief must be addressed to the most needy at all times and no free distribution of aid be allowed to able-bodied affected population <p style="text-align: right;">Source: DPPC-NPDPM-TOT (1996:96:97)</p>
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- **Rural Development Policies and Strategies**, this policy aim on economic development to ensure through agriculture-led and rural-centered development, same of the directions are extensive utilization of human labor, proper use and management of land, water and other natural resources, agro-ecology based development approach, targeted interventions for drought-prone and food insecure areas and encouraging the private sector.
- **The federal Food Security Strategy**; this strategies rests on three pillars, which are (a) increase supply or availability of food by enhancing agricultural production in mixed farming systems, household based integrated and market oriented extension

package, transforming subsistence farming into small scale commercial agriculture, and pastoral development (b) Improve access/entitlement to food: this is enhance food entitlement of the most vulnerable section of the society (c) strengthening emergency response capabilities; governments committeemen to strengthening the capacity of Ethiopian Strategic Food Reserve(ESFR).

- ***The National Population Policy (NPP):*** It was formulated in 1993; actions to be taken with regarding promotion of the demographic transition from rapidly increasing population growth to a lower level are the essential part of food security program.

3.13 INTERVENTIONS:

An intervention includes any activity that undergone with the intention of addressing to the problems of that community particularly and to the country generally, that could be undertaken by government and/or NGO's in or individuals as well.

I. Food Aid

According to Peter (2005), In Ethiopia up to 1,200,000 Metric Tones of relief food has been donated by international communities and organizations, every year for the population between 2 – 6 million. Theoretically this resource could have generate about 150,000,000 million labor days annually depending on the nature of the food security condition in the form of EGS.

Despite of food aid reform as a major input into a safety net programme and shift from the relief to development the Ethiopian response to drought mainly based on the food aid either in the form of free distribution or in the form of food for work. According to the new coalition for food security in Ethiopia volume I from year 1994-2003 the total relief food assistance received populations are 61664528 million, which means on average every year there have been about 6,166,452 million beneficiaries from food aid, on the other hand in the reference year (2003), the number of beneficiaries increased by 54 percent that of base year (1994 GC).

II. Types and Sources of Food Aid

TOT- NPPDP (1996) categorizes both types and sources of food aid into three different parts.

Types of Food Aid: there are three major types of food aid. 1st Employment Generation Scheme (EGS) that is access for food through participation in the program and employment based safety net. 2nd Gratuitous relief (free food distribution), 3rd types is Monetization or market support programs that involves selling aid grain to merchant as a subsidized price for onward sales in areas where there is a food security problem but where the need is not critical.

Source of Food Aid: The main source of food aid is foreign donors based and according to NPPDP they are categorized into three 1st emergency relief aid (usually pledged for a known emergency), 2nd Rehabilitation and reconstruction aid off-sets, the structural food deficit thought specific use in EGS and similar programs, and for monetization, and the 3rd one is program food aid, which is annual aid offered to development programs such as school and feeding programs.

Peter (2005), under his sub title "*Land of 'Drought and Famine'*" of all the countries synonymous with food shortage, drought and war, Ethiopia perhaps remains the most prominent. Peter emphasis to show the magnitude of the issue, based on WFP 2000 information the numbers of the people that required relief food assistance are much more than the great famines of 1972 and 1984.

Again, of all the countries affected by disaster, the annual average number of people reported killed or affected in Ethiopia over 25 years (1970-1997) is the highest figure for an African country. Average annual figures for Ethiopian killed by disaster mainly drought induced equals 48,464 and affected population equals 2,712,757. From the period 1984- 2001 Ethiopia food aid receipts is about 5,975,172mt. (ICRC, 1996, cited in peter 2005:24)

Dessalegn (1987:212) has expressed the impact of food aid in the following three points; 1st it induces poor countries to neglect their own agriculture and become dependent on food imports and food aid; 2nd encourages rapid population growth and urbanization in food deficit countries, hence greater demands for food and 3rd encourage greater attention to be paid to the production of cash crops as opposed to locally consumable food crops.

Advantages and disadvantages of aid (in cash and kind)

Box 3.2	
Cash - For- Work	
<p style="text-align: center;">Advantages</p> <ul style="list-style-type: none"> • Households can choose what to spend their wages on. • Distribution cash is faster and more cost-effective than the alternatives (restocking, seed distribution, etc) • Distribution costs are low, so beneficiaries receive a large portion of the funds. • Spending benefits local markets and trade • If they earn enough, people can easily invest money in livelihood security. • Women and marginalized groups can improve their status. • Wage levels are unattractive for the better-off, so the assistance is self-targeting for needier people. 	<p style="text-align: center;">Disadvantages</p> <ul style="list-style-type: none"> • Cash is of inherent value to everyone, how can donors be sure that their aid in cash reach to intended needy groups? • Cash can be used for non-consumption and antisocial activities. • Injecting cash into the local economy can push price up. • Cash can easily be stolen-or diverted by corrupt officials • Work is unsuitable for the most vulnerable (the sick, old, and young children's) • It favors men, but targeting women may increase their workload. • Paying for work may mean people are less likely to want to participate in the true development projects • Donors often have a budget for food aid, but not for cash.
Food-For-Work	
<ul style="list-style-type: none"> • Donors have food surpluses then can donate • Providing food immediately increase food availability (although there may be delays in delivery) • Food correctly addresses nutritional deficiencies. • It can be self-targeting, as only the neediest are prepared to do the work. • It favors women and children and the elderly. 	<ul style="list-style-type: none"> • Transport (often from overseas) storage and management costs are high. • Food arrives where it is needed slowly, and often too late. • Food can be spoil or stolen • Food is less easily convertible than money • Competition from donated food damages local markets and trade, and discourages local farmers from producing • Food types may not suit local tastes • It increases women's work loads
Free Food Distribution	
<ul style="list-style-type: none"> • Good in the Emergency stage and when people really cannot get any food • Minimize selling of productive assets and livestock of poor households. • It helps Refugees ill, elderly and handicapped during food stress 	<ul style="list-style-type: none"> • Create dependency • Harm the local economy • It is big business • Politicians use to buy votes • Invites corruption • Induce recipient government to change their policies
Source: IIRR et-al 2004:114	

3.14 NGO'S CONTRIBUTION

Ravi (2003), defines NGO by dividing into two boarder classification 'residual' and "Institutional'. The residual approach is strictly temporal and functions under emergency and unforeseen circumstances and gradually replaced by institutional, whereas Institutional approach is more of permanent in social service and development activities.

The World Development Report endorses the importance of NGOs "in their ability to involve communities and grass-root organization more effectively in the development processes and in addressing poverty" and adds that in 1987, NGOs transferred about 5.5 billion dollars from industrialized to developing countries, that is nearly 1 billion more than the International Development Association" (cited in Ravi, 2003:24). However, NGO's an intervention in development edoverse does have there own limitations. Ravi, summarizes the NGOs involvement in development which result in interferes in the following six points.

- I Service or Development:** Service -oriented NGOs do not carry the beneficiaries on the path of development. They simply perpetuate people's state of dependency.
- II Competition or Collaboration:** There are several NGOs providing the same service with duplication of energies and resource. Collaborative NGOs share the areas of intervention and the resource; NGOs can neither replace the government nor capture the service areas in monopolistic way.
- III Dependency or Empowerment:** NGO's as a catalyst, helping people release themselves from the dependency syndromes or releaser/mobilize of social energy to the beneficiaries to manage and shape their own future. The principle of empowerment also necessitates that there should be no more than the minimum critical help to people from outsider; otherwise the process of empowerment itself will be obstructed.

- IV Scaling up or Institutionalizing:** Too often NGOs are tempted to extend their scales of activities without attempting to build up the process of attaining self-reliance on the part of beneficiaries, when the targeted beneficiaries are enabled to do things by themselves the rule of NGO should be terminated. So the end goal of NGO activities is their natural termination defined in terms of the clientele systems' attains self-reliance.
- V Political accommodation or Political spacing:** NGO activities are observed to have been politically accommodated rather than given a well-meant political. NGOs need to get a definite space in the politics of the state.
- VI Planning for the people or planning with the people:** The Social energy through people's participation in development process remains a dream. "Planning for the people" posture on the part of NGOs will end up leaving the people where they were. NGO activities must necessarily be inspired and designed in the paradigm of "planning with the People".

3.15 EFFECTS OF DROUGHT:

IIRR et. al (2004), according to the tool kit for the dry land, droughts inflict a heavy cost in human, material and physical resources and damage to the environment.

Economic Effects; Extensive damage to vegetation and water supply points, livestock deaths, loss of economic growth and development, lower income for farmers and pastoralist, higher food prices, unfavorable terms of trade for pastoralist, losses from tourism

Social effects: Food shortage, malnutrition and famine, people fall in and die, decline in living conditions, population migration (separation of families), conflicts over resources.

Environmental effects; Plant damage, reduction in water quality and quantity, more dust and pollutants, pest outbreaks.

4. LEVELS AND TRENDS IN VULNERABILITY IN THE STUDY AREA

Secondary data were primarily collected from various zonal and woreda government sectoral offices. In order to close the data gaps every effort has been made to acquire the necessary information from concerned offices including further level of carrying out discussions with the personals in charge of the responsibilities.

4.1 DEMOGRAPHIC INDICATORS: TRENDS OF POPULATION GROWTH

It is apparent that average annual growth rate of population is generally high in developing countries. Hence, the trend is expected to be high in areas like Humbo where children are considered as an asset to households (labor, status, security income source and risk of death) and the issue of family planning under such rationales context it is difficult if not impossible.

In 1994 the population of Humbo was 96,642, of which 2.9% was urban. According to the zone socio economic profile in the year 2005 GC the over all population of Humbo is projected to be 140,237 of which 3% is urban. From the figure, the gross population increase in the reference period (11 years) was 16% or an annual average increase of 1.6%. The major reason behind such a rapid growth of urban population is immigration. Rural-urban migration mainly due to push (drought, land degradation, shortage of land, oxen, and other assets) and pull factors (lack of alternative employment opportunity), which puts much pressure on the existing social and economic facilities in the town. However, this migration has resulted in increase in PLWHAs returnees to the village, which put again in the worst situation of the household economy.

The effect of population growth on land is directly reflected in trends of density. As density increases, the pressure on economic base in general and land resource in particular increases. Explicitly, encroachment to virgin lands is reduced and virtually per capital land holding decreases.

The crude density or number of people expected to live per square kilometre was 96 during the 1976 census and 114 in 1987. The most recent figure was 283 persons per km² in 2005. This ration is actually very low as compared to the other woredas in the Wolayta zone. In Damot Gale woreda, for instance, the crude density was 750 per km², Bolosso Sore 637 per km², Damote Woyde 390 per km² (Zonal socio-economic profile 2005).

