ADDIS ABABA UNIVERSITY
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LIVELIHOOD ANALYSIS: VULNERABILITY, ASSETS, INSTITUTIONS AND STRATEGIES

(THE CASE OF TWO KEBELES IN WUCHALE WOREDA, OROMIA REGIONAL STATE)

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(The case of two Kebeles in
Wuchale Woreda, North Shewa Zone, Oromia Regional State)

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Title

Livelihood Analysis: Vulnerability, Assets, Institutions and Strategies (The case of two Kebeles in Wuchale Woreda, North Shewa Zone, Oromia Regional State).

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DEVELOPMENT STUDIES

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Million Gebreyes

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES AND BOX

ACRONYMS

ASD	Actor System Dynamic (Model)
BBM	Broad Base Maker
CSA	Central Statistical Authority
DA	Development Agents
DFID	Department for International Development (UK)
EENGO	Ethiopian Environment Non Governmental Organization
FAD	Food Availability Decline
FAO	Food and Agricultural Organization
FDRE	Federal Democratic Republic of Ethiopia
FEF	Food Entitlement Failure
FGD	Focus Group Discussions
FTC	Farmers Training Centers
GOs	Government Organizations
IFRC	International Federation of Red Cross and Red Crescent Societies
MFI	Micro Finance Institutes
NGOs	Non Governmental Organizations
ODPPB	Oromia Disaster Prevention and Preparedness Bureau
PA	Peasant Association
PADET	Professional Alliance for Development in Ethiopia
SCD	Save the Children Denmark
SLF	Sustainable Livelihood Framework
SPSS	Statistical Package for Social Scientists
SUNARMA	Sustainable Agriculture and Natural Resource Management (an NGO)
UNICONE	United Consulting Engineers

Abstract

The principal objective of this study is to describe and analyze the interplay amongst the livelihood components that includes vulnerability context, asset ownership level, institutional arrangements and livelihood strategies in explaining the existing socio-economic problems in two Kebeles in north Shewa zone of Oromia Regional State.

This research is inspired by the fact that the study area exhibits the worst forms of poverty and vulnerability to a range of natural shocks that highly impinge on the existing livelihood conditions. Due to vulnerability to such factors as frost and waterlogging, peasants in the study area lose up to 75% of their standing crops during harsh climatic conditions. More than 30 % of the households living in the area do not have adequate food for more than six months a year. This problem is further compounded by the fact that large segment of the population, more than 50 %, are unable to read and write and with no other skill to diversify their livelihood means. Vulnerability to shocks believed to be the major cause in perpetuating the existing low level of living standard and poverty. The issue this study tries to discuss and address is that can this state of affair be minimized and reversed with an integrated approach? How far the existing institutional arrangements play a facilitative or inhibitive role in extricating the people from the existing appalling livelihood condition? What plausible livelihood options one can envisage in minimizing the effect of vulnerability to the natural shocks?

In trying to understand and explain the existing socio-economic condition this study uses Sustainable Livelihood Framework, which is a holistic approach and address all issues in a multiple-scale style, to guide the whole data collection and analysis activities. Using this framework all attempts were made to see the linkage amongst all livelihood components and tried to see how far each of them are reinforcing each other in affecting poverty and vulnerability.

In generating the required information the study has employed instruments from both qualitative and quantitative research approaches. A house-to-house survey on 112 sampled households, group discussions, in-depth interviews and observations were used in collecting the primary and secondary data.

The main findings indicate that the poor livelihood condition, as exacerbated by the existing vulnerability context, finds its causes from different sources. All causes are very much intermingled in a number of ways. The poorest and the most vulnerable ones do not have the startup capital and other support to initiate new ventures like livestock rearing and minimize dependency on crop; governmental and other outside support for most surveyed families found to be not adequate and unsustainable. Efforts in propagating such important livelihood means like irrigation are extremely limited. The absence of the right institutional arrangements, the absence of long term visionary plan (the current focus seems on piecemeal projects) and the less emphasis in considering the various potentials found to be critical areas that needs serious rethinking and attention so as to minimize the effect of vulnerability and improve the livelihood conditions.

1. INTRODUCTION

1.1 GENERAL

This thesis is aimed at describing and assessing the interrelationship of vulnerability, asset /capital, institution and livelihood strategies in two Kebeles in the northern Shewa Zone of Oromia Region. In the entire assessment, the Sustainable Livelihood Framework (SLF) is used as the main analytical tool in explaining the relationship amongst these four variables. SLF found to be the most comprehensive tool in analyzing and explaining the interrelationship amongst the vulnerability context, asset level, institutions and livelihood strategies being followed by particular communities. How each of the variables within SLF operates is briefly shown below.

In this write-up vulnerability implies the external environment in which people exist and mainly refers to trends, shocks and seasonality over which people have very limited or no control (DFID, 2001: 24). The vulnerability context is important in determining people's asset level and option they can have in promoting their livelihood. In its deeper meaning the concept implies two things. On the one hand there is an exposure part to risks, shocks and stress which are external, and on the other it also refers the lack of resources to cope with them. In a nutshell, vulnerability can be taken as the reverse of security.

Within SLF the asset/capital/ level and their interaction within the vulnerability is important in determining the entire livelihood outcome. The livelihood framework identifies five kinds of assets upon which livelihoods are built. They are human capital, social capital, natural capital, physical capital and financial capital. They have strong relationship to both vulnerability and institutional issue as assets are both destroyed and created as a result of the trends, shocks and seasonality of the vulnerability context. Besides, institutions and policy processes have a profound influence on access to assets.

The concept of institution here is derived from the sociological and anthropological perspective which considers institutions as all regularized practices (or patterns of behavior) structured by rules and norms of society that have persistent and widespread use. Institutions may thus be formal and informal, often fluid and ambiguous, and usually subject to multiple

interpretations by different actors. (scoones, 1998: 12). The Noble laureate Douglas North succinctly put the definition of institution as follows:

> *Institutions are the* ***rules of the game*** *in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentives in human exchange, whether political, social, or economic. Institutional change shapes the way societies evolve through time and hence is the key to understanding historical change* (North, 1990:3)

The above definition implies that the term institution encompass all internal rules such as taboos, customs, traditions as well as formal rules, laws and property rights.

Livelihood strategies refers the range and combination of activities and choices that people make/undertake in order to achieve their livelihood goals, including productive activities, investment strategies, reproductive choices, etc. (DFID, 2001: 56). These range of activities people pursue are highly affected by the existing vulnerability context and the institutional arrangements.

Livelihood, the main concept in this thesis, does not just mean the activities that people carry out to earn a living. It means all the different elements that contribute to, or affect, their ability to ensure a living for themselves and their household. It includes: the different tangible and intangible assets, the activities that allow the household to use those assets to satisfy basic needs, the different factors that the household itself may not be able to control directly, like the seasons, natural disasters or economic trends, that affect its vulnerability and finally the policies, institutions and processes that may help them, or make it more difficult for them, to achieve an adequate livelihood (Messer and Townsley, 2003). In line with the preceding broad understanding, pioneers in the area briefly put livelihood as follows: 'A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living' (Chambers and Conway, 1992:6).

In this paper the attempt is not to see the entire linkage amongst all these various elements within SLF. Rather the research shall confine itself to the analysis of limited vulnerability, asset, institutional and livelihood strategy issues as found to be important within the general livelihood condition in the two Kebeles targeted for the study.

This thesis is divided in to different chapters and subchapters. The first introductory chapter introduces the assignment, the theme concepts, objectives, statement of the research problem, and significance and limitation of the research. The introductory part is followed by a part that indicates the methods of data collection and analysis. The various literatures reviewed together with the theoretical framework that guides the present research are presented in chapter three. The study area is described in chapter four. The main findings of the research are presented under chapter five and six. Chapter five introduces the profile of the sampled households, the vulnerability context of the research area and the conditions of the various assets. The various livelihood strategies and institutional arrangements in the research area are assessed under chapter six. The last chapter gives a summary on the livelihood outcome together with concluding remarks and some recommendations.

1.2 STATEMENT OF THE PROBLEM

This study is inspired by the fact that the whole Wuchale Woreda in general, and the targeted area in particular, exhibits serious socio-economic problems that manifest in the form of high vulnerability to hazards, low productivity, high environmental deterioration, less capability to cope with shocks, severe food shortage, etc. In terms of poverty profile, information secured from the Woreda Agriculture and Rural Development Office revealed that 21 % of the families in Wucalle Woreda do not have a single ox to cultivate their land. About 16 % has only one ox whereby they are forced to invite a crop shareholder for ploughing their land. Earlier assessment by Oromia Disaster Prevention and Preparedness Bureau (ODPPB) on the vulnerability situation of the area also disclose that about 12 % of the Woreda households has no their own land while 33 % are cultivating severely eroded and infertile lands (ODPPB, 2002). Average cereal production per hectare is also found to be 47 kilograms at a household level. Out of the total families living in the area the majorities have food for not more than four months a year. The same assessment indicates that those households designated as food insecure earn an annual income of less than 600 Birr per year. The

assessment went to reveal that 33 % of women family members are found to be malnourished while 44 % of children are stunted. Generally, this earlier assessment came to the conclusion that 32 % of the total families in the area are falling in absolute poverty status.

The underlying assumption in this study is that all the above mentioned problems find their causes in an intertwined and multi-layer manner. Accordingly, this research tries to explain these problems within the SLF that enables to perceive the origins of problems in a range of intertwined ways. In the SLF, vulnerability, asset, livelihood strategies and existing institutional arrangements are treated in an interrelated way to explain socio- economic problems. Each of the preceding variables are assumed to reinforce each other in shaping the existing context which could be good or bad. Explaining some of the above problems in the targeted area within the SLF framework is the whole purpose behind this research exercise.

It is the opinion of the researcher that problems like deteriorating environmental condition cannot be explained in terms of physical causes alone, rather there are also institutional and other factors that can explain such problems. The existing vulnerability situation to natural hazards in the present research area does have its linkage with the existing institutional arrangements, asset level and livelihood strategies being followed. Attempts in understanding the existing vulnerability situation and other socio-economic problems from a limited angle results the proposition of remedial measures that may not address the root causes. In the present research area piecemeal efforts have been in place in trying to address some of the problems that basically emanates from the vulnerability context in which the local people lives. In trying to address waterlogging problem, which is one major vulnerability factor in the research area, for instance, some interventions have been introduced by development actors. The introduction of such technology was found to be not that much effective in bringing about the desired result. By the same token attempts in regenerating the environmental condition and decreasing vulnerably to natural shocks through a range of soil and water conservation activities found to have extremely little success. The issue here is that can such state of affairs be explained in a holistic manner? What institutional arrangements and asset base exacerbates/or mitigates /such problems? These are the kind of questions that this research tries to pose and discuss.

1.3 OBJECTIVE AND SIGNIFICANCE OF THE STUDY

1.3.1 Objective

The objective of this thesis is to describe and analyze the interplay between vulnerability, asset/capital, institutional arrangements and livelihood strategies in explaining the existing socio-economic problems in two Kebeles in the northern Shewa zone of Oromia Regional State.

In its specific form the paper tries to address the following objectives:

- Assess the vulnerability context in the targeted area (understanding those **trends, shocks** and aspects of **seasonality** that are of particular importance to livelihoods) and see how it impacts on people's asset status and livelihood.
- Assess how the existing vulnerability context interact with the formation/ destruction of various forms of asset that includes natural, human, social, physical and financial capitals.
- Understand the existing formal and informal institutional arrangements that have a bearing on the livelihood situation of the local people
- Understand the various forms of livelihood strategies being followed and how they are dictated by the existing vulnerability context, institutions and asset levels

1.3.2 Research Questions

- How the various shocks, trends (like market fluctuation, population growth, etc) and seasonality issues forms the existing vulnerability context.
- How different forms of access to various forms of livelihood assets (physical, financial, social, natural and human) interact with the vulnerability status and livelihood strategies. Who is accessing what? Why?
- How the various formal and informal institutional arrangements affect vulnerability status, asset creation and livelihood strategies. Are they playing a positive or negative role?

- What are the main livelihood strategies being followed? Why and how particular strategy is pursued? Is it preferred or forced? Why?
- How are all the livelihood components (vulnerability, asset level, institutional arrangements, livelihood strategies) reinforce each other to maintain the status quo

1.3.3 Significance of the Study

This study is aimed at demonstrating the linkage between different livelihood components that include the vulnerability situation, assets, institutions and livelihood strategies. Nevertheless, it is beyond the scope of this thesis to dwell on all of these interlinked elements; rather the attempt is to assess those major ones from each of the components that have higher relevance to the exiting livelihood condition in the research area.

The significance of this research exercise can fall in to two categories. Primarily, its aim is to improve understanding on the interrelationship amongst the livelihood components mentioned earlier. Such understanding enables to have a holistic view in explaining the existing problems.

Secondly, the research shall have some practical significance to those who are currently engaged in the development activities in the area. As some of findings shed a light on the interrelated nature of the livelihood problems in the area, the ongoing endeavor by different development actors shall benefit from the study. The findings may enable these development actors to be more cognizant of the interrelationship between institutional aspects, asset level and livelihood promotion. In short, the study may provoke questions like: what kind of institutional related interventions are required to promote livelihood? Is there a need to build upon the existing institutions in line with any development endeavor? Which institutions need to be strengthened to increase asset level, diversify livelihood strategies and decrease vulnerability, etc. It is my belief that findings drawn from such community level study will also have some policy implication beyond micro level. The findings may entice authorities and technocrats, working at different levels, to heed the areas treated in this research while planning and implementing their development activities.

1.3.4 Limitations of the Research

This research is set out to assess the interrelationships amongst a number of highly interactive elements within the SLF as described above. Due to its holistic nature, understanding livelihood condition through SLF forces this study to touch a number of issues which widens the scope of the research and puts a difficulty in focusing with limited and relevant issues alone. Though some efforts have been made to focus on limited and relevant areas, the mentioned problem is still reflected in the study. Besides, as all the major livelihood components are interrelated a number of overlapping is observed in discussing each of them. Though the degree of detail varies the same livelihood issue is found to be discussed under different sections. Readers need to be cognizant of this overlapping.

Data gathering through structured questionnaire at the household level is not free from some flaws. Responses to some of the questions by the household heads were not reflecting the actual and observable realities in the area. This has happened partly as a result of misunderstanding and partly due to the suspicion of the whole inquiry. In correcting such flaws considerable time was spent in the field with enumerators. Despite this still some of the quantitative data generated this way were analyzed in a very cautious way before they were fully interpreted.

2. METHODS OF DATA COLLECTION

As the research objective and questions indicated in chapter one imply, the present study has employed both quantitative and qualitative research methods and instruments. Through such a mixed way of data generation all attempts have been made to offset the limitation of one method by another. Basically a house- to -house structured survey and other qualitative tools, mainly drawn from the Participatory Rural Appraisal techniques, have been used to generate data from households, community and other informants.

2.1 PRIMARY DATA COLLECTION

2.1.1 Quantitative Approach

A structured questionnaire has been employed to generate quantitative data on such issues as demographic profiles, type of asset possessed and access to them, source of income, etc. The structured questionnaire is mainly aimed at generating data on general livelihood profile at household level.

As per the data collected from the Wuchale Woreda Administration office, there are about 1150 households living in the two Kebeles considered for the present research. They represent about 7.4 % of the total households living in the Woreda. The household numbers living in Bedeyo- Gimbichu Kebele is 686 while it is 464 in Mechella-Wertu. The number of households was the main criteria in allocating the sample size drawn from the two Kebeles. About 10 % of the households from each Kebele were considered for the house-to-house survey. Considering the time and resources allocated for the study, the 10 % coverage was found to be fair. Besides, due to the homogenous characteristics (in terms of livelihood and socio-economic situation) observed in the area it was found to be reasonable to take a 10 % sample so as to have a representative picture. Accordingly, 62 families from Bedeyo-Gimbichu and 50 from Mechella- Wertu were inquired through the structured questionnaire.

After securing the total list of family heads living in each Kebele, a sampling frame was prepared to select the households for the inquiry. To draw the samples a systematic random sampling techniques was applied. DAs who are versed with the local language and working at Kebele level were recruited and trained to conduct the survey. Before conducting the full-

scale survey pre testing of the survey technique was done on a small number of families so as to get some feedback on the relevance and appropriateness of the questions posed on the questionnaire. After some minor amendments the house-to-house survey was commenced with close supervision by the researcher while he himself was doing transect walks and interviews with other local informants.

2.1.2 Qualitative Approach

In generating qualitative data a range of participatory tools were applied. The main principles from the Participatory Rural Appraisal technique were guiding the whole qualitative data gathering activities in the field. The main tools applied were group discussions, key informant interview/ in-depth interview and case studies.

i. Group Discussion

The group discussion held with the local people falls in two categories. The first category of group discussion was a general discussion held with purposely-selected residents representing the communities without focusing on specific group of people. In the second category, Focus Group Discussion (FGD) was held with homogeneous group of people who are involved in some specific activity.

In a discussion held with representative of communities, the discussion was centered on the general community profile. In each of the two Kebeles this general discussion was conducted on the following agendas:

- Identification of major social and economic groups;
- identify the major local resources and livelihood activities;
- understand historical trends, shocks and seasonal process for the existing vulnerability situation;
- information on group's rules, customs and traditions governing various activities and forming the various incentive and motivation structures;
- inventory of major institutions (formal, informal, traditional, etc) that have strong link to vulnerability and livelihood conditions; and
- general understanding on institutional dynamics.

FGDs were held with women group organized in grain marketing, peasants involved in irrigation development and DAs working in the two Kebeles. Specific issues related to their area of involvement was raised and discussed. In a discussion held with women trading group the agendas include: women's major problems and priorities, issues around their productive and reproductive roles, their perception on the vulnerability issues and how it specifically affects them, how the organized women functions and what are their main constraints, etc. FGD with men working in small-scale irrigation centered on the role of irrigation in the vulnerability situation and what are the major constraints in expanding irrigation development in their area. Discussions held with DAs focused on major agricultural and livelihood problems in the area, how far DAs' role contribute in alleviating problems related to crop production and livestock rearing, etc.

ii. Interviews

Interviewing different informants were the major source of information for the present research. Key informant interviews were held with elders and other individuals living in the area. This has helped in verifying information collected from the various group discussions at community level. In-depth interviews were also held with different officials working in governmental and non-governmental organizations in the Woreda. Woreda level government organizations approached for the in-depth interviews include the following offices: Woreda Administration, Woreda Agriculture and Rural Development Office, Education Office, Health Office, Cooperative Promotion Office and Food Security Coordination Office. The non-governmental organizations contacted include: Professional Alliance for Development in Ethiopia (PADET), Abebech Gobena, Sustainable agriculture and Natural Resource Management (SUNARMA) and Ethiopian Environment Non Governmental Organization (EENGO). A range of issues pertinent to the task at hand were raised and discussed in detail with the appropriate officials working in these different governmental and non-governmental bodies currently operating in Wuchale Woreda.

iii Observation and Transect Walk

In trying to have a first hand impression on the existing natural resources and socio-economic situation in general, the researcher, together with local informants, was involved in transect walks across the major settlement quarters and farming places in each of the two Kebeles

considered under the present research. This exercise has enabled to have a closer observation on how various agricultural activities and resources conservation practices are being performed by the local people. While doing the transect walk and observation the researcher was also doing a casual interview with elders and others on the general livelihood situation and problems in the area.

2.2 SECONDARY DATA

Collection of data from secondary sources has been another major source of information for the present research. Secondary information were collected from most of the above listed governmental and non-governmental organizations.

2.3 DATA ANALYSIS

The various data generated by both quantitative and qualitative methods have been analyzed using different techniques that includes the following:

- Triangulation was applied for crosschecking and verification of the information collected from different sources. This helps to reach some kind of generalization.
- As part of the triangulation exercise, data generated by various interview types are analyzed through checking, editing, verification, interpretation and generalization.
- The analysis was also based on concepts drawn from theoretical underpinnings reviewed for this research. This has been followed by classifying them into categories, while constantly comparing them. In an iterative manner qualitative data were categorized and assembled around certain core issues and points to identify regularities and patterns.

For quantitative data, that were generated through the structured questionnaire, the widely used computer software –SPSS- was used to enter the data and come up with the descriptive statistics. The descriptive statistics are the main output from the household survey and forms the major part in the following two chapters that deal with findings of the present research.

3. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

3.1 THEORETICAL REVIEW

The conventional way of perceiving rural development problems usually deals with production, employment and income poverty issues. In this line of thinking constraints associated with production, unemployment and income are assumed to be the underlying causes of rural development problems (Chambers and Conway, 1991). Though this remains important, unless we try to see the holistic socio-economic processes and dynamism (beyond production, employment and income variables) understanding rural problems become a myopic exercise. For instance, one has to give due emphasis in understanding the role of different formal and informal institutional arrangements, which shape the behavior for action or inaction, in order to explain the whole socioeconomic dynamism in a particular context. This thinking prompts this thesis to discuss and understand the interrelationship of vulnerability, asset, institutions and livelihood strategies in a holistic manner. A number of theoretical frameworks directly or indirectly address the issue of institution and livelihood. Some see vulnerability and institution from their specific disciplinary angle. For instance, in some economics literature vulnerability is treated from income shortfall angle only while other vulnerability factors remain untouched. The present study, however, basically uses the SLF that treats the issue of vulnerability, institution, asset and livelihood strategies in a very comprehensive and interlinked manner. This write up, however, makes slight reference to some of the other frameworks when deemed necessary.

3.1.1 Perspectives on Vulnerability, Institutions and Livelihood Strategies

(i) Perception on Vulnerability

Different disciplines tend to view vulnerability in different manners. Each uses different outcomes as its primary focus and is concerned with different forms of risk. Economics literatures, for instance, focus on sources of economic risk such as price and weather related (Alwang, et al, 2001: 4). Such conceptualization mainly concern on income related vulnerability which undermines risks related to health, violence, and those resulting from social exclusion – all of which can have dramatic effects on households' livelihood status. There has been criticism on such perceptions as their underlying presumption is to see all losses in

monetary terms. Vulnerability to non-monetizable shortfalls now becomes a key policy concern in development issues. This research also recognizes this drawback of economic literatures in perceiving vulnerability. The analytical framework for this research, SLF, is believed to be comprehensive enough in addressing both monetized and non-monetized shortfalls in explaining linkages between vulnerability, institution and livelihood.

Asset-based approach perceives vulnerability being associated with the probability of falling below a benchmark level of current consumption and the loss or degradation of assets. The main strength of the asset-base literature is its focus on how household asset base can be used to manage vulnerability. A major conceptual focus of the asset base perspective is the ability of households to manage risk through enhanced responses to risk. Risk management is achieved by allocating assets before and after a negative event. (Alwang, et al, 2001: 9). This asset base thinking is believed to have its genesis in Amrtya Sen's entitlement approach (Sen, 1986). The approach emphasizes the role of assets and endowments in determining access and entitlements. The main notion of this thinking is that households with more income and other welfare-generating assets are considered to be less vulnerable to welfare losses associated with risky events. This research recognizes the importance of assets as one major factor for entitlements and reducing risks. The analytical framework for this research, SLF, is also holistic enough in treating asset and entitlement issues as part of explaining the vulnerability and livelihood conditions.

