

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

FOOD SECURITY AND DIMENSIONS OF POVERTY IN ETHIOPIA
THE CASE OF BADAWACHO WOREDEA

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ADDIS ABABA

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THE CASE OF BADAWACHO WOREDA

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Food Security and Poverty Monitoring: The Case of World Vision's Food Security Program and Rural Poverty Monitoring in Badawacho Woreda

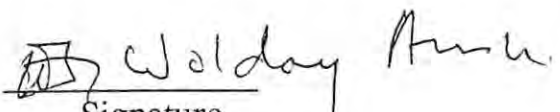
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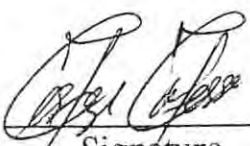
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DEDICATION

May this paper suffice to be in memory of the writer's beloved late instructor, indeed whom he trusts, Assistant Professor Solomon Gebre who passed away in May 19/1998 early without fully sharing his knowledge and accumulated experience to other fellows.

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May thanks and praises in words express what Lord has done for me throughout my study!

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ACRONYMS

AAU	-	Addis Ababa University
ADP	-	Area Development Program
AGZ	-	Agro-Climatic Zone
CSA	-	Central Statistical Authority of Ethiopia
DPPC	-	Disaster Prevention and Preparedness Commission
EGS	-	Employment Generation Schemes
EU	-	European Union
FAO	-	UN, Food and Agricultural Organization
FSRA	-	Food Security Reserve Administration
FY	-	Fiscal Year
GDP	-	Gross Domestic Product
HH	-	Household Head
IMF	-	International Monetary Fund
KM	-	Kilo Metres
LIFDC's	-	Low Income Food Defied Countries
MCH	-	Mothers and Child Health
MED	-	Micro-Enterprise development
MEDAC	-	Ministry of Economic Development and cooperation
MOA	-	Ministry of Agriculture
MOEPD	-	Ministry of Economic Planning and Development
MT	-	Metric Tonne
NGOs	-	Non-Governmental Organizations
PA's	-	Peasant Associations
PPA's	-	Participatory Poverty Assessments
PRA	-	Participatory Rapid Appraisal
RLS	-	Revolving Loan Scheme
SNNPR	-	Southern Nations Nationalities and Peoples Region
SSA	-	Sub-Saharan Africa
TBAS	-	Traditional Birth Attendants
UNDP	-	United Nations Development Program

UNICEF - UN-Children Fund
USAID - United States Agency for International
Development
WDR - World Development Report
WVI/E - World Vision international - Ethiopia

ABSTRACT

The government food security strategy was launched in 1996 in Ethiopia. However, poverty reduction and food self-sufficiency have been dealt with through the country's development program since 1989. NGO's have been actively involved in poverty eradication specially after the 1984/85 drought and famine. But the overall outcome was very insignificant. This is mainly attributed to two factors that can be cited as pre-requisite in food security and poverty eradication intervention. First, treating food insecurity and poverty eradication requires knowledge of the poor and the availability of food (level of food security) at the local level. This can be cited as problem identification. Second, food insecurity and poverty eradication need the right strategy that can ensure sustainable livelihoods and development which can be mentioned as a solution.

The main objective of this study is to measure poverty and assess the food security strategy of the government and the World Vision International/Ethiopia by employing both the conventional rural household survey and participatory poverty assessment.

Using the traditional/local wealth ranking method, community representatives in the woreda where the research was conducted (ie. the Badawacho woreda) tried to categorize households in the Woreda into five parts and into two broad divisions (poor and non-poor and food deficit and food secured). A food poverty line is drawn based on the income/expenditure data and using the Foster, Greer and, There- beck poverty index, the three measures of poverty (prevalence, depth and intensity) were computed.

The final result shows that 73% of the sample households are food deficit with different levels of food availability that ranges from below 500 calories per capita per day to over 4,000 calories per capita per day. It was also found that 55% of the households are below the poverty line with 22% poverty gap and 11% severity of poverty. It was also found that grains contribute 79.71% of the available calories of households while ensete contributes 7.25% of the available calories.

In Badawacho, Family size, livestock ownership, land size and off farm income are found to be correlates of poverty and explain 32.37% and 23.58% of the variation in poverty among households in dry and wet Weina dega agro climatic zones respectively. On the bases of this study the poor and food deficit households are relatively well-identified and any food security and poverty eradication program carried out by NGOs should target the needy ones. This is more important because the government national strategy could not able to tackle households/ individuals food security problem to that effect.

CHAPTER I

INTRODUCTION

1.1. Statement of the Problem

The problem of food insecurity was known in Sub-Saharan Africa (SSA) before the onset of the 1983/84 drought. In 1980, about half of the SSA population had insufficient calorie intake for an active working life. [Demery 1987]. This chronic food insecurity problem has been compounded by the effects of drought and low productivity of food crops. Food insecurity, therefore, has remained a major cause leading to secure sustainable livelihoods and to eradicate poverty in SSA in general and Ethiopia in particular as the country is known in drought, famine and low productivity in the region.

Ethiopia faces severe food insecurity problem as compared to many African countries. Ethiopia's recurrent drought and famine causes additional transitory food insecurity besides the existing chronic food insecurity pervasive in many regions of the country. FAO, estimated that 3 million people were in need of food relief in 1981/82 that was rising to 6 million in the severe drought of 1985. World Food Program (WFP) estimated that 1.7 million people are in state of chronic food insecurity while 7 million were in a state of transitory food insecurity in 1990. [World Bank, 1993]. In 1996 a number of people that need food assistance were reported to be 6 million due to the failure of the Belg and Meher production [DPPC 1996]. It seems that the 1997/98 situation is worse due to the irregularity of rain that affect the Meher production.

Ethiopia with per capita income of US\$ 120 is among the four extremely poor countries in the world along with Mozambique, Tanzania and Somalia. This study of the bank came up with a total poverty line of Birr 244 per household per-month and a food poverty line of Birr 193 per household per month. [The world Bank 1993]. Assuming an average household size of five people, 12.6 million rural people, of whom about 8.8 million are dependents on less than one tenth of a hectare, have no oxen, and live in poor economic and physical conditions. A further 17 percent (7.4 million people) are vulnerable to poverty, and 5 percent (2.2 million people) are nomads who are also poor. The Bank assessment concludes that about 52% of the Ethiopia's population is below the poverty line with 1,700 calories per day/adult equivalent. [World Bank 1993].

The Ethiopian government came up with the National food security strategy in 1996 to address the food insecurity problem. Ethiopia's food security strategy indicates the very fact that food insecurity is the best measure of poverty in Ethiopia and underscores the immense magnitude of food insecurity problem. It also shows that the solution of the problem is coterminous with poverty alleviation. The approach of Ethiopian food security strategy seems that food security should be treated at the centre of poverty alleviation strategy as a short term objective for sustainable livelihoods and poverty eradication.

The Ethiopian Government has planned to achieve at least 2000 cal/day /person by the end of 1997/98 through boosting local production by its food self-sufficiency policy of the five- year development plan. Though the government's strategy is under way, there are evidences which indicate that food insecurity and poverty would not be solved within a

short period of time in Ethiopia. FAO indicates that the Ethiopian food production represents an average of 1200 to 1300 calories per day/person from grains while the minimum amount recommended by the Ethiopian Nutrition institute and MEDAC Nutrition unit is 2100 calories per working adult per day.

The food self sufficiency policy of the government is criticized in that it could not solve the serious food insecurity problem. The World Bank argued that no significant relationship between food self-sufficiency and chronic food insecurity. In many cases, increase in food supply results in higher food prices (what the structural adjustment proposes to Ethiopia to give incentives through increasing the price of farmers outputs) that negatively affect the poor's food consumption security. Increasing food production reduces food insecurity only when it causes reduction in food prices and facilitates programs that increase the income base of the poor [World Bank 1996].

As we have discussed the food insecurity and poverty situation in Ethiopia, there are problems at various levels of the strategy and the prevalence of food insecurity and poverty condition may not be easily tackled. Thus dealing with both food security and poverty eradication strategies at the same time is very essential for sustainable livelihoods. Hence, this study attempts to assess the food security strategies of the Ethiopian government and World Vision in line with poverty eradication and food security achievement at household level in Shone project in Hadiya zone of the Southern Nations Nationalities and Peoples Region/SNNPR/.

1.2 Objectives

- i) To examine the food security strategy of the government in the context of poverty alleviation through measuring the dimension of poverty in Badawacho woreda.
- ii) To assess WVE's food security and poverty reduction programs and the relationship between the two.
- iii) To assess the dimensions of poverty in Badawacho.

1.3 Significance of the Study

- Development programs and projects including NGO's intervention were not assessed against achieving food security and poverty eradication. Therefore, this study assesses both the food security strategy of the Ethiopian Government and that of the World Vision and the impacts of the strategies on the poverty and food security condition of the study area.

1.4. Limitations of the Study

- The people of Badawacho Woreda and the neighbouring Woreda's of Wolayta area have been provided relief food or grains on food-for-work program basis. World Vision and Concern-Ethiopia have been working in the Badawacho Woreda where the community still expect some benefits from outsiders. Thus, this dependency

syndrome and particularly the 1997/98 Meher crop failure forces the respondents to underreport the production and income level. Like many surveys conducted in the country, income is usually underreported and so the investigator decided to use the food expenditure side as the proxy to food income. Therefore, this can be cited as a limitation of the study, however; experiences of MEDAC, CSA and Economics Department of AAU are the same with this study in taking food expenditure as an income for measuring food poverty.

1.5 Hypothesis

Both government food security strategy and WVE's intervention could not make rural people in the Badawacho woreda food secured and generate sustainable livelihood. Farmers already with better asset, off-farm income, better access to services and small family size are more food secure and less poor than farmers with few asset, low off-farm income, less access to services and large family size.

1.6 Operational Definitions

The definitions used in this study are defined by the cited organizations and adopted by the investigator.

1. Food Security - is defined as access by all people at all times to enough food for an active and healthy life [The World Bank 1990].

2. Food Insecurity- refers to a lack of access to sufficient food among individuals and groups in society.[FAO 1985]

3. **Transitory Food Insecurity**- occurs when an individual's food consumption levels falls below adequate levels because of short run (intra- or-inter seasonal) fluctuations in supply or effective demand (real income) i.e it involves a temporary decline in access to food arising from instability in food production, food prices, or incomes (Peter 1986).
4. **Chronic Food Insecurity**- describes a situation where an individual persistently lacks the means to assure an adequate diet. (Pieter 1986)
5. **Poverty** -is defined as the inability to attain a minimal standard of living (WDR, 1990).
6. **Poverty Line** - is a line established by costing a minimum basket of essential goods/basic needs/ for basic human survival using consumption / expenditure data of non-poor households. (UNDP - 1995]
7. **PRA** - Participatory Rapid Appraisal (PRA) - is the non-conventional method of evaluating projects and measuring rural poverty developed by Chambers.(Chambers, 1985) In this study, local wealth ranking, group discussion and observation parts of the PRA- method are used.
8. **PPA** - Participatory Poverty Assessment (PPA) - is the subjective and non-conventional measurement of poverty by the community living in that specific area where a study is underway (Baulch, 1996). In this study PPA-is used with local wealth ranking method of PRA.

1.7 Methodology and Data Source

1.7.1 Methodology and Sample Design

The field data collection in this research employed the conventional survey and Participatory Rapid Appraisal (PRA) methods. Questionnaires are prepared to capture quantitative and household based information while the PRA was for capturing more of qualitative and community based information. The total PA's of the Bedawacho Woreda are 46. The questionnaires are administered by 100 household heads in 5 PA's. The PRA - was conducted in another 5-PAS of the Woreda in which 30 community representatives were involved in each PA. The sampling of the study is designed based on stratified random sampling techniques. The stratification is applied for PA's while the household heads are selected randomly from the list of PA-household heads. The stratification is based on the agro-climatic zone and intervention level of the World Vision Project. First, the woreda is classified into two *agro-climatic zones; i.e., wet mid highland and dry mid highland. Secondly, the woreda is also divided into World Vision intervention areas; i.e., old PA's, and non-World Vision intervention areas or new PA's.

Based on this stratification, 5 PA's are selected for questionnaire of which 3 are from Wet mid highland and old PAs and 2 PA's are from Dry mid highland and New PAs.

For the PRA-undertaking another 5 PA's are selected of which 3 are from the wet mid highland and old PA's and 2 are from the dry mid highland and New PAs. The new PA's are selected as a control group for the assessment of WVE's impact on food security,

poverty reduction, and asset building. Two PA's were taken twice for questionnaire and PRA-methods so as to cross check the individual answers to questionnaires with group answers of the PRA.

PA - Profile in Agro-Climatic Zone and Intervention Level - Questionnaire

S/N	Name of the PA	Agro-climatic Zone	Intervention Level	Distance From Project in KM	No*.Of PA Household heads
01	Abuka	Dry mid highland	New	26	639
02	Keranso-II	Dry mid highland	New	25	845
03	Kotto	Wet mid highland	Old	27	1365
04	Weira Mazoria	Wet mid highland	Old	3	1243
05	Webera Offoda	Wet mid highland	Old	20	999

After selecting the PAs on agro-climatic zones and intervention levels, the household heads were randomly selected from the respective PA-household lists including landless household heads.

***The total no. Of household heads in the Woreda is 36,466**

PA - Profile in Agro-Climatic Zone and Intervention Level-PRA-Method

S/n	Name of PA	Agro-Climatic Zone	Intervention Level	Distance From Project Center in Km
01	AMBURSE-I	Wet mid highland	Old	2.5
02	CHEFFA	Dry mid highland	New	17
03	GERE BULGITA	Wet mid highland	Old	13
04	KERASO-II	Dry mid highland	New	25
05	KOTTO	Wet mid highland	Old	27

After Pas- were selected, community representatives are selected from each group of the community** for the PRA-Purpose.

Elders of the community	- 5
Women	- 5
Youth and landless HH	- 3
Poor Farmers	- 3
Wealthy Farmers	- 3
Middle Farmers	- 3
Executive Members	- 5
*Marginalized groups	- 3

30 - people from each - 5 PAS

*Potters of Hadiya (Fugga) are the marginalized and landless groups in this woreda.

**See photographs of community representatvives in Annexe (3-7)

1.7.2 Data Collection

The study uses both primary and secondary data.