Table 4.1 Population Distribution of Humbo 2005

Age Group	Both Sexes		Male		Female	
	No	%	No	%	No	%
10-14	15,788	12%	7996	12%	7792	12%
15-19	22,688	17%	11441	18%	11247	17%
20-24	22,194	17%	11310	17%	10884	17%
25-29	16,720	13%	8486	13%	8234	13%
30-34	10,486	8%	5272	8%	5214	8%
35-39	9,381	7%	4332	7%	5049	8%
40-44	7,052	5%	3267	5%	3785	6%
45-49	7,166	5%	3050	5%	4116	6%
50-54	5,630	4%	2826	4%	2804	4%
55-59	4,132	3%	2215	3%	1917	3%
60-64	3,168	2%	1640	3%	1528	2%
65-69	1,655	1%	941	1%	714	1%
70-74	1,825	1%	1000	2%	825	1%
75+	2,591	2%	1481	2%	1110	2%
Total	130,476	100%	65,257	100%	65,219	100%

Source : Woliya Zone Basic Socio-Economic and demographic information (2005)

Table (4.1) shows that in the total population, the age groups below the age of 25 are more. As it is true in the demographic characteristics of developing countries, the youngest age groups, which represent the dependents, characteristics of developing countries also constitute nearly half of the entire population.

The other point of interest in the figure above is females out number males in the age groups (35-39), the probable reason behind such occurrence may be male out migration during active ages for searching of jobs in order to escape or resist the recurrent drought. An implication to women is not only as victims of poverty but also deprive maternities, an extension services need to be address this issue.

Large ration of dependents in a population of an area indicate the burden put upon the active population. Although children are often engaged in productive activities as of 7 particularly in rural Ethiopia, it is conventional to categorize children under 15 as dependents. On the other hand, old people above the age of 65 too are considered as dependents. Population, source of labor, income creative or innovator yet what ever produced will be consumed, no saving and little improvement of loan, which result in high vulnerability to drought and famine.

4.2 CLIMATE AND SOILS

i. Climate

In a country like Ethiopia, despite agriculture being the mainstay of the national economy (about fifty five percent of GDP, Ninety five percent of total export, and eighty percent of the total labor force), its performance is quite low, this low productivity means high food insecurity, which indicates the highly vulnerability of household to food shortage.

The agricultural system practiced in Humbo is virtually dependent on rainfall. Therefore, timeliness, adequacy and distribution of rainfall determine the fate of agriculture, from which majority of the population depends its livelihood. Drought, which can include a late start to the rains and /or an uneven distribution of rainfall, is the most important causes of acute food shortage. A late start to the *belg* rains is significantly, resulting in an extended and more severe hunger season than usual.

ii. Soils Types

No detailed study report is available about the soil characteristics of Humbo. Based on the information of woreda Agriculture and Rural Development office there are about four types of soil; clay loamy/red soil account 70%, grey/sandy soil accounts 15%, black soil accounts for 10% and brown/ clay loam soil consist of 5%. The depth of soils differs on the basis of differences in slope. Shallow soils are associated with sloppy landform with degraded areas.

Humbo is categorized under areas highly vulnerable to land degradation, caused by erosion, intensive and steep slope cultivation and farming practice etc, also, traditional

soil fertility mainstreaming practices such as fallowing, crop rotation, intercropping, use of manure and crop residues are weakened because fallowing land are broken down due to population pressure, crop residual and manure are used as animal feeder, fuel wood and construction material and etc.

4.3 ECONOMIC CHARACTERISTICS

i. Agriculture

Majority of the population in rural area are engaged in mixed agriculture as the main economic activity. Although the main source of livelihood is crop production, livestock is also raised as additional source of income, for consumption of the bi-products and kept as an asset for periods of stress.

The major crops grown are categorize in to three, Cereals (maize, sorghum, teff), Pulse (haricot bean, ch. pea), root crops such as sweet potato, Irish potato, enset, and fruits and vegetation, also coffee are grown around homestead. Hoe for poor household and oxen for better off households often are used complementarily as a means of plowing and the use of animal manure is a common practice exercised to maintain soil fertility.

According to the woreda offices of agriculture, there are two Small-Scale irrigation projects that are exist in Humbo woreda, namely *Lsho* and *Ella* and the total cultivated area under the system is only 257 hectares (about half of irrigable land) and about 386 households are beneficiaries of the project. The figure shows that still some measure action need to be taken.

Humbo, is known to its production deficit for many years, possible attributive factors for the low agricultural production include shortage and erratic nature of rainfall, backwardness of farm implements, low use of modern inputs, and decline of soil fertility. However, for instance in the year 2005, the total dispatched amount of fertilizer (DAP and Urea) and improved seed is 1765 and 537 quintal respectively, this shows that the capability to use the agricultural input is very limited as a result of poverty and peoples awareness on its effect on the soil fertility and low productivity as a result of absence or less rain as well as it debts clearance.

According to the data obtained from the woreda office of Agriculture and Rural Development, the five major crops in-order of importance are maize, sorghum, haricot bean, sweet potato and teff. Maize by far is the major crop in terms of the area coverage and is the staple crop of the area, regarding the gross volume of production however, sweet potato comes first.

Table 4.2a Proportion of Area (hectare) under Major Crops (quintal) (*Meher* and *Belg*), (1989-1991)

Crop type, area covered and production by year during *Meher*

(1992/93 - 1997/98 E.C)

	Type of Grain	1992/93		1993/94		1994/95		1995/96		1996/97		1997/98	
		Area	Production										
1	Teff	2405	12843	1831	8112	1865	8495	2441	11265	1877	8883	2409	14869
2	Ch.Pea	900	3851	550	3096	1010	6566	190	700	507	2738	550	2982
3	H.Bean	2005	6192	500	1974	516	469	1108	2885	940	3252	946	3921
4	Sweet Poteto	876	112	810	64656	655	24300	690	58225	1236	60500	1425	125400
5	Irish Poteto	200	80078	250	11970	118	9224	15	840	15	1200	0	0
6	Barley	165	1013	112	642	85	408	38	259	50	380	49	392
7	Bean	33	171	28	98	31	93	36	253	25	155	31	214
8	Pea	28	79	26	109	11	33	27	113	30	180	35	242
9	Paper	91	716	115	822	115	814	296	2128	40	220	123	984
10	Cotton	280	753	450	3260	650	4980	505	3800	396	2990	1296	20320
11	Wheat	76	195	49	267	35	77	0	0	2	16	16.5	195
Total		7059	106003	4721	95006	5091	55459	5346	80468	5118	80514	6901	169737

Source: Woreda Agriculture and Rural Development Office (1998 E.C)

Table 4.2 b Crop type (quintal), area covered (hectare) and production by year during *Belg* (1992/93 - 1997/9 E.C)

	Type of Grain	1992/93		1993/94		1994/95		1995/96		1996/97		1997/98	
		Area	Production										
1	Meaiz	10877	108026	8741	97514	9865	25545	10361	70088	10126	50775	11192	132394
2	Sourgume	987	5531	1338	11287	1046	1776	5954	57720	2436	13154	3734	40348
3	H.Bean	1603	8018	1624	8802	1046	318	1912	9372	3696	9457	2206	10204
4	Sweet Poteto	2000	2000	2101	163393	2000	55950	1182	104000	2726	209356	1166	98806
5	Irish Poteto	75	4200	79	2912	110	1536	105	6300	69	6293	108.5	5968
6	Barley	63	378	95	578	95	168	10	80	41	286	62	496
7	Dagusa	114	527	196	1130	0	0	58	348	96	573	177.5	1420
8	Boye	64	5184	99	9009	110	4828	45	2612	45	4050	0	0
9	Paper	0	0	30	240	0	0	169	1690	338	1846	359	2287
10	Cotton											177	3540
11	Godare	450	35700	372	31733	470	15340	424	38680	487	37609	492	43296
Total		16233	169564	14695	328398	14742	105461	20283	297190	20318	359199	20018	369857

Source:- Woreda Agriculture and Rural Development, 1998 EC.

The table 4.2 illustrates that there is a considerable fluctuation in area coverage and volume of production in the period on both *Meher* and *Belg* seasons. The table further

indicates that gross productivity (total production to total area covered by specific crop) has been decreased substantially. This may be attributed partly to the increasing scarcity of rainfall through time.

ii. Land use, Land holding and forest

a) Land use

The Wolyita zone socio-economic profile (2005) the area of Humbo woreda is 86,646 hectare, of which 35,057 hectare cultivated land, which consist of 40.46%, 1,010 hectare cultivable land (1.16%), 8,585 pastoral land (9.9%), 24,845 hectare bush land and shrub land (28.64%), 12,000 hectare (13.8%) is covered by water, and 5,149 hectare of land accounts for other type of usage.

b) Land holding

It is known that land is the basic resource for agricultural societies. Time series data on trends of land holding and land use patterns are extremely scarce at woreda level. Usually they are recorded at one time and not reassessed for long.

One general truth regarding changes in land holdings is that so far as agriculture remains to be the sole sector to absorb the emerging labor force, it is natural that as population grows or as family expands, household land possessions are redistributed to newly formed families. Virgin lands are routinely added up to the cultivated land time to time. Now a day, fallow land is getting diminished and grazing land is shrinking through time rapidly.

The statistical report of the Woreda Agricultural and Rural Development office indicates that before 1990 EC, there was no land less household in Humbo. At woreda level, holdings less than or equal to 0.5 hectare are considered as low while 2 and 3.75 hectares were taken as medium and large respectively. However, records show that the overall size of cultivated land reached its maximum level the mean size of cultivated area was only 1.29 hectare per household and even there are land less in the woreda. In Humbo,

size of holdings is generally larger in *Kolla* where the settlement pattern is seasonal and is smaller in *woina dega*.

c) Forest

Natural forest cover does not exist in the mid highlands due to the maximum expansion of cultivation. The remaining forest in the lowland is being used in a rapid pace for consumption of firewood, construction wood and charcoal production as important source of income. According to the information obtained from the office of Humbo woreda, Natural Resource Management and Development Desk there are about 135 households that are engaged in charcoal production, about 298 illegal tradition timber makers, and about 5 illegal wood work machinery shops in Tebela town.

This unplanned removal of forest cause land degradation, loss of biodiversity, foods and traditional medicinal plants and diminishing supplies of fuel wood cause animal and crop wastes to be burned rather than returned to the land as maintain soil fertility thus, the community at general and poor household whose livelihood depend on forest products as a source of income and food has exposed to the sever vulnerability and environmental degradation.

In terms of afforestation through the distribution of plant seed by the woreda Natural Resource Management and Development, some farmers in woreda are carrying out plantation of trees as long-term coping strategies, particularly around their homestead (shade, fruits), traced land, and as land demarcation.

Since, agriculture is the only sector to absorb the incoming labor force, the extinction of forests is expected to remain so unless fundamental measures are taken as early as possible.

iii. Livestock Resource and Challenges

Traditionally raising livestock for a multitude of reasons among which the supply of oxen as a traction power, income generation from its sales and the consumption of its bi products are worth mentioning.