Unlike the economics literatures, vulnerability in the eyes of sociologist goes beyond money-metric measures and tries to identify vulnerable groups based on broad household characteristics and not by specific measures of economic outcomes (Moser and Holland, 1998 quoted by Alwang, et.al, 2001). For these thinkers vulnerability includes aspects such as livelihood security that move beyond typical economic discussions. Besides, vulnerability assessment includes the threat itself, and also household resilience to resist and recover from negative shocks. Sociologists have been recognized as the primary proponents in extending the importance of linkages between access to and ownership of assets and vulnerability. Sociologist also disagrees with common-metric focuses on income or consumption in explaining vulnerability or poverty. They argue that such perception results in improper policies and programs to alleviate poverty or vulnerability. The present research on the vulnerability and livelihood situation does recognize the line of argument taken by the sociologists than the perception forwarded by the economics literatures.

Literatures on disaster management takes vulnerability as a ubiquitous phenomena where by every one is vulnerable but some are, due to their location, choices, etc. are more vulnerable than others. These literatures recognize the variation in the degree of vulnerability in all households, communities, regions, etc. According to the advocates of disaster management, vulnerability is taken as a characteristic of a person or group in terms of their capacity (IDB, 2000, p.52 quoted by Alwang, et al, 2001: 19). This perception of vulnerability also recognizes the role played by household assets and access to opportunity in determining vulnerability to natural disasters. Besides, the temporal aspect of vulnerability in determining its impact and resilience of the affected is well noted. Disaster management studies forwarded the following relationship between vulnerability, hazard and capacity: vulnerability = Hazard – Coping. From this relationship one can deduce that the issue of capacity/coping/is always part of the discussion on vulnerability; and it is this coping issue that differentiates degree of impact of vulnerability while every one is prone to vulnerability one way or the other. The present study recognizes the issue of disaster as part of vulnerability while analyzing its whole linkages with assets levels, institutions and livelihood strategies.

Environmentalists have also their own version of perceiving vulnerability. For this group of people the discussion on vulnerability skewed to the vulnerability of species or ecosystems to damage. Accordingly, the species and ecosystem are not free from vulnerability to extinction and irreversible damage. In this line of argument the key concern is on physical part of the eco- system while the above arguments dwell on human, social and economic part. This research does give due recognition to the importance of the physical part of ecology in explaining vulnerability. There are also ample evidences that indicate how a deteriorating physical environment is related to vulnerability and asset base which in turn compromise with the whole coping strategy. In the present study, however, the physical environment forms part of the explanation (not forming the whole explanation) for the existing vulnerability and livelihood situation.

(ii) Perceptions on Institution

Common Perception : In the conventional perception when one mention the word institution it automatically signifies formal, organized and visible bodies that have a value for society as a whole and affect large numbers of people. Institutions in such perception only include those formal entities like the national legislature, executives, big private corporations, religious

institutions and marriage. But there are other forces, or processes, at work in most societies that are sometimes more difficult to identify clearly but can be equally important for large numbers of people and society as a whole. These embedded process within a society are also institutions, as they have value for many people and affect their lives, though they are not always so visible or formal. This is because they do not usually dictate what is done, but how it is done - they are the 'rules of the game' in society (Messer and Townsely, 2003).

The common perception on institutions also takes them as if they are synonymous to organizations and only expressed through formal structures. Accordingly, institutions are taken as an entity that is made up of human beings, rather than the social regime that embraces rules and norms (Yeraswork, 2005:20). Institutions are thus generally establish what sort of behavior is 'normal' in society - they are normative. Organizations on the other hand establish a common purpose for the people that make them up and their roles in achieving that purpose - they are more 'structured.' Both institutions and organizations often, but not always, express 'collective goals' that are broadly accepted by all their members. Institutions and organizations often include some people and exclude others. Organizations can acquire special status and legitimacy if they satisfy people's needs and meet their expectations over time. In these cases, we can say that an organization has become 'institutionalized' (Messer and Townsely, 2003: 10).

As mentioned above there has been wide spread confusion in perceiving institution as if they are synonymous to organization or institute. In this study, however, the earlier definition given at the introductory part governs the whole process. In brief, institutions here are taken to represent rules of the game while organizations are broadly mean to signify the collectiveness of the players in the game (North, 1990:5).

Role of Institutions: For proponents of institution-free theory, like the neo classical thinkers, the world assumed to be a frictionless one in which institutions do not matter and all change occurs through perfectly operating institutions (Harriss, et.al, 1995: 8). As per such static perception, the role of institutions is hardly recognized in any livelihood equation, whether to reduce vulnerability or promote livelihood. The present study on the interrelationship between institutions and other livelihood components, as described in the previous sections of this study, however, does recognize the existence of friction in growth and development as

principally dictated by institutional factors. Within SLF the role of institution is the crucial element in explaining the whole livelihood equation.

With the emergence of the new institutional economics, however, more dynamic concepts of development economics are introduced. Proponents on the new institutional economics, like North, have given due attention on the role of institutions as the main factors in growth and change of economy. How do institutions evolve in response to individual incentives, strategies, and choices and how do institutions affect the performance of the political and economic system have become the main concern for institutional economics thinkers (North, 1990: vi). In this paper there is no attempt to dwell on the entire argument of the new institutional economics, rather since it has some relevance to the task at hand it deserves the reviewing of some of its core concepts. For instance, this line of thinking takes institutions as the rules of the game in a society or, formally, are the humanly devised constraints that shape human interaction (North, 1990: 3). This definition has strong interface with the SLF that also recognizes the role of institutions both as facilitators or constraints within the whole livelihood outcome.

Both new institutional economics and SLF appreciate the role of institutions as reducers of uncertainty through providing structures (not necessarily efficient) to every day life. At the same time they also recognize that institutions are a constraint mechanism to shape human interaction. Nevertheless, the new institutional economics is mainly an attempt to challenge the dominant role given to market and tries to introduce elements of friction (other institutions) into a neo-classical model. The SLF on the other hand tries to treat the whole livelihood analysis as determined by vulnerability context, institutional arrangements and asset base within one equation in determining the whole livelihood outcome. For the former, for instance, analyzing the role of institutions in relation to economic performance, like their effect on transaction costs and exchange, is the main concern. While SLF treats the role of institutions at multiple scale and goes beyond efficiency or economic questions. SLF relates institutions with access (to various types of capital, to livelihood strategies and to decision-making bodies and sources of influence); the terms of exchange between different types of capital; and returns (economic and otherwise) to any given livelihood strategy. Though both frameworks do have an interface, they, however, have differences in terms of emphasizing the role of institutions. This research favors the comprehensive style of dealing with

institutional issue, as propagated by SLF, than the less comprehensive perspective adhered by the new institutional economics.

(iii) Perceptions on Livelihood Strategies

There is wide recognition that people's access to different levels and combinations of assets is believed to be the major factor in determining the kind of livelihood strategies an individual or a community to follow. This widely held believe also add that the choice on the livelihood strategies is also subject to the existing visible and invisible institutional arrangements (Messer, N. and Townsley, P., 2003; Chambers 1991; DFID, 2001). In brief, this implies that local communities have their own rational in following any kind(s) of livelihood strategy; whether the outsiders perceive it as bad or good. Their rationale is pegged on the local realities. Based on this premise a development endeavor that is meant to diversify or improve the exiting livelihood strategy takes in to account the existing asset base and institutions so as to tailor the whole attempt in to the existing reality and buildup every thing upon it. On the contrary, however, a top-down kind of development approach emphasis the introduction of 'improved' livelihood strategy with hardly any regard to the existing visible and invisible determining factors that include the asset base and institutions. With the second approach the end result would be compromising the whole sustainability of the development endeavor.

According to Chambers (1991), the top-down kind of perception on livelihood strategies improvement can be seen in three ways. There are those professionals who try to intervene on livelihood strategy 'improvement' through production increment. For this group of people problems like hunger and poverty are addressed through introducing better livelihood strategies like intensification or extensification. Secondly, there are technocrats who give emphasis to new employment generation as a panacea in improving livelihood strategies. The third group of experts thinks the increase of income and consumption as the overall objective of livelihood strategy improvement. Chambers has taken all of these perceptions as defects in the livelihood strategy analysis. The present study does recognize Chambers' view. Though all of the three perceptions have their own rational in improving livelihood strategy, the interventions proposed by them are not sufficient enough in bringing about the desired results. Livelihood strategy improvement endeavor does entail the incorporation of other

factors (the institution and asset base of the host community) in to the picture so as to harmonize the new interventions and assures their sustainability.

3.1.2 Explanations on Poverty, Food Security and Livelihood

This thesis is not intended to explain the various perceptions on poverty and food security issues. Nevertheless, it is deemed necessary to review and discuss the issue of poverty and food security as related to the general livelihood condition.

In explaining food security or insecurity two kinds of major thinkings worth mentioning. There are those who advocate the supply side as the main cause of food insecurity while the other groups capitalize on the demand side as the major obstacle in assuring food security. Those who are advocating the supply side, generally refereed as proponents of the Food Availability Decline -FAD (as quoted in Degefa, 2005), give emphasis for such factors as demographic and climatic pressures as the main causes behind food insecurity. Here population increase, natural hazards, diseases are believed to be factors behind food insecurity. On the other side, people like Amartya Sen (1986) assert that it is Food Entitlement Failure (FEF) that explains food security or insecurity. As per the FEF explanation, aggregate food availability in the economy does not entitle a person to consume food. Rather it is access to food, which in turn is determined by entitlement to production, exchange, inheritance and transfer, which plays a role in securing food (Sen, 1986).

The present research, which tries to understand how various livelihood components interplay with each other in explaining the existing livelihood conditions, does understand poverty and food security issues from both the supply and demand sides, as explained above by different proponents. In dealing with the issue of vulnerability, which is the major theme concept in the present study, such factors as climate and population (supply sides) are also treated in explaining the general livelihood condition of the research area. Thus, the assertion made by FAD proponents does have some relevance in guiding the present research but by no means adequate enough in explaining the whole livelihood issues under consideration, as it merely confines itself to the supply side. Similarly, the theoretical supposition made by FEF proponents also sheds a light in guiding the present research. Investigating the issue of entitlement, as conditioned by different institutional arrangements, is one major area of

concern for the present study. In treating these two concepts, access and entitlement, FEF and SLF (which is the main theoretical framework for the present research) do have strong interface.

3.1.3 Links amongst Livelihood Components

In its guiding sheet on SLF, DFID (2001) recognizes vulnerability context as the one that frames the external environment in which people exist. In relation to asset base, the guideline went on to say that people's livelihoods and the wider availability of assets are fundamentally affected by three vulnerability factors that include critical trends, shocks and seasonality over which they have limited or no control. Trend includes population trends, resource trends (including conflict), national and international economic trends, trends in governance and technology. Shocks in vulnerability include human health shocks, natural shocks, economic shocks, conflict, and crop/livestock shocks. Seasonality refers the temporal variation of prices, production, health, employment, etc.

All the vulnerability factors that are subsumed under the above three categories have an impact upon people's asset status and on what type of livelihood strategy to follow. Those facing shocks can easily destroy assets directly and may force people to abandon their home areas and dispose their assets (such as land) prematurely as part of coping strategies. Trends may have a particular important influence on rates of return (economic or otherwise) to chosen livelihood strategies. Seasonality of prices, employment opportunities and food availability are found to be the major causes of hardship for poor people when the seasonal variations are not in favor of their livelihood.

By providing the rules of the game, institution also plays a role through helping people predict or anticipate the outcomes of certain activities. This role of institution has a big significance in decreasing vulnerability. Access to the right market information, for instance, reduce transaction costs and help people increase their asset level that in turn decreases hazards that follow from vulnerability to shocks. At this point one can argue that though institution plays such positive role in decreasing the effect of vulnerability to shocks there could be instances where they may exacerbate the problems. Institutions that might not encourage thrift and asset creation might not help in reducing the effect of vulnerability. This

research has also attempted how far such institutionalized practices are related to vulnerability and livelihood condition at large.

3.1.4 Sustainable Livelihood Framework

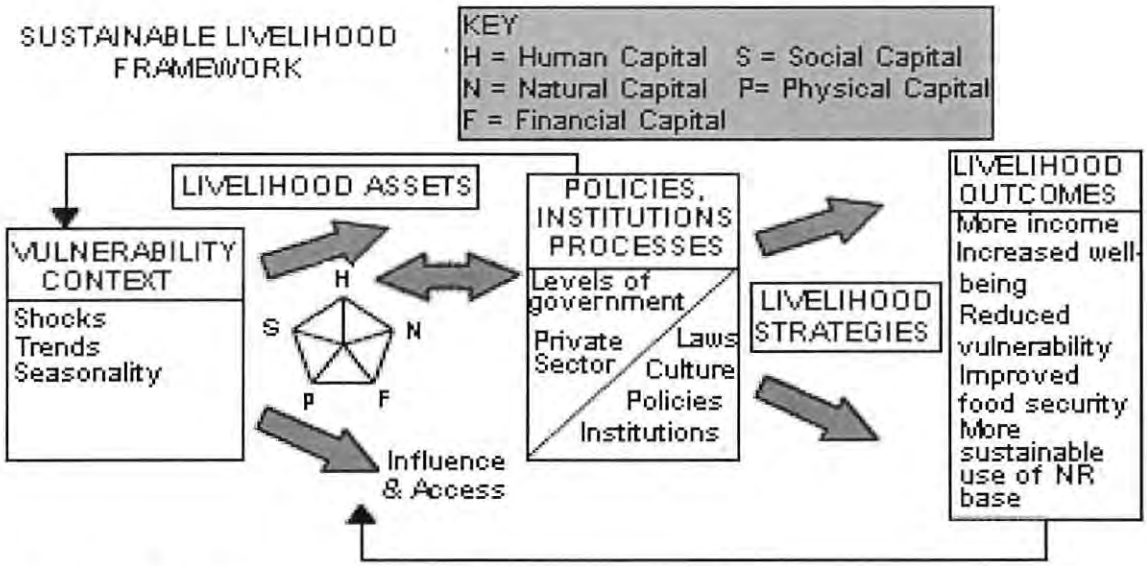
According to the SLF, the interaction amongst the main factors that affect people's livelihoods is the core determinant in the overall livelihood outcome. In its simplest form, the DFID guideline sheet explain the SLF as follows:

> *...the framework views people as operating in a context of vulnerability. Within this context, they have access to certain assets or poverty reducing factors. They gain their meaning and value through the prevailing social, institutional and organizational environment. This environment also influences the livelihood strategies– ways of combining and using assets–that are open to people in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives (DFID, 2001:7)*

The above explanation briefly meant to say that taking account of the livelihood assets at their disposal, the vulnerability context in which they operate, and the policies, institutions and processes around them, households tend to develop the most appropriate livelihood strategy possible. The combined effect of these components leads to a satisfactory or unsatisfactory livelihood outcomes (Messer and Townsley, 2003)

This thesis shares the assertion quoted above in its entirety. When people are living in a vulnerable context they follow a certain livelihood strategy that is also conditioned by different institutional process which in turn affects access to various capital or assets. The overall interaction gives rise to a particular outcome as manifested in such forms like reducing poverty or improving well-being. The following schematic presentation vividly shows the interaction.

Figure 3.1. Sustainable Livelihood Framework



Source: Adapted from DFID, 2001

In utilizing the above model variation in emphasis is seen in analyzing the various livelihood components as discussed earlier. Under the present study there is also variation in terms of focus. All livelihood components are not evenly treated.

3.2 Empirical Review

In linking vulnerability with institutions, Yeraswork, in his investigation on property rights, land management and conservation in Ethiopia, came to the conclusion that the root causes for the destruction of plantation and increasing the risk of vulnerability (my emphasis is added) is due to the ambiguity of land ownership right (Yeraswork, 2000: 275). The researcher, using the Actor System Dynamic (ASD) model, which gives strong emphasis to dynamic interaction between social agents and social system, disclosed that the gap in property right, which is one critical institutional issue, triggers vulnerability to natural shocks. Using the ASD model, which is also comprehensive enough and see the social reality as 'a dynamic totality within which all subjective and objective factors interact (Burns, T.R., et al, 1985: 12), Yeraswork succinctly forwarded the following proposition on the role of institutional arrangements in all social actions.

> *No social actor acts in complete freedom, as if in vacuum. From the start to the finish purposeful human action is shaped and regulated by the social order in which it is embedded. Firstly, actors' preferences, motivations, aims, goals, purposes, and the like, are all shaped and reshaped by the institutions within which they act. Then also, actors find themselves playing out their roles within institutional arrangements that form the context of their action (Yeraswork, 2000: 3)*

In his final statement the researcher concluded that poor land management and conservation status, as informed by his field work in the year 1992-93, were mainly attributed to institutional factors as manifested in the property rights and other associated motivational structures. This conclusion from the empirical findings clearly shows the strong linkage of subjective (like attitude) and objective (like property rights) factors in shaping human action or inaction. Such kind of assertion is also falls within the domain of SLF where institutionalized behavior and rules are also taken in to account in analyzing the whole livelihood equation. Yeraswork's empirical findings shed a light on the role of institutional arrangements in land management and conservation, which is one major area also picked under the present research.

By adhering to the SLF, Degefa amply explored the multiplicity of biophysical, socio-cultural and political economy attributes that interact with each other in complex manners and in explaining the well-being status and food security levels of rural households in two localities in Oromia Zone of Amhara Region (Degefa, 2005). Degefa strongly argues that exploring rural household livelihoods in a holistic manner (implying the use of SLF) enables one to understand the nature, extent, causes, and dynamics of poverty and food insecurity. Based on his findings he went on to argue that the household levels of well-being and food security status are determined by the interplay amongst local context, access to resources, livelihood activities, system of government and other mediating processes. In elaborating the interlink amongst these multiple factors that determine the livelihood outcome the researcher concluded that the existing policies and government actions determine the type of property right over natural capitals which in turn affect the type of livelihood activities one has to follow (2005: 4). This is the kind of linkages he identified while studying a sedentary and an agro-pastoralist communities living in the northeastern Ethiopia. For instance, he identified

that the alienation of pasture land, as triggered by tenure policy, has a marked impact in affecting the asset base of the community which in turn leads to the undesirable livelihood outcome. In this study the kind of relationship established amongst institutions, asset base and livelihood outcome is so vivid and strongly rationalize the use of SLF in understanding livelihood in a holistic manner.

In examining the validity of SLF as a practical instrument for assessing the impact of development interventions, Kaatje Segers has tried to show the interlink amongst livelihood assets, strategies and institutional arrangements. In the study conducted in Tigray Region she clearly shows how religious conviction, as one major institution, sets boundary conditions with respect to other livelihood aspects. Her research went on to disclose how religion is a cross cutting and directing motive that structures the entire economic and physical life (Segers, 2005:31). The finding indicates how religion dictates the agricultural activity calendar and consequently the food production process of the community understudy. This has a direct bearing in shaping the type and mix of asset to be created, which in turn determine the whole livelihood outcome. The lesson drawn from this study is that institutional arrangements do determine not only the quantity but also the mix of asset/capital/ needed within a certain livelihood system. Assessing how religious and other institutionalized practices impinge on the asset creation/ destruction process has been one major areas of concern under the present research.

On the part of government bodies there have also been attempts to explain the vulnerability and livelihood situations in what is labeled as food insecured localities. Among these areas the situation in North Shewa (Oromia), that includes the Woreda where the present research is conducted, was assessed in the year 2002. The 2002 assessment made by ODPPB attempted to develop the vulnerability profile of Wuchale- Jida Woreda. The assessment tried to address issues on causes of vulnerability, vulnerable people and the temporal aspect of vulnerability. The assessment conducted in six Kebeles and covered 598 households. In a nutshell, this study concluded that food shortage, epidemics, frost, hailstorm, waterlogging, landslide and pests are the major disasters affecting the livelihood structure of the population living in the Woreda (ODPPB, 2002). The study attributed population pressure as the main culprit in increasing pressure on agricultural land which also constrained by the existing waterlogging problem. This detail assessment shows the causes and trends of vulnerability by presenting a

range of indicators that cut across demographic, socio cultural, physical, and climatic and other issues.

Though the above assessment highly enlighten the vulnerability situation of the area, one can still detect that it is skewed towards analyzing the issues largely from the supply side. The poverty and food insecurity situation is largely explained in relation to the physical situation like the diminishing of cultivable land size as exacerbated by population pressure. This is in fact one visible phenomenon explaining the current sad situation in terms of food availability and general poverty. Seeing the whole situation with the SLF lens, one can, however, should go much beyond the supply side and tried to see the interlink between the existing context, formal and informal institutions and their impact in dictating the kind of livelihood strategies the people able to follow. Unlike the 2002 assessment made by ODPPB, in this study emphasis has been given to understand the interlink of these various variables in explaining the whole livelihood situation of the targeted areas. The ODPPB's assessment, however, remain to be one major in put for the present study as it has important information in relation to the task at hand.

The latest assessment on causes of food insecurity in Wuchale area was done by Hussein Bekele. His work mainly emphasis on identifying the main causes that lies behind the existing food insecurity situation in five sampled Kebeles. His findings show that the great majority of the sampled households, 98 %, are food insecured with food gap extends up to six months in a year (Hussein, 2006: ii). Hussein demonstrated a number of basic facts that explain the present poverty situation in general and food security status in particular. In describing some of the existing situation his findings found to be quite relevant for the present study. Nevertheless, the present study has embraced the SLF framework in explaining the interrelationship of the vulnerability, institution and livelihood situation in a very comprehensive way. Though food security is still an issue, the present study gives special attention to its relation with the other livelihood components that includes the asset base, institutional arrangements and livelihood strategies.

4. THE STUDY AREA

4.1 WOREDA LEVEL PROFILE

The research has been conducted in two Kebeles in Wuchale Woreda within the north Shewa Zone of Oromia Regional State. There are two main reasons why this area is selected. As per Woreda level assessment by ODPPB, the entire neighborhood of the targeted area is labeled as food insecured and plagued with high problems of waterlogging, frost, epidemics, hailstorm, landslide and pests (ODPPB, 2002). It is the researcher's view that areas with such traits are potential sites for investigating the issues of vulnerabilities and their linkages to the existing institutional arrangements, asset level and livelihood strategies. Secondly, by highlighting the interrelationship amongst the variables just mentioned, the research outcome may highlight how and why each of them interact in aggravating vulnerability- related problems. Thus, the outcome sheds a light as to what kind of combined interventions (that address problems on asset, institutions and strategies), are required to alleviate the livelihood problem of the area.

4.1.1 Population

Until the recent rearrangements of administrative boundaries within the North Shewa Zone, Wuchale was part of Wuchale-Jida Woreda. It was dismembered from Wuchale Jida in the year 2006 and since then became a Woreda by itself comprising 24 Kebeles and one town administration. Since the breakup no official population figure is issued for Wuchale Woreda. Nevertheless, different governmental and non-governmental bodies working in the area present their own population and household number estimates. Data secured from the Woreda Education Office shows that there are 90064 inhabitants in the Woreda. The figure secured from the Woreda Administration on the other hand indicates only the number of households, which is estimated at 15560. In order to arrive a better estimation the present study has taken the household number (secured from the Woreda Administration) and multiplies it with the average family size drawn from the house-to-house study, which is 6.18. Accordingly, the total size of population estimated by the present study is about 96161 people. Population in the town constitutes 7 %. The population density is around 197 persons per km^2. The largest majority living in the Woreda and the two Kebeles under consideration

are belonging to Oromo ethnic group and mainly adhering to Orthodox Christian faith. The capital of the Woreda, Muke Turi town, is located about 80 km north of Addis Ababa.