A) Primary Data Collection Methods

i) Questionnaire

Structured questionnaire was prepared on major variables of food security and poverty analysis. Hundred (100) household heads and their wives in 5-peasant associations namely Abuka, Keransso-II, Kotto, Weiera Mazoria and Wobera Offoda were interviewed.

ii) Multi-dimensional Ways of Measuring Poverty or a walking on two legs strategy.

In this method, participatory Poverty Analysis (PPA) is used for traditional/local wealth ranking and poverty indicators. The participated community representatives are identified various groups as food insecure, poor and rich.

iii) Participatory Rural Appraisal (PRA)

In PRA-Method, specifically group discussion and wealth ranking are used in 5-PAs of the two agro-climatic and WVI/E - Intervention levels. Amburse, Gere Bulgita, Cheffa, Kotta and Keranso-II are the PA's where PRA is undertaken with 30-people in each PA that represent the local community from different aspects.

iv) Interview

Interviews were held with

- Woreda Council
- Woreda MOA
- Other Line departments
- Key Informants like grain and livestock traders in the major market places
- Professionals working in the woreda including WVE-Shone project staff.

v) Participatory Observation

The principal investigator made observations in 10-peasant associations, market places (Shone, Adilo), farm plots, deforested areas, and individual peasant households and took photographs including the marginalized "FUGA" people. Eroded areas like in Amburse-I, Cheffa, Keransso-I were visited with some closure sites that the WVE-Shone ADP and the government undertake.

B) Secondary Data

Government policies, World Vision documents and Fiscal Years reports of the Shone ADP (1991-97), FAO, UNDP, World Bank, ILRI and, DPPC publications and other relevant information sources are also utilized in this study.

1.7.3 Unit of Analysis

The unit of analysis in this research is households.

1.8 Organization of the Study

The study is organized into five chapters. The first chapter deals with the statement of the problem of food insecurity and poverty in Ethiopia (and the Methodology). Chapter two reviews the literature on food security and poverty ranging from 1974-to date particularly on Ethiopia, and world wide in general. Chapter three deals with the case study (i.e. the Badawacho Woreda). It gives a brief overview about the socio-economic, climate and cultural situation etc. of the woreda including the result of the community's local wealth ranking system. Chapter four focuses on data analysis which are collected through both household survey and participatory methods, this chapter gives information on the findings on the current food security and poverty condition of the woreda. The fifth chapter provides conclusions and remarks.

CHAPTER II

LITERATURE REVIEW

2.1 Global Concern for Food Security and Poverty

Food security has become popular and World wide issue since the 1974- Rome World Food Conference. The food crisis in 1972-74 had a profound influence on perceptions about the food security problems. Moreover, the rising of international grain price aggravated the food problem in developing countries in addition to the ever growing number of population living in countries with different levels of per capita food supplies. The food security concept of 1980's with its supra-national goal has given due consideration for food deficit countries in order to establish national and international grain reserves. Experience revealed that the regional and national levels food security could not secure households and individuals food demand. That is why third World countries have failed to adequately provide food among citizens, although, the average per capita food at national level is available.

In 1960's cereal self-sufficiency was 97% for all LDC's that decreased to 91% in 1980's and 1990's. Food import accounts for about 20% of their consumption. Sub-Sahara Africa (SSA) - experienced further declines. Most SSA countries per capita food supplies are under 2,300 calories/day while that of most developed nations reached 3030 calories/day on the average with adequate energy content for all.

To overcome the global food insecurity problem, efforts have been exerted at international, regional and national levels. The eradication of hunger and malnutrition and ensuring food security in Low Income Food Deficit Countries (LIFDC's) has become a central mandate of FAO since the world food crisis of 1970's. The 1974 international conference on World Food Security was followed by the 1979, World Food security plan of Action. Then, FAO's main objectives of food Security are identified as follows:

- Ensuring adequate food supply through sustainable growth of agricultural production and economic efficiency as the whole, apply complementary measures like social safety-nets in the short-run if necessary
- Appropriate technologies and improved infrastructure.
- Ensuring access to food by all people at all times and,
- Achieving these objectives within a sustainable agricultural and rural development framework, where production capacity of the natural biological system is enhanced, and environmental quality is not compromised. (FAO, 1975, MIN-FOA/UNDP). FAO believes that country specific food security approaches should be designed to address the food insecurity problem and food security policy should be seen as part of poverty alleviation policies. To realize this objective, FAO undertakes the agenda for consultations and possible action to deal with acute and large-scale food shortages in 1981. More important, the 1995 World Food Summit has drawn special attention of various organizations and World leaders towards food security and poverty eradication. The summit renewed the commitment of world leaders through the Rome Declaration at highest level to eradicate hunger and malnutrition and to achieve lasting global food security, however, the struggle

against this daunting challenge is beyond the turn of this century.

2.2 Ethiopia: Food Security Strategy

2.2.1 The Development of the Strategy

The development of food security strategy and food policy has a short history despite the recurrence of drought and famine in Ethiopia and in spite of the global attention being paid to food security for the last three decades. It was in 1986 that the first work shop was held on National Nutrition Strategy for Ethiopia, at Alemaya University of Agriculture (AUA) by the then Office of the National Coordination Committee for Central Planning (ONCCP) during the Derg government. From 1986 to 1996 when the policy was officially declared, many efforts were made to realize the food security and other related strategies that dealt with nutrition, emergency capability building, food supply , food ,and seed reserve.

Among these, the food strategy task force was established in the ONCCP to conduct studies and workshops as well as design strategy. In 1987, National Food Strategy workshop was held at Debre-Zeit to redraft the 1986 prepared food strategy document. In 1988, committees on Agriculture, Natural Resources and Food policy were set up to investigate their fields in relation to food strategy and Nutrition. Finally, in 1989, the Derg Government designed the National Food and Nutrition Strategy within the context of the Five-year plan (1989-94). The overall objective was to attain food self-sufficiency in the Ten-year perspective plan besides meeting raw material requirements of the industrial sector, increasing the foreign exchange earning capability of the country and protection of the natural resources from further degradation.

Special focuses were given to food production systems, food distribution, marketing, processing, consumption and planning, and information. As part of the National Food and Nutrition strategy, national food security system was proposed in 1989 with the redesigning of Disaster Preparedness Systems. The 1989 proposed national food security system was defined.

"... a national capability or preparedness to cope with serious short falls in production and rising food prices. The components of this system include the emergency food security reserve, the strategic seed reserve, and relief and post-drought recovery programs" [Belshaw 1989]

Though the Derg's five year plan (1989-94) and food self-sufficiency was interrupted in 1991 due to the downfall of the regime, the national food security and redesigning of Disaster preparedness systems have got the attention of the TGE after some years. In 1993, the former RRC was reorganized (and named the Disaster Prevention and Preparedness Commission /DPPC/) to link relief with development. The Food Security Reserve Administration was also established to deal with food security reserve by focusing on domestic food purchase and cash-aid. Finally, after ten-years attempt the food security strategy of Ethiopia became official in 1996 after ten-years attempt.

2.2.2 Objectives and Components of the Strategy

The food security strategy of the present Ethiopian Government in the medium term is based on two rationalized principles. Firstly, food security is seen within the context of

comparative advantage in international trade of food crops. In such a policy principle, removal of subsidies to small holder agriculture, deregulation of input price, flexible exchange rate and resource allocation for agriculture are sought. Secondly, food security assistance is planned to continue so as to facilitate the transition to self-reliance. The national aim of self-reliance in food security would be translated into the households' self-reliance through transferring resources to the vulnerable group, assisting in cash rather than in kind and encouraging domestic food purchase.

Ethiopia's food security strategy is closely tied with the overall development strategy and economic reform underway in the country. Agricultural-Development-Led-Industrialization (ADLI) places emphasis on agriculture as the engine of growth in the short-term and growth of non-agricultural sectors over a longer period of time. The government believes that the growth of non-agricultural activities and the purchasing power of the rural and urban population would improve the latter's access to food. The food security strategy has also close relationship with economic reform in the country. The strategy is expected to be consistent with free trade policy, macro-economic stabilization and food security assistance.

According to the food security strategy of Ethiopia (1996), the objective of the government is to double the current US\$ 120 per capita income of Ethiopians within 15-years through increasing income at 4.75% per annum and GDP at more than 7% per annum. The government also planned to fulfill 90% food self-sufficiency of at least 2000 calories per day/person by 1997/98 by increasing the productivity of agricultural sector by 4 percent. [Food production, Food security and Nutrition, sub-program - 2, 1993].

The Ethiopian food security strategy has three components that address both the supply side (availability of food) and demand side (entitlement to food). These are

i. Economic Growth and Employment

The government would like to keep on taking macro-economic policy changes so as to achieve at least economic growth of 6% per year in real terms for poverty eradication. Privatization of public enterprises and state farms, easing restrictions on domestic and foreign investment, promoting private investment on human resource development and infrastructure, promoting private investment and small holders in agriculture, guaranteeing equal access of women to resources and reducing the current 7% fertility rate to 4% etc. are the major reform measures and policies that are envisaged for giving support for national food security.

The development of rural areas and priority to agriculture is seen as the primary instrument to increase food production and to narrow the food gap estimated to 750,000 - 1 million tons. The diffusion of simple technology packages, supply of inputs, focus on small holder agriculture, participatory demonstration and training extension system, expanding irrigation, better crop husbandry and post-harvest handling are the focus areas of the food security strategy of the government. To realize this plan, the government planned to invest about US\$ 32 million in seeds, and US\$ 230 million in fertilizers. Land tenure has been affecting agricultural productivity, food security and poverty situation of the country. It seems that the government wants to make the land tenure, flexible, although it may not be the lasting solution.

"Acknowledging the problem associated with land tenure, the government over the next two years (i.e 1998/9 1999/2000) will strengthen security of access to land by developing regulations to frame a market-based leasehold system of transferable land property rights, throughout the country, and establish the administrative arrangements to support this" [Food security strategy - 1996].

The economic growth and employment component of the food security strategy is also aimed at lowering real food prices, encouraging rapid growth of small business enterprises that create jobs and promote diversification and exports in support of food trades. The strategy includes construction of new roads and maintenance of the existing roads to improve food distribution and to reduce market costs of food grains. Expansion of small-scale rural enterprises that absorb the rural population by creating non-farm incomes and employment is part of the food security strategy of the government. Creating rural employment in petty trade and processing of agricultural products could change the rural income pattern and food insecurity condition if the principle of multiplier effect of agricultural growth is successful. The government plans to increase export by 10% in two years of time (1998-1999) and diversify export items to non-coffee products so as to build its capacity of foreign exchange and food reserve. Next to increasing production of food grains, increasing export is at the top of the agenda as the second leg to the food security strategy of the Ethiopian Government.

The food security strategy also give due consideration to the pastoral areas of the country that covers 60% of Ethiopian land and hold 20% of the country's herd and contribute 90%

of live animals for export. (Ethiopia Food Security Strategy, 1996). Live stock development in general is a high priority of the government. Three focus areas are identified. Promoting small holder dairying, increasing meat production for export and rising domestic demand, increasing foreign exchange earnings by exporting hides, skins and leather products are the priority areas in livestock development to increase incomes to farm families and reduce vulnerability to food insecurity.

ii. Additional Entitlements and Targeted Programs

In the medium term, the government believes that only economic growth and employment would not ensure access of households and individuals to sufficient food. The short-term objective of food entitlement is avoidance of death by starvation while the long-term objective is building the capacity of households to attain food security on their own. The most vulnerable groups and households are the focus to the government's food entitlement program. The over all aim is to transfer resources to the vulnerable population. The food entitlement component of the strategy has three sub-components that could be implemented through food security assistance.

- a) Supplementary employment and income schemes
- b) Targeted programs and,
- c) Nutrition/Health intervention

The objective of the government is to use the food security assistance and food aid for food security purpose through linking relief to development. Employment generation schemes (EGS), basic safety net programs and on- the -shelf projects are planned as the solutions

to make use of millions tons of food aid for development activities. The aim of linking relief to development is to direct development towards reducing vulnerability, and relief towards enhancing long-term development.

The Targeted programs will be designed to transfer resources to develop capacity for self-provisioning, and to support selected vulnerable groups who will not be capable of self-provisioning in the short to medium term. The Government targeted programs include provision of inputs to food insecure small farmers, loans/micro enterprises to women, cash transfers to orphans, aged/handicapped, and self-targeting food subsidies for especially vulnerable groups.

The over all objective of the targeted programs is transferring purchasing power to the poor by increasing their employment opportunities and their capacity to generate incomes as well as providing the poor with more alternatives so that the poor themselves should be able to decide what to purchase and what to produce, rather than having the choice made for them by the program.

In the nutrition and health interventions, the priority is addressing the needs of those with both the highest risks and the most serious consequences of malnutrition, children under five and pregnant and lactating mothers. Throughout the program, the linkages between nutrition and improved domestic water supply and sanitation would be emphasized according to the strategy.

iii. Emergency Capabilities

The government plans to strengthen its emergency capabilities like early warning systems, the capacity for food and relief distribution, strategic reserves of food grains, the monitoring and surveillance activities. The food security Reserve Administration (FSRA) is established under DPPC and the government plan is to have about 324,000 tons of emergency food reserve in the near future. The strategic reserve sites are selected in different parts of the country. The early warning system is de-centralized up to the woreda level, and line departments are expected to submit regular reports to the early warning department of the DPPC.

In general, the government believes that the macro policy reforms and de-centralization process will improve the food security situation of the country. Institutional arrangements are made to undertake the strategy. The regional governments, NGOs and local communities will implement the strategy. The role of the Disaster Prevention and Preparedness Commission is to coordinate the efforts of line departments, NGO's and regional governments in the activities ranging from early warning information gathering to implementation of projects that link relief to development.