Also, prosperity is gained not only through access to more land but frequently through the acquisition of more livestock, Someone is considered wealthy if he (rarely she) has a large herd of cattle, and such a person is expected to hold public resources when the size of his heard reaches such magical numbered “*Dala*” as one hundred or one thousand. However, now- a –days as a result of the recurrent drought and other related socio-political issues the system is very rarely seen or almost not existing in the zone Desalgne (1992:10)

Table 4.3 Livestock Resource in Humbo Woreda (1989-1992 E.C)

Type of Animals	1992			1993			1994			1995			1996		
	Local	Improved	Total												
Cattle	46075	0	46075	51384		51384	62025		62025	67625		67625	74653		74653
Goat	11357		11357	11352		11352	12459		12459	12800		12800	13263		13263
Sheep	11357		11357	1650		1650	3217		3217	3650		3650	4269		4269
Equine	1657	0	1657	1657	0	1657	2579	0	2579	2918	0	2918	3550	0	3550
Horse	8		8	8		8	5		5	5		5	3		3
Mule	32		32	32		32	57		57	63		63	88		88
Donkey	1617		1617	1617		1617	2517		2517	2850		2850	3459		3459
Sub total	70446	0	70446	66043	0	66043	80280	0	80280	86993	0	86993	95735	0	95735
Poultry	33500	1500	35000	35200	2000	37200	2517	0	2517	30091	36750	66841	39536	1519	41055
Beehives	1100	557	1657	557	1150	1707	557	1150	1707	557	1150	1707	606	1190	1796

Source: Livestock Population woreda Department of Agricutre, 1998 E.C

Despite the prevalence of livestock disease and increasing reduction in grazing land, and less frequency on shoat’s (goats and sheep’s) growth, the data above reveals a progressive increase of the livestock population in number.

According to the table 4.3, cattle accounts for 78% in 1996 while shoats (sheep and goats) and equine represent 14% and 4% of the total livestock population respectively. In livestock productivity what greatly matters is the type of species. Nearly all the livestock breed mentioned above are indigenous (local) types, which are known to their

low productivity as compared to the hybrid or improved breeds. However, on the other side the indigenous type of livestock is more resistance to drought or other difficulties, required less feeder, grazing area, and water.

The amount of grazing land per livestock head has been reduced from 0.12 to 0.09 hectare within these 5 years alone. Since this is the ration of gross grazing land to the total livestock population at woreda level, there is the ratio of gross grazing land to the total livestock population at density is higher. The major contribute to the decline of grazing land is lack of or less in alternative income source that exist in the area which, again subject the households to vulnerability.

Challenges of Livestock

The other critical challenge in animal husbandry is the prevalence of livestock disease. Infectious diseases (CBPP, CCPP, Black leg, Anthrax etc.) external and internal parasites and Trypanosomiasis routinely attack the livestock population.

Table 4.4 Livestock Treated for Various Diseases,(1995 – 1997 E.C)

Types of Disease	1995		1996		1997	
	Livestock population total	Livestock treated in (%)	Livestock population total	Livestock treated in (%)	Livestock population Total	Livestock treated in number
Infectious Disease	86,993	15%	95,735	53%	*NA	3,071
External parasites	86,993	2%	95,735	8%	*NA	8,175
Internal parasite	86,993	0.00496592	95,735	18%	*NA	6,504
Trypanosomiasis	86,993	14%	95,735	13%	*NA	20,718

Source:- Woreda Livestock Clinic Humbo, 1998 EC Note: *Data is Not Available

There are only two type C veterinary clinic at the woreda centre in 2005. Eight health technicians are currently in service. Therefore, the health personnel to livestock head ratio is none veterinary doctors to 96,745 and 1 technician to 12,093. Besides the shortage of professionals, the inaccessibility of the institution and increase in the price of

medicine indicates the low level of the service provided. Following the cut of trees, the tradition way of medication is insignificant.

v. Agricultural Extension

The agricultural extension program is launched nationwide as a means to overcome problems associated with low agricultural productivity and intended to minimize the problem in relation to the recurrent food insecurity situation. Indeed, the history of agricultural promotion in Wolayta area dates back to early 1970s, the time in which the Wolayta Agricultural Development Unit (WADU) was operational. Since, then the use of improved seeds, fertilizer and pesticides is not a new phenomenon to peasants of Woliyta Zone.

The basic approach implemented in extension package programs include the provision of technical advice by DAs who live amongst the peasants, supply of inputs on a basis of advance payment or direct purchase, working on demonstration plots and increasing the number of participants through a diffusion model.

Despite of raise in production to a considerable level by the use of modern in put, the program is characterized by a number of challenges among which shortage of rainfall, failure in the system of agricultural techniques training and awareness creation, unbalanced DA's to agricultural household rations, failure to secure the down payment by households and increasing price of inputs, are worth mentioning.

vi. Market Price for Agricultural Products

The degree of price fluctuation in an open market indicates the status of vulnerability in terms of showing the supply/demand relationship of consumption items. When, supply is short of demand, then price increases and vise versa. This phenomenon is immediately reflected in the livelihood of the people. An attempt has been made to assess the market price for the common food items and livestock.

Table 4.5 Crop and Livestock Average annual Open Market Price (birr/qt)
(1993 - 1997 EC)

A. Crop	1993	1994	1995	1996	1997
*Maize	50.50	59.70	85.00	91.67	140.83
*Sorghum	91.00	49.90	95.00	101.67	124.75
*Teff	182.00	147.87	161.00	227.08	226.42
Wheat	108.80	117.80	135.00	127.08	157.83
*H.Bean	93.50	83.80	120.00	120.00	144.08
Ch.Pea	108.50	110.67	215.00	195.00	212.08
Kocho		152.38	120.00		
*Sweet potato	84.00	25.70	45.00	23.08	24.92
Barley	101.80	92.00	130.00	128.17	151.00
Pea	152.25			300.00	227.42
Bean	135.00			220.00	207.83
B. Livestock					
Ox	551.00	562.20	625.00	660.43	1,117.00
Caw	518.50	497.70	525.00	722.09	717.00
Sheep	85.30	106.20	135.00	128.00	230.00
Goat	75.10	97.00	95.00	115.00	216.60
Gider	216.60	233.50	270.00		
Tiga		126.63	170.00		

Source: Woreda Agriculture and rural development office, 1998 EC

The price of all *major crops has increased at a rate ranging from 19 percent to as high as 64 percent in 1997 when compared to that of 1993, the effect of which is attributed to the production shortfall in 1994. The other point here is that there is significant variation of price between periods. Poor households are especially more vulnerable to an increase in food price given their heavy dependence on the market for food and their relatively limited purchasing power.

The price fall during 1994 period is an indicative of low level of crop storage practices. This coincides with the food in security situation of the year when nearly 63 percent of the population is affected by drought and subjected to relief food aid. The price of all but ox went up at the end of the reference period. This trend indicates that people are forced to sell their livestock assets during stress periods. In other words this is the reason behind peasant's preference of raising household animals besides crop production.

4.4 INFRASTRUCTURES

The study area is related to absence or inadequacy of certain physical infrastructure structure and economic services that is required to facilitate the process of production and distribution of agricultural goods. For instance, inaccessibility to roads for exchange of labor, market, stock, information, inadequate water supply, health and education service, etc are worth to mention as some of major infrastructural constraints .

5. DISASTER HISTORY OF THE WOREDA

Even though, Humbo is a disaster prone area, no in-depth study is made so far and time series data is not available. Insufficient information available, indicate that drought is the foremost disaster and Humbo is one of the chronic food insecure woredas of the Woliya Zone. Drought and its resultant famine are common to all the RKAs. The following list of major disasters, their severity and estimate of the affected population is obtained from community group discussions conducted at sample RKA and interviews with Zone and Woreda Disaster Prevention and Preparedness Desks.

Table 4.6 Major Disasters and their Degree of Severity since 1960s EC

Drought			Epidemics (human & Livestock)			Pests			Flood		
Year	Severity	Affected population	Year	Severity	Affected population	Year	Severity	Affected population	Year	Severity	Affected population
1963	Low	Few	Human			1988	High	Most	1971	High	Most
1965	High	Most	1970	V.high	Few	1989	Medium	Few	1984	Medium	Few
1966	High	Most	1977	High	Most	1996	High	Few			
1973	High	Most	1987	V.high	Most	1997	High	Few			
1977	V.High	All	1989	V.high	Few						
1983	High	Most	1990	High	Most						
1984	High	Most	Livestock								
1987	V.High	Most	1990	V.high	Most						
1988	Medium	Half	1992	High	Most						
1989	High	Most	1995	High	Half						
1990	Medium	Half	1996	V.high	All						
1991	V.High	All	1997	High	Half						
1992	V.High	All									
1995	V.High	All									

Source: Interview with Zone and Woreda Disaster Prevention and Preparedness Desks, RKAs Leaders, and Key informants, 1998 EC

The information on table 4.6 reveals the fact that the occurrence of drought and famine in Humbo is not simply a periodic incident or passing problem but of a chronic nature, this

could be easily seen from the sequence of years in which significant proportion of the population is affected by food shortage. It now became almost yearly phenomena since 1984.

A number of reasons are listed as causes for the incidence of food shortage, among which shortage of rain and its uneven distribution and increasing infertility of the soil are worth mentioning. Epidemics such as malaria, diarrheas and meningitis do also occur occasionally, although the effect of droughts often covers wider geographic area, the capacity to withstand the shock varies between households based on their economic categories.

Types of households that are more vulnerable to effect are those categorized as poor, women house head and most medium peasants and their livelihood characteristics with large number of dependents (children, aged and disabled), those of smaller land holdings and smaller or no livestock resource, no oxen to plough, and those with no or small land of permanent crops. Similarly, households and group of persons at higher risk to epidemics include poor families, households with large number of children and elders.

Table 4.7 Proportion of Drought Affected Humbo Population
(1986 – 1998 EC)

Year	Food aid beneficiary/ Affected Population	Affected Population as of the total (%)
1986	70,000.00	75%
1987	30,000.00	31%
1988	15,000.00	15%
1989	12,000.00	12%
1990	11,000.00	10%
1991	68,000.00	62%
1992	68,000.00	60%
1993	14,200.00	12%
1994	74,600.00	63%
1995	65,000.00	53%
1996	NA	NA
1997	65,000.00	50%
1998	65,000.00	48%

Source – Woliyta Zone Disaster Prevention & Preparedness Desk, 1998.

The table 4.7 reveals the fact that, the numbers of beneficiaries are fluctuating and increase by considerable amount from year to year. The food aid distribution includes free food distribution, and the most recent one is the productive safety net program that is lunched as one of the government policy plan to minimize the food insecurity particularly at household level and generally at the national level. In addition to the government intervention one of the pioneer NGO, namely World Vision Ethiopia (WVE) has been working in Humbo since early 70's. Its initial focus was on relief food aid but later on, the organization has shifted its approach from relief to an integrated development. The current intervention areas of the organization include education, health, potable water supply, agriculture, credit provision and the development of road infrastructure.

However, according to the community elders information and my observation WVE, intervention have never brought sustainability to the local livelihood, rather it has contributed the lion share to the culture of dependency on food aid, related other aids and also blocking ways of other NGO's operation in the woreda. Among the possible reasons behind this is early and sudden withdrawal of assistance provision specially school material provision, medical... and intervention that does not consider the capability and priority of the community such as motor pump water supply that requires the community (poor) money to contribute for fuel.

A shortage in drought oxen means more hand digging, which requires more labor: labor is mostly supplied by family members, especially women and children, who do not have to be paid. Since women already have to go further for firewood and often water too, their workload is increasing, while their nutrition levels are deteriorating, making them increasingly susceptible to illness, which brings its own direct and indirect costs. Children and women consequently lack education, a major factor is contributing to vulnerability in many ways.