4.1.2 Physical Characteristics

The land use pattern in the Woreda shows that the bulk of the land is being used for subsistence rain-fed agriculture. Land being utilized for irrigation purpose is so small, which implies high dependency on the rainfall. Vulnerability problem is partly associated with the variation and erratic nature of the rainfall pattern.

Table 4.1 Wuchale Woreda land use pattern

Land use type			Topography	
Type	**Hectare**	**Coverage (%)**	**Type**	**Coverage (%)**
Cultivated Land	30095	61.6	Flat Land	60.0
Grazing Land	12025	24.6	Hilly	20.0
Irrigated Land	110	0.22	Valley	11.0
Tree/ bush land	427	0.87	Rolling	6.0
Construction (land under houses, public utilities, etc)	1264	2.59	Other	3.0
Land with hilly terrain	259	0.53		
Others (Unused, 'waste land', etc)	4620	9.4		

Source: Wuchale Woreda Agriculture and Rural Development Office

The largest part of the Woreda is flat with scanty vegetation coverage. With the absence of good vegetation coverage, 20 % of the Woreda is believed to be affected by high erosion problem (PADET, 2006). In terms of agro-ecology, 77 % of the Woreda is categorized as highland (*Dega*), 21 % as midland (*Woina Dega*) and the remaining very small portion (2 %) is lowland. While the midland part, where black cotton soil is dominant, is vulnerable to high waterlogging problem in times of excess rainfall, the highland part is susceptible to frost. As per the information secured from the office of the Development Agents (DAs) working in the area these two problems devastate 50 to 75 % of standing crops during their worst incidence. Data from the Woreda Agriculture and Rural Development Office further reveals that

considerable part of the Woreda is covered by black cotton soil which is highly affected by waterlogging problem that persists up to 60 days a year during the peak agricultural season. While around nine of the 24 Kebeles of the Woreda exhibits a bi-modal rainfall pattern (main and small rain seasons- also referred as *Meher* and *Belg* respectively), the remaining 17 rural Kebeles have only one main rainy season. In case of the small rainy season the average rainfall ranges between 350-500 mm while in the main one it is between 800-1000mm.

4.1 3 Livelihood Conditions

The entire Woreda population is highly relied on the existing subsistence and small-scale peasant farming. The major crops grown are wheat, teff, barley, horse bean, chickpea, and other cereals. There are no cash crops that can generate cash income. Though the Woreda is believed to have a high potential to livestock development, the benefit accrued to the largest majorities from this sector is not considerable enough to extricate them from the rampant poverty. Despite some intermittent attempts by different agents to promote livestock development in the Woreda, at household level very little change is being seen in reaping any of the potential benefits from rearing animals. Further explanation around this issue is given in the forthcoming subchapter that deals with the natural assets.

The Woreda is situated in close proximity to major town centers, including Addis Ababa. This has given ample opportunities to such facilities like access to markets and major road net works. On the other hand, however, the extreme vulnerability to a number of shocks, as indicated above, does not allow the people to reap the benefit from this advantageous position. The majorities in the area do not have marketable surplus from their subsistence farming practice. As already mentioned earlier the inadequacy of food is a common phenomenon in most of the months in a year. This is usually compensated with a range of coping mechanism like selling live animals and animal products, engaging in some off-farm/non farm activities, buying food through loan secured from friends and also eating food that is not mean for humans (like eating wild oats which is highly discouraged by professionals). This general low level of welfare is highly reflected in a number of other ways like in low health status, considerable school drop out rate, lack of financial and other assets to diversify the existing high reliance on subsistence mixed farming practices, etc

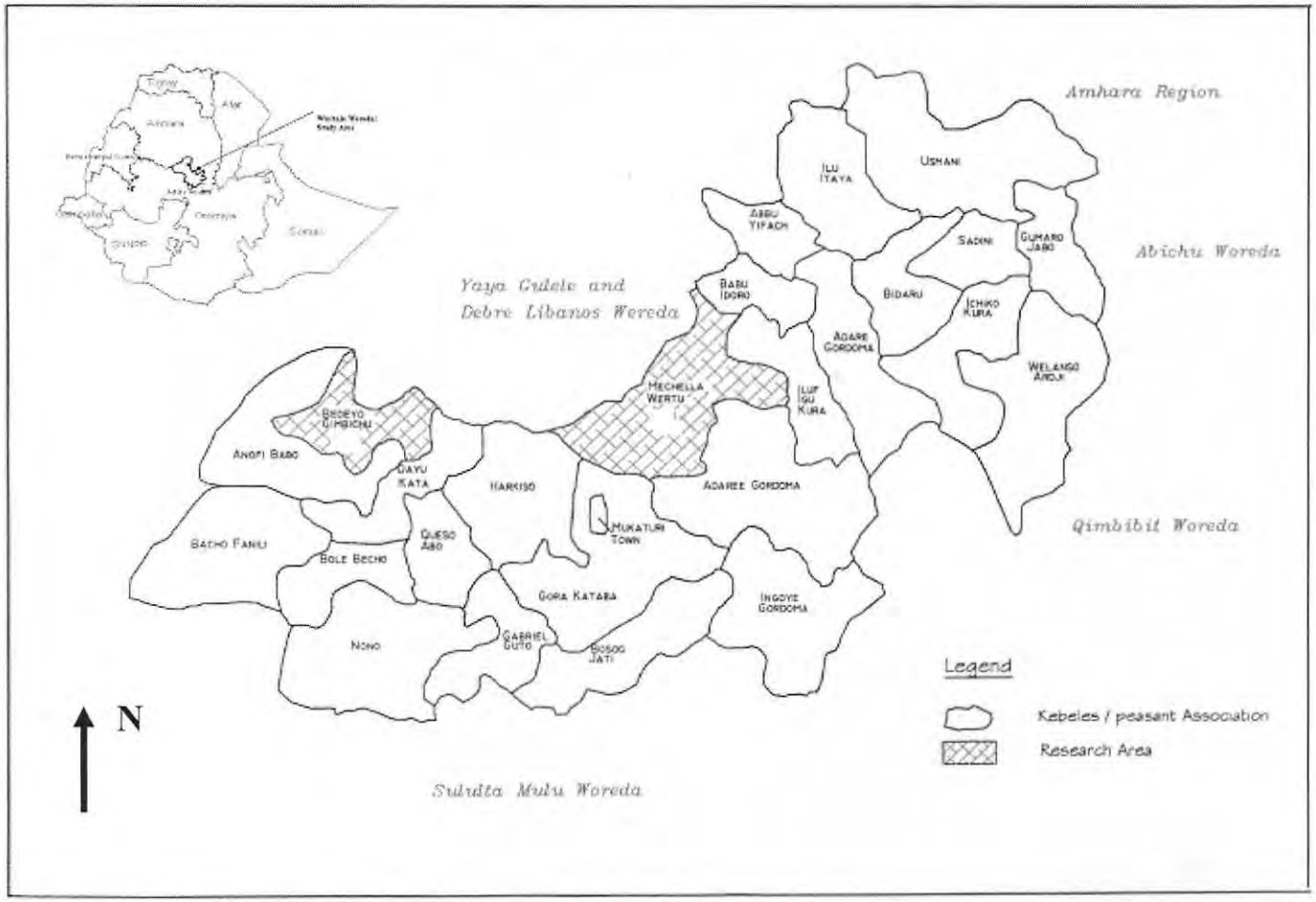
In terms of poverty profile, information secured from the Woreda Agriculture and Rural Development Office revealed that 21 % of the families in Wucalle Woreda do not have ox to cultivate their land. About 16 % has only one ox whereby they are forced to invite a crop shareholder for ploughing their land. Earlier assessments on the vulnerability situation also disclose that about 12 % of the Woreda population has no their own land while 33 % of the households are cultivating severely eroded and infertile lands. (ODPPB, 2002). In terms of landlessness the situation in the two Kebeles considered under the present study found to be more serious than this. Out of the total families living in the area the majorities have food for not more than four months a year. The same assessment indicates that those households designated as food insecure earn an annual income of less than 600 Birr per year. The assessment went to reveal that 33 % of family members (mainly women) are found to be malnourished while 44 % of children are stunted. Generally the assessment by ODPPB concluded that 32 % of the total families in the area are believed to be falling in absolute poverty status.

Data on access to social services like health facilities, as obtained from the Woreda Health Office, indicate that currently there is one health center, two health stations and three health posts that cater the health service demand of the existing population. These poorly equipped facilities (no physician in any of the facilities) are not adequate enough to deliver such important services as reproductive health ones. Thanks to its agro-ecology, the largest part of Woreda is falling within the highland category where by there is no such threat as malaria infestation. The major health threats are found to be those preventable ones with the application of primary health care measures. Due to involvements by NGOs there is good potable water supply coverage, which is now estimated at around 40 %.

With regard to access to education, information obtained from the Woreda Administration discloses that currently there are 28 schools spread in all of the 24 Kebeles within the Woreda. Except one Kebele, all have at least one primary school within their respective territories. The total number of registered students in 1998 was 13997, of which 11751 at primary and 2246 at secondary levels. At the primary level girls constitute 46 % while that of boys account 54 percent. At the secondary level the proportion of girls dwindles further; they constitute 35 % while boys form 64 %. About 52 % of the people in the Woreda are believed to be unable to read and write, 20 % are at reading and writing level, 21 % at primary level, 5 % with secondary school education and the remaining small portion (2 %) has some

vocational or higher level learning. The Gross Enrollment Ratio (GER) for the primary school (1-8), as reported by the Wucahle Woreda Education Office is 53.5 %. This state of affair clearly indicates the low level of human capital which has a big implication in the general vulnerability and development status of the Woreda at large.

Figure 4.1 Sketch of the Study Area - Wuchale Woreda



4.2 PROFILES OF TARGETED KEBELES

As already indicated above this study has considered two Kebeles in Wuchale Woreda. Agro ecological variation was the main criteria in selecting the two Kebeles. Bedeyo-Gimbichu Kebele falls in the midland part of the Woreda while Mechella-Wertu represents the highland. Since low land part forms very insignificant portion of the Woreda (2 % only), no Kebele from this agro ecological zone was considered for the present study.

4.2.1 Mechella-Wertu

Mechella-Wertu is one of the Kebeles where the present study conducted through house-to-house inquiry, observation and discussion. The Kebele represents a typical highland with its own characteristics. Frost, inter alia, is one vulnerability factor that affects the livelihood of the people. Compare to the midland part this area is considered as less fertile and productive but believed to have better grazing land potential for livestock rearing.

As per the data obtained from the Woreda Administration, currently 464 households live in Mechella-Wertu Kebele. Using an average family size of 6.18 (drawn from the survey result of the present study) the total population is estimated to be around 2868 people. About 88 % of the land is considered to be flat land with more potential for livestock development than crop. The area is highly infertile and quite vulnerable to frost problem that devastates standing crops during October and November when the harvesting is about to begin. This has a strong implication in the livelihood of the subsistence peasants which forms the greatest majority. The people are entirely relying on the existing subsistence mixed farming where by livestock rearing is becoming the main coping mechanism in times of heavy crop loss. Other diversified sources of income from off farm/ non-farm activities are hardly available for the greatest majorities of the peasant households. The practice of intensive farming, using irrigation, is hardly seen while there is high dependence on rainfall to cultivate the ever-shrinking cultivable land that is scarcely satisfying the food demands at the household level.

The Kebele is in close proximity to the major market centers and road network- it is located with an average distance of 8 km from the Woreda capital. Though the proximity to the towns and roads is one major advantage, there is very little crop surplus that goes to the

market. Very small amount of cereal production goes to the market by the relatively better-off families while most households are unable to meet their own demand let alone for market.

The majorities of the family heads (78 %) are unable to read and write, while 16 % reported to have only basic reading and writing skill. The remaining small portions of the heads have a primary and junior level school achievement.

4.2.2 Bedeyo-Gimbichu

Bedeyo Gimbichu is located on the midland part of the Woreda where productivity and fertility of land is reported to be in a better situation than the highland part. This assertion is partly confirmed by the house-to-house survey conducted for the present study. Households in this Kebele found to have more crop production to sustain their families than the highlanders. Here diversification through such practices as irrigation is better. Nevertheless, this midland Kebele is also not free from vulnerability problems that threaten the livelihood. The area is predominantly (65 %) covered by black cotton soil where waterlogging and drainage problem significantly affects crop production activities. DAs working in the Kebele reported that more than 50 % of production could be lost to waterlogging problems in times of excess rainfall. Unlike the highland parts, people in Bedeyo Gimbichu do not have that much livestock resources that significantly subsidize their household economy. Loosing crop is, thus, means a lot in affecting the building block of their livelihood source.

Data from the Woreda Administration shows that currently there are 686 families living in Bedeyo Gimibichu. The total population is estimated to be 4239 people. The average distance to the Kebele from the Woreda capital is 20 km.

In terms of health, education and other social services, the situation here is not that much different with the other highland Kebele. There is high incidence of illiteracy (61.3 %), low and inadequate health service coverage, high fertility rate with a family size of about 6 persons per household, which is higher than the national average.

In line with the above poor socio-economic status and high vulnerability to a range of shocks as verified by the above indicators, the Woreda in general, as represented by the two sampled

Kebeles, deserves integrated interventions to alleviate some of the current poor livelihood performance. It is against this background that the present study is also interested in diagnosing how the various socio-economic problems reinforce each other in explaining the existing vulnerability within the premises of SLF.

5. VULNERABILITY AND LIVELIHOOD ASSETS

5.1 SOCIO-ECONOMIC PROFILE OF SURVEYED HOUSEHOLDS

As indicated above the study has taken 112 households in both Kebeles (62 in Bedyeo-Gimbichu and 50 in Mechella-Wertu) for conducting the house-to-house survey. As can be seen below the largest majorities of the households (78.6 %) in both Kebeles are male-headed. About 94 % of the households are entirely relying on their subsistence mixed farming. The following table briefly introduces the profile of the respondents.

Table 5.1 Profiles of the respondents: Sex, Religion, Marital Status and Family Size

		Bedeyo-Gimbichu		Mechella-Wertu		Both Kebeles	
		No	*%*	*No.*	*%*	*No.*	*%*
Sex of Household Head	Male	47	75.8	41	82.0	88	78.6
	Female	15	24.2	9	18.0	24	21.4
Religion	Orthodox	61	98.4	48	96.0	109	97.3
	Muslim	1	1.6			1	0.9
	Protestant			2	4.0	2	1.8
Marital status	Single	3	4.8	1	2.0	4	3.6
	Married	42	67.7	40	80.0	82	73.2
	Widow/er	13	21.0	7	14.0	20	17.9
	Divorced	3	4.8	1	2.0	4	3.6
	Separated	1	1.7	1	2.0	2	1.7
Family Size	Min.	2		2		2	
	Max.	11		10		11	
	Average	6.06		6.3		6.18	

Source: Household Survey, 2007

5.2 VULNERABILITY

As already explained in the introductory chapter of this thesis, the factors that makeup the vulnerability context of the research area can also be broadly categorized in to trends, shocks and seasonality. Though there is some difference between the highlands and midlands, the vulnerability factors more or less follows similar pattern. The main natural shocks that are now exposing the people of the study area are waterlogging, frost, hailstorm and erratic rainfall pattern (these days mainly manifesting in the form of excess rain) Besides, pervasiveness of weeds and pest infestations are other factors of vulnerability. The variation in the two Kebeles is that while in the Kebele located in the highland part (Mechella-Wertu) frost is the main problem, in the midland Kebele (Bedeyo-Gimbichu), where black cotton soil is dominant, waterlogging is the principal causes of vulnerability to loss of crop. The other vulnerability factors remain the same for both Kebeles.

The household survey findings indicate that 66 % of the respondents confirmed their vulnerability to one or more of the above shocks. Higher number of vulnerable families reported in the midland Kebele. DAs working in the midland part reported that in this locality more than 50 % crop yield loss, mainly wheat, can happen whenever there is excess rainfall. Frost, locally referred as *Kora,* in the highland devastates the crop in the same magnitude during the chilly periods in October and November and when the standing crops are about to be harvested.

The household inquiry in the vulnerability issue generally revealed that about 70 % of the families in both Kebeles claim to have food inadequacy, despite their variation in their degree of exposure to the above insecurity factors. In order to minimize the effect of such devastating factors as frost, peasants in the area forced to practice a number of measures. In the group discussions held with people living in the highland Kebele, it was reported that the peasants try to cope the frost problem by leaving the weeds untouched, believing that it gives a shield from the moisture to the ripe crop. This locally tailored coping mechanism is done at the expense of the better crop yield that would have accrued with proper weeding. The Woreda Agriculture and Rural Development Office estimates up to 35 % production loss due to weed. Though the local people reported no exact estimation on crop loss, they do recognize the tradeoff between their traditional frost coping mechanism and the expected

yield. This traditional practice adequately explains how far the vulnerability context is interplaying with the kind of coping strategy, preferred or not, one follows to maintain the existing livelihood.

Main trends, which are one category of vulnerability factors, observed in the research area include resource utilization trends, population dynamics, trends in governance and technology. Resource utilization trends, in its negative sense, are manifested in the ever-visible deterioration of the natural asset. There is ample evidence that there is continuous decline in the size of landholding at household level over the years. The population increment trend is exhibited through high fertility rate. The household level survey result shows that the family size in both Kebeles ranges from 2 to 11, with average found to be 6.1 persons per family. This is higher than the average for Oromia Region, which is 5.4 (FDRE, 2003). In line with this finding, the population trend continues to be one factor in aggravating the vulnerability condition in the area.

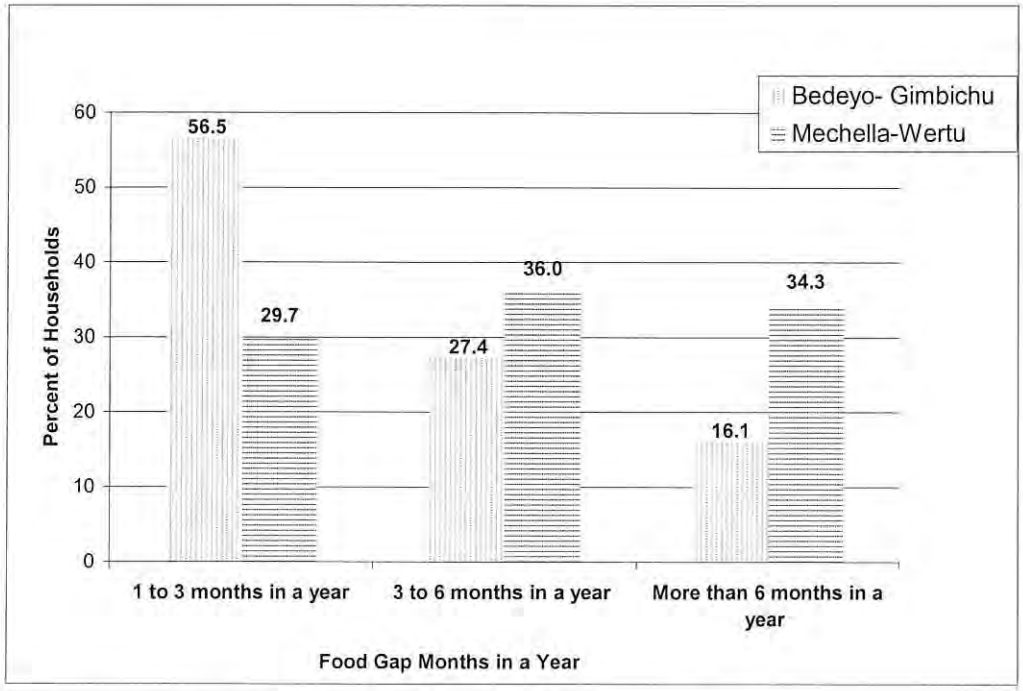
In terms of using new technological input new trend was also observed. Field observation and information indicates that the ever-increasing price for agricultural input is now discouraging the use of fertilizer amongst large number of subsistence peasants. Especially in the highland parts, the risk/vulnerability/ to crop loss due to the above factors, as compounded with high price, is now discouraging people from using fertilizer. The sad part is once people are becoming dependent on fertilizer, they had to curtail it without any other means of substitution to maintain the productivity. The trend seen both in the increase in the price of fertilizer and the decrease in the number of users is now becoming one serious factor in suppressing productivity. This issue is well elaborated in the forthcoming sections that discuss about the conditions of various assets.

In analyzing vulnerability through SLF one could also identify positive trends that may positively affect the livelihood of the people. For instance, the increasing trend in price for grain may not be a threat for peasants. The issue is when one is applying SLF, broader multi-scale analysis is always required to judge the factor as a positive or negative trend. In the present research area the increase in agricultural price may have its contribution in increasing financial capital to limited households. Nevertheless, in line with the above vulnerability factors it plays little role, as marketable surplus in the area is so meager to generate cash and make livelihood sustainable. In a multiple scale analysis, therefore, measures beyond price

liberalization may be required to reap its advantage. A new trend in using traditional compost is also reported by some households. The application of organic farming sounds more appropriate to the realities of the peasants, compare to the use of artificial fertilizer. Nevertheless, at what cost the compost is being used is not yet adequately investigated.

Seasonality in the two Kebeles manifested in a number of ways. The total production secured from the present landholding size and farming practice mainly maintains the family for less than six months in a year. In the remaining months of a year families are in serious food crisis and mainly fill the gap in a very precarious way like selling the meager livestock products and sheep. Others forced to involve themselves in other scarcely available off-farm activities like daily labouring and seasonally migrating to other places in search of agricultural job like harvesting. As the following chart depicts that the food gap situation is worse in the highland where around 34 % of the families reported to have food shortage for more than six months.

Figure 5.1 Duration of Food Gap in a Year



Source: Household Survey, 2007

The above quantitative finding was further verified by the group discussants in both Kebeles where they reported that the food gap period extends up to six months for many people while for the poorest it goes beyond. Around 61 % of those reported the inadequacy of food availability, they offset their requirement through selling livestock and buy the necessary food items. About 22 % replied that they try to get loan from friends either in the form of grain or cash to fill their food gap and are expected to repay in the following harvest. This coping mechanism put many families in a vicious kind of food gap problem and difficult to extricate them from the borrow-pay kind of cyclical chain.

Seasonality of prices is another vulnerability factor that determines the asset creation and income generation. The great majorities in the study area reported that they are unable to have marketable surplus from their yearly production beyond their subsistence production. Even those who manage to produce 'surplus' are not in a position to sell their crop when it can draw them the highest price. Rather, marketable 'surplus' goes to the market right after the harvest when there is relatively excess supply in the market with lower price. What is observed here is that peasants could have reaped the benefit of price seasonality if they were not obliged to sell their products right after the harvest. Seasonality of price is always one vulnerability factor affecting peasant's livelihood negatively. This basically emanates from two factors. On the one hand, in the absence of adequate marketable surplus peasants cannot store and sell it when it could draw them better price. On the other hand those who are unable to meet their food demand from their own production are forced to buy from the market long after the harvest and when the price already goes up.