2.3 World Vision Food Security Program

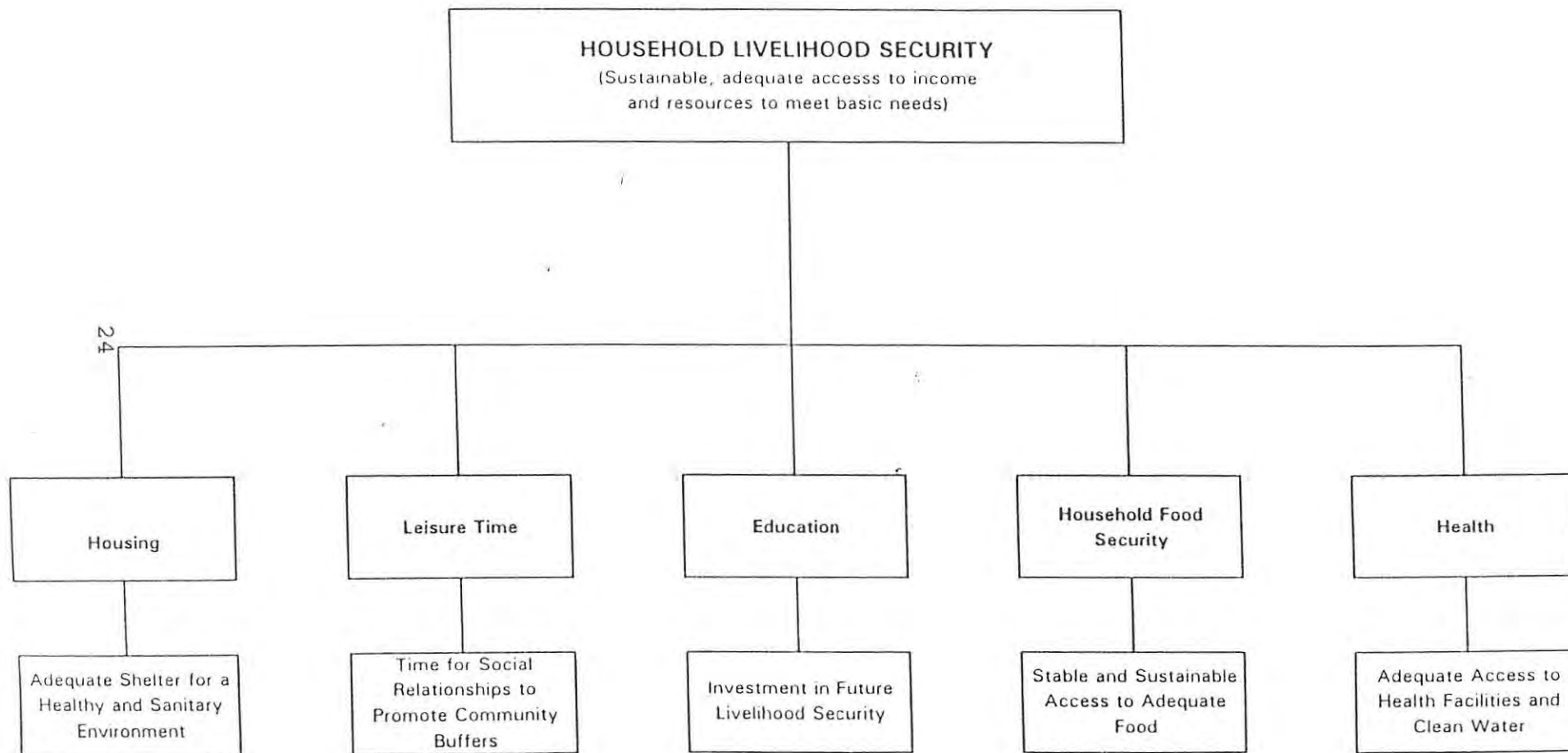
World Vision treats food security at the centre of poverty alleviation strategy and sustainable livelihoods.

"Achieving food security is one element of a household's establishing livelihood security (i.e. meeting basic needs). The state of having access to all of its basic needs to live a healthy and productive life." [WV 1995].

As far as the World Vision is concerned, livelihood security is its longer-term objective and achieving food security is a central element of achieving livelihood. Livelihood security addresses basic needs and is part of the development process. Once basic needs are met (more extensive development initiatives can be taken, likewise, reaching this plateau provides a potential natural phase-out point for NGO efforts (Ibid, p. 15) For World Vision, each elements of livelihood security are interrelated and without one, a household can not fully meet basic needs and will continue to exist with a high level of Vulnerability. World Vision believes the following five elements of livelihood security should be fulfilled(i.e Food, Shelter, Education, Health and Leisure)

Figure 1 : Components of Livelihood Security (see in the page that follow)

Components of Livelihood Security



Food security is part of the broader development framework for World Vision. Food insecurity is a critical problem in Africa where World Vision has intervened, therefore, solving the food insecurity problem and improving the livelihoods of rural communities and the agricultural sector are essential catalysts for poverty eradication and development. In food security undertaking, targeting program activities including complementary programs would create impact on the poorest people, and World Vision is aimed at addressing the food insecurity problem of "The poorest of the poor," as they are the most Vulnerable groups that do not meet their household food requirements.

World Vision Food Security Program has four (4) key components

1. Agricultural production improvement
2. Raising incomes
3. The appropriate use of available food-'use' component of food security
4. Asset creation.

1. Improvement of Agricultural Production

Improvement of agricultural productivity is the most likely manner in which assets are initially created in a rural society and through which investment, sustained employment and alternative enterprises are developed. World Vision's effort is to enable rural households to produce their own food consumption by assisting households in input supply, creating access to irrigation, improving physical technology, undertaking soil and water conservation activities on FFW-basis, utilization of pest management system and cultural practices etc. For World Vision, any activity that contribute to improving agricultural production is considered as part of a food security strategy (WVI-Food Security program, 1995)

2. Raising Incomes

World Vision food security strategy considers increasing income of a household as a primary method by which households meet their food needs. The assumption is given adequate food production and functioning markets, access to income reduces vulnerability of the net purchasers and other food insecure households. Some activities are identified

as part of this component:

- Credit and saving schemes
- Skills training
- Cash-for-work initiatives
- Introducing processing technologies
- Market analysis and product marketing
- Development of transportation infrastructure
- Diversification of farm and non-farm activities etc.

3. The Appropriate Use of Available Food - "Use" Component of Food Security

It refers to all of the actions required, once food has been produced or purchased, to ensure that adequate quantities of food are consumed and utilized by all household members.

This component is included from the fact that post-harvest food losses in Africa accounted for above 20% of production (Ibid, p. 14) besides the food prepared in unsanitary conditions or in a nutritionally inadequate manner. This component of food security incorporates:

- Post harvest technologies introduction
- Preparation of food in nutritionally adequate manner by reducing food loss
- Addressing issues of intra-household access to food
- Increased women control of household income and access to assets
- Health and nutrition education
- Family planning
- Community level grain banks

- Access to clean drinking water
- Safe sanitation infrastructure
- Sensitivity training on intra-household resource sharing etc. (Ibid, p. 14)

4. Asset Creation

For a household to be secured in food, it must develop the capacity to reliably meet, its food needs over a time and during the moment that a crisis affects some components of a household food security system. To ensure this, access to assets play a significant role in food security intervention. As Robert Chambers put it, "**A Household's access to assets is often a good determinant of its Vulnerability**" (Chambers, 1989). Household assets are typically created through previous savings and investments of capital by households either from their own income or supports of other agencies involved in assisting households in asset creation. Simon (1996) indicated that households with land, income and other assets have a positive effect on their food security status. It is in this notion that World Vision taken into account asset creation as fourth component of it's food security program. Activities identified as sub component are:

- Labor intensive public works (include a range of activities).
- Safety-Net Programs
- Credit and Saving institutions
- Establishment of fruit tree nurseries, wood lots
- Provision of farming equipment, fish ponds, livestock etc.

To realize this component, World Vision established a saving and credit institute called Wisdom Micro-enterprise Development. The provision of credit was started in 1996 and will continue during the five years (1988-2002) food security program intervention.

CHAPTER III

BACKGROUND OF THE STUDY AREA

3.1 Description of the Area

The study area covers the Badawacho Woreda which is one of the four woredas among Soro, Lemu and Mesha in Hadiya zone of the Southern Nations, Nationalities and Peoples Region (See the map of the study area below). The capital town of the woreda, Shone, is situated at 345 km South of Addis Ababa, and 115 km from Awassa and 110 km from Hosanna the capital towns of the region and zonal administration respectively. The total area of the woreda is 56740 hectares of which 24,759 ha or 43.64% is used for agriculture.

PA5



Climate and Farming Practice

Climatically, the whole woreda has a mid highland type of agro-climatic zone (ACZ) with altitude of 1650-2200 metre above sea level. Of the newly restructured 46 Peasant Associations (PAs), 33 are categorized as Wet Mid highland while 13 are under the Dry Mid highland ACZ. Slope wise 75 percent of the Badawacha woreda is plain and very suitable for agriculture and transportation. The remaining 25 percent of the woreda is dominated by semi-mountainous and valley type of land features. The woreda is characterized mainly by two types of soil. The wet mid highland (33 PAs) soils are deep red clay loam or Nitosols with mean annual rainfall of 1400-1600 mm. The dry mid highland (13 PAS) soils are cambisols with heavy plano solos and sandy mixture that exposed to gorge formation due to heavy flood that comes from the upper slopes of the wet mid highland PA's. The mean annual rainfall ranges between 800-900 mm. Though the woreda is known for its water problems, there are rivers like Sike and Gocho that could be used for small-scale irrigation.

The woreda has two cropping seasons. That is the short rain season (Belg), which starts in January/February and ceases in May and the long rain season (Meher) which starts in June peaking in August and ceases in September. The area is very conducive for cultivation of various products even in the absence of any irrigation mechanism. Maize, teff, haricot beans, ensete and sweet potatoes are widely grown in the moist mid highland peasant associations. Eucalyptus and coffee are grown as the cash crops in these PAs. In the Dry mid highland PAs maize, haricot beans and sorghum are common. Pepper is grown as a cash crop. Wheat, millet, chick Peas, and beans are scarcely growing in the

woreda. Maize is the dominant crop and staple food in this woreda. Among the permanent crops coffee covers 2859 hectares, followed by 1850 hectares of ensete and 807 hectares of fruits(MOA - Badawacho Woreda - 1998).

Population and Settlement

Badawacho is known as a drought-prone, food deficit woreda with high population pressure. The total population is about 192, 450 with average population density of 350 people/ square kilometre and average family size of 7 persons per household. Male to female sex ratio is 49 to 51. The number of household heads is 36,466 of which a significant number are landless, share croppers and cultivate a piece of their family's land. The average landholding is estimated to 0.77 hectares that range from 0.53 to 1.10 hectares.

There are segmented group of people called FUGA - that completely rely on pottery making and to sale their products to buy food staffs since they are deprived of land for cultivation. The Ethnic composition of the Badawacho woreda is by large Hadiya. Kembata, Wolaita, Alaba and some Amahara and Oromo are living in the woreda. Polygamy is widely practised irrespective of religion. A man can marry up to 6 and 8 wives. It was surprising experience to the investigator for coming across men who married to three and four wives with a single Ox and 0.5 hectares of land especially those non-Muslim people. The main reason behind having a number of wives is to get as many children as possible. They think that a man with many children particularly boys is more respected and can not be attacked by others. Under such socio-cultural setting it could be

difficult to think of the right of women. Every wife takes care for her children if single house is constructed for each. Women are highly subordinated, although they are the major role player in the daily life of the family. Land is not given for a divorced woman unless she gave births and have children whom she should take care of. Women support the family income through petty trades besides the routine tasks that rural women are undertaking.

There are five /5/ urban settlements including the woreda town namely Shone, Mazoria, Adilo, Sike Denema and Wada. Friday is the main market day of the woreda at Shone where all people exchange goods and commodities. According to the ADP document, there are 30 weekly market places at 21 market centres in one week. Trade is used as a supportive livelihood and a means of survival for many people in the woreda. Women and young family members spend 3-5 days in retail trades.

Infrastructure

In terms of road all PA's are accessible. One can easily reach a village or household using any means of transportation including car and motorcycles. The health condition of the people need additional effort as many are dying of malaria and communicable diseases. There are 6 clinics and 1 health centre. The health centre is constructed by WVE - Shone ADP. Water is a number one problem in the woreda. There are 17-adult education centres, 15-elementary schools 9 Junior and 1 senior secondary schools. The total enrolment rate is 27.6 percent, which is believed to be among the lowest in the region.

The credit service is insufficient however, three organizations, the regions credit and saving institute, UNICEF and World Vision are rendering credit service. Though the demand for loan is high, the repayment rate for WVE disbursed credit is discouraging and may need change of attitude among the clients.

3.2 World Vision Int./ Ethiopia - Shone Project

3.2.1 Development of the Shone Project (1988-1995)

The intervention of WVE - in the present Badawacho woreda or the former Sike woreda was started in 1988 in partnership with the Full Gospel Believers Church and the activities undertaken from 1988-93 were under the church authority.

In 1994, the project had shown progress and started agricultural activities and sponsorship program. As the World Vision's - main source of fund are children, starting sponsorship program in this project has widen the activities of Shone project. Through the community selected committee - 768 needy children were selected for children in program (CIP) purpose. Input distribution was made for CIP's families. Besides to CIP, the project expanded its activities in:

- Agriculture
- Re afforestation
- Infrastructure
- Nutrition

- Water Development and
- Institutional capacity building

To undertake these activities the project had spend Birr 1,083, 311; 213034 kgs of wheat grains and 814.23 1 kgs. of vegetable oil. The raising and plantation of 1.5 million seedings that planted on individual, organization and community bases, of which 82% survived was the remarkable performance of the year. Such activities as soil conservation, training of farmers, construction of one elementary school and spray on army worm infestation were among the project's performance in FY-1994.

The participation of local community clearly demonstrated in material supply like trees for construction, labor for different construction schemes like bridge, land for school, store and management of sponsorship program as committee members. FY-1994 is the year that the project had expanded its activities and reached the community to a larger extent.

In 1995 the project had undertaken a number of activities with out ADP status that achieved in 1996. The main intervention areas of the year were:

- Agriculture including extension
- Health
- Afforestation and soil and water conservation
- Infrastructure
- Sponsorship and child care

- Training and capacity building

The project new intervention area of the year are health and agricultural extension. The project was undertaking only nutritional surveys until FY-1995. In FY-1995 some 728 people have got treatment and 16202 people were participated in health education. The construction of a health centre in the capital town of the woreda-Sone was the major accomplishment of the year. The investigator payed a visit to this health centre. It begins rendering service and it is the only health centre in the woreda for about 191, 540 people.