5. LIVELIHOOD AND FOOD SHORTAGE ISSUES

5.1 Wealth ranking

There are some major determinants of wealth groups among households in Humbo woreda, such as (a) the area of land cultivated (b) numbers of livestock owned (c) Perennial crops (d) asset position and capital and (e) the household size, and (f) activities of the households. (Table 5.1)

Table 5.1 Characteristics of women household head and different wealth groups

Group	Land area cultivated	Livestock	Perennial crops	Asset/Capital possessions	HH size	Activities
Women household head	0.13-0.25h	None owned. <i>Yerbee: 0-1/2 milking cow</i>	0-8 mature enset	Grass-thatched roof (hovel)	5-7	Fire wood, dung/grass collector and seller, daily labor, petty trade hand crafts and farming, food and beverages, FFW, SNP
Poor	0.13-0.25h	None owned. <i>Yerbee: 0-1/2 cattle, and small stock</i>	0-8 mature enset	Grass-thatched roof (hovel)	6-7	Fire wood, grass/charcoal collector and seller, daily labor, hand crafts and farming, FFW, SNP
Middle	0.25-1h	0.5-1 plow oxen, 1-3 cattle, 2-3 small stock	10-15 mature enset, 10-15 eucalyptus trees	Good qty grass-thatched or Tin roof (45-50)	6-8	Farming, merchant (livestock and grain)
Better off	1 – 2h	1-2 plow oxen, 2-5 cattle, 7-10 small stock	16-25 mature enset, 16-20 eucalyptus trees	Tin roof (65-80), owner of farm tools, and having petty cash, house in woreda towns, grind meal, canteen	7-9	Farming, merchant (livestock and grain), lend money, settle social matters in the community

Source: Adapted from SNNPR Livelihood Profile 2005 and RKA's

The area of land cultivated and the numbers of livestock owned are the primary determinants of wealth in the study area.

Better off households often and **middle** households cultivate on average 4-6 times the area cultivated by the poor and women household head. This groups are not only own more land, they rent additional land specially for the women household head and same times from poor wealth group households in return for a share of the harvest or for a one-off cash payment. They also obtain higher yields per unit's area through the greater use of plow oxen, by applying the recommended amounts of fertilizer, by employing others to work on their fields and by consuming less of their harvest green and they plant more important drought-resistant enset and obtain higher yields from this by allowing most of it to reach maturity. In addition to that they set aside some of their land to plant with eucalyptus trees and grazing area.

Women house head and **poor** households, in contrast, plant almost all of their land with annual food crops, most of which they consume green because they are perpetually short of food from year to year. They cultivate some enset, most of which they harvest immature, once again to meet immediate food needs; as a result overall yields are much reduced. This group of households, for survive and lack of alternatives, often they involve in the activities during planting and plowing such activities are fire wood, grass/charcoal collecting, daily labor, and that aggravate the environmental stress and vulnerability of poor household as well..

Only the middle and better off own there own livestock, of which cattle that are very important in the household economy. Most of the time Poor and Women house head households do however care for one or more animals according to a loan arrangement known locally as “**yerbee**” (i.e. in the case of milk animal, the poor and or women household head households feed and care for the animal in return for a share of milk production, in the case of a bullock of heifer, this group of households share in the sale price of bullock of heifer) in addition they benefit form the *yerbee* animal manure (dung).

On contrary to this group of households sending children to school is a reduction of household economy, because livestock herding is one of the main responsibilities of the

poor household children, aside involving in the activist like collecting firewood, dung, grass for both consumption and as source of income to the household economy.

5.2 RELATIONSHIPS OF DIFFERENT WEALTH GROUPS OF HOUSEHOLDS

The study reveals that there is strong social relation in these different groups of household, regarding responding to the hazards as well as in their day-to-day livelihood. There is strong interaction among different wealth groups, especially the better-off household and the poor once directly or indirectly. For instance in the case of better off groups ownership of livestock and grain, the poor, women household head and some middle household are benefited in terms of local loan arrangement “*yerbe*” and /or loan of plowing oxen, grain loans, labor exchange and likes.

However, the better-off have capacity to influence the decision-making parameter on many contours of community practice and actions, including agricultural production and resource conservation and managements as well as politics.

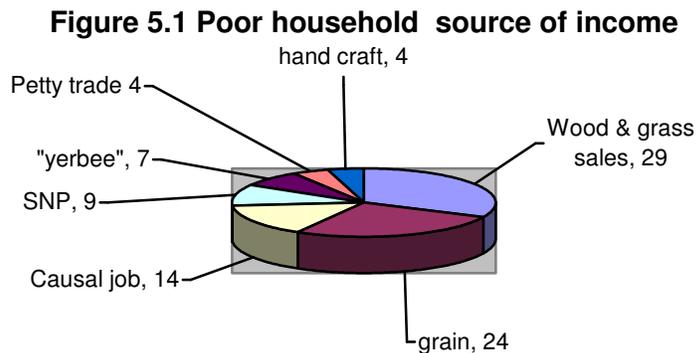
5.3 SOURCE OF INCOME - In order to overcome the constraint in providing source of income and expenditure, the researcher with the help of the enumerator have tried to minimize the problems using different approaches in estimating the income based on the following information: accesses to resources including labor, remittance, land holding, soil fertility, agricultural input application, major crops and season (*belg* and *Mehare*), proportion of consumption and sale, converting the local measurement, recent year open market price index (in case of grain and livestock refer to Woreda Agriculture and Rural Development), often involvement in activities and availability of natural resources.

The information of amount in birr obtained through such approaches is ranked and changes into the percentage.

i. Poor Wealth group

For poor wealth groups income is generated from sales of fire wood and charcoal production that consist of 29 percent of the total income, followed by sale of grain that consist of 27 percent, from causal job 15 percent, hand craft and Safety net program 9 percent from each, animal production “yreebe” 7 percent and from petty trade 4 percent. When we see the over all non-agriculture income source consist of 74 percent while agricultural activities are consist of 26 percent of the total average annual income.

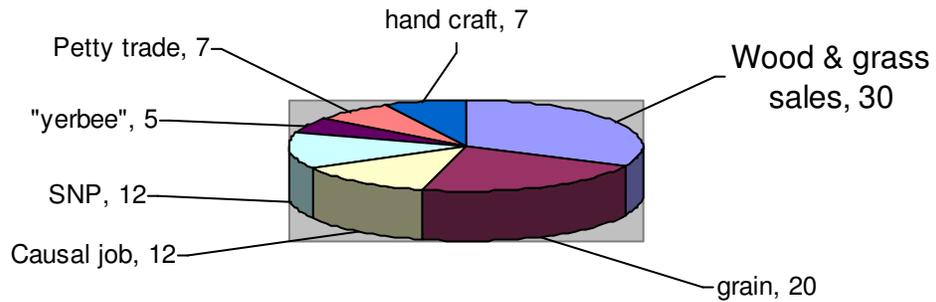
With that we can conclude that the majority of poor household depends on the off-farm activities as a source of income for there livelihood.



ii. Women household head.

For Women household head groups income is generated from sale of fire wood, grass and charcoal production of that consist of 30 percent sales of grain that consist of 20 percent of the total annual average income, followed by, causal job and SNP consist of 12 percent each, petty trade and hand craft 7 percent from each, and animal production sale “yreebe” 5 percent. When we see the over all off-farm income source consist of 80 percent while on-farm activities are consist of 20 percent of the total income. Therefore, we can conclude that the majority of women household head off-farm activities are more important source of income for there livelihood.

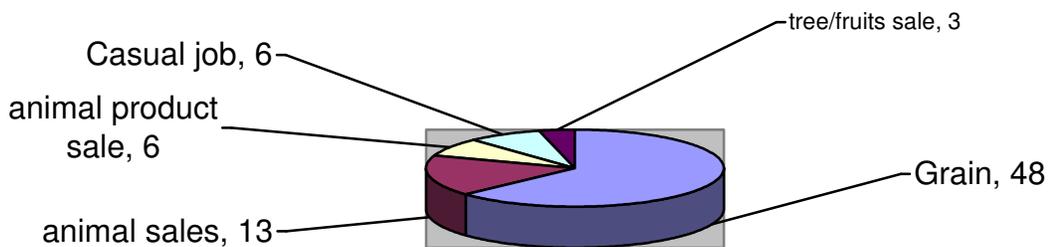
Figure 5.2 Women household head source of income



iii. Middle wealth groups

The majority of the middle wealth group's income is from sales of grain that consist of 48 percent of the total annual average income, followed by 24 percent of animal sales, 13 percent of animal production sales, casual job and trade consist of 6 percent each, and sales of tree and fruits consist 3 percent of total income. From the figure we can conclude that the majority of middle wealth groups earn their income form agriculture which consists of 88 percent of the total income while only 12 percent is form off-farm activities.

Figure 5.3 Middle household source of income

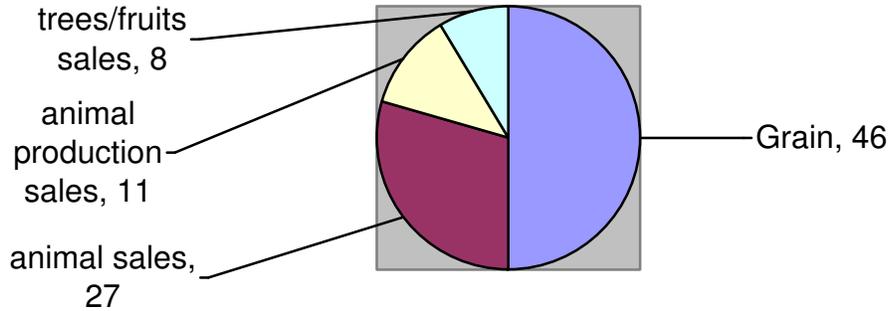


iv. Better off groups

The majority of the better off wealth group's income is from sales of grain that consist of 46 percent of the total annual average income, followed by 27 percent of animal sales, 11 percent of animal production sales, trade consist of 9 percent each, and sales of tree and fruits consist 8 percent of total income. From the figure we can conclude that the

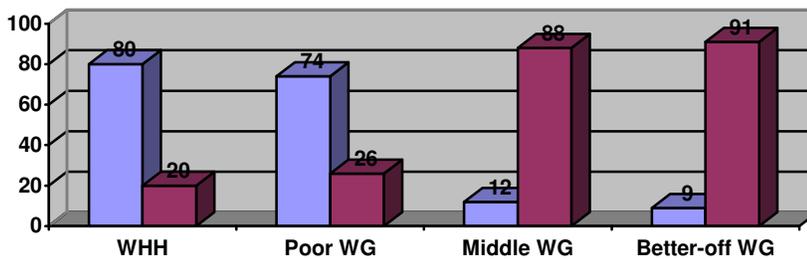
majority of better off wealth groups earn their income form agriculture which consists of 91 percent of the total income while only 9 percent is form off-farm activities.

Figure 5.4 Better-off household source of income



Generally, the source of income vary among different groups of households, the poor and women household head depends of the off-farm activities as source of income while the middle and better-off groups of households depend on-farm activities. Thus, the intervention for the poor should enhance the off-farm activities, so that this group of household could be survived.