Information from different sources revealed variation of health status along different seasons in the two Kebeles. In the group discussions it was mentioned that the harvesting time starts in November and followed by food availability up to the subsequent four to five months, i.e. up to April and May. Then after the wilt period sets in where peasants' nutritional status is considerably compromised due to the absence of adequate food at their household. The months starting from April up to the next harvest, November, are representing the season when vulnerability to some of the health and economic shocks at their peak. As per most group discussion, participants in both Kebeles reported that the hungry period in general is on the increase in their living memory. The following table summarizes the factors that makeup the vulnerability context. Primary data indicating the trends (like increase in population and decrease in cultivable land) are discussed in the more relevant sections of this document.

Table 5.2 Vulnerability context and coping mechanisms

Factors that makeup the vulnerability context			Coping Mechanism and Trends
Shocks	**Trends**	**Seasonality**	
▪ Frost ▪ Waterlogging ▪ Erratic rainfall (these days mainly in the form of excess rain) ▪ Hailstorm ▪ The problem associated with black cotton soil ▪ Crop and livestock diseases ▪ Pest and weeds	▪ Population increase ▪ Decreasing land holding size both for crop production and grazing (30 % of the surveyed households reported the decrease in the recent time) ▪ Decreasing land fertility ▪ Decreasing number of livestock at the household level ▪ Increasing price of agricultural inputs	▪ Seasonality of production ▪ Food gap for more than six months in a year ▪ Seasonality of employment opportunities ▪ Seasonality of health status in food deficit and food availability seasons	▪ Decrease in fallowing practice to cope with land scarcity ▪ Decrease in fallowing leads to decrease in *Ghay* (a traditional soil burning practice meant for 'increasing fertility'). *Ghay* practice needs a series of fallowing seasons ▪ Increasing number of households cultivating wild oats, locally referred as *Shallo,* which is originally meant for livestock feeding and not recommended for human. ▪ Less weeding practices: believing that weeds can give a shield for standing crops from frost. ▪ Selling bigger stock (like ox) and buying small bull and use the difference in filling the food gap. ▪ Increasing trend on share cropping arrangement as a coping mechanism to deal with scarcity of land and traction power.

Source: Field Survey, 2007 (Group discussion outcome)

As indicated above, the vulnerability factors are now forcing the peasants to follow different desirable and undesirable coping mechanisms. The natural shocks force the people to adopt the cropping pattern which some times is against their will. *Shallo* – a kind of wild oat originally meant for feeding livestock- is now covers considerable portion of the yearly-cultivated land. In some of the highland Kebeles it has reached to cover close to 10 % of the cultivated land in the year 2005/06-production season. As per the household survey result 32 % of the families in Mechella-Wertu Kebele grow *Shallo* in their agricultural field. This enlargement on land coverage has been seen in the past 30 years when the first time an individual ranch owner introduced the wild oat in to the area to feed his livestock. In the

midland parts the importance of *Shallo* is by far limited to livestock feed purpose, as these black cotton areas still believed to be more fertile in producing food crops than the highland parts. In spite of the continuous discouragement by professionals against *Shallo (*on the ground that it has poor nutritional value and not good for human), the peasants keep on growing it, as it is found to be more resilient to excess water, frost, pests and other natural problems. Besides, its voluminous straw upon harvesting is becoming highly useful as animal feed which is also getting scarcer from any other source. The straw from *Shallo* is now also replacing the grass, which is also on the decreasing trend due to the above vulnerability factors, in thatching houses. Barley, which is less resilient to problems of excess water and pest, is now leaving some of its place to this wild oat in spite of its much higher nutritional and economic benefit than the latter.

As one coping mechanism some people in the study area practice seasonal emigration to the eastern Shewa Zone of Oromia Region mainly in search of casual employment during harvesting time. This practice is limited to those youngsters and poor people who have very little option in generating income. Selling fixed asset is a coping mechanism during the lean period for about 7 % of the families covered by the household level study. At this point it is worth mentioning that selling fixed asset does not mean selling their important properties like house or land. Rather, as participants in the group discussions in both Kebeles reported, it means selling other rare household or personal items that can some how be converted in to cash. The discussion on this issue indicates that long-term livelihood security under no circumstance is not compromised to short term food availability/security.

In asking about the official food aid received by families to fill their food gap, 15 % of the studied households have replied that they had this experience some time in the past years. The number of families having such experience is higher in the highland Kebele (26 %) than the midland where only 7 % reported to have received aid.

5.3 LIVELIHOOD ASSETS

In the present study asset is broadly understood in line with the definition elaborated within the SLF. The framework broadly perceive asset, also referred as capital, as everything that goes towards achieving the best possible livelihood for oneself or a household (Messer and Townsley, 2003) As per SLF, these assets are divided into five different types. The diversity

and amount of these different assets that households have at their disposal, and the balance between them, will affect what sort of livelihood they are able to create for themselves at any particular moment. The following section assesses the status of these various forms of assets in relation to the existing vulnerability context, livelihood strategies and institutional arrangements in the study area.

5.3.1 Human Asset

Human capital represents the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives (DFID, 2001: 30). At a household level human capital is a factor of the amount and quality of labour available that varies according to household size, skill levels, leadership potential, health status, etc.

Human capital appears in the SLF as a livelihood asset and a building block or means of achieving livelihood outcomes. Its accumulation can also be an end in itself. This assertion comes from the recognition that ill-health or lack of education as core causes of poverty and thus overcoming these conditions is one of the primary livelihood objectives.

In the present study area attempt has been made how the human capital, as represented by the existing skill, knowledge, education, health status, access to information, etc., is functioning to achieve a livelihood objective. Brief assessments on each of these human capital components are given below.

i Education and Knowledge

As per the information from the Woreda Education Office, about 52 % of the Woreda people are unable to read and write, while 20 % have only the basic reading and writing skill. As per the result of the household survey, 64.6 % of the people living in both Kebeles found to have no reading and writing skill. In the highland Kebele the rate is found to be higher than the midland Kebele. The household data further reveals that out of the total, 14.3 % are at basic reading and writing level, 16 % at primary school level, 4 % at secondary level and the

remaining 2 % are reported to have more than a high school level education. The following table shows the educational achievements of the household members in the two Kebeles

Table 5.3 Educational achievements of household members

Educational Achievements of Household Members*	Bedeyo-Gimbichu		Mechella-Wertu	
	No. of Household Members	%	No. of Household Members	%
Unable to Read and Write	189	56.4	167	60.1
Read and Write only	67	19.9	45	16.2
Grade 1-4	18	5.5	29	10.4
Grade 5-8	55	16.3	21	7.6
Grade 9-10	6	1.8	8	2.9
Grade 11-12	0		3	1.1
Grade 12 +	0		5	1.8
Total	**335**	**100.0**	**278**	**100**

*** By considering household members above five years old**

Source: Household Survey, 2007

In considering the household heads alone, the survey finding indicates that 83 % of the female household heads are unable to read and write while 65 % of male heads are in the same position. As is the case in many parts of the country, female are in a more disadvantageous position than men in the human capital development process.

Within the livelihood framework analysis, such huge number of population having poor educational status has a strong bearing in accessing, creating and using other assets. Currently, the endeavor to address problem of illiteracy through an informal and adult education dissemination scheme is extremely limited.

As indicated above, the low enrollment ratio is not the end of the problem in building the human capital in the Woreda, rather the drop out rate is also another issue that is thwarting the whole knowledge dissemination endeavor. As per the data from the Woreda Education Office, close to 10 % of students annually drop their education mainly due to problems related to poverty and affordability. Migration, as triggered by low living condition, is also reported as another reason for the dropout. The poor educational status and the data on drop

out rate generally implies that the existing vulnerability context, as manifested in the form of economic shocks and subsistence level of production, is highly interfering in the human capital building process.

With regard to special skill training facilities, the Woreda has about 12 Farmers Training Centers (FTC) with 51 DAs. Since their establishment two years back, none of them has been in a position to give the expected training, though each has three DAs to teach the peasants. In a visit made to the two FTCs located in the two targeted Kebeles, it was observed that none of them has so far been functional. The Woreda officials said that there is strong coordination problem amongst different actors at different level of the government offices to make the FTCs operational. The early trial activity on some of them indicates that the schedule in the FTCs hardly fits the peasant's routine activities. The problem of fitting the timetable for the training session and peasants agricultural activities continue to be a big obstacle in making operational the training centers. Having peasants who could fulfill the minimum educational background (at least they should be graduates of primary level education) to attend the FTCs is also a problem. DAs unanimously reported that they are 'empty handed' to exercise their skill on the FTCs which are meant to transform the rural economy through the dissemination of knowledge. Woreda officials also implied that peasants in general are not that much enthusiastic and attracted to participate in the sessions.

The effectiveness of the DAs in the knowledge dissemination and building the human capital in the rural settings is extremely low and now function much below their intended job description. They are now more involved in activities related to other non-technical and administrative tasks within their respective Kebeles. The DAs are expected to be the only source of knowledge for improved agricultural practices and build the human capital within the peasant community. With the current agricultural development strategy they are expected to be the center of knowledge and information to mitigate vulnerability and diversify livelihood strategy of the peasants. Building the human capital through such strategy found to be in need of strong rethinking and coordination amongst all stakeholders to make the farmer training centers and the DAs appropriately functional.

In WuchaleWoreda there is also one multi-purpose skill training center located at the Woreda capital. The training center has a long history aimed at teaching the peasants on different skills so as to diversify the rural economy. Nevertheless, the teaching in the center is limited

only to tailoring by taking a maximum of twelve trainees yearly. Budgetary constraints forced the center to give training only on tailoring skill. Very small number of the graduates from the center so far managed to get a sewing machine to diversify their income in the rural areas. Hardly any monitoring and follow up is in place on these graduates as to whether they are practicing their skill or not. In spite of its long history, the center contributes insignificantly in building the human capital and diversify the income generation activities within the rural economy. The contribution of such centers can only be enhanced when they are well equipped, organized and become demand responsive.

Some of the above indicators tell that building the human capital through formal and informal educational interventions and skill dissemination in the Woreda in general and the two Kebeles in particular is highly related to the existing vulnerability context and poverty. Low enrollment and higher illiteracy rate and high dropout rate all are finding their causes on the existing poverty which in turn mainly explained by the existing vulnerability context discussed in the above sections of this write-up. Besides, livelihood diversification and promotion through skill upgrading and technological interventions have not been effective and successful.

ii Health

Wuchale Woreda by far exhibits the characteristics of a highland agro-ecology, which covers about 77 % of the total land area. In line with such agro-ecological distribution, the Woreda has hardly any threat from such problems as malaria which is the main development constraint in the lowland areas. Nevertheless, the Woreda is not free from other preventable health problems that are mainly caused by low living standard.

The household survey finding indicates that 80 % of the respondents use modern health service than the traditional ones. Due to the closeness of the research area to the major road network and town centers, majorities claim to reach the service in less than an hour walk. Accessibility is not a major problem compare to the quality of the service they get. The major problem is that the understaffed health facilities do not give adequate service. The household survey result indicates that 16 % of the families experienced a death of a child under five years old during the last three years, though 95 % of them reported to have anti –six vaccinations for their children. About 60 % of the families had a hygienic education with

majorities attending such sessions in their localities only for few times. Health improvement in the research area is being highly tailored to the existing vulnerability context. FGD held with women group indicates that under the existing subsistence crop production, which is extremely susceptible to all of the shocks mentioned earlier, children are extremely exposed to the malnutrition and other associated problems that basically emanates from underfeeding. Especially during the long food gap period the health problem of the children and women is extremely exacerbated. In some of the households such state of health persists for more than six months a year.

As already mentioned above, all households have at least a one month food shortage. In a school visited in Mechella-Wertu Kebele it was reported that underfeeding and malnutrition are part of the causes for frequent absenteeism and at worst for dropping the school entirely. The following table indicates the various coping mechanisms of food shortage.

Table 5.4 Coping mechanisms for food shortage

Coping mechanism for food shortage	Bedeyo-Gimbichu		Mechella-Wertu	
	No. of Households	%	No. of Households	%
Reduce quality of food	27	42.9	0	0
Reduce quantity of food	5	8.6	7	13.5
Reduce number of meals	11	17.1	16	32.4
Eat less preferred food	19	31.4	27	54.1
Total	**62**	**100**	**50**	**100**

Source: Household Survey, 2007

As can be seen above, all the reported food shortage coping mechanisms have a strong bearing on the health and welfare of the family members at large.

In terms of reproductive health coverage, the picture in the Woreda shows that there is an encouraging trend in using the family planning service being promoted by different governmental and non-governmental actors working in the area. Still, however, the coverage is not satisfactory compare to the immense problem being posed by the population pressure on the existing resource utilization in general and natural resource management in particular.

Data collected at household level indicates that 56 % of the household heads have some information or knowledge about family planning. About 30 % of the respondents replied that they or their spouse have used one or another form of family planning methods. Of those who are not using any method, 53 % give the need for having more children as their main reason for not using. Though this study did not undertake a comprehensive assessment on relation between resources utilization and population, the field investigation amply demonstrated that the current pressure in accessing cultivable land is highly exacerbated by the population explosion, though it should not be taken as the sole culprit for the problem. The conclusion is that the existing vulnerability can have its partial explanation from the uncontrolled population dynamics that leads to pressure on land and also to an 'irrational' competition over the existing meager natural resources.

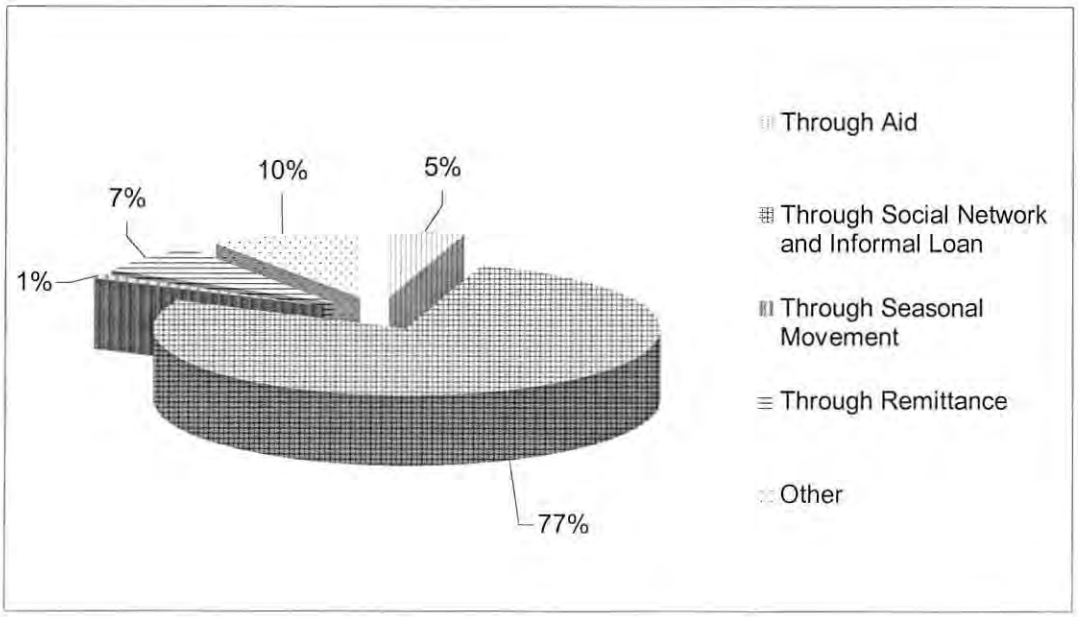
In a disclosure from the Woreda Health Office, HIV/AIDS is not cited as a major development threat in the Woreda. Though this needs cautious and detail assessment, the various HIV test results conducted on a campaign basis showed lesser number of positive cases compare to many other places in the country. In the recently conducted nation wide testing campaign (in 2006), six positive cases were reported out of the 780 tested individuals. This accounts less than one percent. In earlier times, prior to 2006, the number of positive cases found to be between 1 to 3 % of the total people tested for HIV/AIDS. The data may indicate that the Woreda is in a relatively safer situation compare to many places in the country. In spite of the fact that people in the Woreda are known for seasonal migration to other places in search of casual agricultural employment, the incidence of HIV/AIDS found to be not severe. Closer scrutiny may unravel further and different evidences. At this point, however, if the data reported thus found to be reliable in explaining the HIV/AIDS situation, one may say that the Woreda seems in a relatively safer condition in terms of the degree of blockage on human capital development process by this omni-present pandemic in Ethiopia. In relation to HIV/AIDS, the household data collected for the present study shows that 76 % of the respondents claim to have awareness on the issue. About 87 % of those who have some awareness believe that avoiding promiscuity and extra marital sex as the most preferable precautionary measure against contracting HIV/AIDS. Only 8 % reported condom use as the preferred cautionary measure.

5.3.2 Social Asset

Social capital is broadly taken to mean the social resources upon which people draw in pursuit of their livelihood objectives (DFID, 2001: 33). It includes networks and connectedness, membership in formal and informal groups, and relationships based on trust and exchange. In line with such understanding, attempt was made to see how far the existing social capital is functioning in relation to the existing vulnerability context, livelihood strategies and institutional arrangements in the research area.

In the study area there are both formal and informal connectedness, relationship of trust and exchange that have strong bearing to the existing vulnerability and livelihood strategy. Loan to individuals, who are in need of additional resource to fill the ever-present food gap, for instance, found to be one of the major social capitals that keep the social fabric intact within the existing vulnerability context. The following chart shows how far social networks and informal loans are significant in addressing the short-term food gap compare to the other alternatives. In both Kebeles the weight attached to the role of each food shortage addressing mechanism found to more or less similar.

Figure 5.2 Mechanisms in Addressing Short-term Food Gap



Source: Household Survey, 2007

All group discussants also repeatedly confirmed that higher number of those households with year round food gap mange to survive till the next harvest through loan from relatives and friends within the neighborhood, i.e. the role of social capital is very much important.

As in most parts of the country, most families (88 %) in both Kebeles are members of at least one informal association/ institutions as *Idir, Senbete, Equib, Debo or* in other formal cooperatives. The house-to-house survey conducted in the two targeted Kebeles indicate that 75 % of the households belong to *Debo* association, more than 85 % are members of *Idir*. Those who are members of *Senbete* constitute 35 %. About 15 % of the respondents are members of cooperatives. Few households (2 %) are involved in the traditional rotational fund raising scheme- *Equib*.

Idir is basically meant to address problem associated with bereavement and also during sickness. Those churchgoers in celebrating a particular saint may form *Senbete* which is regularly accompanied by rotational feasts hosted by members. Group discussants in both Kebeles informed that membership in *Idir* is usually taken as mandatory, as all within the community expects problems of sickness and bereavement in anytime in their lifetime. With regard to membership in *Senbete*, mixed feelings were reported by discussants. One group emphasis the decreasing trend of *Senbete* gatherings due to the ever-declining of living standard to throw regular feasts in the name of saints ought to be celebrated. The other group of participants, however, does not agree with the decreasing trend and see no change though they share the idea of declining living standard in their community.

Very small number of people from the household survey and participants of group discussion were found to be members of *Equib*, a traditional revolving fund collected from members and paid to individuals on a rotational basis. With regard to this particular financial connectedness, all participants in all discussion sessions agreed the declining trend of *Equib* formation in their locality, as it is entirely related to the capacity of individuals to generate financial capital. All agreed that *Equib* is now meant for those better off and for those involved in trading activities. Unanimity of opinion on the trend of *Equib* amply shows the declining subsistence livelihood pattern in the area. Sources of financial means are now highly constrained due to decrease in marketable surplus at household level and very limited off farm activities.

The role of remittance in subsidizing family income is not a common phenomena for most households inquired through the structured questionnaire. Nevertheless, during the in-depth interviews held with individuals living in the area it was indicated that some families are now sending their grown-up daughters to towns, as far as Addis Ababa, to serve as housemaids. For these families, connectedness created through remittances from these daughters is now becoming part of the coping mechanism.

Other connectedness in the form of agricultural labor or traction power exchange is quite common. Traditional practices like *Debo* (a kind of rotational labour exchange) is quite common by pulling together labour and draught power that belong to neighbors and close associates and to work on an individual farm plot on a rotational basis. Though *Debo* follows a reciprocal arrangement, there are instances whereby neighbors work for the resource-poor families who may not return equal support upon their turn. The latter kind of non-reciprocal gesture to resource-poor families is done based on intimacy and friendship and is not an economically motivated arrangement. It is under such kind of non-economic arrangement and motivation that the role of social capital is highly visible in addressing the vulnerability problems of the most disadvantageous group of people.

The research area exhibits huge number of landless people that are relying on different land acquisition arrangements that include share cropping through employing either their draught ox or labour on land owners. This arrangement is one major outlet for those landless households. According to the household survey result, about 16 % of the households in both Kebeles do not have their own land. Out of these landless families 65 % rely on share cropping arrangement to sustain their life within the existing subsistence agriculture. Access to land through share cropping arrangement found to be one major social capital that rationally working in addressing the problem of those landless and more vulnerable segment of the community.

Membership in more formal groups like cooperatives and development association shows that most rural households in the Woreda, about 65 %, are believed to be member of service cooperatives that are basically involved in the supply of agricultural inputs and other consumables. In the study area the survey result, however, shows lesser number of memberships; only 16 % of the households reported their membership in the formal cooperatives. In any case, currently membership is basically meant getting access to the

goods (agricultural inputs and consumables) in credit and hardly any other direct financial benefit in the form of dividend is reported, as all cooperatives are not in a position to draw profit. On the contrary, there are even arrears on members for failing to pay their debt on fertilizer loan.

Membership in milk selling cooperatives is becoming on the increasing trend triggered by the high milk demand from the modern processors. This is found to be one promising sector in diversifying livelihood and decreasing vulnerability. Nevertheless, as per the information obtained from the Woreda Cooperative Promotion Office currently in the entire Woreda there are only four milk supplier cooperatives with the total membership of less than 100 individuals. The total supply from these cooperatives to the milk collectors ranges between 130 to 150 liters per day. The scarcity of forage and improved hybrid is reported to be the main constraint in reaping the benefit from this sector. The household survey result indicates that people living in the two Kebeles own on average 1.98 cows per household. Cow ownership is better in the highland than the midland, as the highlands are believed to be better endowed with pastureland than the midlands. In any case, the ever-dwindling of the grazing land and forage production, as caused by the vulnerability factors repeatedly mentioned elsewhere in this document, the benefit from the livestock potential, especially milk, is not yet tapped to the desired level. Compare to the exiting high potential, still the attention given to the sector is not adequate except to some piecemeal efforts by different actors. Woreda officials repeatedly indicate poverty and risk aversion characteristics of peasants as a deterrent in expanding cooperatives around livestock development.