Like the previous years, inputs were distributed, farmers were trained, soil and water conservation activities were undertaken on FFW bases. Additional 596 - children have got sponsors. Totally 676 kms of different structure were done for soil conservation, 0.574 million seedlings were planted; 81 quintal of seed, 66 oxen, 71 sheep, were distributed on Revolving Loan Scheme (RLS) bases. According to the market survey result, there was a fluctuation of prices of crops and livestock except coffee in the year.

The community actively participating in the development endeavour of the project. Birr 84,365 was contributed by the community for the construction of a health center. The community contributed free labor for soil conservation and afforestation programs besides its services as a committee member at PA and Zonal levels.

The main objective of WVI/Ethiopia - Shone project in FY-1994 and 1995 was to attain food self-sufficiency through integrated rural development approach. The accomplishment

of these two years revealed that free food distribution was minimized to 20% in 1995, but the total productivity of the Woreda had been affected by some disasters and constraints. In 1994 - army worm infestation, short and untimely rainfall, hailstorm, wind and low input supply and pests have affected the total production of the woreda. According to 1994 nutritional survey of WVE about 50 percent of the people were food deficit. Though, the 1995 - production was better, heavy rainfall and hailstorm have damaged maize, legumes and coffee that resulted in production loose and the woreda could not attain food self-sufficiency.

3.2.2 The ADP Era

In 1996, the project achieved an ADP status and unit heads were assigned for all units under the ADP structure. The total budget allocated was US\$ 395, 322 and 818 - 797 MT food commodity. The project utilized US\$ 385, 725 of the cash and 719.55 MT food commodity. Progress was shown in RLS repayment collection Birr 34,417 was collected in this year out of the disbursed Birr 403,163 in 1994/96. Training was given for 966 farmers on agriculture, leadership, health, SRS and etc. Health and nutrition unit also gave health education for 4241 people and 26 TBAS and 40 extension workers. Malaria epidemic was manifested in 13 PAs and the project played a leading role in the campaign. The distribution of inputs on RLS - bases also extended in 1996. Totally 1769 families were benefited from input distribution; 127 qt, seed, 100 oxen, 280 fattening steers, 92 sheep, 260 different farm tools were distributed. Seedlings were raised and 1.4 million planted on closure areas, by individuals and organizations.

Conservation activities were undertaken on FFW and free labor bases and 248.67 kms of physical soil conservation and 38 kms of feeder roads were completed. The infrastructure unit constructed one staff quarter for the health centre and a residential block for the project staff. The market situation had shown fluctuation in prices especially of coffee, sweet potato and potato due to relatively better production in the year and international coffee market.

Community participation is envisaged in different forms. Birr 14,050 was contributed for health centre construction, parents of sponsored children expend Birr 12.690 for clothing their children which otherwise the project would cover. The labor contribution of the community was estimated to 432,922 Birr excluding the Birr 1500 one PA contribute to spring copping.

As especial thing of this year intervention is that, impacts of early years are seen in some areas. Communities have started generating income from the sale of the trees planted through project's assistance, and degraded areas covered by vegetation and soil erosion is minimized. The project also ceased payment of food commodities to conservation structures made on farmers own lands. The project started designing of phase-out strategies from certain activities like nurseries, closure plantations and conservation works.

To overcome chronic food insecurity problems the US AID and EU-allocated 660 and 1857 MT food commodities respectively in 1995/96. The project was distributed these

food on EGS - bases in these two years. Though 1996 was reported as a better and uniform rainfall year, the woreda could not be self - sufficient in food production. The two nutritional surveys of WVE indicate 95.1 and 95.8 weight for length on average for all PAs in the area.

1997- is the transitional year between the ADP approach (1996-2000) and the new food security (1998-2002) program. The activities undertaken in FY-97 are part of the ADP plan to be realized as an implementing agency. A number of working days were occupied by the redesigning process and changes are introduced to the ADP management so as to enable the staff to play the new facilitative and capacity building roles. Though, changes were introduced and times occupied by non-planned activities, the project has accomplished its planned activities during the FY-1997.

The total allocated budget was US\$ 401, 149 of which 389.817 was utilized in all the six (6) units of the project. More focus was given for capacity building, micro enterprise development, health and child development as compared to the previous years. The new Shone health centre is furnished and completed to hand over. Health education was given to 9885 people. Training was conducted for 40 men in spraying against malaria 36 TBAS, 52 people on AID's prevention; 52 on CHAS, 27 extension workers and 208 contact farmers on family planning and AIDS. The nutrition survey of the year didn't show significant variation as compared to previous years. It was 95.57% and 93.1% weight for length for two times in the year. The micro enterprise development was also made effort in RLS repayment collection and introduction of the MED to the community. Birr 117,187

of RLS money was collected while Birr 214,650 was disbursed in the year. Totally the project collected 115,140 Birr out of 403,163 Birr that disbursed from 1994-1997. The number of sponsored children reached 4442 of which 2572 (57.9%) are attending schools. In soil and water conservation 345.5 km of physical structures are done with 235.3 MT of wheat grain and vegetable oil. The main nursery raised 146,758 coffee seedlings distributed to farmers for future income upgrading. Efforts are made in capacity building and training unit in training 566 farmers in agriculture, credit and business management and beekeeping. The participation of the community was active in development committee, ADP redesigning, credit collection, cash for the health centre, elementary school and local teachers of sponsored children. The major problem of the year was the damage of 914 hectares of crops by hail storm and heavy rain which worsen food insecurity of the woreda (FY' 97 -ADP Annual Report).

3.2.3 The Food Security Program

World Vision Ethiopia undertook participatory Ministry Review in 1996. The review came up with the redesigning of the ADP in 1997 - by employing consultants of different disciplines. The new project approach, food security is aimed at "**Sustainable Food Security at Household Level**". The five years (1998-2002) project document was approved by government of the region in March 1998.

The rationale behind the WVE program change/ADP-redesigning are:

- The former area development approach was aimed at changing the whole

community in holistic approach and was not addressed the household food security and poverty problems particularly of the poor.

- It is also believed WVE will handover projects step by step to the community and line departments. Therefore, implementing projects by future owners will ensure the Sustainability of projects and enhance community participation and responsibility before phasing out of World Vision.
- It seems that WVE wants its intervention compatible with government policy and interest (i.e food self-sufficiency).

To attain the new program objectives, major problems and main food security program components are identified with new role of the project staff. The major problems of the woreda identified during the re-designing process are:

1. Low Agricultural production
2. Water shortage
3. Low off-farm income
4. Prevalence of infectious diseases and under nutrition
5. Low institutional capacity of the local government and community.

To solve the above problems the food security program components are identified as follows:

1. Crop production support

- Provision of credit for agricultural inputs
- Design and implementation of irrigation scheme
- 2. Credit service provision on micro-enterprise development principles.
 - Social, financial, technical and market intermediations.
- 3. Capacity building efforts
- 4. Socio-Economic Infrastructure Building
 - Promotes access to food and effective utilization of food in the target area
- 5. Child Development Works
 - Improve quality of sponsorship service
 - Advocate for holistic child development

The role of the ADP staff is also changed in line with the WVE new approach.

- Facilitative as opposed to implementing agency
- More focus to capacity building for community, local government bodies and institutions
- Team approach to the implementation of development programs.

The project development strategy is, holistic, community based, sustainable, child focused combatable with government policies and has net work relationship with development stakeholders.

To undertake the five years (1998-2002) food security program in Badawacho woreda, WVI/Ethiopia - allocated Birr 10,424,805. The sources of the allocated budget are

sponsorship program, non-sponsorship program and the community contribution.

3.3 Traditional/Local/Wealth Ranking

Participatory Poverty Assessment (PPA's) - is a well recommended techniques for SSA - as a potential measure of poverty because PPA defines the social specificities of a multi-dimensional definition of poverty, drawing on the views of the poor. The objective of this section was to assess the local poverty view and traditional wealth ranking of the study area. The community has a well established local wealth ranking system. The major activity undertaken in this research is to reaffirm with community representatives in different five PA's whether the said local wealth ranking is common among all ethnic groups and the community has a sort of standard to classify households. The investigator with project staff have found that the Badawacho woreda community has local wealth ranking and status levelling system that would be used for further intervention in food security and poverty eradication efforts.

The classification of farmers especially households in to poor and non-poor in Badawacho woreda is based on the following criteria.

Major criteria used in ranking wealth of households:

- Land
- Oxen
- Other livestock
- Cash crops
- Off-farm income

- Types of houses
- Social role and status
- Funeral ceremonies
- Level of food security

Based on the stated criteria, the community classifies households in to five categories:

1 st .	Godancho	-	Very Rich
2 nd .	Lenbiancho	-	Rich
3 rd .	Angofita/Mirirancho/	-	Medium
4 th .	Buticho	-	Poor
5 th .	Hawancho/Golitta/	-	Poorest of the poor

Table 3.1. Traditional /Local/ Wealth Ranking in Bedawacho

No.	Criteria of Ranking	Gadanco	Lenbiancho	Angofita/Miriranco/	Buticho	Hawanco/Golitta/
1	Land	1.5-2.5 hectares	1-1.5 hectares	0.5 - 1 hectare	0.5 ha or share cropping	None
2	Oxen	More than 2	2	1	None or 1	None
3	Other Livestock	10-20	6-14	3-5	1-3	1 or 2
4	Sheep & Goats	15-20	10-14	6-9	1-5	1-3
5	Cash Crops	Coffee, Pepper, Eucalyptus	Coffee, Banana, Eucalyptus	May/May not own	None	None
6	Credit	Lender/Arata-abe darie/	Neither Lends nor Borrowed	Borrower	Borrower	-Don't have access due to lack of asset or guarantor
7	Off-farm income	-Interest from credit - Share of livestock products		Petty trade	- petty trade -Daily labor	Daily labor
8	Number of Wives	3-6	2-4	1-3	1-2	None or 1
9	Types and No. of Houses	3-4 houses made of thatch roofed tukuls or tin roofed	2-3 houses made of thatch rooted tukuls -big in size	1-2 houses not big in size and made of local materials	1-small in size and made of local materials	1 or none
10	Social role, status and names	-called Abegaz -resolve disputes -highly respected -some are religious leaders called kadi	- Assist disputes -respected -Guarantor for poors	-simple farmers	-highly involved in petty trade to supplement their income	-Serve Godanco and lenbiancho in labor, seasonal migrants
11	Funeral ceremonies	-stay 2-3 days until relatives come -slaughter 2-3 cattle -covered with expensive cloth	- 2 days -Slaughter 1-2 cattle -Covered with 120 Birr cloth	-Buried within 1-2 days -some can slaughter 1 ox	- buried within a day -Some covers their funeral expenses	Buried within a day through contribution of money funeral
12	Level of food security	Food secured throughout the year	Food secured throughout the year	Transitory food in secured	Chronic-food insecure	Chronic food in secured

The community of Badawacho well-recognized the status of the five wealth categories of households. Godaancho's are money lenders, who do not cultivate their own land, an employed person or hired labor that cultivate their land, Gadancha also rent lands from Buticho. The average rent cost of 1-timad or 0.25 ha is Birr 100 for one year. The Hawancho/Golitta/ households are deprived of assets, land, credit and marriage access. The number of Godancha is 10-15 in every PA's of the Woreda. The exact figure of the other categories is not yet identified, however, estimations can be made. The importance of such local household wealth ranking is significant for any development undertakings.

CHAPTER IV

DATA ANALYSIS

4.1 Measurement of Poverty and Poverty Indices

The concept and measurement of poverty is a point where many people may not agree as the definition of poverty varies from place to place depending on the socio-economic development and socio-cultural settings of a society. Globally, researchers and policy-makers come across three critical trade offs in their work on poverty reduction in developing countries. These are between objective (conventional) and subjective (participatory) measures of poverty, between the identification and aggregation of the poor and, between static and dynamic notion of poverty (Baulch, 1996).

In this study both the objective and subjective measures of poverty are used to review the trade-offs and assess the practical outcome in Ethiopian context. The conventional approach of poverty measurement utilizes income or consumption data for measuring poverty. The participatory school uses subjective measures of poverty by rejecting the income/consumption oriented poverty measures of economists. Some economists (Greeley 1994) argue that an absolute and objectively determined poverty line is the most appropriate means of measuring poverty. Ravallin (1992) maintains that although poverty is a many faceted concept, its characteristics (poor nutritional status, lack of physical assets, inability to work etc) are sufficiently well correlated with income and consumption to allow us to focus on these two variables.

Unlike the economists, the participatory approach rejects the income / consumption approach on the ground that it furnishes a narrow and reductionist view that fails to

understand the complex, diverse, local realities in which the poor live (Chambers, 1995). Jodha (1988) argues that the traditional income /consumption approach is usually unhelpful and often positively misleading. The participatory school therefore, tends to use the multiple, more subjective measures as indicators of poverty status.

To overcome the draw backs of both the income/consumption and participatory subjective measures of poverty, **this study adopted** a "walking on two legs" techniques, in measuring poverty. The income/consumption data of the 100 sample households will be computed through the poverty indices discussed in section 4.1. The participatory school Participatory Poverty Assessment (PPA's) out come will be discussed at the end through the data that are collected from 5 -PA's through 150-community representatives. The writer is of the conviction that the objective and subjective measures of poverty are not contradicting and in conflict with each other, they are rather complementary and supportive methodologies.

4.1.1 POVERTY INDICES

Currently, there is enough poverty measure used in conventional poverty measurement.

The study adopted the following three measures.

1. The Head-Count Index - H
 2. The Poverty Gap - Index - PG
 3. The Foster - Greer - Thor-becks - P measure
-
1. The Head-count Index (H): is a measure of the prevalence of poverty. It is the simplest and common measure given by the proportion of the population for whom

consumption or another suitable measure of living standard (Y) is less than the poverty line (Z). If q-people are poor in a population size n, then the head-count index is,

$$H = \frac{q}{n} \dots\dots\dots (1)$$

This method has its own pros and cons. It is a good measure for comparisons of a certain sort of poverty. The disadvantage of the head count index is primarily H - is totally insensitive to differences in the depth of poverty and secondly it could not show the impact of policies and interventions on the poor. Therefore, some drawbacks of H are treated by the poverty-gap-index (PG).