Figure 5.5 Farm and Off-farm source of income



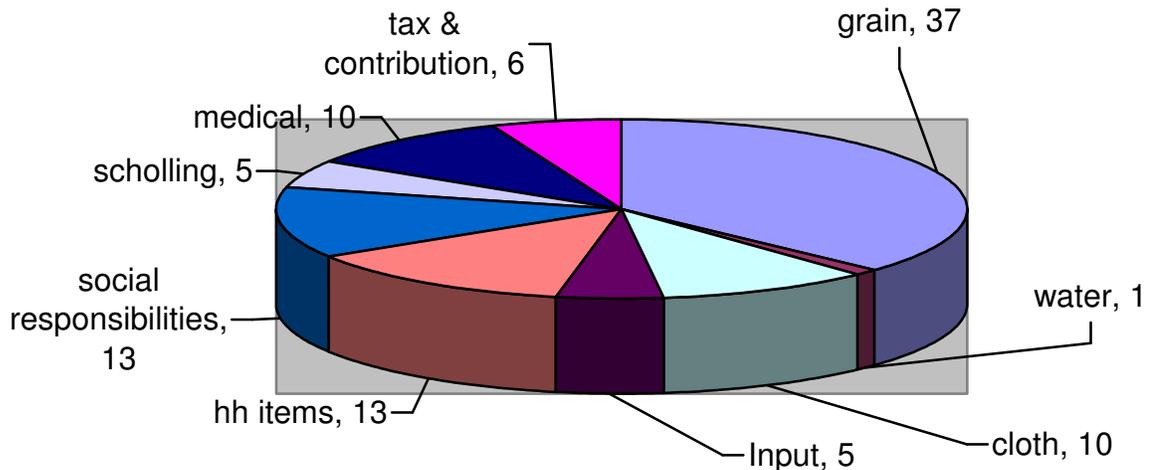
5.3 EXPENDITURE PATTERN: - To overcome the limitation and minimize exaggerated expenditure patter, the source and amount of income are used as major determinants of expenditure, also pattern of consumption, household size, calendar, school attendance and the price index of the woreda were used to identify and estimate the expenditure of the households. The expenditure were categorized as obligatory (can not avoid) including food, salt, soap, fuel, cloths, medication and Discretionary which include ceremonial expenditures (wedding, death, iddir and etc).

The expenditure pattern is divided into two major categories; food stuff and non-food stuff; it is also understood that the level and amount of spending on both vary among different group of household; based on the source of income, ability and management of the resource could be the main reason for the variance.

i Women household head:

The responsibility of the women household head, compared to others is limited to the women and children whereas, other groups of households share responsibilities among family member (father, mother, children). From the finding on average annually women household head spent 38 percent on grain and water 13 percent each on household items (salt, kerosene, soap etc) and on social responsibilities (*iddir*, ceremony (*meskel*), weeding, and death) and 10 percent each on cloth and medical cost. 5 percent each on input debt clearance, schooling and 5 percent is on tax and other contributions (sport, Red Cross, and associations) and no or insignificant expenditure on receptions, however these groups occasionally, entertain them selves

Figure 5.6 Women household head annual average expenditure

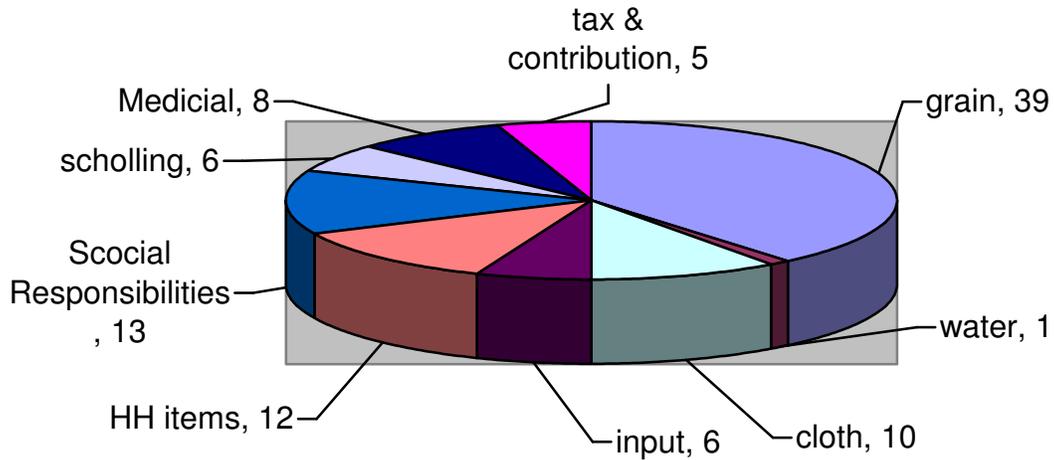


ii Poor wealth groups

On average annually poor household spent 40 percent on grain and water 12 percent on household items (salt, kerosene, soap etc) and 13 percent on social responsibilities (*iddir*, ceremony (*meskel*), weeding, and death) and 10 percent on cloth, 8 percent medical cost, 6

percent each on input debt clearance and schooling and 5 percent is on tax and other contributions (sport, Red Cross, and associations) and no or insignificant expenditure on receptions, however these groups occasionally, entertain them selves

Figure 5. 7 Poor households annual average expendeture

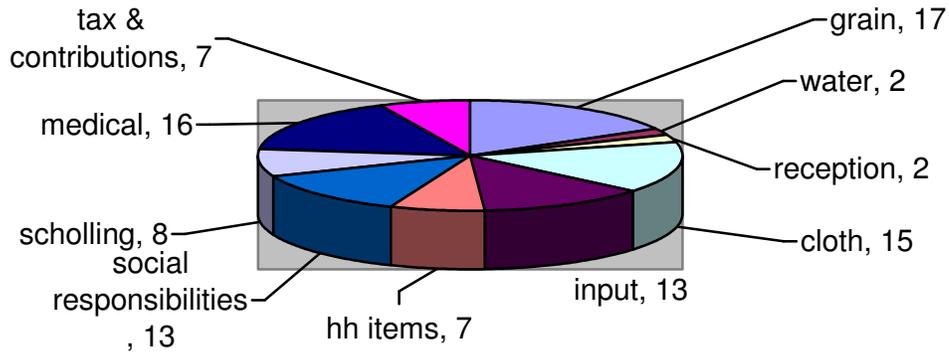


iii Middle Wealth group

On average annually middle household spent 19 percent on grain and water, 7 percent on household items (salt, kerosene, and soap) and 13 percent on social responsibilities (*iddir*, ceremony (*meskel*), weeding, and death) and 15 percent on cloth, 16 percent medical cost, 13 percent on input purchase, 8 percent on schooling, and 7 percent is on tax and other contributions (sport, Red Cross, and associations).

Relatively a small amount of money spent on the food stuff compared to the poor and women household head. Middle wealth group spent only 17, 2 and 1 percent on grain, drinking water and reception respectively of the total annual food-stuff expenditure. The reason of low expenditure on food stuff is that, this group is able to feed the family from its own production and fill the gap by purchasing from market. Agricultural inputs, cloths for children, medical costs are an important expenditure.

Figure 5.8 Middle household annual average expenditure

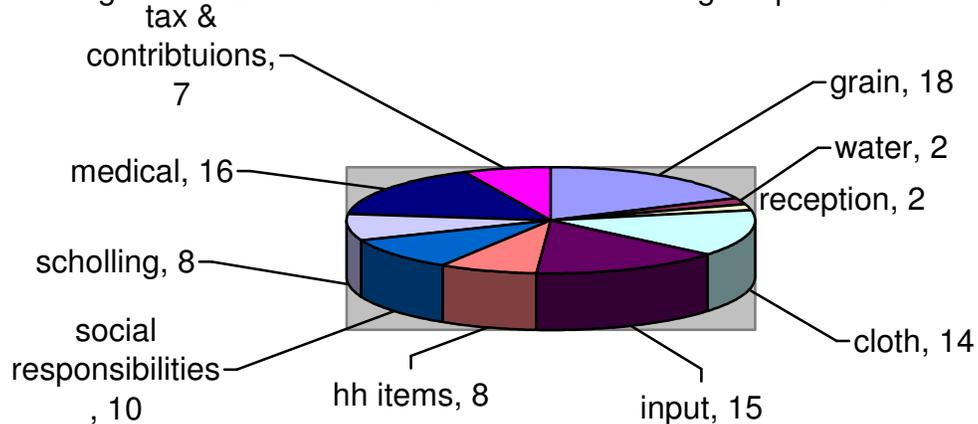


iv Better-off Wealth Group

On average annually better-off household group spent 20 percent on grain and water, 8 percent on household items (salt, kerosene, soap etc) and 10 percent on social responsibilities (*iddir*, ceremony (*meskel*), weeding, and death) and 14 percent on cloth, 16 percent medical cost, 15 percent on input purchase, 8 percent on schooling, and 7 percent is on tax and other contributions (sport, Red Cross, and associations).

Only 22 percent of the annual expenditure goes to food stuffs; purchase of grain 18 percent, 2 percent on drinking water and 2 percent on reception. This group of household spend small amount on the grain purchase because they are capable to meet the family need from their own production. Also agriculture input, medical cost, cloth for their children are an important expenditure for this group.

Figure 5.9 Better-off household annual average expenditure



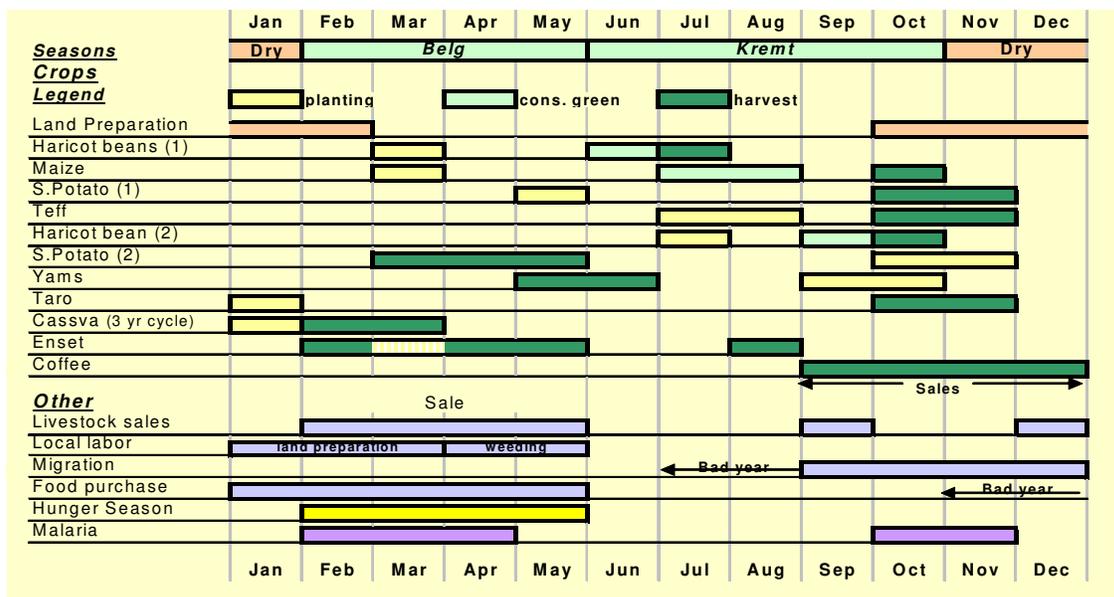
The pattern of expenditure is different among the different wealth groups, the higher proportion of poor and women household head income went to food stuffs, compared to middle and better-off households. Expenditures on a number of non-food stuffs increased significantly with wealth, like inputs (fertilizer and improved seeds), social responsibility, schooling, medical, cloth and household items such as slat, soap, kerosene and grinding. The better off and some middle household groups spent on grain purchase in order to resale when the price is higher than the normal harvesting time or in case of crop failure, thus the poor will remain vulnerable for the shortage of food.