In analyzing the state of social capitals, like the ones mentioned above, one has to consider their emerging trend and relevance for the general livelihood situation. In this regard information collected from field shows that trust–based loan is still widely practiced, though the number of those creditors who could extend their hand in support of their resource-poor neighbor is dwindling from time to time. The dwindling of creditors is obviously the result of the decline of productivity in general and the diminishing of agricultural production that accrue to individual families in particular. On the other hand, engagement in capital building through such traditional scheme as *Equib* is almost recognized as the thing of the past and perceived as luxurious for most family heads contacted during the field survey.

5.3.3 Natural Asset

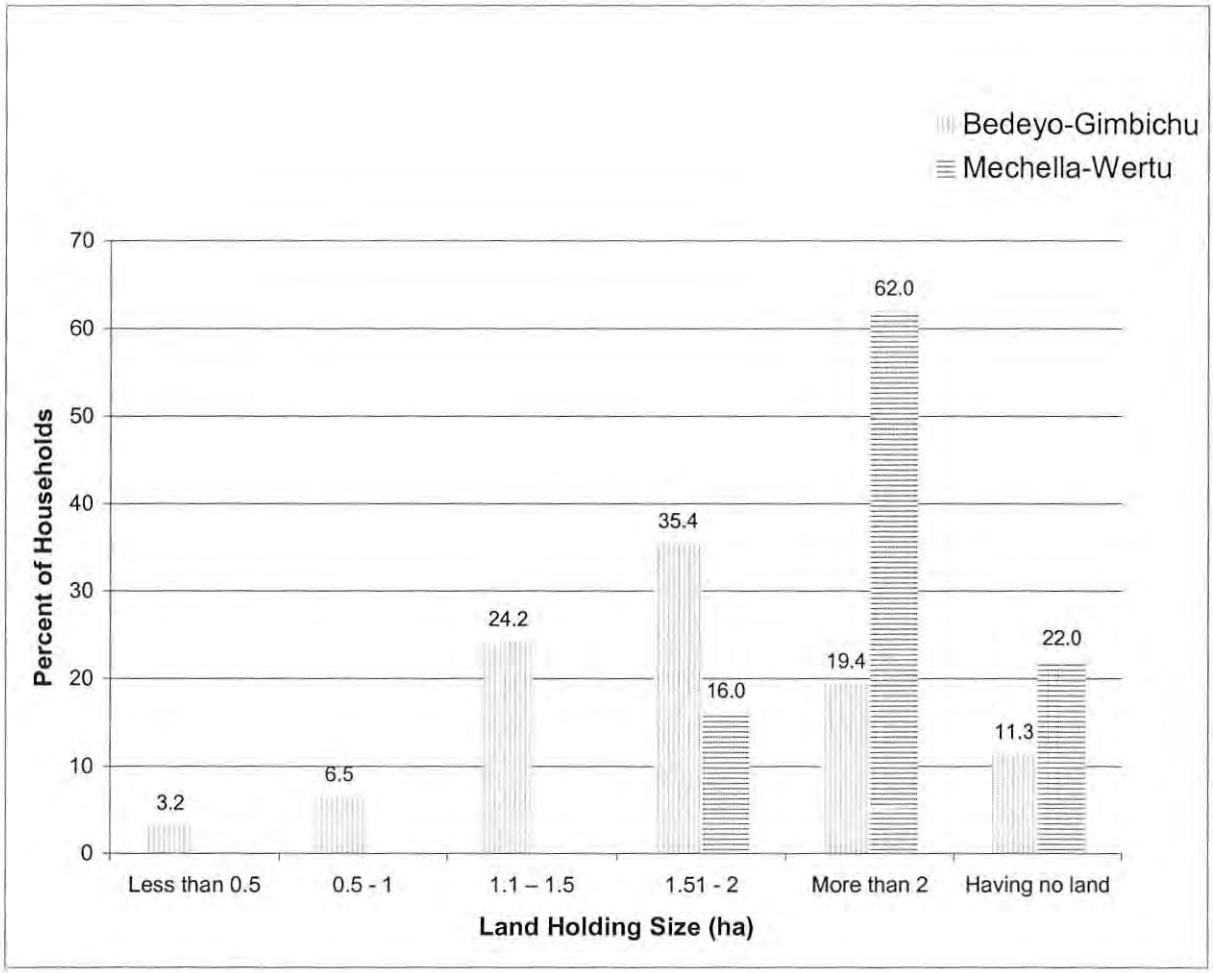
Natural asset basically refers all the natural resource stocks from which resources flows and services useful for livelihoods are derived (DFID, 2001). For rural people the natural capital includes such assets like land, water, forest, livestock and other natural endowments that have key significance in the overall production process and income generation endeavors.

i Land Resource

With regard to landownership at household level, the picture in the present research area shows the following evidences. Land, for all kind of uses, has now become the scarcest asset in the entire Woreda. All of the group discussions outcomes and the household survey findings adequately proved this phenomenon. Declining crop production was also explained as a function of the decline in the land size. Due to continuous land redistribution by parents to their newly- wed sons, land owned by individual families is on the decreasing trend. This is part of the equation that mainly explains the decrease in food availability and increasing the vulnerability.

Landlessness as a problem due to the absence of unoccupied cultivable land is the major problem. As the household survey result shown below indicates that in Bedeyo-Gimbichu families with no land comprises about 11 %, while in Mechella-Wertu it reaches up to 22 %. As per the data collected from the office of the DAs in the two Kebeles, landless families (by considering those households who do not pay annual land tax) constitutes up to 34 %.

Figure 5.3 Total Land Holding Size per Household



Source: Household Survey, 2007

As the above chart depicts, land ownership size at household level is better in the highland parts than the midland. Nevertheless, fertility of land is believed to be better in the midland parts. In the highland parts the role of livestock is better in subsidizing the household economy, as it has a relatively bigger size of land available for grazing purpose.

Currently increasing crop yield is mainly interpreted as a function of land size. This is mainly due to the fact that offsetting the decline of crop yield (as a result of land squeezing) through an intensification activity is also on the decreasing trend in those highly vulnerable and infertile localities of the research area. With regard to intensification through using modern inputs, data secured from the DAs office in Mechella-Wertu Kebele shows that in the year 2005/06 only 96 households, about 21 %, used fertilizer while the supply is much more than the demand. The risk of loosing the crops to such calamities as frost, associated with high

price, is now believed to be the major deterrent for low level of fertilizer use. In all discussion forum it was reported that the combined effect of the low level of input use and diminishing size of cultivable land is now becoming the major livelihood constraints for the subsistence peasants.

Issues around land fragmentation were one of the agendas discussed with the local people. On their part some community members forwarded their own rationales for land fragmentation. The main rational given was that fragmented land holding can minimize the effect of crop loss risk that would have been higher if land is found in one consolidated plot. On the other hand, studies conducted around the issue indicate the negative repercussions of land fragmentation for efficient land transactions and optimizing its economic benefit. In one study it is indicated that the average number of plots per holder for 0.81hectare average size of land holding is more than 3.3 plots. Given this situation, a person who wants to rent-in at least five hectares in one consolidated area has to negotiate up to 20 persons (Getnet, 2005:56). In the study area the land fragmentation picture for cropland shows that individual peasants have up to more than five plots dispersed in different location. The majorities have their land in four different places. The average cropland owned by individual households found to be 1.75 and 1.5 hectares for Mechella-Wertu and Gimbichu-Bedeyo respectively. Though these average cropland holding size indicate a relatively better situation compare to the finding of the other study just mentioned above, still it shows that fragmentation does potentially pose the mentioned constraint during any land transaction.

Table 5.5 Land fragmentations

Number of Plots	Bedeyo-Gimbichu		Mechella-Wertu	
	No. of Households	%	No. of Households	%
1	3	5.5		
2	4	7.3	3	7.7
3	14	25.5	5	12.8
4	34	61.8	13	33.3
5			12	30.8
More than 5			6	15.4
	55	**100**	**39**	**100**

Source: Household Survey, 2007

The general conclusion one can draw is that land, as one major natural capital, is getting scarcer while improving productivity through intensification is highly constrained by high price and risk factors. The sum effect is the ever-declining of livelihood situation for those subsistence peasants that highly depend on this major natural asset.

ii Livestock Sector

Livestock as one natural asset plays a significant role within the present mixed farming practices in the research area. Field observation indicate that cash income to be generated from the sell of crop is in a decreasing trend, as marketable surplus beyond the consumption is hardly available to most of the households. As per the household survey findings, in Mechella-Wertu 72 % of the respondents replied that they sell livestock or livestock product while only 36 % are selling crop. In Bedeyo-Gimbichu 84% sell livestock and livestock products while 76 % are selling crop. These figures broadly show that marketable surplus crop for most households is getting scarcer and livestock is serving as the major source of cash income.

The household level data shows that 95 % of the respondents in both Kebeles own livestock. As mentioned above, the ownership rate is higher in the highland part than the midland one. The average cattle ownership (ox and cow) was found to be 2.14 in Mechella-Wertu and 1.9 in Bedeyo-Gimbichu. In reply to question how they rate the role of livestock as a livelihood strategy, 42 % of the respondents in Mechella-Wertu confirmed it as significantly helpful. Only 9 % in Bedyo Gimbichu perceive livestock's role as significant. In both Kebeles about 70 % of families also reported to sell livestock products in subsidizing their household economy though it is to a very small extent.

Most respondents to the household questionnaire, 83 % in Bedeyo-Gimbichu and 48 % in Mechella-Wertu, complain about lack of adequate grazing land and forage as their main obstacle in improving the productivity of the livestock and tap the desired benefit from this potentially viable sector. Grazing land is mainly owned individually and each family who owns livestock need to reserve part of its land for forage purpose. The average grazing land owned by a household found to be 0.87 hectare in the highland and 0.53 in the midland. Common grazing land is hardly available except that there are lands with no clear ownership around villages where animal can hang around freely. Such land constitutes no more than 1%

in the two Kebeles. Due to land pressure there are alternate uses of land for crop and grazing land. The trend, however, is the declining of grazing land size, as land for crop production is very much needed. The two fold dilemma faced by peasants is that continuous encroachment to the ones designated land for grazing is not necessarily counterbalanced by increasing crop production or decreasing vulnerability to food shortage, as crop production is also being compromised by other threats than land size alone. One can, thus, conclude that encroachment on grazing land is not benefiting the crop sector other than perpetuating the subsistence farming economy.

During the group discussions and in-depth interviews held with local informants, it was learned that ox and sheep fattening is being practiced as one major outlet in generating cash income and decreasing dependence on the existing fragile crop production. Despite these encouraging trend in diversifying income base, peasants participating in such ventures do not get adequate support. Discussants passionately reported the big merit being drawn from the fattening activities, though startup capital and animal feed remain to be big constraints. At this point one can say that availing credit facilities, with less conditionality, is the reasonable way for promoting this strategic outlet and minimize the threats from various vulnerability factors.

Group discussions with different stakeholders confirmed the above situation. In one particular discussion held at Mechella-Wertu it was disclosed that even payment to fertilizer debt in many cases is generated from the sell of livestock than crop, as the latter is susceptible to complete damage by frost or excessive moisture prior to the harvest. In spite of its growing role in generating cash income, the attention given to the livestock development is so inadequate by both the peasants and other development actors. There is still big inclination towards expanding the extension service on agronomy and crop than to livestock sector, in spite of the fact that the latter is now less vulnerable to natural havocs than the former in the entire Woreda in general and the researched Kebeles in particular. Clinging to the traditional extension package that emphasizes crop was found to be one main obstacle in promoting the role of livestock in the area. The data secured from the Woreda Agriculture and Rural Development Office are proving this biased extension approach. In the entire Woreda only four extension workers have received training on diary farming while 31 peasants have received some kind of related orientation in an ad hoc basis. Though there are also DAs, specialized in livestock, assigned in most of the Kebeles, they are not in a position

to exercise their skill and disseminate the knowledge to the expected level. Their task is very much limited to an intermittent theoretical lecture on the issue in rare instances. Practically no extension package was also seen in addressing the feed problems for livestock, though it is repeatedly cited as the major livestock development constraint in the area.

Low productivity of the livestock sectors is also manifested by the huge number of local breed types owned by the people. The data from the Woreda Agriculture and Rural Development Office shows that out of the total cattle (cow and oxen) owned by peasants in the Woreda, less than 15 % are improved breed. The largest majorities own the local breed, which have extremely low level of productivity compare to the improved ones. In introducing improved breed earlier demonstration aggressively started by NGOs is not getting momentum after the time-bounded project terminated. A lot of informants regret the discontinuity of the project idea that could have made a difference in the livestock sector in general and milk production in particular. Though pieces of attempts have now started to improve the livestock sector by both governmental and non-governmental actors, most are in their nascent stage. Sustainable and aggressive livestock development package need to be in place, rather than thinking of project-based demonstration alone, so as to decrease vulnerability of the area that mainly caused by excessive dependence on the existing subsistence crop production. Especially, with the current scarcity of cultivable land, intervention on livestock development could be one niche in preventing the landless segment of the community from falling in to complete destitution.

iii Natural Resources

Natural resources, as one natural asset, covers wide areas that includes natural vegetation cover, mineral, soil, water, air, etc. In this paper the writing is confined to the assessment of limited natural resources that were found to be more relevant to the present research area and to the current livelihood situation. The status of natural resources in the study area is characterized by infertility of soil, depletion of the natural vegetation and degraded land cover. The situation of soil amply indicates how far the land is exhausted due to the incessant cultivation and grazing without putting in place the appropriate regeneration mechanism. This situation is well realized by all discussants in all of the group discussion sessions. Infertility and exhaustions are strongly believed by all informants as the major culprit behind the ever- declining trend of crop and livestock productivity. The practice of fallowing was

mentioned as a thing of the past and hardly seen these days, as people cannot afford to leave their land idle for a single agricultural season. The absence of fallowing compounded the problem of infertility through exhaustion.

The ones valued practice of burning the soil, locally known as *Ghay*, to 'maintain fertility' is no more being performed. This is due to the absence of fallowing that should traditionally precede *Ghay* practice. As a tradition peasants in the area reported that a series of fallowings are required on a particular land before burning the soil under their *Ghay* practice. According to the local informants, land scarcity and the abandoning of the various traditional soil regeneration practices, like fallowing and *Ghay*, are threatening their basic livelihood source, i.e. the production of crops. As elaborated above, maintaining or regenerating fertility through the artificial fertilizer is now becoming problematic due, mainly, to the high price of the input. In a heated and passionate discussion around this issue, all participants were quite pessimistic about how to maintain fertility of land so as to sustain their current subsistence livelihood let alone increasing productivity.

In reply to question as to what methods are being used to conserve the private land from further degradation, high number of respondents reported that they do not do any thing despite the recognition of the problem as the main causes of land infertility. The following table shows the major conservation practices currently carried out by the surveyed households.

Table 5.6 Conservation Practice

Conservation practice	Bedeyo-Gimbichu		Mechella-Wertu	
	No. of Households	%	No. of Households	%
Farm terracing	24	38.7	5	10.0
Planting trees	25	40.3	6	12.0
Check dam	1	1.6	7	14.0
Trench			5	10.0
Nothing	12	19.4	27	54.0
Total	**62**	**100.0**	**50**	**100.0**

Source: Household Survey, 2007

As the above table depicts the majorities in the highland (54 %) hardly do any thing to conserve their land. On the other hand those who claim to conserve land through the tree plantation seem mainly attracted by the commercial purpose of the trees (mainly eucalyptus) than the need in conserving the land.

Forest or vegetation cover as one major natural capital in the research area is extremely threatened by the ever expansion of the crop and grazing land. Data from the Woreda Agriculture and Rural Development Office shows that the area covered by tree or vegetation constitute only 1 %. In the two Kebeles the situation is no different. In both Mechella-Wertu and Bedeyo- Gimbichu the area covered by vegetation is a little more than 1%. The household survey result, as shown in the preceding sections, indicates that the average land size allotted for tree plantation in both Kebeles is about 0.24 ha of land per household. The natural vegetation coverage has vanished at an alarming rate and now the eucalyptus tree remains to be the main species covering almost all the planted areas. As already mentioned, eucalyptus tree plantation is mainly motivated by its commercial use than any other merit for conserving the natural environment. In relation to forest, as one major natural asset, the Woreda in general is in a very disadvantageous position as fertility of land is being highly compromised by this state of affair. Thanks to the flat topography (constitutes more than 60 % of the land area in the Woreda) that is believed to be mildly affected by erosion problem than it would have been the case with hilly and rolling land types.

In trying to see how far natural asset is being built by soil and water conservation practices, this research briefly addresses its situation. All informants in all of the discussion sessions boldly expressed that the attempt to build natural asset through conservation measures is not adequate and effective, though piecemeal attempts are being tried by governmental and non-governmental actors in the Woreda. Currently in the entire Woreda the soil and water conservation activities are limited to five Kebeles qualified for safety-net programs while the problem is rampant across all parts.

Informants from government and non-government offices repeatedly mentioned lack of awareness and public participation as the main problem that deters these activities. Discussions the issue with the public, however, reveals that there is awareness on the merit of the soil and water conservation activities. Why there is lack of participation and enthusiasm is the issue that deserves further inquiry. In an attempt to unveil some of the reasons for low

participation, the mechanism being employed by different actors in engaging the public in such activities found to be one major cause. People in the area sensed a kind of double standard adhered by development actors. The people who are embraced in the safety- net programs are working through some kind of remuneration while those out of the scheme are expected to work without direct benefit. Such arrangement is somewhat creating unwanted precedence for low participation in those localities outside the safety-net scheme. The conclusion given here is not to counter the safety-net scheme in its entirety, rather to indicate its emerging repercussion around the issue of public participation.

Generally, the state of building natural capital through conservation practices is extremely poor and continues to be a threat in exacerbating vulnerability and perpetuating poor livelihood condition.

5.3.4 Physical Asset

Within the SLF physical asset includes basic infrastructures and goods that are needed to sustain livelihood. Infrastructures like personal shelter, road and transport services, water supply and other socio-economic facilities fall within physical asset category. They play a major role in addressing issues of poverty and livelihood in general. Thus, within SLF assessing their status and how they are being accessed and function is very important in analyzing the interlink amongst vulnerability, existing institutions and the livelihood strategy people are following. For instance, how people are accessing such services as road and transport facilities has a bearing in their vulnerability status and coping strategy. Having proper shelter is also essential for sustainable livelihood. Besides, lack of particular physical asset, like proper house, is a core dimension of poverty. In line with such perception this research tried to see physical assets and assess their link within the broader livelihood situation of the targeted area. In accessing the various social services the picture emerged from the present research broadly looks as follows.

With regard to house ownership the house-to-house survey result shows that 65 % of the families in Bedeyo Gimbichu lives in grass thatched roof houses, while in Mechella- Wertu households having such houses constitute 96 %. The remaining smaller portions of the households in both Kebeles live in houses with corrugated iron roof. If house type is taken as

one indicator of living standard, there are more poor people in the highland than the midland. Except very few families who live in rented or other's houses, the greatest majorities (more than 97 %) in both Kebeles reported to have their own houses.

In terms of access to safe water supply, data from the Woreda Agriculture and Rural Development Office shows that currently about 40 % of the total population believed to have access to safe water system that includes borehole, shallow well and developed spring. In comparison to many other parts in the country, the indicated water supply coverage seems better, though more than half of the population is still unable to get safe supply. The relatively better coverage is now attributed to the heavy involvement of NGOs in the water supply development in the Woreda. The findings from the household survey in the two Kebeles shows that 66 % of the respondents claim the water they use as safe while the remaining 36 % said that their source is not safe. In terms of the time spend on water fetching and transporting, 93 % of the households in both Kebeles reported that it takes them less than an hour including the possible queuing time. In relation to the two indicators just mentioned (quality of water and time spent), there seems some progress in addressing the water supply problem which is very critical in affecting the entire welfare of the community in general and women and children in particular. The field observation in to some of these developed water system, however, indicates that sustaining these facilities in the future would be one foreseeable bottleneck. The right institutional arrangements to sustain the activities are not that much strong and needs further strengthening and support from other governmental and non-governmental stakeholders

With regard to access to road, the data obtained from the Woreda Administration shows that there is a 126 km road network of different grade within the Woreda boundary. From the total road network, 71 km is categorized as all-weather road and connects 40 % of the Kebeles within the Woreda while the remaining 55 km serves only in dry season. This explains that about 1.28 km road serves 1000 people while there is around 0.25 km road per km^2 within the Woreda boundary. In the two Kebeles under consideration access to road facilities to most residents is found within relatively short distance. About 67 % of the families said that they reach to the nearest market in less than an hour walk. Deep in to inner parts, however, transportation is the main problem that puts some restriction on people's movement. In asking as to what means of transportation they use, 75 % replied that they walk, 19 % use pack animals and only small portion, 6 %, use vehicles. Generally, one can

conclude that as the above two road density indicators shows there is still a need to build this important physical capital thereby partly addressing the vulnerability and livelihood problems, as access to road eventually improves choices and diversification.

Market outlets and services are major physical assets that have strong implications on the over all livelihood situation. In the researched Kebeles and the Woreda in general it was found out that marketable items that originate from the area are quite limited to some agricultural products. Declining production attributed to the already mentioned factors does not allow the majorities of the peasants to produce adequate yield for their consumption, let alone for marketing. As the data from the household survey shows that the income accrued from crop production for most households is in continuous decline and become insignificant while income from the sell of livestock is now becoming the major source of cash income. In the discussions held with communities and individuals in both targeted Kebeles, access to market facilities was not mentioned as a series problem; rather the absence of marketable crop surplus is the main inhibiting factor in reaping any benefit from the market.

5.3.5 Financial Asset

Within the SLF the financial asset refers to all financial resources that people are using in order to achieve their livelihood objectives. The capital could be in the form of stocks and flows. The stocks can be held in the form of deposits and convertible assets like livestock and other assets. The inflows include earned income, remittance, pension or any other transfers. Formal and informal credits are also sources of financial capital. In rural settings, financial capital is basically expected to be drawn by converting the farming products in to cash to meet some of the demands. The implication here is that the presence of marketable surplus, both in crop and livestock, is the main source of financial capital. Compare to all other assets/capitals/ discussed above, financial capital is the least available one to the poor people.

The main source of the financial asset in the researched area is the cash to be generated from the sell of meager agricultural products, as the other forms of non-agricultural sources are very much limited. Income from the sell of livestock and its products is now covering most

of the cash demand. The following table shows the prime sources of cash income as reported by the respondents.

Table 5.7 Primary sources of cash income

Primary Source of Cash Income	Bedeyo-Gimbichu		Mechella-Wertu	
	No. of Households	%	No. of Households	%
Selling Crop (as a primary source of cash income)	33	53.6	15	30
Selling Livestock	24	38.4	26	52.4
Off farm	0		3	6
Working in other places	1	1.6	4	8
Selling Crop Residue or wood	4	6.4	2	3.6

Source: Household Survey, 2007

As the above findings indicate that only 30 % of respondents in the highland Kebele reported crop selling as their primary source of cash income. Lesser number of households relying on crop as source of cash is more pronounced in the highland where production is very much lower and dwindles due to high vulnerability to frost and soil infertility problems. The findings also revealed that the average yearly earning per household from the sale of crop in the highland Kebele is around Birr 819 while the average earning from the sale of livestock is Birr 1011. Number of households taking crop as their primary cash source is higher (53.6 %) in the midland. In both Kebeles very limited number of families draw cash income from other sources. In line with this trend, those with small size of land and livestock generally lack financial capital. Livestock resources are found to be the major convertible assets for most households, though its convertibility is not free from problems as it is dictated by seasons and occasions.