2. The poverty Gap - Index - PG: is the measure of the depth of poverty that shows the extent to which the incomes of the poor lie below the poverty line. If consumptions are arranged in ascending order, the poorest has - Y1, the next poorest - Y2, etc ... and the least poor having - Yq, that is not greater than the poverty line (Z), then the poverty gap-index can be

$$PG = \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right] \dots\dots\dots (2)$$

This can also be written as

$$PG = I \times H.$$

Where - y_P - denotes the mean consumption of the poor and

I - is referred to as the 'income gap ratio' and is defined by:

$$I = \frac{Z - y_P}{Z} \dots (3) = \text{mean depth of poverty as the proportion of poverty line.}$$

The poverty Gap-Index (PG) also gives a lot of information for policy makers since it has an interpretation as an indicator of potential for eliminating poverty by targeting transfers to the poor.

A drawback of the poverty-gap measure is that it may not convincingly capture differences in the severity of poverty. Sen (1976, 1981) has proposed a better measure of severity of poverty that later developed as Foster-Green-Thorebeck's-P-measure.

3. The Foster - Greer - Thorebeck - P measure - is measuring the severity of poverty which reflects the degree of inequality among the poor. P - is defined as

$$P = \frac{1}{n} \sum_{i=1}^n \left[\frac{Z - Y_i}{Z} \right]^\alpha \dots (4)$$

To reflect all the prevalence, depth and severity dimension of poverty the class of poverty

measure is in use. This is an important index that is used as additive (aggregate) measure called the Foster-Greer-Thorbeck class of poverty measure.

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right]^{\alpha}$$

Where P_{α} = is simply the mean over the whole population of an individual poverty measures which take the value $(1 - Y_i/Z)^{\alpha}$ for the poor and Zero for the non-poor

$\alpha = 0$ for H

$\alpha = 1$ for PG

n = total no of households

q = number of households below poverty line

Y_i = Poverty Gap of the i^{th} household

Z = Poverty line

The higher the value of α the more sensitive the measure is to the well-being of the poorest person.

4.1.2 Poverty Line

The objective of drawing a poverty line is to define an income/expenditure level which is sufficient to purchase the minimum standard of nutrition and other necessities. Poverty measurement generally assumes that there exist a pre-determine and well-defined standards of consumption called 'poverty lines' which must be reached if a person is not to be deemed poor (LOK, 1996).

In practice, there are about four main types of poverty lines. These are:

- Absolute poverty line - Commonly used in developing countries
- Relative poverty line - Commonly used in developed nations.
- Subjective poverty line
- Dual poverty line

(Lok 1996)

Absolute poverty lines: is commonly used among the developing countries and it is one which is fixed in terms of living standard indicator being used, and fixed over the entire domain of poverty comparison. The most common approach in defining an absolute poverty line is to estimate the cost of a bundle of goods deemed to assure that basic needs are met in the specific domain of poverty comparison. Absolute poverty line can further divided into those which are based on an estimate of caloric requirement (Absolute Food Poverty Line) and those which depend on costing a basket of goods (Basic needs poverty line). World wide, there is no common absolute food and basic needs poverty line used

for all countries. The poverty line used in a rich country which is low by the standards of that country may go beyond the borders of other less developing countries. Therefore, the choice of an absolute poverty line should be country specific. Since there is a difficulty in choosing what basic needs components in developing countries, using food poverty line is more recommended by organizations like UNDP (UNDP 1996)

In Ethiopias case 2100 calories per day/adult equivalent is used by different organizations which is almost lower than that of all countries of the sub-Sahara Africa that ranges from 2500 in Lesotho and 2700 in Gambia [Hanmer 1993].

Relative Poverty Lines

Relative poverty has been more important in the developed countries (UNDP 1996). Relative measures can be defined in terms of income or expenditure deciles or as a fraction of some relevant level of income, usually the mean income levels. The main purpose of computing relative poverty line is to capture the amount of inequality in the distribution. Relative poverty measure can be written in the following generic form.

$$P = P \left(\frac{Z}{U} \right)$$

u

Where:

Z - is the poverty line

U - is the mean of the distribution on which poverty is measured and,

L - is a list of parameters fully describing the Lorenz curve of that distribution, which summarizes all relevant information about relative inequalities.

One problem in such a method arises from the assumption that poverty line is constant proportion of the mean.

Subjective Poverty Lines

Subjective poverty lines - poverty lines are inherently subjective judgements that people make about what constitutes a socially acceptable minimum standard of living in a particular society. In this approach people are asked the income level they personally consider to be absolutely minimal and used as a poverty line. Then, if their income is below what they are considered to be poor, it is taken as subjective poverty line. The approach is most commonly used in developed countries.

Dual Poverty Lines

It is a setting at least two possible poverty lines (upper and lower poverty lines). The lower poverty line may be interpreted as an ultra poverty line, such that persons with consumption expenditures below that point are unable to meet their food energy needs, let alone other food and non-food needs. [Lipton, 1983, 1989]. The upper poverty line can be fixed beyond the meeting of food energy requirement.

4.2 Characteristics of the Sample Households

The general characteristics of the sample household heads that can be used as a background information for the primary data analysis are presented here. Some times comparisons are made with the Woreda or ADP- set up base line information for curiosity. The sex ratio of the sample household heads is 93 male to 7 females. Age wise 97% of the sample household heads are found in working age group. The minimum age of a household head is 20 while the maximum is 85 years. Most of the household heads are between the age of 20 and 50 that accounted for 81 percent of the sample population. Only 3 household heads are above the age of 65. Such age composition has a positive effect on the productivity and income of households. (See Annex-I for the age frequency distribution of the sample household heads).

The family data of the sample population show that the minimum family size is 1 whereas the maximum one is 22. Twenty households have 5-family members while fourteen households have 10 family members. The average family size of the sample household is 7.48 which is close to the Badawacho Woreda average family size i.e. 7.0. The number of dependents is insignificant where 72% of the sample population live without any dependents and the mean is 0.69 per household. The number of children ranges from 0 to 17. Only 6 households have 10 and more children while 61% have up to 5 children (See Annex -II for family distribution and size).

The land holding of the sample population ranges from 0 to 2.25 hectares. The average land size of a household is 0.76 hectare or 3.03 timad. The Woreda's average land holding

is 0.77 which is almost the same with this finding. About half of the households land holding is below 1/2 hectare. Households with 1 hectare of land are 18 while 9 households have 1.5 hectares. The land- holding distribution is presented in table 4.2.

Table 4:1: Land Holding of the Sample Households

Ser.No.	Timad*	Hectare	No. of Households
1	0	0	2
2	0.5	0.125	3
3	1	0.25	17
4	1.5	0.375	5
5	2	0.5	21
6	2.5	0.625	5
7	3	0.75	9
8	3.25	0.813	1
9	3.5	0.875	1
10	4	1	18
11	5	1.25	3
12	6	1.5	9
13	6.25	1.56	1
14	8	2	4
15	9	2.25	1
Total			100

* One hectare is equal to 4 timad according to the standard used in the Badawacho Woreda.

The educational level of the sample households shows that 65% of the households are illiterate while 27% of them are with primary education whereas only 4% of them are with junior secondary educational level. Those households with senior secondary and adult education level account for 2% each. With regard to ethnic composition, the sample household heads are dominated by Hadiya that account for 79% while 7% are Alaba; 6% each are Kembata and Wolayta; 1% each are Amahara and Oromo. Regarding religion, Protestant accounts for 51%, followed by 26% Muslim; Catholic, Orthodox and other account for 13%, 9%, and 1%, respectively.

The livestock ownership of the sample population shows that 46% of the households are with no Ox. Only 16% of the households have 2 and more oxen while 38% of the households have 1 ox. The ADP-report shows similar figures in which farmers with 2 and more oxen is 16%, farmers with 1 ox account for 44% and farmers without oxen are 40%. (Kifle 1997).

The ownership of cows is in a better position compared to oxen. The percentage of households with two and more cows is 33 while 39 of the households have one cow whereas 28 of them are with no cow. The average cow ownership is 1.18 per household. The livestock ownership of the sample households is very low. Most of the mean for domestic animals ownership except chickens is below 1 for the sample households that would have a negative impact on food security of a household.

Pertaining to the types of crops grown by the sample households, 99% of the households reported that they have produced maize (in the last 12-months of Meher and Belg seasons), the stable and dominant crop in the Woreda. The minimum a household produced was 0.5 quintal and the maximum was 36 quintals. The average maize quantity produced by each household was 5.16 quintal. Following maize, haricot beans, ensete, teff, sorghum, wheat, and sweet potato are produced in larger quantity.

The food security assessment of this study shows that among households there is a wide food availability gap. There are households with more than 4,000 calories per capita per day, while some have below 500 calories per capita per day. such range calls for especial food security intervention to eradicate poverty after screening the extreme food deficit households. Based on availability of food, sample households can be classified as follows:

Table 4.2 *Food Availability K cal / Person Per day

	%
1. Extreme Food Deficit Households (< 1000 K cal)	32
2. Less Food Deficit Households (1000 - 1679 Kcal)	28
3. Moderate Food Deficit Households (1700 - 2099 Kcal)	13
4. Food Secured Households (21000 - 2799 Kcal)	14
5. High Food Secured Households (2800 + Kcal)	13
TOTAL	100

*Food availability (own harvest covers 65.71% of the actual available calories while

31.8% and 2.48% are from purchase and aid plus others respectively). Grains contribute 79.7% of the available calories while ensete contributes 7.25% of the available calories of households on the average.

From the above table, one can understand that only 27% of the sample households have enough food (2100 + calories per capita per day as the standard adopted by the country) from own harvest, purchase, remittances etc. while the majority 73% of the sample households fall under the food deficit categories.

Households support their income through petty trades and other off-farm activities. The income from off-farm activities vary from households to households. The minimum is Birr 0 while the maximum is Birr 5040. The average income from off-farm activities is Birr 466.14 per year for the sample households. Daily labor, trade and FFW/EGS-contribute 85.98 percent of the off-farm income of the households.

Regarding households access to credit and social capital the sample survey shows that only 19% of the households have access to credit. They borrowed from WVE (11%), UNICEF and local money lenders. The Badawacho people borrow money mostly for Msekel holiday, trade and agricultural input. The social involvement of the sample households is significant, of the total 67 percent are members of local Iddir and the Dry Weina-Dega Muslim households do not have formal Iddir except that they contribute money for the purpose of funeral ceremony. Only 6-respondents are involved in equib, however, the wives and children of some respondents lots equib from their income from off-farm activities.

4.3 Poverty Measures in Badawacho

From the discussed four types of poverty lines, absolute poverty line is commonly used in Ethiopia like many developing countries and adopted for this research too. In this study, absolute food poverty line is computed based on the following steps.

Steps followed in setting the poverty line

Steps 1.

Convert food consumption of households into kilogram equivalent. The households state their consumption (from harvest, purchased and received as FFW/EGS, gifts etc.) using any unit of measurement that they locally use. The conversion factor for each unit is taken from the WVE - Shone ADP market survey for each item. Using these conversions, the consumption of all households is converted into kilograms equivalent.

Steps 2.

Using the price data collected by WVE - market survey and the price data collected by the writer during the study, expenditure on each item is computed and thereby deriving expenditure of a household per day.

Steps 3.

Using the conversion factor (food composition table) obtained from the Ethiopian Nutrition Institute, consumption of households is converted into calories and thereby per capita calorie intake per day is derived.

After deriving the consumption expenditure per adult equivalent and per capita and calorie per adult equivalent unit per capita the poverty line is computed. The poverty line is computed based on the 2,100 minimum calorie requirement per day/adult equivalent used by MEDAC.

The poverty line is derived by using the empirical relationship between caloric intake and food expenditure. The cost of calories function is specified in semi-log form as:

$$\ln X_i = B_0 + B_1 C_i \dots\dots\dots (4: 1)$$

Where:

X_i - is the daily food expenditure of household i and,

C_i - is the calorie intake of household i per adult equivalent unit and per capita.

Using the 2,100 calorie per day adult as the pre determined minimum calorie requirement (R), the monetary poverty line is computed as:

$$Z = \exp (B_0 + B_1 R) \dots\dots\dots (4: 2)$$

Where:

B_0 and B_1 = are the regression estimates of the coefficients of equation (4: 1).

The regression is made using calorie intake and expenditure per adult equivalent and per capita to check whether there is a significant difference between the outcomes.

The regression is made by taking actual per capita per day calorie intake as independent variable and food expenditure per capita per day as the dependent variable.

Then, the regression estimation shows that

$$B_0 = -1.459660$$

$$B_1 = 0.00343086$$

$$Z = \exp (-1.459660 + 0.00343086 (R), R = 2100$$

$$= \exp (-1.459660 + 0.00343086 (2100)$$

$$e (-1.459660 + 0.7204806)$$

$$e (0.07391794) = 0.477505595$$

$$Z = 0.477505595 \approx 0.48$$

$$Z = 0.48$$

The poverty line (Z) = 0.48 Birr which means that households that have food expenditure < 0.48 Birr per capita per day are under poverty line and those households with ≥ 0.48 Birr food expenditure per capita per day are above poverty line. Therefore, a number of household (q) with less than 0.48 Birr per capita per day are found to be 55 out of the 100 total sample while 45 - of the household are above the poverty line.

Now, since we have got the poverty line (Z), we can measure the poverty in the study area through the Foster - Greer - Thore- becks (FGT) index that reflects all the three dimensions of poverty (Prevalence, depth and severity).

The FGT index is computed as:

$$P\alpha = \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right]^\alpha$$

Where:

n = total No. of households

q = number of households below poverty line (Z)

Y_i = per day per capita expenditure of the i^{th} household.

Z = poverty line

When $\alpha = 0$, P_0 measures the prevalence of poverty or the number of poor (H)

When $\alpha = 1$, P_1 measures the poverty Gap (PG) of the poor from the poverty line or the depth of poverty that shows the extent to which the incomes of the poor lie below the poverty line.

When $\alpha = 2$, P_2 measures the severity (intensity) of poverty by giving due weight to the poorest of the poor.