5.4 SEASONAL CALENDAR

Food access in the area is highly seasonal and depends upon the pattern of rainfall and crop production.

In most years, seasonal food shortages occur from February, when main season crops run out, until June, when the first green crop (haricot beans) is harvested. October and November are main harvest months, when dry maize, sweet potatoes, teff, and a second plantation of haricot beans are harvested.

Figure 5.10 Seasonal Calendar of the study area



Source: SNNPR Livelihood Profile (20005)

March to July are hunger-season month in case of failure or delay of the sweet potato harvest because of a late start to the *belg* rains or an outbreak of sweet potato butterfly, during this months despite of limited production of *enset*, cassava and yams are good source of food especially for poor households. September to December and early July, the labor migration is an important seasonal source of income for the poor households.

5.6 FARM OXEN POSSESSION, CONSUMPTION AND LAND PRODUCTIVITY

i Oxen Possession

The finding of the study on oxen possession reveal that about 77, 91, and 25 percent of women household heads, poor wealth group and middle wealth group respectively, of which 58 and 44 percent of *Kolla* and *Winadega* household respectively does not own farm oxen . On the other hand 100 percent of the Better off wealth group of households own at least one farm ox. Because of not owning farm oxen the poor households are forced to use had tools which are much more harder way of land cultivating using hand tools often they serve better-off as a result they lack time, energy to cultivate their little land and they become more vulnerable.

However, (a) hiring, (b) oxen for labor exchange, (c) Oxen share, (d) crop share and (f) borrowing, are used as a method to use oxen farming.

ii Livestock and production consumption

Livestock as a source of cash and food, typically oxen are purchased after being used for plowing and fattened for sale especially on the occasions like “*meskel*”. In addition, household consume and sale the product of livestock (milk, butter, cheese, etc).

From the finding women household head and poor wealth groups from the *yerbee* animals, which they have obtained form the better off, in order to close the gap for other needs, they sell more than half of the total livestock’s product in an open market or by taking to the better-off houses, while same middle and better off wealth group consume the higher proportion and sale is an option at time of food crisis.

Despite that poor household entitlement of livestock in the form of “*yerbee*” help as a source of food and income, it has its own effect to the household economy as well as environmental stress. Owning animal need grazing land, water (rain), labor and time, in relation to the cost benefit of this the poor still remain vulnerable whereas, relatively the better-off households are benefited.

iii Land productivity

The most common reasons for the declining of land fertility are; no fallowing of land and there is only limited use of animal manure/compost, mainly in the home garden, on enset, coffee and garden vegetables during the wet seasons and crop residuals are using as firewood, animal fodders, and constriction material . As a result rural households limited to expensive chemical fertilizer (DAP and urea), this days fertilizers are available at woreda Agriculture and Rural Development office upon prior request and only on cash base or in open market.

However, the find of the survey reveal that in study area about 13, 12, 8, and 13 percent of women household head, poor, middle and better off wealth groups respectively are not using any input to maintain soil fertility. Price and rainfall vulnerability are prohibitive, especially for the women household heads and poor wealth groups, however, better-off households use less than the recommended amount of their crops.

Also despite of its price prohibitive, some use improved maize seeds and for other crops, farmers generally use seed saved from the previous harvest. The inappropriate use of technology, lack of alternative source of income to buy inputs, and rain and environmental stress, has caused failure in crop production and made the poor as well as better-off households vulnerable to the effect.

5.7 SOURCE OF FOOD

Household in the study area have different access to food depending on the wealth group they belong. The major ones are; own product, own animal, purchase and borrowing/ social safety net and safety net program/ food for work.

Despite the different level of consumption, all groups of household relatively expect the larger portion of food from own production. The finding shows that in the study area except the difference in level sufficiency to end meet, the source are in most case similar to all groups of household. Table 5.2

Table 5.2 Source of Food

Household group	Source of food by type and rank		Household counts
Women household head	1	Own production	39
	2	SNP/FFW	
	2	Borrowing/Social safety net	
	2	<i>Yerbee</i> animal	
	3	Purchase	
Poor wealth group	1	Own production	44
	2	Borrowing/ Social Safety Net	
	2	<i>Yerbee</i> animal	
	2	Purchase	
	3	SNP/FFW	
Middle wealth group	1	Own production	34
	2	Own animal	
	3	Borrowing/Social safety net	
	3	Purchase	
Better off wealth group	1	Own production	26
	2	Own animal	
	3	Purchase	

Source: Field survey 2006

The household income and /or production sufficiency to make families end meet is vary among different groups. For instance more than 80 percent of women household head

and poor wealth group production or income end meet with in the first few months only and the middle and better off wealth groups end meet at list seven and nine months respectively table 5.3.

Table 5.3 Household income and/or production sufficient to make family's end meet in month

No of months	Proportion of households (%)			
	Women household head	Poor Wealth group	Middle Wealth group	Better off group
1		4.5		
2	12.8	15.9		
3	51.3	25	8.8	
4	20.8	36.4	23.5	
5	2.6	4.5	11.8	3.8
6	10.3	6.8	26.5	7.7
7		2.3	23.5	19.2
8		2.3	2.9	3.8
9		2.3		15.4
10				3.8
11				46.2
12				
Count	39	44	34	26

Source: Field survey 2006

From the finding we observe that relatively all groups of household are not able to feed their family properly for the whole year and the food shortage remains the big challenges of the study area.

The community has experienced food shortage from year to year. For example more than 94 percent of women household head, poor and middle wealth groups and more than 60 percent of better off wealth groups of household in both *kolla* and *winadega* ecological zone experienced food shortage in the past 3 to 5 years, table (5.4). From this we understand that relatively poor, women, and middle group of household more vulnerably than better-off household. However, the effect of one group has an effect on the other

groups because of rural high social interaction; it needs an intervention that addresses the need of different households.

Table 5.4 Experience of food shortage in the past 3 – 5 year

Households groups	Experienced by %	Relatively not experienced by %	Count
Women household head	97	2.9	35
Poor wealth groups	97.3	2.7	37
Middle wealth groups	94.1	5.9	34
Better off wealth groups	66.7	33.3	27
Total	90.2	9.8	133
Kolla	90.5	9.5	90
W.dega	89.8	10.2	49

Source: field survey 2006

5.8 CAUSES OF FOOD SHORTAGES

The degree or level of causes vary from one groups of household to other groups, all in all the common root causes are shortage of rain for major grains, land degradation (poor quality, steep of land, deforestation, and overgrazing etc), inappropriate technology application, livestock loss due to disease and shortage due to high price and accumulated debts of purchased of agriculture input (fertilizers and improved seed) and insect or pest outbreak as well as government policy implications are worth to mention. Table 5.5 is the finding from the study area as root causes for food shortage

Table 5.5 Ranking of Food Shortage Problems

Households group and Count	Root Causes by rank	
Women household head (39)	1	No enough rain (for major grains)
	2	Land degradation
	2	Inadequate land
	3	Inappropriate technology
	3	Lack of transparence and good governance
	4	Lack of inputs (fertilizer, improved seeds)
	4	Market inaccessibility
	4	Lack of labor
	5	Clearing the debt of purchase inputs
	5	Livestock loss due to disease
Poor wealth group (43)	1	No enough rain (for major grains)
	2	No enough land for households
	2	Land degradation
	2	Insects/Pests
	2	Lack of transparence and good governance
	2	Inappropriate technology
	3	Lack of labor
	3	Lack of inputs (fertilizer, improved seeds)
	3	Clearing the debt of purchase inputs
	3	Market inaccessibility
	3	Livestock loss due to disease
Middle wealth group (35)	1	No enough rain (for major grains)
	2	Insects/Pests
	2	Land degradation
	2	Inappropriate technology
	3	Lack of transparence and good governance
	4	No enough land for households
	4	Market inaccessibility
	4	Lack of inputs (fertilizer, improved seeds)
	4	Lack of labor
	5	Livestock loss due to disease
5	Clearing the debt of purchase inputs	
Better off wealth group (26)	1	No enough rain (for major grains)
	2	Land degradation
	2	Insects/Pests
	2	Inappropriate technology
	2	No enough land for households
	3	Lack of transparence and good governance
	3	Use of traditional farm implements
	4	Market inaccessibility
	4	Clearing the debt of purchase inputs
	4	Livestock loss due to disease
	5	Lack of inputs (fertilizer, improved seeds)

Source: Field survey 2006

5.9 HOUSEHOLDS COPING (SURVIVAL) STRATEGIES AND CHALLENGES

i. Coping Strategies

Coping or survival strategies have been acquired through the experience of recurrent drought that subjects the community to the problem of food shortages. Household respond to the food shortage in different ways depending on their level of capacity, it could be austerity and reduced consumptions (i.e. use of stored food, wild food, inter-family transfer (social safety net) and loans or pawn), temporary migration (i.e. moving to less hazardous places especially poor wealth groups, divestment (sales of livestock, productive assets etc) and when the situation is beyond the mass migration could take place. Table 5.7 is findings from the study area as coping strategic by each group of households.

5.6 Coping Strategies of Different Groups of Households

Households group and count	Coping strategies by ranking	
Women household head (39)	1	Dietary changes on number and size of meals, content and variety of food per day and wild plants.
	2	Diversifications of activities such as selling firewood, grass, charcoal, dung, local beverage, petty trade, preparing <i>kocho</i> and <i>bulla</i>
	3	Participating in SNP/FFW program and other public work
	3	Social safety net inter or intra family including loan and borrowing of grain and/or cash.
Poor wealth group (45)	1	Dietary changes on number and size of meals, content and variety of food per day and wild plants.
	2	Diversifications of activities such as selling firewood, grass, charcoal, dung, local beverage, petty trade, (women of the poor) preparing <i>kocho</i> and <i>bulla</i> , and loading and unloading in town, transporting the better-off items using domestic animals.
	3	Participating in SNP/FFW program
	3	Social safety net inter or intra family including loan and borrowing of grain and/or cash.
	4	Out migration
Middle wealth group (35)	1	Dietary changes on number and size of meals, content and variety of food per day and wild plants.
	2	Diversification of activities such as selling of the grain, livestock which are stocked in case of crises
	3	Selling out productive assets including live stock/ household effects including
	3	Renting land or other production asset
	4	Social safety net (inter or intra family including loan and borrowing of grain and/or cash.
	4	Participate in public activities
	5	Out migration

Better off wealth group (29)	1	Dietary changes on number and size of meals, content and variety of food per day and wild plants.
	2	Diversification of activities such as selling of the grain, livestock which are stocked incase of crises
	3	Selling out productive assets including live stock/ household effects including
	4	Social safety net inter or intra family including loan and borrowing of grain and/or cash.
	5	Participate in public activities
	6	Out migration

Source: Field survey 2006

Despite, vary in variety, and quantity based on economic status of household, relatively all groups of household's first and the most common early coping mechanism is dietary changes (increase consumption of *enset*), this is probably due the long period experience of shortage of food, as a result there is significant switching of expenditure form non-food stuff to staple food items. However, dietary changes subject the poor households for physical weakness and increase the medical cost which exposes them more vulnerable to the effect.