In reply to question as to how they spend their financial income, 50 % of the studied households in both Kebeles replied that they use their biggest portion of cash income for buying food items. With regard to spending pattern, variation also observed between the two agro-ecologies. In the highland Kebele about 88 % and in the midland only 19 % of the families reported that they spend the bulk of their cash income over food. In the midland part, where there is higher agricultural input use and relatively better fertility, 39 % of the households reported that they use most of their cash income to repay their loan for inputs.

With regard to credit, as the other source of financial capital, information secured from the office of two Micro Finance Institutes (MFIs) operating in the Woreda indicates that by the end of December 2006 about 4923 households (which form around 30 % the total households in the Woreda) were on the roaster lists. The average loan given for these households was found to be Birr 1051. In seeing the number of households who secured loan, one may perceive it as a good achievement. Nevertheless, all previous research in the micro finance credit scheme indicates the targeting problem whereby there is a big chance for leaving out the poorest and destitutes from the credit service. Besides, in a FGD held with women groups it was mentioned that as loan takers do not have adequate information on markets and feasibility of the venture they would be involved there is a tendency to end up in loss. The survey result of the present study shows that 68. 2 % respondents in the two Kebeles take loan from different sources. In Bedeyo-Gimbichu the number of loan takers reaches 70 %, while in Mechella-Wertu it is 66 %. Of those who take loan about 73 % in the highland part, use the loan to buy consumables and mainly to fill the ever- present food gap between harvesting seasons. The situation in midland varies in that while lesser number of households use loan to buy consumables the higher number of households take loan for buying agricultural inputs.

Table 5.8 Purpose and source of loan

	Bedeyo-Gimbichu		Mechella-Wertu	
A. Purpose	**No. of Households**	**%**	**No. of Households**	**%**
To Buy Agricultural inputs	27	67.5	5	15.1
To Buy/get/ Consumables	9	22.5	24	72.7
To Buy Fixed Assets	3	7.5	3	9.0
Other	1	2.5	1	3.03
Total	**40**		**33**	
B. Source				
Micro Finance and other formal sources (like from cooperatives)	22	55	9	27.3
Local Lenders	9	22.5	8	24.2
Friends/ Relatives	9	22.5	16	48.5
Total	**40**		**33**	

Source: Household Survey, 2007

Data on the source of loan show that majorities (48. 5 %) in Mechella-Wertu reported that they secure loan, mainly in the form of grain, from relatives or friends. Smaller number of people in the highland are securing loan from formal institution to buy agricultural inputs, as they are more vulnerable to crop loss that discourages them to buy fertilizer and other inputs on credit. On the other hand, for the majorities in the midland the main source of loan is formal organizations and is meant to buy non-consumables and agricultural inputs.

As field observation adequately inform the researcher that loan as a source of financial capital has some encouraging sign by enabling people to start such activities like fattening and trading. Many discussants in the various forum commend the merit of credit in addressing poverty. Nevertheless, the poorest segment of the population are still left out by the credit scheme, as they are less qualified compare to the better-offs. In alleviating the issue of vulnerability and poverty through credit service, a lot of effort is still required to reach the poorest and marginalized ones.

6. INSTITUTIONS AND LIVELIHOOD STRATEGIES

6.1 INSTITUTIONS

This subsection mainly presents the research findings on the existing formal and informal institutional arrangements and how they interact with the other livelihood components. At the very beginning of this write-up, institution was clearly defined as all rules of the game in a society or formally it is meant the humanly devised constraints that shape all human interaction. At this point its difference from the term organization is also need to be well understood. The difference lies in that institutions represent rules of the game while organizations are broadly mean to signify the collectiveness of the players in the game (North, 1990: 5). Organizations represent the structure while institution meant to refer the process that basically includes the regulations. The present institutional analysis also addresses the organizational aspects as deemed necessary and relevant to the study at hand.

As institution meant to signify broad issues that ranges from such power based relation as gender, age and class at the very grass root level to macro level policies and regulations, it is not possible to address all of such subjects under one umbrella, i.e. institution. Confinement found to be essential to treat those that are more relevant and important in explaining the livelihood situation of the research area. The following paragraphs discuss institutional issues, ranging from gender relation up to some formal government activities, as they are related within the whole livelihood situation of the study area. Emphasis is given to how access to assets are conditioned by institutions which in turn interplay with vulnerability and livelihood strategies.

6.1.1 Access to assets

Access to asset is one critical area that is conditioned by institutional arrangements at different level. Access to such important asset as land is believed to be affected by such power relation formed along sex, age, class and caste categories. With regard to how gender difference affects access to land, various informants confirmed that access to land for women is not prohibited upon the death of the husband. This was also again reconfirmed by the household inquiry where 93 % of the respondents replied that women's entitlement for land

is not violated upon the death of the spouse. On the other hand, what is commonly agreed is that when daughters married to other households it is less likely to share land from parents. Rather, sons are only expected to share land when they establish their own families, as land from any other source is hardly available.

With regard to current land ownership, of the total female-headed households in the two Kebeles 25 % were found to be landless, while 13.6 % of the male-headed households were reported to have no land.

Table 6.1 Land ownership by sex

	Male-Headed Households		Female-Headed Households	
Do You Have	Yes	No	Yes	No
Your Own Land?	86.4 %	13.6 %	75 %	25%

Source: Household Survey, 2007

Compounded with other socio- economic factors women-headed households seem to be more vulnerable due to the high incidence of landlessness as indicated in the above table. In proportion to their number, the number of female-headed families devoid of this basic natural asset is considerable. The conclusion is that being a woman is not a prohibiting factor in inheriting land upon the death of a spouse. Landlessness, however, found to be more pronounced amongst female-headed households than male-headed ones, implying more exposure to shocks and problems.

The field inquiry informs this research that access to such assets like land is not conditioned along caste lines. Hardly any household reported the existence of segregation along caste lines that have a bearing in the vulnerability status of the people.

Due to excessive shortage of cultivable land, access to it is mainly available through other traditionally and economically institutionalized arrangement than any other formal way. The field inquiry demonstrated that land for newly established families could only be secured through such traditional arrangements like land sharing by parents to children, inheritance, sharecropping and rent. These well-institutionalized informal arrangements are the main outlets for individuals in acquiring land for cultivation. Allotment of cultivable land by the

local authorities to new requests is no more entertained, as there is hardly any unoccupied land.

As already mentioned, 84 % of the 112 families covered by the house to house inquiry in the two Kebeles claims to have land while the remaining portion do not have. Information gathered from DA offices and various discussions, however, depicts a worse picture of landlessness in the Woreda at large. It is for this large number of disadvantageous families that the various traditional arrangements mentioned above enables to secure land and means of livelihood. The findings from the household level inquiry also shows that about 65 % of these landless people get access to land through share cropping arrangement while around 30 % through some forms of renting. The remaining small number of families, about 5 %, reported other informal ways that was not explicitly disclosed. Discussion on these various forms of land transaction highlights how the traditional and informal institutions are playing their part in maintaining livelihood strategies and also decreasing vulnerability to such huge number of landless families. However, the field investigation further highlights that there are people who are in no position to involve themselves in cultivation through sharecropping, renting or any other informal arrangements. Some poor households were found to have hardly any access to cultivable land through any of the land transaction arrangements just mentioned. Such categories of people were reported to be the most marginalized and vulnerable compare to any other families.

Access to such assets like human and financial capital is also varies along gender and class lines. In this regard ,access to education (human capital) and credit (financial capital) is worth mentioning. The household level survey result indicates that Some 47 % of the households in Bedeyo-Gimbichu and 31 % in Mechella Wertu do segregate their children in sending them to school; of which majorities (54 % in Bedeyo- Gimbichu and 59 % in Mechella-Wertu) prefer to send boys than girls, implying lesser opportunity to girls in building their human capital.

Table 6.2 Preferential Treatments of Children in Sending to School

		Bedeyo-Gimbichu		Mechella-Wertu	
		No. of Households	%	No. of Households	%
A. Do you segregate your children in sending them to school?	Yes	28	47.5	15	31.2
	No	31	52.5	33	68.8
	Total	**59***	**100**	**48***	**100**
B. Which one you prefer to send?	Boys	15	54.3	9	58.8
	Girls	13	45,7	6	41.2
	Total	**28**	**100**	**15**	**100**

* Three families in Bedeyo-Gimbichu and two families in Mechella reported to have no children

Source: Household Survey, 2007

The FGD held with women group also confirm the segregation in favor of boys mainly amongst resource-poor families. Though the data secured from the Woreda Education Office shows a less pronounced variation on school enrollment along sex lines, the household survey findings exhibit some preferential treatment over children's schooling. The bottom line is that women remain to be les skillful and less exposed in building their human capital and at the same time will remain less resilient to vulnerability.

Data on access to financial capital through credit or loan reveals some variation along such institutionalized factor as gender. More than 30 % of the female-headed households inquired by the household questionnaire replied that they had never taken any financial loan from formal and informal (friends and neighbors) sources. Though data obtained from the two MFIs operating in the Woreda indicates that women members form more than 50 % of the total, there is strong doubt as to whether the poorest women are embraced in the existing group-lending scheme. There is a tendency to bypass those marginalized and resource-poor female household heads. Nevertheless, in interviews held with women loan takers and concerned officials it was indicated that there is a growing trend for credit and loan service that start making significant difference amongst those beneficiaries. The general conclusion drawn on the issue is that credit and saving could be one very important outlet in decreasing the existing rampant vulnerability, provided additional measures are introduced by the formal lending agencies to include the most marginalized segment of the community that mainly meant the inclusion of the isolated women households, landless and the poorest of the poor.

As per the information from the Woreda Health Office, most of the health threat in the area are preventable and can be treated at the lowest health facilities. The existing health facilities are poorly equipped and staffed to deliver the basic health services. Distance and location of the health services are also major constraints in accessing the service. Access to health services is not that much varies along such institutionalized factors as gender. The inadequacy and distance affects all community. Women's disadvantageous position is mainly seen when one assess issues around reproductive health facilities. Bigger family always disproportionably affects the welfare of women than men. This was repeatedly mentioned in the discussion forum conducted with women groups. About 30 % of the families responded to the household questionnaires also indicate that women do not have a say in determining the number of children that the couple would like to have. Such phenomenon clearly implies the disadvantageous position women have in terms of their health and welfare.

The above intra-household variation in health status entails more vulnerability and less resilience to any potential shocks by women than men. Besides, it disempower women to exercise any control over the population explosion problem that is now considered to be one main factor in exacerbating vulnerability. Various informants reported the higher mobility rate amongst men than women. This movement forces women to shoulder more family responsibility while their spouses are away from home.

6.1.2 Asset Building/Destruction and Institutions

In the literature review part of this study it was mentioned that the existing vulnerability context and institutional arrangements do impinge on the asset creation or destruction process within a given locality. Shocks and seasonality, which are the main vulnerability factors, erodes the asset level and pushes vulnerable people to poverty and destitution. This issue in the research area is already discussed in detail in the previous chapter that deals with vulnerability. In this sub section the attempt is to see how far some of the exiting institutional arrangements, rules of the game, do interplay with the asset creation or destruction process. The issues treated include property rights, formal government or non-government involvements, informal institutional process and their interaction with the creation and destruction process that eventually lead to the general understanding of the livelihood condition within the premise of SLF.

Property right, which is one institutional issue, usually mentioned as a major factor in affecting the asset creation/destruction process. Accordingly, the present research has also tried to see briefly the issue of property right and its relation with the existing vulnerability context and livelihood condition. In discussions held with the peasants living in the two Kebeles, attempt was made to gauge their attitude on the existing land rights and their asset creation endeavor. For most participants identifying the exact linkage between the two was found to be difficult. In the house-to-house inquiry, asking about whether the present land holding system, where they only have the usufruct right, is exacerbating their vulnerability problem, majorities (more than 80 %) could not identify any linkage. One conclusion drawn from this inquiry is that since the area has no experience with land redistribution by the government, it was difficult to determine their attitude as to whether they feel secure or not under the current landholding regime. On the other hand, in a discussion held with some professionals working at Woreda Agriculture and Rural Development Office it was mentioned that sense of ownership in caring and developing land is low and this is believed to be partly attributed to the current land rights people have.

According to some officials working in the Woreda Agriculture and Rural Development Office, the ongoing land certification process in the area is expected to boost the sense of land ownership to a considerable extent and hence more involvement in land development and improvement activity. A comparative kind of analysis between areas with and without land redistribution experience would have resulted a better outcome than the present research which tried to touch the issue slightly as part of the general investigation on institutional issues. The bottom line is that the issue deserves much broader investigation and this research could not reach to any concrete conclusion as to whether the present land tenure is a factor in the asset creation or destruction process within the overall vulnerability and livelihood situation.

With regard to natural resource development (building natural capital through such measures as soil and water conservation), it was observed that the activities are extremely limited and unsatisfactory. This observation is widely shared by all governmental and non-governmental bodies contacted during the field investigation. The various soil and water conservation initiatives have so far yielded very little success stories. All are far below meeting their destined objective and this is usually blamed on the lack of awareness on the part of the local people. At this point one may again argue whether or not the existing land tenure regime

(state ownership) is the underlying cause in creating the disincentive structure for the public in conserving their land and soil. As indicated above, this is a big point of contention for all practioners and academicians. Nevertheless, close to 20 % of the total respondents (of the 112 households, in both Kebeles) reported to have no interest in doing any of the soil and water conservation measures, despite their bold recognition to the problem of erosion and degradation in their area. The number of households with no involvement in conservation measures found to be higher in the highland Kebele than the midland one.

Table 6.3 Attitude on conservation practice

Do You Practice any of the conservation measures?		Bedeyo-Gimbichu		Mechella-Wertu	
		No. of Households	%	No. of Households	%
	Yes	45	72.6	33	66.0
	No	17	27.4	17	34.0
		62	**100**	**50**	**100**

Source: Household Survey, 2007

Of those who do not do any of the conservation measure, about 65 % replied the absence of direct and compatible return as their major cause for not doing the conservation activities. Though the number of households who are not involved in conservation is considerable, information drawn from group discussions on the other hand implies the existence of awareness on the strong relationship between conservation and crop yield. They reported that their cultivable land is so much exhausted and presumed to be beyond recovery. The conclusion is that the absence of immediate and visible reward is now forming the major part of the disincentive structure, as revealed both in the household and group level inquiries. Besides, a number of peasants also complain on the inappropriateness of some of the conservation structures on their agricultural land which is now continuously shrinking in breadth and length.

Asset destruction is more conspicuous when one sees the existing status of the natural resources that are very much depleted, exhausted and in some spots degenerated in to complete infertility. How far the existing land right is perpetuating the problem of natural resource degradation needs very close scrutiny. This research tried to assess it softly and achieve hardly any significant conclusion due to the need for in-depth analysis that goes beyond the present objective of this study. In general, however, the study finding can lead us

to conclude that the natural resources degradation is somehow related to the existing incentive, motivational and attitudinal structure of the local people.

With regard to formal institutional arrangements and asset building/destruction status, this study has assessed government-sponsored scheme aimed at rehabilitating the natural resources and building other physical capitals like roads and water supply services. The widely known safety- net and food security program are now believed to be major means of building these natural and physical capital while at the same time addressing poverty problems through extending some support to the most needy and marginalized section of the population. The field investigation, however, identified some unwanted repercussion by such programs. In an informal inquiry it was disclosed that many people start to associate the natural resource conservation activities with some kind of external assistance. Those assumed to be better-off people and not entitled to any of the safety-net or food for work benefit were reported to be less motivated to involve themselves in any natural resource rehabilitation/ asset creation/ activities in their locality. This state of affairs is now becoming a big challenge for both governmental and non-governmental actors who are expecting voluntary and free labour contribution in their natural resource rehabilitation program.

In trying to assess the linkage between some customary practices with the existing asset creation or destruction process this study has posed a number of questions to local people. The questions are basically to know how traditional 'harmful' practices interplay with vulnerability and livelihood situation. In this regard, findings from the present study shows that 68 % of the households in both Kebeles do not believe the existence of any harmful traditional practices that aggravates their current vulnerability to shocks and other problems.

Table 6.4 Perception of 'Traditional Harmful Practices'

		Bedeyo-Gimbichu		Mechella-Wertu	
		No. of Households	%	No. of Households	%
A. Do you believe that there are 'harmful traditional practices'?	Yes	23	37.0	13	26.0
	No	39	63.0	37	74.0
	Total	**62**	**100**	**50**	**100**
B. If there are 'harmful traditional practices' which one of them affects you negatively?	Feasts	16	70.0	9	69.2
	Early Marriage	3	13.0	2	15.4
	Witch Crafting	4	17.0	2	15.4
	Total	**23**	**100**	**13**	**100**

Source: Household Survey, 2007

Of those who reported on the existence of harmful practices in both Kebeles, 64 % believed the pervasiveness of resource abuses on occasions in celebration of religious and other cultural events which to some degree stiffen the impact of vulnerability. Though resource abuses on celebration is reported in both Kebeles, the group discussions inform that it is more pronounced in the midland Kebele than highland. This is partly explained by the fact that those who live in the midland are assumed to be in a better position with regard to fertility status and crop production.

6.1.3 Role of Government /Non-government/ Organizations

This part of institutional assessment tries to see how the various governmental and non-governmental supports are functioning in addressing the issue of vulnerability and livelihood promotion in the study area. Such kind of assessment at formal organizational level has been done under the premise that rules, regulation and the accompanied development interventions do impinge on the livelihood of people for better or worse. Accordingly, through a series of discussions held with local level development actors, both governmental and non-governmental, assessment was done on how the existing vulnerability and livelihood problems are being perceived and addressed.

As mentioned in chapter two, the entire Wuchale Woreda is designated as one of the food insecured area in Ethiopia. Different interventions have been tried to address the issue of vulnerability and promote livelihood. Government-sponsored agricultural extension packages have been in place since long time ago. Non-governmental actors have been involved through various interventions ranging from activities on home economics up to natural resource rehabilitation. The issue is how far all these endeavors brought about change and reduce the vulnerability situation and promote livelihood? In this study the attempt is neither to conduct an impact assessment nor to have a full-fledged evaluation on these interventions. Rather, its aim is to assess briefly some of the institutional issues, like how activities are designed, sustained and promoted, as they are intertwined with the existing vulnerability context and livelihood.

In trying to address the issue of waterlogging, the main vulnerability factor in the black cotton soil areas, various attempts have been initiated by both governmental and non-

governmental agencies. The field inquiry reveals that previous attempts in disseminating BBM (Broad Base Maker), a technological devise to be attached on the plough in draining excess water on earth, was thwarted due to the 'inappropriateness' as perceived by the local people. It is reported that the new technology was found to be heavy for appending it on the traditional oxen-driven plough. This was the ubiquitous excuse that the researcher had been hearing during the field investigation. Currently, in Bedeyo-Gimbichu Kebele, where 50 to 75 % of wheat is believed to be lost to waterlogging problem in times of excess rain, only ten households (1 % of the total) have received the BBM technology through loan. The bottom line is that all development actors do not adequately address such crucial vulnerability factor, though piecemeal efforts have been tried at different times. The problem of waterlogging continue to be the main vulnerability factor that forces the people to loose more than half of what they expect to harvest.

The early warning activities at Woreda level, which is meant to warn people from any imminent catastrophe, is far from inadequate in helping the people through mitigating the problem of excess rain and waterlogging. The current activities on early warning is very much limited to the collection and compilation of data on various disaster-related indicators to be sent to a higher level of administration and with no practical significance at local level in warning the people from any probable damage by climatic conditions.

Inquiry in to the role of development agencies in alleviating vulnerability situation disclosed that government-sponsored water harvesting schemes for peasants was found to have a complete disaster history. In interviews held with a range of professionals working in the governmental and NGOs functioning at Woreda level, it was clearly reported that all the water harvesting schemes were planned and done in a top-down kind of approach with hardly any enthusiasm and conviction from the community side. It was also done to fulfill a kind of quota set by the higher-level government bodies without any consideration to the demand side. Some of the water harvesting schemes were constructed right on the agricultural plots which are very scarce in line with the present heavy pressure on cultivable lands. With all its pitfalls, each Kebele was obliged to dig about 100 water harvesting pond within its territory. In an internal evaluation done by the Woreda Agricultural and Rural Development Office a year later after the start of these campaign-based activities, it was reported that only 2 % of the schemes were found to be functional (verbal information drawn from a group discussion with professionals involved in the evaluation). Currently, peasants harbor bitter feelings on

these futile attempts where they wasted their time, energy and other resources. Woreda officials stated that with proper planning and implementation procedures the water harvesting schemes could have helped in improving the food security situation of the people to some extent.

With regard to the government- sponsored agricultural extension package service, 75 % of the respondents to the household survey in both Kebeles found to have access to it. About 15 % reported to have no access. For the remaining 10 % of the households the question found to be not relevant or not applicable, as they may not have land for which they require agricultural services. On the general attitude towards the government support in addressing their vulnerability related problems (like veterinary services, food gap assistance, etc), about 59 % of the respondents in both Kebeles reported that they do not get the required assistance from the government bodies. The disaggregated result for the two Kebeles presented below.

Table 6.5 Government support: access and adequacy

		Bedeyo-Gimbichu		Mechella-Wertu	
		No. of Households	**%**	**No. of Households**	**%**
A. Do you have access to agricultural extension service?	Yes	50	80.6	34	68.0
	No	3	4.9	14	28.0
	Not Reported/ Not Applicable	9	14.5	2	4.0
	Total	**62**	**100**	**50**	**100**
B. In general do you get the required support from the government offices?	Yes	17	27.4	29	58.0
	No	45	72.6	21	42.0
	Total	**62**	**100**	**50**	**100**

Source: Household Survey, 2007

As mentioned elsewhere in this document the government-sponsored extension packages are now expected to be disseminated through the newly designed strategy. The strategy, inter alia, encompasses the assignment of three specialized DAs in one FTC to be established at Kebele level. In disseminating the appropriate interventions to decrease vulnerability and promote livelihood, however, the role of the agents and the center was found to be extremely inadequate. None of the FTC's visited in the Woreda are operational since their establishment three years back. A DA in one of the Kebeles was heard saying 'We hardly do anything on our bare hand,' complaining the complete lack of material supports to discharge his

responsibility. All the problems mentioned above seem to continue unabated, unless well-functioning government/non government support is in place to diversify livelihood and increase the resilience of the local people.

As part of the overall effort in decreasing vulnerability and promoting livelihood, considerable number of NGOs are currently operating in the Woreda. Various development and rehabilitation interventions are already under implementation. Such kinds of efforts have been in place since long time. Efforts to diversify livelihood through the dissemination of improved cattle breeds is widely known and proudly told to the researcher as the best intervention ever recognized and yearned by the then beneficiaries and others. The issue is that those widely introduced improved breed dissemination activities have not been taken up further and are not becoming government's regular task once the foreign–funded and time bounded project was over. The momentum created by the NGO-assisted project should have been persistently integrated in to the plan and activities of all other development actors, as the improved breeding dissemination had already proved to be the most appropriate and feasible intervention in diversifying livelihood and increasing resilience to the already mentioned shocks. As the lessons of such widely acclaimed project was followed by piecemeal and unsteady livestock development activities, the area so far is not reaping that much benefit from the sector which is believed to be the major potential in the entire vicinity of North Shewa Zone.