In this case:

$$Z = 0.48$$

$$q = 55$$

$$n = 100$$

$$\text{a) } P_0 = H = \frac{q}{n} = \frac{55}{100} = 0.55$$

$$\begin{aligned} \text{b) } PG = P_1 &= \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right] \\ &= \frac{1}{n} \times 22.02 \\ PG &= \frac{22.02}{100} = 0.22 \end{aligned}$$

i.e the poverty Gap (PG) is 22% or the purchasing power of the poor is 22% below the poverty line.

$$\begin{aligned} \text{c) } P_2 &= \alpha = \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right]^\alpha, \text{ since } \alpha = 2 \\ &= \frac{1}{n} \sum_{i=1}^q \left[\frac{Z - Y_i}{Z} \right]^2 \\ &= \frac{1}{n} \sum_{i=1}^q (0.22)^2 = 11.02 \\ &= \frac{11.02}{100} = 0.11 \end{aligned}$$

$$P_2 = 0.11$$

P = the severity of poverty in this study is 11 percent. Therefore, measures of rural poverty in Badawacho using 2100 calories per equivalent per capita per day is:

Table 4.3: Measures of Rural Poverty in Badawacho

Study Woreda	Sample	P_0	P_1	P_2
Badawacho	100	.55	.22	.11

The outcome of poverty measures in Badawacho is almost equal to the Ethiopian rural poverty survey result of the 1996 in 15 cereal and ensete producing areas and is below some of the results of the 1994 rural poverty survey including few woredas of the SNNPR that have related agricultural practices with Badawacho.

Table 4:4: Comparisons of Poverty Index in SNNPR with Badawacho

Zone (Country)	Woreda (Place)	Sample	P ₀	P ₁	P ₂	Year
**Ethiopia	15 survey sites	1,332*	0.55	0.30	.21	1996
** Hadiya	Badawacho	100	0.55	0.22	.11	1998
Wolayta (S.Omo)	Garagodo	96	0.76	0.38	0.22	1994
Gamo Gofa	Domaa	72	0.60	0.23	0.12	1994
Kembata	Aze-Debo	75	0.09	0.01	0.00	1994

Source: Trufat (1996), Bereket (ed), 1996 and this survey.

* The average sample size for one site is 89 household heads.

** The per capita calorie intake computed is 2,100 while the remaining survey used 2200 cal/day/person.

From this poverty index the poverty condition in Badawacho is almost the same to that of the Ethiopian rural average and close to the Gamo Goffa - Domaa results if 2,100 K cal was used. One can estimate that if households in Bedawacho had not consumed ensete that contribute for 7.25% of the households' calorie intake and sweet potatoes, the prevalence of poverty would have gone beyond 0.60 given small land size (0.76 ha/household) and population pressure (350 persons/sq.km.).

The prevalence of poverty among the old and new and dry and moist Weina Dega PA's varies within the same agro-climatic zone and intervention level. It was assumed that prevalence of poverty is more severe in Dry Weina Dega PA's due to the existence of one cropping season, lack of cash crops, and root crops but both the highest and the least prevalence of poverty are identified in Dry Weina Dega

PAs in this study. The peasant association called Abuka - is with 90% of the sample households below Poverty line that accounted for 18% of the total poor in the study. Another PA-in the same Dry Weina Dega agro-climate and new for World Vision is identified with 25% of prevalence of poverty which is the least in prevalence of poverty among the sample five PA's. The poverty condition in Wet Weina Dega PA's is moderate compared to the PA's in Dry Weina Dega agro-climate zone. In the three sample PA's namely Kotto, Wobera Offoda and Woiera Mazoria, 40%, 55% and 65% of households respectively, are below poverty line.

Table 4:5: Prevalence of Poverty by Agro-climatic zone and Intervention Levels

Ser.N o.	PA	Agro-Climatic Zone	Intervention Level	% Poor Households
1	Keranso - II	Dry Weina Dega	New	25
2	Abuka	Dry Weina Dega	New	90
3	Kotto	Wet Weina Dega	Old	40
4	Wobera Offoda	wet Weina Dega	Old	55
5	Wiera Mazoria	Wet Weina Dega	Old	65

In general, the prevalence of poverty in Wet Weina Dega PA's is less severe and these PA's are in a better position in the study area due to the following major reasons:

- The Wet Weina Dega PA's have two cropping seasons (Belg and Meher) while the Dry Weina Dega depends only on Meher production.
- Root crops like ensete and sweet potatoes are widely cultivated on small size of

land in Wet Weina Dega PA's that rarely found and not yet expanded in Dry Weina Dega PA's.

- Cash crops like coffee, sugarcane, eucalyptus,* and fruits are widely grown.
- Highly diversified* grain production in Wet Weina Dega (Maize, teff, sorghum, haricot bean, wheat etc.while the dry one is dominated by maize and haricot bean.

* is considered as the cash crop in this woreda next to coffee

4.4 Statistical Analysis of the Dimensions of Poverty in Badawacho

Studies conducted on Ethiopian rural poverty have showed that poverty in Ethiopia is related with productive assets and other socio-economic indicators. MEDAC - made an effort to assess the prevalence of poverty among the six regions of the country based on two productive assets (i.e. size of land and no. of active oxen) and other 14 socio-economic indicators. On the other hand, the descriptive statistics were done on rural poverty profile by Stefan and Pramila in (1994). The World Bank also estimated poverty based on local data sources in descriptive way. Besides, many researchers have attempted to describe the correlates of rural poverty, however, inferential statistics are not computed. Therefore, based on the indicated literatures and common arguments (World Bank Stefan and Pramila) rural poor households are said to be characterized by :

- 1.Larger household size
- 2.Small Livestock ownership
- 3.Small Land size
- 4.Low Educational level and old age of the household head
- 5.Sex of the household head
- 6.Small Supply of labor relative to the number of dependents

Though rural poverty correlated have been estimated based on descriptive way by different people for studies of such a kind, it is necessary to further insight poverty correlates through inferential statistics both to prove or disprove the conventional descriptions and the hypothesis of this study.

Steps followed to identify the correlates of poverty

Step 1:

Actual Available Calorie - is taken as a dependent variable on which the poverty line is drawn through expenditure as proxy to income.

Step 2:

Six (6) independent variables are identified assuming that they are the best explanatory variables for this research, besides testing is done for the correlation of the remaining variables.

Table 4:6: Inter correlation of Main Variables of Poverty in this Study

Variables	V1	V2	V3	V4	V5	V6	V7
V1. Actual available Calorie	-	.3421*	.2514*	**.5049*	-.1015	-.0888	.1807
V2. Family Size		-	.5035	.3287	.2272	.3682	.0146
V3. Oxen and Other Livestock			-	.5610	.2514	.3321	-.0770
V4. Land Size				-	.0424	.1969	-.0243
V5. Off-farm income					-	.1246	-.0787
V6. Age of Household						-	.0642
V7. Sex of Household							-

NB All independent variables have multi-collinearity problem and collinearity diagnosis is made for computation.

* have significant correlations at $P < 0.05$.

** correlation is significant for Dry Weina Dega Samples # 40

As we can see from the inter correlation matrix, only three variables (family size, livestock ownership, and land size) have linear correlation with actual available calorie on which poverty line is drawn.

Step 3.

Regression Analysis with F and T-test is done for the three (3) independent variables that have significant relationship with the dependent variable.

Results of Multiple Regression

In this study six (6) variables are identified as correlates of poverty and the result of multiple linear regression is stated as follows.

$$Y = f(X_1, X_2, \dots X_6).$$

Where Y - stands for actual available calorie per capita per day of a household, and (X₁, ... X₆) are independent variables used to explain Y.

X₁ = Family Size

X₂ = Livestock ownership

X₃ = Land size

X₄ = Off-farm income

X₅ = Sex of household head

X₆ = Age of household head

Table 4:7 Results of Multiple Linear Regression

Variables	Agroclimatic Zones	
	Dry Weinadega	Wet Weinadega
X ₁ = Family Size	- 271.760366 (- 3.515)*	- 98.933792 (- 3.093)*
X ₂ = Livestock ownership	68.964923 (1.841)*	25.640048 (2.161)*
X ₃ = Land size	446.626497 (2.764)*	139.786315 (2.378)*
X ₄ = Off-farm income	-.046834 (0.309)	.082089 (.665)
X ₅ = Sex of household head	.131717 (.903)	.077939 (.625)
X ₆ = Age of household head	-.106932 (.682)	.133277 (1.046)
Constant	3013.586581 (5.819)	1370.823041 (
Adjusted (R ²)	23.871	15.08
N	40	60

t- is significant at P=0.05

Table 4:8 shows family size, livestock ownership and land size are found to be important variables that explain the variation in poverty in both agro-climatic zones (dry and wet

weinadega) in Badwacho Woreda.

Family size is significantly and negatively correlated with poverty affecting the level of poverty (food insecurity). The negative relationship between actual available calorie per capita per day of a household (dependent variable) and family size (independent variable) indicates that as the number of family size of households increases by one person (i.e., adult equivalent) the actual available calorie per capita per day of a household decreases by 270 and 98 for the Dry and Wet Weina dega agro-climatic zones respectively. These data revealed that the impact of increasing family size on poverty is more severe in Dry Weina Dega (i.e., 271) than the Wet Weina Dega (98).

Livestock ownership is significantly and positively correlated with poverty in both agro-climatic zones. The positive relationship between the actual available calorie per capita per day of a household and the number of livestock ownership indicates that as the number of livestock owned by a household increases by one unit the actual available calorie per capita per day of a household increases by 68.96 and 25.64 in Dry and Wet Weina Dega agro-climatic zones respectively. In the survey area, the difference between the two agro-climatic zones show that the livestock is more important in dry-agro-climatic zone to reduce poverty where the land size is large 1.12 hectares as compared to the Wet Weina Dega where the average land size is (0.51ha).

Land size is also significantly and positively correlated with poverty in both agro-climatic zones. The positive relationship between the actual available calorie per capita per day of

a household (dependent variable) and land size (independent variable) indicates that as the land size owned by a household increases by one hectare the actual available calorie increases by 446.62 and 139.78 calories for dry and Wet Weina Dega agro-climatic zones respectively. The variation in increasing calorie due to land size in the two agro-climatic zone show that the Dry Weina Dega's calorie depends more on land size difference while the Wet Weina Dega people produces a number of cereals and root crops from small land size, the effect due to variation in land size is not so sensitive like that of the Dry Weina Dega agro-climatic zone.

The combined effect show that family size, livestock ownership, and land size explain the variation in poverty by 23.87% and 15.08% in Dry and Wet Weina Dega agro-climatic zones respectively. Such a result indicates that these are the important variables that explain poverty in Badwoacho other than the stated variables.

Off-farm income is not significantly correlated with total available calorie of households that includes (own harvest, purchased and food aid plus others). This was because own harvest outweighs the calories obtained from purchase and food aid and others. Lastly, off-farm income is found statistically correlated only with purchased calories with correlation coefficient of (.3079) at $P = 0.02$ which is < 0.05 and the regression result is given in table 4:9

Table 4.8 The influence of off-farm income on purchased calories.

	Variable	
	Off-farm Income	Constant (a)
B	.216772	400.905114
SEB	.067664	52.794053
Beta	.307896	
T	3.204	7.954
Sig T	.0018	.000
Adjusted (R ²)	.085	

$$\text{Purchased Carorie (Y)} = 400.90 + .216772 (\text{Off-farm income})$$

This indicates as the off-farm income increases by one Birr, households spend .21 Birr on purchases food. Off-farm income explains the variation in poverty by 8.5 per cent in Badawacho.

4.5 Socio-Cultural Explanations for Variables that Insignificantly Correlated with Poverty

Among the independent variables that supposed to be correlates of poverty age of household head and sex are not significantly correlated with poverty. Such weak and insignificant relationship emanated either from the inherent weakness of inferential statistics or the nature of the data; however, it invites further socio-logical and anthropological explanations of the people and the study area.

The correlation coefficient between actual available calorie and age shows (-.0888) at $P=0.379$ which is above the significance level $p < 0.05$. The negative sign shows that as age increases the actual available calorie per capita per day of a household decrease which is true in terms of direction. The socio-cultural setting of the Bedawacho People (i.e. 79% is Hadiya) is characterized by polygamy marriage in which a male household head married up to six and eight wives. The writer during his stay in the woreda made observation and conducted interview with the Gere Bulgita PA Community representatives who said that a man married a second wife either after the first wife had given 2 or 3 births or if she could not give birth and they said that the man keeps on marrying. Therefore, age increment in Hadiya is associated with:

- Many wives as much as possible;
- Many children from different wives; and
- Share of the same resources especially land and cows to the married wives and productive assets to married children.

In such socio-cultural condition, even family size increases with age and large family sizes and old age lead to severe poverty. Therefore, expecting significant linear relationship between age and poverty is a normal condition and supported by some findings. (Dercon 1996).

To prove this socio-cultural explanation, let us see the age data of the sample population.

Age of Households	Non-Poor %	Poor %	%
< 30	63.2	36.8	19
30 - 39	41.7	58.3	36
40 - 49	39.3	60.7	28
50 - 59	33.3	66.7	9
60+	50	50	8

This data revealed that as age increases from below 30 to 59 the share of poor increases from 36.8 to 66.7% while the share of non-poor decreases from 63.2 to 33.3%. This indicates that 92% of the sample shows non-poor household heads are younger than the poor household heads. The lack of linear correlation might be due to the 8% sample household heads that have age of 60+ and equal distribution (4%) between poor and non-poor.

The descriptive data supports the socio-cultural explanation of the study and results of other researchers in that age has a positive association with poverty in rural Ethiopia.

The other independent variable that does not show significant and positive relationship with poverty is gender (with correlation coefficient of -.1751 at $P=.081$ which is greater than $P<0.05$). In this study 71.4% of female household heads are found to be non-poor while only 28.6 are under the poor categories which are below the poor percentage in the sample (55%). This result is supported by a study conducted on poverty in Ethiopia.

"... the incidence of poverty is higher among women headed households in urban areas while it is lower in rural areas. This result is against the generalization that poverty is gender specific irrespective of urban rural disparities..." ((Trufat 1996)).

She gave two reasons in that women have access to land and have small family size in her study. The study undertaken by MEDAC's- Grain Market Research Project revealed that female headed households and aged household heads are not more poor than those young and men headed families.