Poor and women household heads including some middle households, their most important limited coping mechanism are intensification of local income generating activities, including local causal labor (on farm and in neighboring towns), the collection and sales of firewood and grass, and petty trading. This is possible because opportunities for a number of these activate increase during crises time. For example, the demand for grass increases in a drought year (as fodder for livestock is shorter supply), and the opportunities for petty trade also increase (in line with the greater demand for basic staple foods). Also it includes public works involvement of the households such as FFW/ SNP followed by migrate out of the area in search of causal labor as well as seeking relief and begging on the street.

Better-off and some middle household groups initially involve in the coping mechanisms that does not affect the household economy, as the crises become server they tend to seal out their productive assets, followed by migration and seeking for relief.

From the discussion with different group of households, the usual social safety net has been very weak as a result of recurrent drought, in appropriate technological intervention and the lack of transparency and good government on the side of government representative as well as the NGOs.

ii. Challenges

- Drought-resistant reserve food crop; *Enset* is a perennial plant that is consumed during the hunger season months and also at the *Meskel* festivals. However, plant requires between 4 and 6 years reaching maturity.
- Land fertility is declining; no fallowing of land and there is only limited use of animal manure, also the use of crop residues and weeds as cattle fodder
- Prices are prohibitive and an increasing dependence on expensive chemical fertilizers (DAP and Urea) and poor withstand of diseases of improved seed.
- A shortage of plow oxen and not owning livestock contributes to the low levels of crops production in the area. However, grazing land extremely short supply and cattle are raised using a “zero-grazing system. Thus, an increase in livestock is an increase in environmental stress
- Market: The transactions in volume of goods are very low margin, as a result of poor access road and lack of pack animals.
- Lack of alternative source of income to the households; the local poor populations are depending on forest resource as source of income which aggravates the environmental stress.
- Previous experiences of the credit service were characterized by a number of bottlenecks.
- Despite of its social value, cultural practices of the community lead to extravagance in case of weeding and death and gender biases.
- Thou children are source of income and labor as well as risk minimize. However, having beyond a limited amount of children in the household is reducing the house economy.

- Out-migration in search of casual jobs is one of the coping mechanisms. However, HIV puts a double burden on households.
- Urbanization: townfolk consume natural resource, few links with the outside world, pollution, garbage, untreated water, high unemployment, inadequate service, crime and immorality.

5.10 INDIGENOUS INDICATORS OF CRISIS AND PREPAREDNESS OF THE COMMUNITY

i. Indicators

There are wide range of key indigenous indicators that are acquired through time including, those related to rainfall, the availability and price of inputs, crop pest outbreaks, malaria, the timing of harvests, staple food and livestock prices, rates of out-migration and payment rates for casual labor.

Table 5.7 Indigenous Indicator of Crisis

Seasons	Months	Indicator
Dray	Jan.	
Belg rains	Feb.	<ul style="list-style-type: none"> • Delayed availability and high prices for input • High maize prices and low livestock prices (February to May) • An early and severe outbreak of malaria (Feb – May) • A late start to the belg rains, delayed planting and delayed sweet potato harvest. • Late planting of maize and beans • Outbreak of army worm
	Mar.	
	Apr.	
	May	
Kiremt rains (Main Harvest)	Jun.	<ul style="list-style-type: none"> • Delayed green harvest of beans and persistence of high maize prices(June-July) • Dry spells affecting flowering and seed setting of maize • Delayed green maize harvest. Delayed availability and high price of meher inputs • Early out-migration in search of casual work. Outbreak of coffee berry disease. • Irregular or excessive rainfall and hailstorms (Aug-Oct) • Crop pest infections. • Failure of Mehare seasons harvest, especially maize • Persistence of high maize prices during and after the main harvest periods
	Jul.	
	Aug.	
	Sept.	
	Oct.	
Dry	Nov.	<ul style="list-style-type: none"> • Decline in labor rates (Nov onwards) • Sever outbreak of malaria • Sweet potato butterfly infestation (Dec-Feb) • Absence of any rain from Dec- Feb, affecting growth of sweet potato
	Dec.	

Source: Adapted from SNNPR Livelihood Profile 2005 and RKA's

ii. Community Preparedness

Thought time community experienced preparedness based on the indicators of crisis, however, the preparedness is mainly depend and vary in level of income and vulnerability.

Switching of expenditure from non-food stuff to staple food items; Household reduce expenditure on non-food stuff such as clothes, grinding, kerosene, education, medical, ceremonies and range of others.

Increase consumption drought-resisting. The consumption of drought-resisting food items such as enset, cassava, and yam, however, the level of consumption vary, relatively the poor household have limited access to drought-resisting crops, thus severely vulnerable, compared to better-off households.

Sale of livestock (diestock): the middle and better off households, sale livestock especially not productive animals (i.e. oxen, and or adult females of reproductive age). This method often does not exist in the poor household categories as a result of poverty.

Out-migration in search of casual labor: Poor wealth group households migrate out, where there is relatively high demand for causal labor in neighboring areas.

Intensification of local income generating activities: Poor and women household increase their participation in a range of activities including, local casual labor (i.e. farms and in neighboring towns), the collection and sale of firewood and grass, and petty trading. Also good number of women households head including poor households' women engages in the activity of preparing *kocho* and *bulla* at the middle and better off wealth groups and involve in SNP.

5.11 INSTITUTIONAL RESPONSE STRATEGIES AND CHALLENGES

Institutional responding strategies could be undergone by government, NGO's or community based institutions. As I have observed, during my survey in the study area and from the discussion made with different groups of households, elder, RKA leaders, DAs and woreda line offices.

Currently, the only formal institution that undertaking the activities regarding to responding the challenges is the government program which is safety net program (SNP) in the woreda this program was lunched in 1997 EC, about 65,000 people are benefited out of the program, of which 58,083 are considered to be very poor households, highly affected by recurrent drought that resulted in food shortage and 7,253 are those who are disables, old aged and orphanages, are being benefited from the SNP in kind or in cash.

The major activities that are undergone under the umbrella of SNP are heavy duties that normally require balanced diets; like innovating roads, tracing, water harvesting, filling the gorges, preparing bridges and plantings trees,. Individuals who are member of this program (SNP) are required to do the activates daily, for example a household with the family size of 1 expected to work for 5 days/month, any additional number to the family size require additional 5 days of working/month, for instant if the family size is 4 the household is required to work 20 days/month.

Where the family size ranges from 8-10, one can imagine the number of days that family is required to work. The payment is with two assumptions if in kind (FFW) 15kg of grain and about 2 kg of food oil/ month will be offered, if in cash number of times worked multiplied by the per day rate which is 6 birr will be offered per month.

Generally, safety net programs (SNP), as a government component of food security program its contribution to drought-prone area like Houmbo woreda, is a good start. However, the issue of sustainability remains unanswered questions?

From the discussion made with the beneficiaries, this program has both advantages and disadvantages (challenges);

i) Advantages of SNP

- (a) Short period relief (cash and/or food),
- (b) Source of cash to buy food stuff and household items (salt, kerosene, soap etc),
- (c) Contribution of development to the RKAs in area of protection of erosion, tracing, road preparation etc.

ii. Challenges of SNP

From the finding of the study area, thou the SNP has advantages to the RKA development generally and particularly to the poor and women household heads economy. It is found to be having disadvantages to the household economy; the following three categories of disadvantages were observed during the survey such as:

i) Challenges that accelerate the vulnerability of the poor households

- Lurching the program during farming seasons (land preparation, plough and planting)
- No time to farm own land
- Late or prolonging payment that encourage the SNP member to borrow money or food, which result in accumulation of debts and interest. For example, in the study area payment was not effective since lurching of the program late December 2005.
- Heaviness of the duties: that cause illness and result in increasing medical expenditures of household.
- Dependency on external interventions

- Forced withdrawals of the SNP beneficiary in case of any productive assets ownership including “*yrebee*” livestock loan, which discourage self-reliance, saving, and investment.
- Inappropriate technology diffusion as a result of poor performance.

ii) Challenges in relation to concept, transparency and good governance.

- Misinterpreting the concept of SNP program with usual free food distribution and EGS, which was lunched as symbol.
- Accountability and targeting: local politician interference (in selection and implementing) in a program as a member and beneficiary without involving in any activities. Based on the information from woreda office in charge of SNP, on 16 RKAs were assessment (M&E) made about 81 people, who does not fulfill the selection criteria politician “*cadre*” were found to be beneficiary of the program of which , 33 illegal people were found in only one RKA alone. Further strengthen of M&E is highly recommendable.
- Assigning work where ever the influential persons in the RKA

iii) Challenges in relations social capital

Despite the existence of difference in social and economic status of the households, the rural community’s social interactions are very close; people attend and share each other ceremonies, problems, exchanges labor, and information. In time of food shortages households, rely on various forms of inter household dependency such as grain or cash loans as coping mechanisms.

In this regards the above challenges could create gap among the different household groups and weaken the social networks. For instance

- a) A late or prolonging payment of the SNP member has impact on the lending and repayment process; since previous record of repayment determines future access to loans from any one in the community.
 - b) Lack of transparency and good governance regarding un-entitled groups selecting and targeting.
 - c) Assignment of area of activities based on influence or social status.
- If action is not taken, the poor become poorer, the middle and better-off will be poor, which make more vulnerable the whole community.

iii. Challenges on policy implication on Water harvesting as part of SNP program

For instance water harvesting activities has its weakness in implementing because of the following challenges.

- a) The water harvesting technology is not compatible or ignores the local people's water harvesting system and the program did not experimented before applying. Instead the government set unformed quota to all woredas, regardless of any prior arrangement or study, for worsens the matter; there has been no evaluation of its effectiveness except, order through channel to dig another 2,000 holes every year.
- b) Regardless of the land holding and properly locating (water run way) to harvest water every household are forced to dig in the yards.
- c) Due to no cover to the surface of the hole, people who are living around facing loss of animals and children or livestock physical harm, water borne diseases, etc.

- d) The constriction cost estimated to be about 7,000 per hole, which means if not properly managed, with simple algebra the government on average losses 14 million birr/year (2,000 yearly quota multiplied by cost/hole 7,000), from this particular woereda alone.