The bottom line is that inability to sustain the most feasible interventions, together with their lessons, is one major gap being seen in the activities of most of development actors, especially that of government bodies. Besides, still much emphasis is being observed to crop intensification than livestock development, though all peasants in the area are now recognizing the latter as their major outlet in decreasing the effect of vulnerability and maintaining the existing livelihood condition

6.2 LIVELIHOOD STRATEGIES

The SLF treats livelihood strategies as the main building block that represent a combination of activities and choices that people undertake in order to achieve the livelihood goals. In a nut shell, SLF tries to link people's livelihood strategy to three basic elements – vulnerability

context, asset base and institutions – which all are intermingled to determine the kind of livelihood strategy people preferred /or forced / to pursue. Livelihood strategies could thus be satisfactory or unsatisfactory, as they are basically determined by the three elements just mentioned and may not be by people's willingness. One basic characteristic of livelihood strategies is the dynamism and subjectivity to time and circumstances. When a particular strategy surfaces for longer period of time it would be an adaptive ones while other time specific strategies are part of coping mechanism to address short lived problems like seasonal food gap.

As it is already described in the previous sections, the livelihood strategies people are pursuing in the research area are very much limited to certain adaptive and coping mechanisms. To mange the analysis on livelihood strategies, this study basically dwells on the issue of agricultural crop extensification, intensification, livestock rearing and other non-agricultural strategies like off-farm activities. Their interplay with the existing vulnerability context, institutions and asset base is discussed as follows.

6.2.1 Extensification

In the traditional agricultural rural economy increasing crop productivity is envisaged as a function of increasing cultivated land size. Extensification of land is, thus, the major strategy to be followed in meeting the increasing demand. The current phenomena in the research area in general, however, is not allowing such practice due, mainly, to the scarcity of land. Inquiry in to the land use type of the Woreda, data secured from the Woreda Agriculture and Rural Development Office revealed that currently 30095 ha of cultivated land exists in the entire Woreda with an average land holding of about 1.93 ha per household. The findings from the household survey conducted in the two Kebeles, however, show a lower size. In Mechella-Wertu it is 1.75 ha while for Bedeyo-Gimbichu it is around 1.5. As mentioned in the preceding chapter of this document, the land holding size per household shows a decreasing trend for different reasons. People are not in a position to increase their cultivable lands.

Extensification as a strategy for improving livelihood or increasing production is thus become a moribund practice at least at the household level. About 30 % of the respondents said that their land size has decreased over the past years while 55 % reported no change of land size. Around 15 % reported an increment of their cultivated land size. In seeking an

explanation to the decreasing and increasing trend, group discussants reported that decrease in land is mainly attributed to the continuous sharing and division of land by parents to their sons upon the establishment of new households by the latter. For those respondents who have replied as 'no change' in their land holding size, the reasons were found to be that such households might not have grownup sons with whom to share land. Land size increment, as reported by limited households, is mutedly explained; but land bequeathing from parents upon their death is mentioned as the reason for having additional land to increase the holding. Besides, due to various crop-sharing arrangements cultivated land at household level may also increase or decrease.

In the SLF, assets are the building blocks for livelihood strategy. In the researched area the natural asset, which mainly refers to cultivable land, is in extreme scarcity and does not allow the propagation of crop extensification as plausible livelihood strategy for all households living in the area.

Besides, apart from inability to extensification of land, soil infertility is also reported as a big problem and directly linked to the declining yields. Very few individuals are practicing fallowing as a traditional way of maintaining fertility. The data from the survey shows that very small number of households, that constitute 5 % of the surveyed families, reported to have a fallowing practice while the largest majorities abandon such tradition due to land scarcity.

6.2.2 Intensification

In the improved agricultural practices, intensification of land is the main strategy for increasing productivity. Intensification basically implies increasing productivity through technological inputs, using land for multiple purpose, increasing cropping intensity, intercropping, etc. In the decreasing trend of cultivable land size, this strategy is the main outlet to offset the production shortfall. In the present research area, intensification of land, as one livelihood strategy, is being practiced at different degree by different categories of people. The major intensification strategy was found to be the utilization of modern input, like fertilizer, improved seeds and pesticides. In line with this, the government-sponsored agricultural extension package is the main intensification strategy currently reaching the

people. The issue that this research poses for discussion is how far such intensification practice is being adhered by the ordinary peasants and how it affects their livelihood.

As repeatedly mentioned in the preceding sections, the vulnerability context of the researched area shows high risk of loosing standing crops due to such problems as frost and waterlogging. This situation has a strong bearing in the degree of modern agricultural input utilization and intensification process. Especially in the highland Kebele, the risk of loosing standing crops to frost and high input price greatly discourages people from using the modern inputs that are secured on loan. Amongst those living in the midland Kebele, where there is black cotton soil and assumed to be more suitable for crop than the soil in the highland, input use is much better despite the risk of loosing it to waterlogging problems.

The household survey result shows that 89 % of the respondents in the midland and 56 % in the highland reported to have the input utilization practice. Data secured from Mechella-Wertu DAs office indicates a lower number of fertilizer users. In the year 2005/06 only 35 % of the households reported to have used fertilizer.

In comparing productivity of the land with and without fertilizer, the difference for some crops reaches five to six times. In Mechellea-Wertu the wheat production without fertilizer is found to be four quintals per hectare, while using fertilizer it reaches up to 23 quintals. By the same token, teff growing without fertilizer yields no more than 3 quintals per hectare while with fertilizer it reaches up to 18 quintals. One hard fact to be drawn from this is that while people are in the process of accustomizing themselves with fertilizer use to increase their yield and decrease vulnerability to food shortage, risk of losing crops and high price of fertilizer has now become the major deterrents. At present, agricultural input supply and distribution seems monopolized by few non-private organizations with its own bearing in allowing free and competitive market.

Though this research did not go in detail with the issue of input supply and distribution, with the current practice it is plausible to assert that monopolized supply is not promoting the input use and intensification amongst the end users, peasants. At this point one can, therefore, conclude that the fertility decline associated with high modern agricultural input price and declining trend of traditional practices in promoting fertility (like fallowing) are compounded to increase vulnerability to food insecurity and affect the general welfare of the people.

In a FGD held with DAs, currently assigned at Kebele level, they repeatedly mentioned the initiation of compost promotion activities so as to decrease reliance on modern fertilizer and encourage organic farming practices. This emerging practice, as part of government sponsored extension package, is now being widely acclaimed by many as partial response to the ever-increasing fertilizer price. In Mechella-Wertu, limited number of households are currently included in the compost demonstration package. Though it is still premature to comment on this recently initiated extension activity by the government organization, there are some broad evidences that raise questions on its sustainability. In a transect walk done across some of the villages in the research area, the researcher and his informants cautiously observed piles of dung cakes (meant for fuel or sell) heaped at the entrance of most residential houses. The question is can the people easily switch the use of animal dung to make compost while their current livelihood pattern forces them to use it for energy and sell? The availability of adequate dung is also questionable to promote compost use, as livestock numbers at household level are not increasing. As already indicated, the average cattle ownership per household (ox and cow) in both Kebeles is lesser than three. In general, it is the researcher's believe that though compost promotion has strong rationale and appropriateness, it is not free from problem to substitute the modern input as desired by the new government-sponsored initiative. It needs aggressive extension support to harmonize it with the general livelihood pattern and the environment at large.

During the field study the role of irrigation practices, as part of the crop intensification strategy, was briefly assessed. The finding from the observation in the field and discussions made with the people indicates that the role of irrigation in the whole Wereda is quite limited. Data from the Woreda Agriculture and Rural Development Office shows that currently there is only 110 ha of land under irrigation that constitutes only 0.36 % of the total cultivated land in the Woreda. In the two Kebeles under consideration the situation is not that much different. Data from the DAs office in the two Kebeles shows that in Mechella-Wertu only 3 hectare (constituting 0.5 % of the total cultivated land) and in Bedeyo-Gimbichu 16 hectare (1.3 %) of land so far developed through irrigation. The household survey further shows that only one household in the highland Kebele use irrigation while the number of users in the midland is reported to be considerable and reaches around 30 %. In a FGD held with NGO (PADET)-assisted irrigation group members in Bedeyo-Gimbichu area, water scarcity during the long dry spell period was reported to be the main reason that is limiting the expansion of irrigation practice. The land scarcity associated with undulating topography is another major

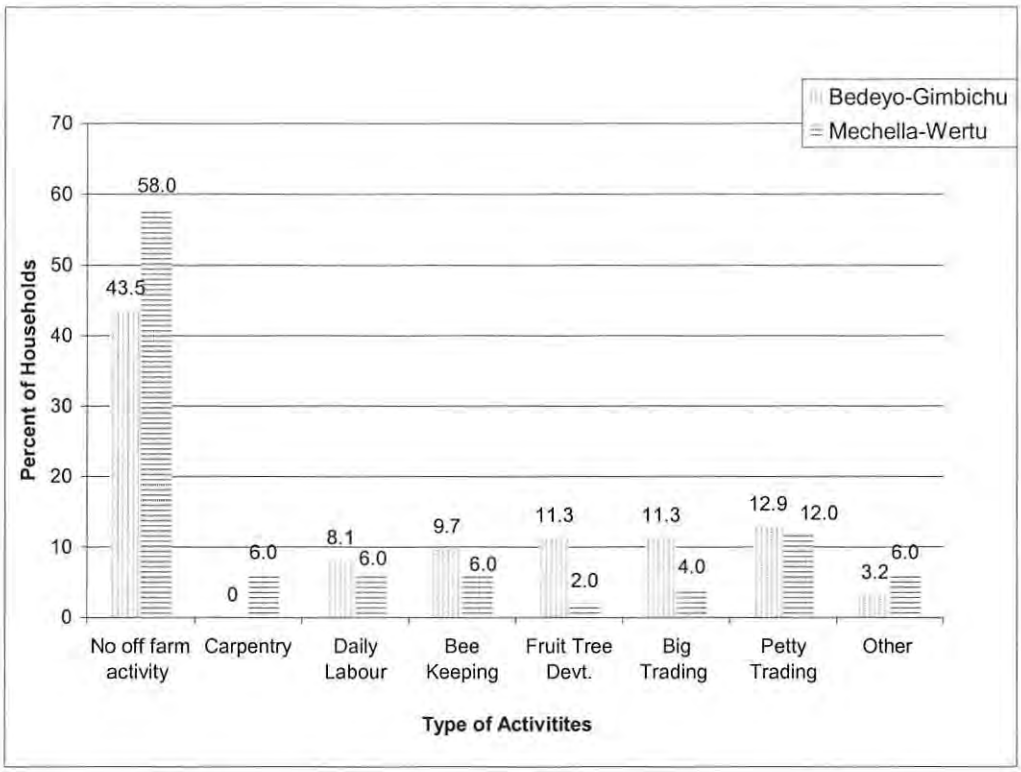
factor in using irrigation. Some people also reported the problem of inputs (like seedling and mainly its price and unavailability in the nearby) as constraints to irrigation development. Hardly any of the respondents reported market outlet as a constraining factor for the expansion of irrigated agriculture.

6.2.3 Diversification and Migration

Diversification and migration are another category of livelihood strategies that are highly affected by the existing vulnerability context, institutional arrangements and asset base. In line with the basic premises under SLF, the present research has assessed the diversification and migration issues as informed by the various research tools employed in the targeted areas.

The general livelihood pattern in the Woreda in general and in the two targeted Kebeles in particular indicates that there are very few diversified activities. The largest majorities draw their livelihood means from the existing subsistence mixed farming practices. The information secured from the discussion forum and household level survey indicates that the role of other activities like beekeeping, fruit tree planting and other off-farm skills as sources of livelihood is extremely limited. Limited number of households reported their engagement in the following off farm /non-farm activities.

Figure 6.1 Households Engaged in Off-farm/non Farm Activities



Source: Household Survey, 2007

As shown above, the majorities in both Kebeles do not report additional off farm/ non-farm activities other than their engagement in the subsistence mixed farming. The diversification situation seems better in the midland, as many respondents are engaged in such activities as crop trading and irrigated gardening. The practice of beekeeping, which is a common traditional off-farm activity in many parts of the country, found to be extremely low in both Kebeles. The major reason given during the group discussion was that the pesticide being used on crops kills the bees and become a major threat for promoting this valuable activity that could play some role in subsidizing the household economy. With regard to trading activities, very limited households are involved. Startup financial resources and lack of exposure to market information were reported as reasons for low level of involvement in trading activities. In a FGD held with women (those who have taken loan), it was also reported that the tendency to be involved in similar kind of business activities easily saturate the market to the determinant of all involved.

Inquiry in to the role of migration as one livelihood strategy indicates that some household members of the area do practice both seasonal and permanent emigration in to other areas in search of supplementary income sources. The seasonal emigration is reported to be an annual practice by youngsters, landless and very poor people in search of casual agricultural employment in places like East Shewa Zone of Oromia Region. As group discussant reported that this practice, locally referred as *Geja*, is mainly meant to pay loans secured from relatives and neighbors for addressing part of the food problem. Resource-poor families and youngsters are partly relying on this seasonal emigration practice as one major livelihood strategy in generating cash income. At this point it is worth mentioning that having young and strong family members is an asset to emigrate and bring back some cash income that will support the other household members.

Recently some tendencies are being observed by landless and unemployed youth for permanently emigrating to other places expecting a better livelihood source in their destination. The emigration of daughters to the town in search of job as a housemaid was found to be another major livelihood strategy for some poor families in the area. It was reported that there is a growing trend of this practice in support of the emigrants themselves and their families through the meager remittance expected to be sent.

In trying to give a summary on the general livelihood strategy the following box shows a case study that highlights how a typical peasant household in the research area lives. The case indicates how vulnerability situation, asset level, livelihood strategies and institutional issues are interplaying with one another in the general livelihood condition.

Box 6.1 A Case Study Summarizing the Interaction Amongst Livelihood Components

Ato Bekele Adere was born in Alamush village, Mechella-Wertu Kebele. He is 50 years old and lives with a wife and six children. Except his two daughters, one is married and the other is a domestic servant in Addis Ababa, all are living with him. His occupation is a mixed agriculture by having about three hectares of land under his possession- two hectares under crop and a hectare under grazing. He also has 0.0625 hectare under eucalyptus tree plantation. Though his two sons are married (also having their kids and considered as independent families) they still depend on their father's land and share the yield. He complains that land is scarce in his village and newly- wed sons can't have their own land except cultivating the one that originally belongs to parents. "How many times can such families be able to redistribute the land to their sons?" He complained. He added that though the three hectares of land is under his name, the land currently feeds three families. He thanks to God that he has only two sons and the others are females who could be married to other family and do not expect the land from him.

Except one daughter, the other children never attended school. He could not explain why? But generally he implied that poverty and the need for labour is the likely reasons. He has 4 oxen, including the ones used by his fully-grown two sons, two cows and eight sheep. No poultry and no bee hive due to disease and pesticide. Recently he lost some sheep to diseases. His two cows are local breed and do not yield that much milk. Rarely his wife sell very small amount of butter and cheese by churning the milk they get from the two local breed cows. He sometimes sells bigger ox and buy smaller one and use the balance for consumable items. This is one coping strategy with problems.

His yearly crop yield is only meant for family consumption and not for sell. He also complains that the productivity of his land is continuously decreasing. Erratic rainfall pattern and frost affects his crop. For instance, now he almost abandons growing barley due to erratic nature of rain. He preferred to grow flux that could generate better cash income but he could not do it due to land scarcity. He is now forced to change his cropping pattern to a lesser value crops. 'I can' t mange to generate enough cash through this', he said. He grows what is locally known as shallo -wild oat (cheap with less nutrient value but highly resilient to many problems). Even this resilient crop to excess water, pest etc is now on the decrease. Though he appreciates the merit of fertilizer to cope with infertility he complain about the exorbitant price of fertilizer; currently only four households in his village uses fertilizer due to price disincentive. His coping mechanism with problems mentioned includes: growing shallo, decreasing meal (his family members are now forced to have one major meal in the evening while they eat less preferred food in the daytime), selling livestock, changing cropping pattern (growing resilient and pest resistant crop) and some times casual labouring in the town by his family members

How is he generating cash income? He rarely sells sheep, crop residue and grass. His wife also rarely sells chess and butter. He tries to fatten sheep and ox for sale but cash is his problem. His sons some times go to the nearest town in search of job as casual labourer to augment family income. He very much appreciates the merit of eucalyptus in generating good amount of household income. But he has very small land to spare for eucalyptus plantation.

He recognizes the benefit of small family size in line with the current population increase that he thinks exacerbating the whole resource utilization problem in his area. His married daughter is now using the family planning service given at health facilities. Nevertheless, he knows that great majority of fellow villagers do not use such service. As his village is in close proximity to the Woreda town he gets basic social services like health and others in close range. Water is not a problem in his area as his village is supplied with developed hand pump.

He has never taken loan from any of the existing credit and saving service providers, as he is very much afraid of risks. He summarized his village problem in the following priority order: land scarcity (as exacerbated by population increase), land infertility, frost and pest. For him practical support from the development actors is not adequate enough to relieve him from the vulnerability problems.

7. CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION

As per earlier studies and assessments (ODPPB, 2002) the entire Wuchale Woreda, where the present research is conducted, is labeled as one of the food insecured areas in the country. The major factors that aggravate the vulnerability situation of the people in the entire Woreda were found to be waterlogging, frost, pest infestation, landslide and epidemics. In the two researched Kebeles by the present study, frost and waterlogging problem are the main vulnerability factors. According to the information provided by the Woreda level officials, frost in the highland Kebele, Mechella-Wertu, and waterlogging in the midland, Bedeyo Gimbichu, damages 50 to 75 % of standing crops whenever there is hard cold season and excess rainfall. Due to this, majorities in both Kebeles are quite exposed to long food gap seasons, as the harvested crops are far below to cater the household demand for a year round. This state of affair is compounded by other vulnerability factors like by the population dynamics trend and others that affect the livelihood of the people seasonally or permanently.

In association with the increase in the population number, the ever-declining of land holding size by individual households is now playing its part in the decrease of food production. The average cultivated landholding size in both Kebeles is no more than 1.6 ha per family. In most parts the cultivated land is infertile and needs modern fertilizer application to maintain the household economy at the existing subsistence level. Modern fertilizer use is now highly affected by the existing risk factor and high input price. The outcome from all this intermingling factors leads to one general fact that most families in the area are unable to feed themselves beyond the maximum of six months in a year from the total production they secured and this has forced them to remain in a precarious livelihood condition.

The above vulnerability context in turn shapes the people's asset holding status in a number of ways. Food gap and poverty, for instance, are the repeated excuse in building the human capital/asset through education and health. As the Woreda level information show, low school enrollment and high dropout rate mainly find their cause on the existing poverty and low level of livelihood conditions. On the other hand, social capital that manifests in a number of groupings, connectedness and networks of relationships was found to be one main mechanism in addressing the problem of food gap. More than 80 % of the surveyed

households in both Kebeles, for instance, reported that they cope with the year round food crisis through loan (in cash or in kind) secured from relatives, friends and fellow members in traditional associations. This clearly shows how big role a social capital plays in alleviating the problem associated with the existing vulnerability status.

With regard to the situation of natural capital, the field investigation shows that the increasing rate of natural resources degradation (like soil, plant and water resources) accompanied with decrease in fertility of agricultural land are major causes that aggravate vulnerability. Asset building through such measures as soil and water conservation activities is far below the expected level. Considerable portion of the households, that reaches up to 20 %, never involved in any soil and water conservation activities. Thus, low level of natural capital found to be another major factor that has a strong bearing on the exiting vulnerability situation.

Access to such services like credit and saving, which are the major forms of financial asset/capital, was also found to be another issue that has some relevance to the present vulnerability. Despite the strong recognition for diversifying their livelihood condition so as to cope with the ever-present shocks and hazards, large number of families covered by the survey do not have access to formal credit services with which to start any other activities. About 32 % of the households never secured any financial loan from formal or informal sources though they have the urge to take it. The situation in the research area in general shows that the existing vulnerability situation in general is highly interrelated with the asset ownership status of the people.

In trying to see the role of institutional arrangements on livelihood, different institutionalized practices ranging from gender and caste to other formal government roles were assessed. In accessing such major natural asset as cultivable land, variation along gender line, for instance, was observed to some extent. As land has become very scarce, newly established households expect to get it from their parents. While newly-wed sons are expecting land apportioning from their parents, girls usually married to other families without sharing any land. Thus, for the newly established families, entitlement to land starts with man than women. Nevertheless, upon the death of the partner women were found to have the right to claim the land in their own name. In accessing other assets, like financial capital, variation is also observed along gender lines. This state of situation in general tells that women are in a

disadvantageous position in accessing the various assets thereby found to be more vulnerable than men.

In seeing how far the existing vulnerability situation is linked to other institutionalized behavior like 'traditional harmful practices' only small number of the studied households reported some linkage while majorities do not.

The link between institutional arrangements on the one hand and vulnerability and livelihood strategies on the other was most visible through the inquiry made at governmental and non-governmental organizations. As per the response of most households, the existing support from the government organizations in addressing their vulnerability problems was found to be quite inadequate. In building such important asset like natural capital through soil and water conservation practices, the facilitative role of the government bodies was reported to be very low. Government sponsored food/cash for work scheme, for instance, reported to have created its own bad precedence on the soil and water conservation activities. Those outside the scheme found to be less courageous to be involved in free soil and water conservation undertakings. This experience is now becoming one major constraint to involve the public in the environmental rehabilitation activities being executed by governmental and non-governmental bodies.

High emphasis given to the crop productivity under the conventional agriculture extension package was found to be another weak part of the government intervention. No aggressive and strong extension services that can make a visible difference are in place. Besides, extension packages to improve livestock productivity is extremely weak while the people of the area are now valuing their herds as their main outlet in times of crop loss and food stress.

In trying to identify how far the existing livelihood strategies are being conditioned by people's asset level, institutional arrangements and vulnerability context, a number of links were observed. The extreme cultivable land scarcity in the area, for instance, does not allow any agricultural extensification practice as a livelihood strategy. On the other hand, intensification strategy through the use of modern agricultural inputs is also constrained by high risk factors (like losing crops to frost and waterlogging) and high market price. A livelihood strategy through diversification on off-farm/non farm activities is extremely limited to certain households. In general, the findings from the house-to-house inquiry, group

discussions and observation informed that inability to have extensive agriculture, low level of intensification practices and limited off-farm and non farm activities found to have their causes on the existing vulnerability context and low asset possession level both at the household and community levels.