"...our data show that a disproportionate number of female and aged heads of households received food aid, irrespective of their food needs. We found that households headed by women and those aged 60 years and above are not less food secure than those headed by men or younger farmers." (MEDAC 1998)

In the case of Badawacho Woreda, there is no exact figure on the share of female headed

households. The ADP-document suggests that up to 17% are female headed while the paper written by World Vision staff indicates that only 4% of the farmers are female headed (Kifle, 1997). In this sample only 7% are represented female headed households that randomly administered the questionnaire.

The data on major poverty correlate variables shows that all sample female headed households have land; however, it is below the Woreda mean (0.76 hectares). The mean family size is small (4.86) and under five and below the sample mean 7.6. Most of them are found in early ages with mean age of 37.3 years. The highest off-farm income among the sample population is for female headed households. Therefore, the main factors that contribute to the non-poor of the 71.4% of 7 female headed households are small family size, age, off-farm income and livestock ownership as indicated under the table that follows:

Table 4:9 Female Headed Households Access to Productive Assets

Case no.	Family Size	Land Size	Oxen	Other Live Stock	Off-farm income	Age
1	2	0.5	-	1	-	36
2	5	3	1	3	-	28
3	9	3	1	5	4940	38
4	3	2	-	7	647	50
5	5	1.5	-	1	1312	30
6	4	0.5	1	4	-	55
7	6	2	2	10	-	24
Mean	4.86	1.79 timad (0.45 ha)	0.71	4.43	985.8	37.3

4.6 Comparison of Poverty Profiles from Participatory Poverty

Assessment and Conventional Household Survey

The final outcome of the two approaches is presented below to test the trade-offs. The Comparison is made based on the selected major asset types and other socio-economic indicators.

Table 4:10 Comparing the Result of PPA With Household Survey Outcome

Ser.N o.	Asset/Criteria of Ranking	Wealth Ranking		Household Survey Result	
		Non-Poor*(Gadancho, Lenbiancho and Angofita	**Poor (Buticho and Hawancho)	Non-Poor	Poor
1	Land	0.5-2.5 hectares	0-0.5ha.	0.5-2.25	0-2 ha
2	Oxen	1-2+	0 - 1	0 - 2+	0 - 1
3	Other Livestock	3 - 20	0 - 3	<3 - 20	0 - 5
4	Cash crops	Coffee, Pepper, Eucalyptus	None	Coffee, Pepper, Eucalyptus, fruits, and vegetables	Some have in smaller quantity
5	Off-farm income	petty trade to-loan interest	High - Medium	Medium	High
6	Number of Wives	1 - 6	0 - 2	0 - 4	0 - 3
7	Social, Religious and Political Role	High Social, Political and Religious role	Labourers and servants of the 1st class of non-poor and simple farmers	-	Petty traders, Laborers and simple farmers
8	Level food security	Food secured - transitory food insecured	Chronic food insecured	1727.98 upto 2676.86 average calories per capita per day. (i.e. transitory food insecured to high food secured households).	With average 1052.55 calories per capita per day (i.e chronic food insecured)

*Non-poor includes households categorized under, very rich, rich and medium in the wealth ranking exercise

**Poor - includes households categorized under poor and poorest of the poor

*** single not yet married household heads

As we can see in the above table, the final result of the two methodologies (the conventional - income/expenditure based and the participatory school poverty analysis) is very close and complementing each other. The social, political and cultural aspects of poverty were not captured by the household survey while the Participatory Poverty Assessment (PPA) brought them into the front. On the other hand, the calorie available for each household and category could not be computed through PPA that dealt through the conventional method. This shows using the two methodologies at a time gives better results in poverty and food security studies.

Though the outcomes of the two methodologies is very close, it is difficult to decide the minimum and maximum demarcation in both methodologies regarding asset ownership and socio-economic indicators. For instance, there are households with 2-hectares of land but fall under poverty line. There are also seven-households with 2-oxen but fall under poverty line. Unlike these, there are households without oxen, livestock and with small land size of 0.5 hectare but fall above poverty line at least for the year in which the study is undertaken. Therefore, however, there is a correlation between productive assets and poverty in general and the two methodologies revealed the same and close results, there are exceptional cases that could not be explained only by such factors in poverty analysis.

CHAPTER- V

CONCLUSION

The three components of Ethiopian food security: economic growth and employment, additional entitlements / access and targeted programs and emergency capabilities have not yet been realized. The first component, economic growth through focus on agriculture and rural development is lagging behind the plan. The MEDAC-1997 data showed that the domestic food supply was 10,000. 1 MT and this accounted for only 176.4 per capita production (kg/ha) which was 69.18% of the recommended 255 kg/ha at 2100 cal per capita per day (Debebe 1997). The national food self-sufficiency, individual and citizens income increment by 4.9% each year remain's the dream of policy- makers rather than strategy goal. One can say nothing is done concerning the second component, additional entitlement and targeted programs which have not yet addressed the problem of the intended Vulnerable and very poor people. The intervention of the DPPC's - EGS- is based on emergency reports that mostly come from seasonal drought prone areas which is transitory in nature and it failed to cover the ultra-rural poor in the country. Addressing the chronically food insecure individuals and groups that are entitled to additional and targeted programs, was not undertaken as stated in the policy. The third component, which is aimed at strengthening emergency capabilities is confronted with a number of problems ranging from organizational structure to financial constraint. There are people including the writer who argue that, there is no need to establish a separate organization like DPPC- for the coordination of the disaster prevention and preparedness activities, while the actual activities are undertaken by MOA and other line departments. The Early Warning Department of DPPC-is there to coordinate the information forwarded by agricultural

experts and committees at all levels. If linking relief to development (especially with rural development) is intended for wise use of food aid, the MOA - which has structure up to community level is the right organization to undertake the disaster and EGS issues as evidenced in India -where the Ethiopian policy, adopted from. In general, the Ethiopian food security strategy is a paper slogan that has not yet addressed the existing food insecurity problem from which million's of the rural poor are suffering

The World Vision's seven years of intervention is expected to minimize poverty through improvement of agricultural productivity and asset creation although,, it was not aimed at implementing food security program. As it is discussed in the paper there are achievements in afforestation, the health facilities, credit service, FFW, and in capacity building programs. Though such activities can contribute to poverty reduction and food security, their contribution in decreasing the prevalence of poverty and in addressing the Vulnerable groups, is minimal. The contribution of food aid was below 2% in the woreda while only 11% of the beneficiaries reported to have access to WVE's credit service. No one reports about the asset created and improvement of productivity due to World Vision's intervention. In short, the impact of the project on poverty reduction and food security was insignificant until the launching of the food security program.

The current food security program (1998-2002) also intends to better-off farmers in general rather than rural poor and food insecure groups and individuals. For areas like Bedawacho where about half of the households are land less with high population pressure, non-farm based extension program with credit, targeted programs and cottage industries

would play a significant role. The worry of the writer is that to what extent the present food security approach of WVE (that have components of: improving agricultural production, raising incomes, appropriate use of available food and asset creation) can address household food insecurity and poverty problem without launching especial and targeted programs for the chronically food insecure people. Interventions in food security and poverty reduction should give priority to bring sustainable livelihoods for the poor so as to enable such households can create their income after the phase out of NGO's or government projects.

The new facilitating role of World Vision in under taking the (1998-2002) food security program is a confusing strategy , however, it is more of the interest of the Ethiopian Government to undertake development endeavours by it's own. About 20 staff members are at project level to build the capacity of local government and the community. As observed in the field, it seems that projects are acting as a funding agency than as development practioners. On the other hand, there are community needs which have not been handled by the line departments such as: water problem including irrigation, soil erosion and the expanding gorges, and the problem of ultra poors (that don't have access to government system, and who are land less and with large family size). These and related problems may invite more involvement of World Vision beyond its facilitating role with duplication; so, over lapping of roles between government and World Vision staff would also unavoidable in the near future.

The measurement of poverty in Bedawacho shows that 55% of the sample population is

below poverty line with 22% of them lack purchasing power of food items. Poverty is highly associated with family size, livestock ownership and land. Besides, age of a household head and off-farm income have an impact on the poverty situation of households. The impact of large family size on the poverty of households is significant in all PA's and agro-climatic zones. Though the prevalence of poverty in Bedawacho (.55) is nearest to the national one (.53) the extent of poverty (.22) is more severe than the national and that of many rural places in the country. This result is associated with both chronic and transitory food insecurity prevailed in the woreda. The transitory food insecurity is emanated from erratic rainfall and the subsequent crop failures. The chronic food insecurity is due to big family size (7.48), shortage of land (0.76 ha) and population pressure 350 people sq.km. This prevalence of poverty is not only the outcome of the said local factors, it is rather accompanied by the failure of government strategies and NGO's intervention over a long period of time as discussed in the initial part of this chapter. Therefore, if especial measures are not in place the present severe poverty condition especially of less productive assets and those with big family sizes will get worse in the near future.

The treatment of food security at the centre of poverty eradication and sustainable livelihood is the right approach both in terms of time and dimension. From the finding, 73% of the households are found food deficit, while the households fall under poverty line are 55% *which show that all food deficit households are poor but all poor households are not food deficit.* This indicates that food insecurity is a major cause of poverty that should be treated at the initial stage of intervention in poverty eradication. Because poverty is a

multi-dimensional concept which requires a long time solution and which calls for different partners and intervention types. The World Vision's approach of treating food security in the short-medium term for poverty eradication and sustainable livelihood is in line with the argument of the writer as sustainable livelihood is the last take-off stage for sustainable development of a certain area or nation.

From this finding, one can conclude that both the Ethiopian Government and WVE food security approaches are targeted at increasing food supply availability rather than food consumption availability (the true food security approach to households and individuals). In such approaches it would be a futile exercise to curtail problems of food insecurity and poverty in Ethiopia given low productivity of the agricultural sector, high population growth, environmental degradation, fragile weather condition, low technology, and poor management of the development stakeholders (specially NGO's, and the private sector). Therefore, it would be advisable to come up with strategies that truly ensure the citizens food security and reduce the present prevalence of poverty in this country.

Regarding the methodologies, application of both the Participatory and the Conventional methodologies in rural poverty assessment is found to be fruitful rather than misleading one another as Western scholars depicted in theory. Using the two methods at a time also help to capture the socio-cultural and economic dimensions of rural poverty. It seems that poverty analysis throu

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FOOD SECURITY AND DIMENSIONS OF POVERTY IN BADAWACHO WOREDA

Questionnaire Prepared for Sample Households

PA NAME _____

HH NO _____

ENUMERATOR _____

CHECKED BY _____

MARCH 1998

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QUESTIONNAIRE (FOR SAMPLE) RESPONDENTS

1. RESPONDENT PERSONAL CHARACTERISTICS
- 1.1 NAME OF THE HOUSEHOLD HEAD _____
- 1.2 HOUSEHOLD NUMBER FOR THIS STUDY _____
- 1.3 SEX (CODE A) _____
- 1.4 AGE _____
- 1.5 RELIGIOUS AFFILIATION (CODE B) _____
- 1.6 ETHNIC GROUP (CODE C) _____
- 1.7 EDUCATIONAL STATUS (CODE D) _____
- 1.8 PHYSICAL CONDITION (CODE E) _____
- 1.9 FAMILY SIZE _____
- 1.9.1 CHILDREN _____
- 1.9.2 OTHER DEPENDENTS _____
- 1.10 FAMILY MEMBERS BY PRESENT STATUS

Ser. No.	Relation to the HH (Code f)	Sex (Code a)	Age	Occupation (Code G)	Monthly Income in Eth. Birr	Education Level (Code d)	Physical Condition (code e)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
Total							

SECTION 1.2: HOUSEHOLD ASSETS
1.2.1 LAND

QUALITY, SLOPE AND PRODUCTIVITY

Land Area	1 Quality of your cultivated Land code(a)			Land area	2 Slope of Your Plots code(a)		
	Lem	Lem-teuf	Teuf		Medda	Dagathama	Geddel

Land: Your Land use in the Last - 12 months

9 Total Land Owned by your Household (ha)			10 of the Total Crop Land		11 of the Total Crop Land			12 of the Total Crop Land	
Crop	Grazing	Forest /others/	Annual Crop(ha)	Permanent Crops (ha)	Belg	Meher	Belg and Meher	Irrigated	Non-Irrigated

If you have access to land owned by others in the form of rent, megazo, crop sharing etc., Answer the following questions

13 How do you get access to the land	14 area of the land in (ha)	15 Total Production Qt.		16 Is your access continue Yes1 No.2	17 When Stated	18 If, Yes, for how long (specify in years)	19 If, not why (mention the reasons)
		Crop Type	Qt.				
. Jointly cultivated							
. Rent							
. Share Cropped (%)							
. Others (specify)							

If You Rent / Give Away Your Household Land Answer the Following Questions.

20 Plot Size		21 Use of the Plct Code (c)	22 Tenure Status Code (b)	23 Who has the right to rent / give away this land to a person out siude this household Code (d)	24 Your total share of the product Code (e)
Area	Land Unit Code (a)				

TYPES OF CROP GROWN AND PRODUCTIVITY FOR EACH QUALITY OF LAND

3 Types of Crop Grown	4 Land Area Code (a)	5 Quality of Cultivated Land			6 Average Production in qu.		
		Lem	Lem-teuf	Teuf.	Lem	Lem.Teuf	Teuf
Sorghum							
Maize							
Wheat							
Teff							
Barley							
Ensete							
Beans							
Peas							
Lentils							
Chick Pea							
Oats							
Lin Seed							
Sesame							
Coffee							
Vegetables (specify)							
Fruits (specify)							
Others (specify)							

7 During the last 12 months, have you been cultivating the same plot size like the preciding year (two-year)

Yes 1 No. 2

8 If No. mention the difference in the size of land holding in hectares _____
And , the reasons for the changeing your land holding ?