Picture 1



Pile of plastic bag for water harvesting (Woreda ARD)

Picture 2

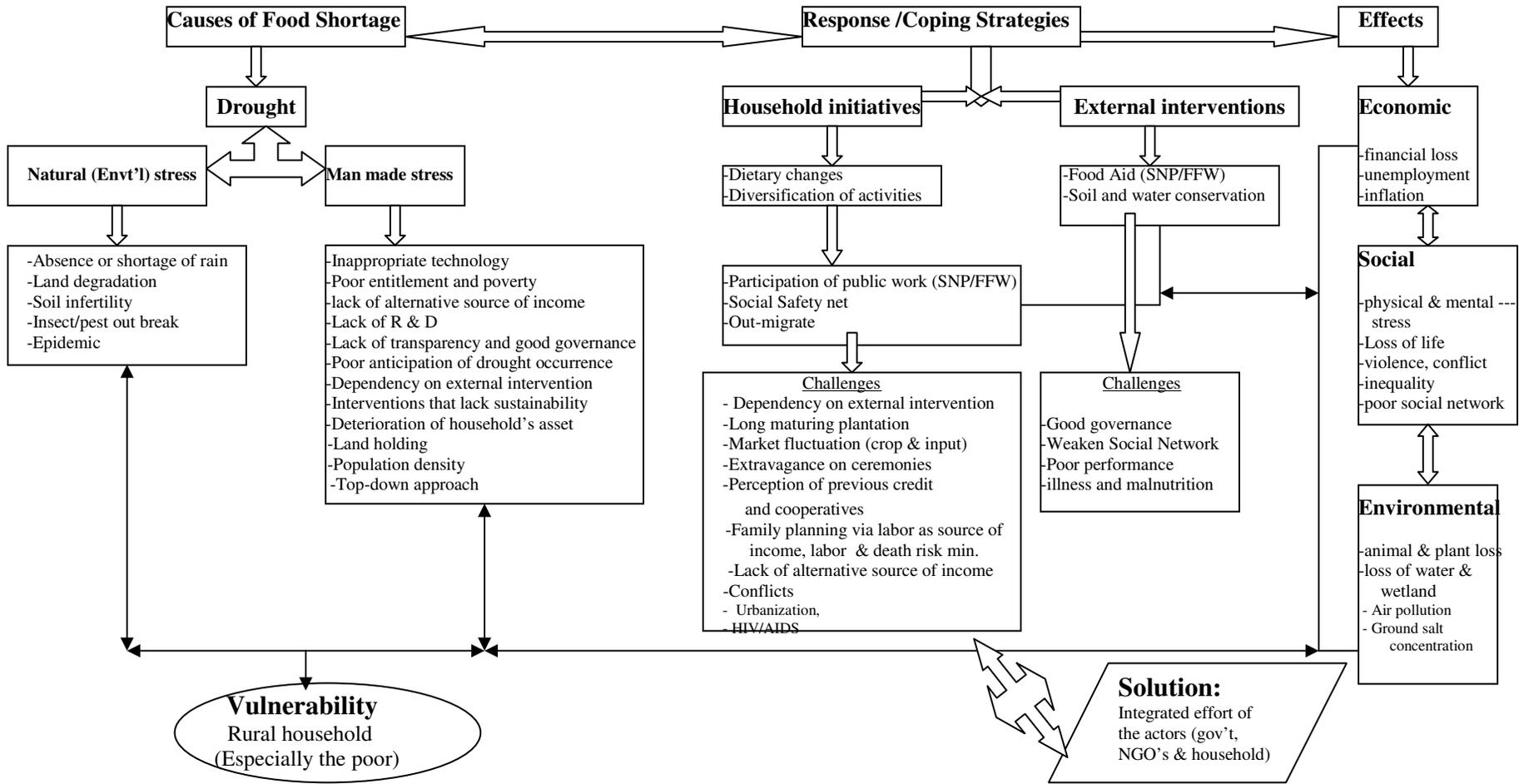


Pipes for water harvesting (Abala Sippa RKA)

This implies that, the result of inappropriate technology diffusion based on top-down approach, has accelerate the environmental stress, lose of human and animal, loss of assets (financial), reduce the land holding of the household, generally subject people to sever vulnerability and it reduce confidence on the government.

True development could come through people's of Humbo participation, a policy or intervention that does not plan with the people rather plan for the people will not bring any solution to the problem of the community. As already observed top-down external intervention brought more problem than solve, therefore, one should understand that the intervention should give solution to the causes and challenges of the different household in the study area, in terms of both short and long term plan.

FIGURE 5. 12 SUMMARY OF THE STUDY



Source: Author, 2006

6. CONCLUSION AND RECOMMENDATIONS REMARK

6.1 Conclusion

History of Disaster: Drought is the foremost disaster and Humbo is one of the chronic foods in secured woredas of the Zone. Since 1963 EC drought related food shortage has occurred for about 14 times and level of severity and number of population affected was very high.

Magnitude of the problems: In fact the occurrence of drought and famine in Humbo is not simply a periodic incident or passing problem but of a chronic nature, it is now becoming almost yearly phenomena since 1984 EC. The effect of drought often covers wider geographical area, from 1986 to 1997 EC about 557,800 people were affected, which is on average 42,908 people per year.

Community differentiation: The area of land cultivated, the numbers of livestock owned, activities involved, and asset possessions are the primary determinants of wealth group (poor, middle, better-off and women household head). Despite the difference there is strong social relation in these different groups of household, regarding responding to the hazards as well as in their day-to-day livelihood.

Features of resource of households

Poor and Women household head: this group of household account about 90 percent of the population, they own .13-.25 hectares of cultivable land, non owner of livestock (incase of *yerbee* they own 0-1/2), poor quality of house, and mainly involve in off-farm activities such as fire wood, dung, grass sale, petty trade, casual job, hand crafts and FFW as source of income and food. They are mainly depending on natural resource thus; they are more vulnerable to environmental and/or man-made stress.

Middle and Better-off characteristics: this group accounts about 5 percents of the population and they own .25-2 hectares of cultivable land and additional from poor groups in terms of lease or rent. Own about .5-2 plow oxen, 1-3 cattle, 2-10 small stock,

10-25 mature *enset* (drought-resisting), 10-20 eucalyptus trees (source of cash, food and fodder), and relatively they live in good quality house, mainly involve in on-farm activities such as farming, merchant, and in social matters of the community. These groups are more influential and have a power of decision-making in any matter of the community and they are less vulnerable to the environmental and/or man-made stress because of the ability to earn relatively better income.

Cause of food shortages

Drought is the single and most important cause of food shortages, since drought in this research contextualized as a phenomenon that leads households face chronic food shortage, as a result of *natural environmental stress* (include absence or shortage of rain, land degradation, soil infertility, insect/pest outbreak and human and animal epidemic) and *man-made environmental stress* include inappropriate technology, poor entitlement lack of alternative source of income, lack of good governance and interventions that lack sustainability.

Household coping strategies: Different group's of households, apply a multiple type of coping strategies from the earliest and most simple type of coping strategies to the late, more complex and riskiest type of coping strategies depending on their resource and level of vulnerability.

The poor, women household head and most middle household groups: strategies of coping options are mainly depends on dietary changes, social safety net, diversification of activities, out-migration, begging and looking for relief on the road sides including involve in violence. The strategies are mainly on the expense of natural resource which accelerates the environment stress.

The better-off and same middle household groups: copying strategies options begin with dietary change, followed by destalking only small and unproductive assets, jeweler,

and when the crises is sever selling of productive assets such as livestock, tools, houses and finally join the poor groups.

Challenges Overcoming Food Shortage: Due to the combination of the following major problems the communities are still vulnerable for the drought; long mature drought resistant crop planting (*encet* 4-6 years), soil infertility, inflation of both crop and inputs, shortage of plow oxen against via zero grazing land, negative perception on the previous intervention such as credit, cooperatives, despite of its high social value extravagance on ceremonies (wedding and death), prices prohibitive and an increasing dependence on expensive agricultural inputs, family planning which ignores children as source of income; remittance, labor and as death risk minimizing method, lack of alternative source of income, conflicts, dependency on the external institutional intervention and poverty generally.

Indigenous Indicator of Emerging crisis: this are characterized by *physical features*: including a late start, excessive and hailstorm rainfall during *belg* (*Feb.-May*) and *mehare*(*June to Oct.*) season, out brake of pest/insect and crop disease and *socio-economic features*: including market fluctuation (high price of crop and low livestock price), decline in labor rate, and out-migration

External Institutions interventions and Challenges: The only intervention that undergone by government is SNP, this program particularly has helped the poor as source of food and income, and generally contributed to the RKA development. However, the approach is mainly top-down, which does not require community participation and ignores indigenous knowledge. Thus, the interventions are accompanied by different challenges such as:

Challenges that accelerate the vulnerability of poor household groups, including lunching during farming seasons, delay or prolonging of payments, dependency and discouraging investment *Challenges in relation to concept and good governance:* including misinterpreting the concept, local political “*cadre*” interference, and intervention that lack cost benefit analysis which end up widening the gap among the

policy maker and local community and *Challenges in relation to social capital* as the result of the above challenges the community social network weakens and make the poor more vulnerable to the effect.

Community Needs and Priority: Generally revolve around diversification of activities, drinking water supply, establishing cooperatives to stabilize market fluctuation, access to credit, Food for Work Activity (Safety Net Program) for the immediate need of food, in order to minimize crop risk introducing product diversification, enhancing malaria prevention, livestock and crop disease control and for the better-off provision of agriculture inputs would result in a better harvest of food crops and withstand recurrent drought.

Effect of drought: Such as *economic* includes financial loss, increase in unemployment rate and inflations; *Social* including physical and mental stress, loss of life, violence, conflict, theft, inequality and poor social network and *Environmental*; animal and plant loss, loss of water and wetland, air pollution, and concentration in ground salt. Thus, the poor is more vulnerable to the effect of drought.

6.2 Recommendations

The following recommendations are forwarded based on the finding of the study:

The process of mitigation needs both short and long-term interventions from households and different external institutions. Short-term responses address the immediate and urgent needs of the people including such as emergency operations, relief and rehabilitation, pest and disease control etc, whereas, long term solution are expected to bring positive changes through time including such as a forestation, medium-and large scale irrigation system construction, water and soil conservation, etc.

- Empowering the community in decision making.
- The government intervention regarding the malaria prevention, livestock and crop disease control relatively has shown good improvement. However, in relation to the

population suffer from malaria, livestock loss, and crop failure much more is expected from government.

- The interventions that are undertaken by the government to make the household food sufficient such as Safety Net Programs are encouraging. However, the challenges regarding implication issues such as vulnerability, concept, accountability, targeting, social net work, transparency and good governance need to be revised
- Reorientation of the interventions such as credit and cooperatives, since the community perceptions toward previous credit access and cooperatives was negative because of its poor implication. Currently, provision of credit and cooperatives are highly needed by the communities as source of finance for diversification activities and fighting together poverty.
- External intervention by Government and/or NGOs should enhance the existing indigenous indicators of emerging crisis and local capacity so the occurrence of drought will be minimized with appropriate preparedness and provision in rescue the life of vulnerable households.
- Alternative income opportunities must be found mainly outside the agricultural sector, since current coping strategies and livelihood is mainly depend on natural resource that increase the environmental effect.
- Resolution of the conflict that is resulted due to shrinking resources base, boundaries, and culture between two tribes (*Woliyita and Sidamo*).
- HIV/AIDS epidemic now affecting the most productive members of the household and population. The issue need urgent response:

Thus, the success depends on the collaborative and integrated efforts of the different development actors, such as government, NGOs, private investors and households.