SECTION - 1.3 LIVE STOCK OWNERSHIP

1.3.1 HOUSEHOLD LEVEL

YOUR LIVESTOCK POPULATION AND MARKET VALUE AT PRESENT

[illegible]

1.3.2 LIVESTOCK OWNERSHIP - INDIVIDUAL LEVEL

[illegible]

SECTION 1:4 OTHER HOUSEHOLD ASSETS

Does Any One in this Household Own the Following Assets. If Yes, Please! Answer
The Questions That Follows

Assets	1 Number owned	2 If someone were to buy similar item (or the materials to make it) how much mark the persons have to pay in total (Birr)	3 When did you obtain (Year E.C.)	4 If you want to sell how much it would be in Birr
House grass ironsheet)				
Beds Mooden/metal				
Plough (Maresha etc.)				
Hoe (doma etc.)				
Hammer (saw etc.)				
Chopper (Konchara etc.)				
Sickele				
Shovel (Spade etc.)				
Leather mat (Kurbet etc.)				
Goteru, Dibignit etc.				
Kitichen Utensils (Pots)				
Chairs / Bench				
Mesob, Sefed etc.				
Table				
Radio/Tape Recorder				
Jewelry (Gold)				
Saddle (Korcha)				
Fanos (Gas Media)				
Leather Pouch /Silicha				
Mill				
Weaving Equipment				
Other (Specify)				

Total Production You Have Got in the Last - 12 Months

Type of Crop Grown	1 From your household Land				2 From the Land you get Access but not belong to your Beteseb			
	Meher		Beleg		Meher		Beleg	
	Land area Code (a)	Total Pro. Code (i)	Area Code (a)	Total Pro. Code (i)	Land area Code (a)	Pro.	Land ara Code (a)	Total Pro.
Sorghum								
Maize								
Wheat								
Teff								
Barley								
Ensete								
Beans								
Peas								
Lenfils								
Chickpea								
Oats								
Linseed								
Sesame								
Coffee								
Vegetables (Specify)								
Fruits (Specify)								
Others (Specify)								

SECTION 2: INCOME IN CASH FROM AGRICULTURE AND NON-AGRICULTURE

2.1 AGRICULTURE

2.1.1 Crop Out Put and Sales (Meher and Belg) in the Last - 12 Months

[illegible]

2.1.2 Income From the Sale of Households Animals and Animal Products in the Last - 12 Months

Type Code (a)	1 Amount Sold	Unit Code	2 Total Revenue Obtained From the Sale of	3 Reason for the Sale Code (b)
OXEN				
COWS				
HEIFER				
BULLS				
SHEEP				
GOAT				
CAMEL				
CHICKEN				
HORSE				
DONKEY				
MULE				
HONEY				
BUTTER/CHEESE				
MILK/CREAM				
HIDES/SKIN				
MEAT				
DUNG CAKES				
EGGS				
OTHERS (Specify)				

2.1.3 INCOME FROM HIRING OUT DOMESTIC ANIMALS IN THE LAST - 12 MONTHS

[illegible]

SECTION 2.2 OFF-FARM AND BUSINESS INCOME OF A HOUSEHOLD

In the Last - 12 Months, Did Any Member of this Household Involved in Off-farm and Business Activities That Generate Him/her An Income.

[illegible]

SECTION 2.3:

CREDIT

1 During the Last 2-3 Years Have You Ever Taken A Loan in Cash Or Kind

YES .. 1

NO.... 2

If Yes Please! Give Details About All Loans You Have Received. Include Those You Have Paid Back, As Well As Loans You Have Not Paid Back As Yet.

	Relation to the HH/Person receiving loan (Code a)	2 Source of Loan Code (b)	3 Why did you want to obtain a loan Code (c)	4 Give the year and month you took and the amount borrowed in Birr						5 Terms of the Loan		
				Year	Month	Amount in Birr	Amount in Kind	If in kind Crop Code (d)	Unit Code (e)	Year of Principal Repayment	Interest Period (Code f)	Interest Amount in Birr
Loan 1												
Loan 2												
Loan 3												
etc.												

Terms of Loan			6 Value Paid Back to the Lender (Principal Plus any Interest) up-to-now			
Interest in Kind Amount ()	Interest in Kind Crop Code (a)	Interest Unit Code (e)	In Birr	In Kind Amount	In Kind Crop Code (d)	Unit Code (e)

During the Last 2-3 Years, Have You Given Any Loan in Cash Or in Kind to Another Household

YES 1

NO 2

If Yes, Give Details Below

	2 Amount Given in Birr/ in Kind				3 Value Paid Back (Principal Plus any Interest) up-to-now			
	Amount in Birr	Amount in Kind	In Kind Crop Code (a)	Unit Code (e)	Amount in Birr	Amount in Kind	In Kind Crop Code (d)	Unit Code (e)
Loan 1								
Loan 2								
Loan 3								

Are You And/or Any Other Household Member, Members of An EQUB?

YES ... 1

NO 2

Relation to the HH Code (a)	2 Persons Total Contribution in the Last 6 Months (in birr)	3 How many times do you contribute Per Month	4 How many members does the equb have?	5 How much was paid out to you by Equb in the cost year	When aid you start in voluing in Equb?	7 What did you use the money Code (b)

Are You And/or Any Other Household Members, Member of An IDDIR?

YES 1

NO 2

Relation to the HH (Code a)	2 Persons Total Contribution in the Last- 6 month (in birr)	3 How many times do you contribute per month?	4 How many members does the IDDIR have?	5 How much was paid out to you by the IDDIR in the last year (in birr)	6 Why was it paid out (Code c)	7 When did you Start Participations in IDDIR?

SECTION 2.4: FOOD-FOR-WORK / EMPLOYMENT GENERATION SCHEMES

- 1 Over the Past Twelve Months, Did Any One in this Household Receive Food-for-work Programs Or Egs:
 YES 1 - Q 3
 NO 2 - Q 2
- 2 Over the Past - 12 Months, Did Any One in this Household Receive Food Through Food Relief Distribution (I.e. Direct Donation of Food)
 YES 1
 NO 2

Counting Both Food-for-work/egs and Direct Food Donation, Can You Tell Us How Much Food and What Kind of Commodities Were Received by Members of Your Household Over the Past 12-months.

3 Commodity or Cash Received Code (a)	4 Type of Program Code (b)	5 Month Received Code (c)	6 Quantity Received		7 Did you sell the commodity you received. If Yes,		8 With money from the sell did you purchase some other commodity? If yes	
			Qt.	Unit Code (d)	Qt.	Unit Code (d)	Qt.	Unit Code (d)

- 9 Have You Or Your Family Benefited From the Investments / Out Puts Generated From the EGS/FFW Programs?
 YES 1
 NO 2
 NOT SURE . 3

SECTION 2.4: REMITTANCE BY TYPE

1 Please! Would You Tell Us About Any Income (Such As Remittances, Gifts Or Other Transters) the Household Recived in the Last - 12 Months

2 Type of Receipt Code (a)	3 Who sent you the remittances or gave you the gift Code (b)	4 How many times did you received remittances in the last - 12 months	5 Amount received in the last - 12 months.					6 What was this income used for Code (d)
			Cash (in Birr)					
				Type (Specify)	Quantify	Unit Code (c)	Value in Birr	

7 If You Have Given Out Remittances, Gift Or Other Transfers, Can You Tell Us the Amount in the Last - 12 Months. Birr _____ . In Kind (Type) _____, Quantity _____, Unit (Code C) _____.

We would like to ask you about all the food consumed from your own household stock and the food that was bought for consumption in this week and the last 12 months.

[illegible]

[illegible]

SECTION 3.2 Non-food expenditure

3.2.1 Clothing and others

In the last 3 months and/or 12 months, has the household purchased any of the following non-food items? If yes, give details.

Item	Code (a)	1 Total Expenditure in Birr	
		in the last-three months	in the last 12 months
Clothes/shoes/fabric for MEN	1		
Clothes/shoes/fabric for WOMEN	2		
Clothes/shoes/fabric for BOYS	3		
Clothes/shoes/fabric for GIRLS	4		
Kitchen equipment	5		
Furniture	6		
Lines (sheets, blankets, towels etc)	7		
Building materials	8		
Ceremonial Expenses	9		
Taxes and Levied	10		
Donation to Church	11		
Lamp/torch	12		
Voluntary contributions	13		
Compensation & penalty	14		
Modern medical treatment	15		
Traditional medical treatment	16		
School fees	17		
Chat	18		
Cigarettes	19		
Others (specify)	20		

3.2.2 Agricultural Expenditures

Would you give the details of your expenditure for inputs for agricultural crop production and animal rearing and farming related expenses of the household. (Please: Your expenditures include both MEHER and BELG)

Type of expenditure	Method of payment code (a)	Total payment in cash /Birr/	if payment is in kind, give total payment in kind.			
			Crop Code ()	Amount	unit code ()	
Fertilizer						
Seeds and seedlings						
Chemicals (pesticides etc)						
Labor for crop production						
Rent for land						
Rent for Oxen						
Rent for pack animals						
Labor for animal Harding						
Animal feed						
Veterinary service/medicine						
Transport related to crop and animal production and sale						
Farm tools and in plements						
Storage (like Gotera)						
Other (specify)						

PART IV: ACCESS OF A HOUSEHOLD TO INFRASTRUCTURE AND SERVICES GIVEN BY WUE

1. Did your household have access to social services given by government? If yes, give details.

Type of service code (g)	2 Amount	Unit code (a)	3 When it was star ted E.C	4 How many times	5 Do you think hat these services help you to secure food at household level. If no, given details below		
					Institutional problem code (d)	Environmental problem (e)	Lack of sustainable system of hinclihoods (f)
Extension serv.							
Credit							
Fertilizer							
Seed							
Chemicals							
Road							
potable water							
Irrigation							
School							
Health center							
Other							

Services your household received from the WVE Project Since it's establishment

Type of services your household get code (g)	1 Amount	Unit Code (a)	2 When it was started E.C	3 How many times	4 Do you think this intervention helps you to be food secured and eradicated If no, give details below			
					Personal Problem code (b)	WVE's Problem code (c)	Institutional Problem code (d)	Envir proble
Child sponserd								
Credit								
Seed								
Fertiliser								
Farm tool								
Extension Serv.								
Chemicals								
Road								
Potable water								
Irrigation								
School								
Health centre								
Other								

Annex : 1

Age Distribution of the Sample Households

Age	Freq.	Age	Freq.
20	1	42	2
21	1	43	3
22	2	45	11
24	2	46	3
25	3	48	4
26	1	49	1
27	2	50	6
28	6	54	1
29	1	55	1
30	10	56	1
32	8	60	3
33	2	62	1
35	11	64	1
36	1	65	1
38	4	70	1
40	4	85	1

Annex: 2

Family Size of the Sample Housholds

No. of Family Size	Frequency	No. of Family Size	Frequency
1	2	9	7
2	1	10	14
3	4	11	4
4	7	12	1
5	20	13	2
6	13	14	3
7	7	16	2
8	12	22	1

Annex:3

Community Representatives for PRA (Local Wealth Ranking, in Amburse- I, PA)

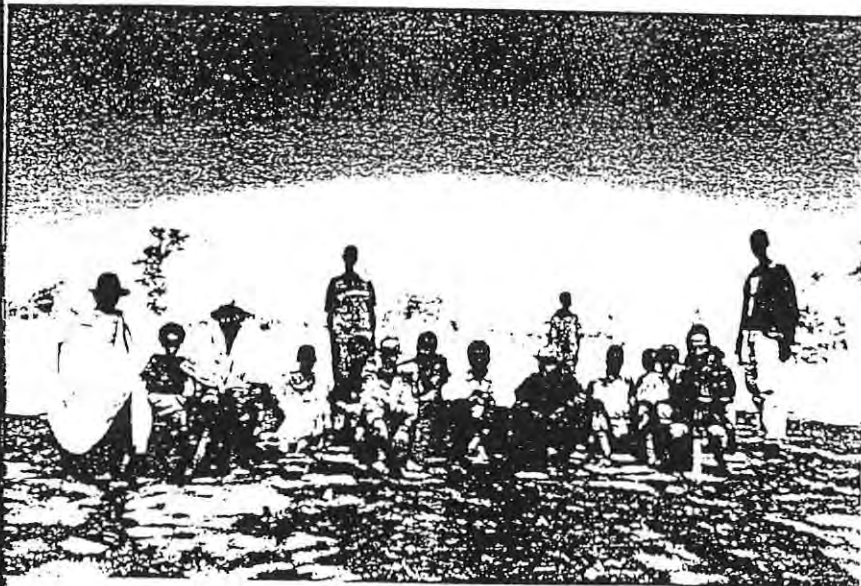


Photo by Sisay

Community Representatives for PRA (Keranso-II, PA)



Photo by Sisay

Annex :5

Community Representatives for PRA (Kotto , PA)

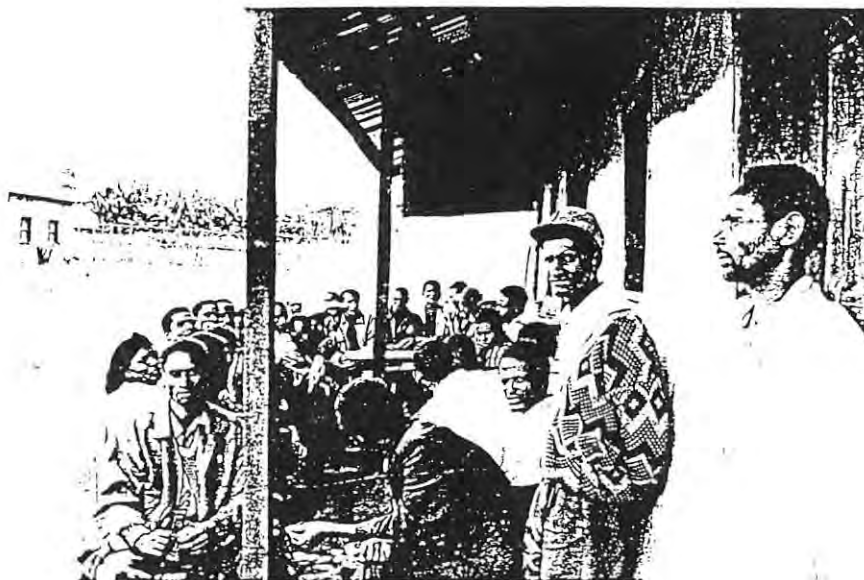


Photo by Sisay

Annex :6

A Sample of Rich Farmer's House in Badawacho



Photo by Sisay

Annex :7

A Sample of Poor Farmers's House in Badawacho



Photo by Sisay

DECLARATION

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university. Materials used for the thesis are dully acknowledged.



SISAY ZERFU

This thesis has been submitted for examination with my approval as university advisor.

DESSALEGN RAHMATO (ASSOCIATE PROFESSOR)