Finally, the research outcome amply demonstrated the interrelationship amongst all livelihood components mentioned above. The existing vulnerability context highly conditions the asset ownership level of the people that in turn determines the kind of livelihood strategies people follow. The existing institutional arrangements that manifested in the form of formal and informal 'rules of the game' also condition other livelihood components, like people's asset ownership and the kind of livelihood strategies to follow. It is through such kind of holistic approach one can broadly see the general socio-economic dynamism in general and livelihood conditions in particular. It is through such kind of comprehensive understanding, using SLF as analytical tool, one can also be able to identify the most crucial development constraints and hence the respective appropriate interventions that can make a difference through alleviating vulnerability and promote livelihood conditions. The following part recommends some of the required measures in addressing problems of vulnerability and livelihood at large.

7.2 RECOMMENDATIONS

The following recommendations are forwarded around the four livelihood components (vulnerability, asset, institutions and strategies) broadly discussed under the preceding different sections of this document.

In trying to cope with their vulnerability problem, the people of the research area practice a number of traditionally tailored alleviating measures. In coping with frost and waterlogging problems, for instance, a number of traditional practices are in place. A big tradeoff is being observed between the traditional coping mechanisms and other long-term benefits. For instance, people in the highland are declined to weed crops due to their own believe that weeds can have a potential to protect the standing crops against frost. While everybody is cognizant of the impact of weeds on productivity (production loss of up to 35 %), this 'coping mechanism' is widely practiced even during the time when the problem of frost is

not harsh enough to damage crops. In black cotton soil area, where waterlogging is the main problem, people also perform their own traditional practices for draining the water. It was observed that some times this traditional water draining practices do exacerbate the environmental problem like through accelerating erosion and degradation. In both cases, aggressive sensitization, awareness creation and knowledge dissemination activities should be in place so as to lessen the unwanted impact of these traditional coping practices and increase the resilience of the people to the existing vulnerability factors.

Dissemination of technology and other interventions in addressing the vulnerability factors should be strengthened. Currently, extremely little effort is being seen in alleviating the problem of frost and waterlogging. In earlier times technologies (BBM devises) introduced to mitigate the problem of waterlogging, for instance, found to be hardly successful due, mainly, to its inappropriateness. The current attempt to reintroduce the same technology is far from adequate compare to the immensity of the problem. Besides, its appropriateness is not yet adequately tested. Appropriate technological interventions that is tailored with the local reality is highly needed to address the problem of waterlogging that is now damaging more than 50-75 % of the standing crops and make people vulnerable to the ever-present food gap problem.

With regard to mitigating the problem of frost and weed, the current preliminary proposal by the Woreda Agriculture and Rural Development Office to teach peasants in increasing their seeding rate so as to increase the population of the sown crops need to be put in practice immediately. Piloting this scientific method to alleviate the brunt of frost and weed should be kicked-off at the earliest possible time.

As part of the traditional coping mechanisms in dealing with the vulnerability and food inadequacy, local people resort to the extent of eating food grains that are being discouraged by the professionals on a number of scientific grounds. Eating *Shallo*, a kind of wild oat, is a case- in-point. For considerable number of local people, especially for highlanders, this wild oat is now becoming indispensable as one major source of food, animal feed and for house thatching purpose. Mere discouragement by professionals found to be irrational, as no other alternative is yet forwarded to substitute this locally-proved valuable cereal. Instead, more applied research is needed to integrate its traditional worthiness with some scientific input.

A number of informants have repeatedly cited population increase as the major culprit in aggravating land pressure to sustain the existing livelihood. This assertion was made despite the existence of different opinion that considers higher number of family size (families with many young and strong members) as an asset to cope with the vulnerability situation. In any event, however, population number in the research area found to have its own implication in accessing and using the natural resources such as land and trees. Thus, even though a number of development actors are involved on reproductive issues in an encouraging trend, coordinated and widely practiced interventions on this critical variable, population, is still needed so as to strike some balance between the available natural resources and growing demands.

Building the natural assets, which include land, soil and vegetation, is now given very little attention by both the community themselves and other development agents. Vulnerability to infertility and crop loss is being exacerbated by the continuous land and soil degradation. Strong involvement on the part of all stakeholders is very much essential mainly through creating the right motivational structures for the public participation.

Involvement on soil and water conservation activities through the on-going safety-net scheme is now creating some bad precedence. As they are not entitled for any direct support, those out of the scheme are becoming less courageous to involve themselves in any of such activities. Such state of affair is now becoming a major problem for mobilizing the public for any natural resource rehabilitation and development activities by both governmental and non-governmental organizations. This needs strong reflection and revisiting on the safety-net program so as to make it more successful while lessening its bad precedence on public participation on natural resource development.

The Woreda level education coverage is now on the increasing trend. Nevertheless, still those who are unable to read and write (including both adults and school-age population) accounts 52 % of the total population. This is continue to be a big threat in diversifying source of income and alleviating the impact of vulnerability to natural shocks on the existing precarious livelihood condition. Though poverty is still believed to be the main reason behind low school enrollment and high illiteracy rate, all endeavors (including school feeding program for students and adult literacy) should be expanded in a much-strengthened way.

This would be one major strategic intervention in building the human capital and lessen the impact of vulnerability shocks.

Human capital development through the dissemination of improved way of doing things to the peasants is very much ineffective. DAs and the newly established FTCs at Kebele levels are not in any strong position to disseminate the required skills for the existing subsistence peasants. This situation should be given utmost attention by all stakeholders to make the DAs and the FTCs functional. Building the human capital through imparting improved skill is very much required to increase the resilience of the people from any of the potential shocks.

The existing government-sponsored extension packages adhere to the conventional agriculture extension package that gives relatively more emphasis on crop than livestock. This is found to be the case in the present research area despite the strong role played by livestock as the major source of cash income and outlet in times of food crisis. Aggressive and strong extension support is very much required to increase the role of livestock in minimizing the impact of vulnerability to crop loss and building people's resilience.

Government support on such critical areas like cooperative establishment and running is not adequate. There are cases where cooperative or marketing groups established without adequate assessment and technical support. A case-in-point is women grain marketing group that is now abandoning its original objective before even it is fully established. The grain marketing group hardly been functional, as grain supply in the locality is very scarce. The right stakeholders should have supported in conducting feasibility study and other assessments for such cooperatives.

Livelihood strategies being pursued by the people in the research area is by far limited to the subsistence mixed agricultural activities. Field observation, however, reveals that there are niches where small-scale irrigation can be expanded so as to promote intensification and alleviate the existing food gap and increase cash income. Such kind of endeavor needs to be promoted to a great extent.

Finally, the researcher would like to say that the existing vulnerability to a number of shocks and problems need to be addressed in an integrated and coordinated way with strong participation from the primary stakeholder, i.e. the community. Building and maintaining the

asset ownership status need to be one main intervention strategy so as to preserve resilience and save the people from falling in to complete destitution. At the same time, promoting diversification of livelihood strategies is very much important to lessen the extreme dependence on the existing mixed farming practices and broaden the source of livelihood. Above all, the support from the governmental and non-governmental actors need to be coordinated and should be led by long-term vision than trying to address the existing massive livelihood problems through piecemeal projects in an ad hoc manner.

REFERENCES

Alwang, J. et al., 2001. Vulnerability: A view from Different Discipline. Social Protection Discussion Paper, Series no. 0115. Human Development Network, the World Bank, Washington DC.

Burns, T.R., T. Baumgartner and P.Deville, 1985. Man, Decisions, Society : The Thorey of Actor-System Dynamics for Social Scientists. Gordon Breach , New York

Central Statistics Authority (CSA), 2004. Statistical Abstract 2004. Addis Ababa

Chambers, R. and Conway, G.R., 1991. Sustainable Rural Livelihoods: Practical concepts for the 21st Century. IDS discussion paper 296, Brighton.

Cunningham, G. and Mathie, A.(eds), 2004. Community Driven Development: The Asset -Based Approach. Coady International Institute, St Francis Xavier University.

Degefa Tolossa, 2005. Rural Livelihoods, Poverty and Food insecurity in Ethiopia: A case study at Erenessa and Garbi Communities in Oromia Zone of Amhara Region. Doctoral Thesis. Norwegian University of Science and technology, Trondheim

_____, 2005. Combining Household Qualitative Data and Quantitative Data in Food Security Research: Working Paper on Population and Land use in Central Ethiopia. Trial Lecture for PhD. Acta Geographica, Trondheim.

Degefa, T. and Baudouin, A. 2004. Access to Natural Resources and Conflicts Between Farmers and Agro-pastoralists in Borkena wetland, north-eastern Ethiopia. In Norwegian Journal of Geography vol.58. Oslo

Department for International Development (DFID), 2001. Sustainable Livelihood Guidance Sheet. 94 Victoria Street, London.

FDRE, 2001. Rural Development Policies, Strategies and Instruments. Addis Ababa.

_____, 2002. Sustainable Development and Poverty Reduction Program. Addis Ababa

_____, 2002. Food Security Strategy, Addis Ababa.

_____, 2003. Central Agricultural Sample Enumeration, 2001/02 (1994 EC). Results for Oromia Region

Getnet Alemu, 2005. The Macro Factor in the Ethiopian famines: Revisiting the Entitlement Approach and an Alternative Framework. International Exchange Division Research Administrative Department, IDE-JETRO, Japan

Harriss, et al., (eds), 1995. The New Institutional Economics and the Third world Development. Routledge. London

Hussein Bekele, 2006. Major Causes of Food Household Food Insecurity in Wuchale Woreda, Oromia National Regional State. Institute of Development Research, Addis Ababa University.

Hyami, Y. and Ruttan W., 1985. Agricultural Development: An International Perspective. Revised Edition. The Johns Hopkins University, Baltimore

IFRC, 1996. Vulnerability and Capacity Assessment: Toolbox (Unpublished material)

Messer, N. and Townsley, P., 2003. Local Institutions and Livelihood: Guidelines for Analysis. Rural Development Division, FAO, Rome.

North, D.C., 1990. Institutions, Institutional Change and Economic Performance. Cambridge University Press, Cambridge.

ODPPB, 2002. Vulnerability Profile of Wuchale Woreda

PADET and SCD, 2004. KAP Survey on Perceptions of the Community on Rights and Needs of Children, Wuchale Jida Woreda, North Shoa Zone of Ormiya National Regional State

Scoones, I., 1998. Sustainable Rural Livelihoods: A framework for Analysis. IDS Working Paper 72, Brighton.

Segers, K., 2005. The Sustainable Livelihoods Approach as an Impact Assessment Tool for Development Interventions in Rural Tigray, Ethiopia: Opportunities and Challenges, PP 26-35 in Getnet, et al (eds) Proceedings of the Conference on Poverty and Development in Ethiopia: Challenges and Options. Institute of development Research, Addis Ababa University, Addis Ababa.

Sen, A., 1986. Food, Economics and Entitlements. World Institute for Development Economics Research of the UN University, ISSN 0782-8233

Turton, C., 2000. Enhancing Livelihoods Through Participatory Watershed Development in India: Overseas development Institute Working Paper 131, London

WFP, 2002. Vulnerability Analysis and Mapping: VAM Standard Analytical Framework- SAF guideline.

Yeraswork Admassie, 2000. Twenty Years to Nowhere: Property Rights, land management and Conservation in Ethiopia. The Red Sea Press, Asmara, Eritrea.

_____, 2005. Institutions, Political Freedom and Development in Ethiopia in Getnet, et al. (eds) Economic Focus Vol 8, No.6 Bulletin of the Ethiopian economic Association. Addis Ababa

Wuchale Woreda Agriculture and Rural Development Office, 2007. Socio economic profile of the Woreda: unpublished material compiled by the office and written in Oromifa .

Annexes

Annex 1: Structured Questionnaire for Generating Data on Vulnerability, Asset, institutions and livelihood strategies

Structured Questionnaire for Generating Data on Vulnerability, Asset , Institutions and Livelihood Strategies

Section –A

General background Information

A1. Survey Identification

A1.1 Date of Survey
A1.2 Name of Enumerator
A1.3 Village
A1.4 PA/Kebele
A1.5 Woreda
A1.6 Zone
A1.7 Name of Household head (HHH)
A1.8 Sex of HHH [ ] 1. Male [ ] 2. Female
A 1.9 Major Occupation
A1.9 Place of Birth /Origin /of HHH

A2. Household Characteristics

S.No	A2.1	A2.2	A2.3	A2.4	A2.5	A2.6	A2.7	A2.8	A2.9	A2.10
	Name of HH Member	Relation to HHH	Age (in complete years)	Sex	Religion	Marital Status	Education	Enrolled in school now (Age 5 and above)	Econmically active or not	Occupation other than Agriculture
		1. HH Head 2. Spouse 3. Son 4. daughter 5. Relative 6. Hired laborer/maid 7.other (specify)		1= Male 2=Female	1=Orthodox 2=Muslim 3=Protestant 4=Other (specify)	1.Single 2.Married 3.Widow 4.Divorced 5.Separted	1.Illiterate 1. Read/write 2.Grade 1-4 3.Grade 5-8 4.Grade 9-10 5.Grade 11-12 6. 12 +	1. Yes 2. No	1. Yes 2. No 3. Sick 4.Aged 5. Other (Specify)	1.No other occupation 2.Weaving 3.Tannary 4.Bamboo making 5.Carpentry 6.Pottey 7.Crop residue selling 8. Daily labourer 9. Other (specify)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

A2.11. Housing ownership
[ ] 1. Own 2. Rented 3. Given freely
A2.12 Type of house
[ ] 1. Grass thatched roof 2. CIS roof 3. Other (specify)

Section B. Livelihood

B1. What is the main source of income for the household

[ ] 1. Agriculture 2. Day labor 3. Petty trade 4. Government employment 5. Wood or crop residue selling

6. Other (Specify) _____

B2. If agriculture which of the following activity does the HH engage in?

[ ] 1. Crop production 2. Animal husbandry 3. Mixed farming 4. Agro forestry

5. Other (Specify) _____

B3. If crop production, which of the following Items and how many quintal of each does the HH produce in the year 1998 EC?

[ ] 1. Teff 2. Maize 3. Barley 4. Sunflower 5. Root crops 6. Millets

7 Other (specify) _____

B4. Is your income enough to sustain your family all the year round? (Enumerators: please make sure that they do not mean only for food consumption)

[ ] 1. Enough 2. More than enough 3. Barely enough

B5. If barely enough or not enough, what do you do to supplement it and sustain your family?

[ ] 1. Borrow money or grain 2. Move to other places (migrate) 3. Sell fixed assets 4. Sell livestock

5. daily laborer 6. Sell fuel wood 7. Hunt wild animals 8. Others (specify) _____

B6. What was your income last year (1998 E.C.)

1. From sell of crops _____ 2. From sell of livestock and products _____ 3. From off farm activities _____

4. From working in other places _____ 5. From selling wood and crop residue _____ 6. Other (Specify) _____

B7. To which of the following consumption and other items the bulk of your income goes?

[ ] 1. Food 2. Clothing 3. Schooling 4. Medicine 5. Social obligation 6. Loan repayment

7. Others (Specify) _____

B8. What was your last year's income?

[ ] 1. Best 2. As usual for most of the years 3. Exceptionally low

B9. How far is the nearest market from your village (round trip)?

[ ] 1. Less than half an hour walk 2. Less than one hour walk 3. two -three hours walk 4. More than three hours walk

B10. What means of transportation do you use?

[ ] 1. Vehicle 2. Pack animals 3. Walking 4.Other(Specify) _____

B11. Are food crops available in the markets you go to all the year around?

[ ] 1. Yes 2. No

B12. If no, which month(s) of the year shortage occurs?

[ ] 1. June 2. July 3. August 4. September 5. October 6. November

7. December 8. January 9. February 10. March 11. April 12. May

B13. Where do you get food items when they are not available in the local market?

[ ] 1. From aid agencies 2. From local lender 3. From FFW 4. Other (Specify)

B14. What is the main factors that adversely affects crop production? (please rank them by order of severiety)

[ ] 1. Rain shortage 2. Too much rain 3. Pest infestation (Crop disease) 4. Shortage of farm land 5. Lack of agricultural in put

6. Lack of labor 7. Rudimentary farming Method 8. Shortage or lack of oxen 9. Striga 10. Others (Specify)

B15. Have you ever received food aid during food shortage years or seasons?

[ ] 1. Yes 2. No

B16. If yes, how often?

[ ] 1. 1-2 months a year 2. 3-4 months a year 3. More than 5 months a year

B17. Do you have land of your own?

[ ] 1. Yes 2. No

B18. If yes how big?

[ ] 1. < 0.5ha 2. 0.5-1 ha 3. 1-1.5 4. 1.5-2 ha 5. More than 2 ha

B19. Land size by type of land use

Land use Type	Unit in local measures	Hectare
Cultivabel land		
Cultivated land		
Grazing land		
Tree land		
Fallowed (for last crop season)		
Other		
Total		

B20. In how many places your land fragmented?

[ ] 1. In one place 2. In two places 3. In three places 4. In four places 5.In five places 6.in more than five places

B 21. What has happened to the size of your land holding over the past ten years ?

[ ] 1. Increased 2.Decreased 3. No change

B 22. Why it has incresed or decreased

[ ] 1 Decreased due to redistribution by govt. 2 Decreased due to sharing with childern/relatives/ 3. Incresaed due to Sharecropped in

4. Incresaed due to purchase (rent) 5. Other (specify)

B23. If you do not have land of your own , how do you get access to land?

[ ] 1. Share cropping 2. Through rent 3. As a laborer 4. Purchased 5. Other (Specify)

B24 What do you use for cultivating your land?

[ ] 1. Hand tools 2. Own oxen 3. Rented oxen 4. Rented tractor 5. Other (Specify)

B.25 Do you have acceess to communal land ? [ ] 1. Yes 2. No

B26 . For which of communal property do you have access ?

	1.Communal Grazing land	2.Communal forest	3. Communal Water point	4. others (specify)

B27. Do you use agricultural in puts?

	1. Yes	2. No

B28. If yes, what?

	1. Fertilizer	2. Improved seeds	3. Herbicides and Insecticides	4. Other (Specify)

B29. Who provides you with agricultural inputs?

	1. Bureau of Agriculture	2. NGOs	3. Farmers cooperatives	4. Other (Specify)

B30. Do you own livestock?

	1. Yes	2. No

B31. If yes, how many of the following animals do you have? Please put numbers

	1. Oxen	2. Cows	3. Sheep	4. Goats	5. Heifers	6. Calves
7. Donkey	8. Horses	9. Mules	10. Other (Specify)			

B32. Do you sell livestock products?

	1. Yes	2. No

B33. If yes, what products do you sell?

	1. Milk	2. Butter	3. Eggs	4. Caked Dung	5. Others (Specify)

B34. How supportive is the sale of such products for the household economy?

	1. Significantly supportive	2. Moderately supportive	3. Less supportive

B35. What are the main problems related to livestock production?

	1. Animal diseases	2. Lack of animal feed	3. Insufficient grazing land	4. Shortage of water	5. Other (Specify)

B36. Do you have access to vet services?

	1. Yes	2. No

B37. If yes, is the cost affordable?

	1. Yes	2. No

B38. What do you think of the service?

	1. Inadequate	2. Adequate	3. Moderate

B39. Do you practice apiculture?		1. Yes	2. No

B40. On the average how many Kg honey do you harvest annually

	1. Below five	2. Five to ten	3.More than ten

B41. What proportion of your total annual incomes from apiary

	1. 100-200 birr	2. 300-400birr	3. 400-500birr	4. More than 500 birr	5. Others (Specify)

B42. Do you have fruit trees?

	1. Yes	2. No

B43. If yes, how much of your HH's annual income drawn from it?

[ ] 1. 100-200 birr 2. 300-400birr 3. 400-500birr 4. More than 500 birr 5. Others (Specify) _____

B44. Do you take loan ?

[ ] 1. Yes 2. No

B45. From which institution(s)

[ ] 1. MFI 2. Local usurer 3. Friends /relatives 4. Banks 5.Other (specify) _____

B46. If yes for what purpose?

[ ] 1. To buy agri.inputs 2. To buy consumables 3. To buy other fixed assets 4.Other purpose (specify) _____

B47. Have you paid your debt?

[ ] 1. Yes 2. No

B48. If you have never taken loan, why?

[ ] 1. High interest rate 2. I am poor to be involved in group lending 3. I don't need it 4. Other (Specify) _____

B49. Do you have access for agricultural extension service?

[ ] 1. Yes 2. No

Section C. Vulnerability

C1. Are you vulnerable to such problems like health, econmic shocks, price fluctuations,... ?

[ ] 1. Yes 2. No

C2. If yes, which one of the following affects your life ? Please put by order of seveirity

[ ] 1. Draught 2. Food inadequecy 3. Price fluctuaions for agricultuiral products 4. Flood

5. Other, (Specify) _____

C3. What do you think causes or agravates your vulnerability to some of the above shocks ?Please put by order of seveirity

[ ] 1. Environmental condtion/erosion, infertilty... 2. Population increase 3. Water logging 4. Unfavorable Govt Policy 5. Other (specify) _____

C4. How do you try to cope with some of your problem related to your vulnerability?

[ ] 1. Through Aid 2. Through social networks (like eqib, senbete etc) 3. Through Seasonal movemnt to other places

4. Remittance from relatives 5 through loan 6.Other (specify) _____

C5 . Is your current land holding system a problem in increasing your vulneraility?

[ ] 1.Yes 2. No.

C6. If yes, in what way?

[ ] 1. I don't take proper care for the land , as it belongs to the govt. 2. I can not diversifying livelihood through selling the land

3. Other(Specify) _____

Section D. Institutional Issues

D1. Are you a member to any tradtional or formal institution ?

[ ] 1. Yes 2. No

D2. If yes, in which ones do you involve yourself ?

[ ] 1. Debo 2. Idir 3.Equib 4. Senbete 5. Coopertive

6. Other (specify)

D3. If you do not belong to any of the above institutions, Why?

[ ] 1. I am poor 2. Do not belive in them 3. There is nothing to cooperate for 4. Other, (Specify)

D4. Do you think the above institutions have a role in addressing some of your vulnerability problems?

[ ] 1. Yes 2. No

D5. In times of crises like draught and food shortage who helps you best?

[ ] 1. Relative/friends 2. Government 3. NGO's 4. Assosiations like senbete and Idir

5.Cooperatives 5. Other (Specify)

D6. Do you believe that there are 'harmful traditional practices in your locality "?

[ ] 1.Yes 2. No.

D7. If yes, what are they?

[ ] 1. Witchcrafting 2. Early marriage 3. Resource abuse on feasts, etc (like on weeding, etc) 4. Others(specify)

D8. Do you think there is a relationship between the 'harmful tradtional practices' and your vulnerability to the problems mentioned above?

[ ] 1. Yes 2. No.

D9. If yes to the above, with which ones ? Please mark by order of imporatance

[ ] 1. Feasts 2. Early marriage 3. Witchcrafting 4. Others (specify)

D10. In your locality are there segregated individuals due to their work, sex, cast etc....

[ ] 1. Yes 2. No

D11. Do you get the required support from the government institution?

[ ] 1. Yes 2. No

D12. Do you think governmnt services are adequte in minimizing your vulenerability and diversifying your livelyhood?

[ ] 1. Yes 2. No

D13. Do you have interest in conserving your land and other communal land?

[ ] 1. Yes 2. No

D14. If no, why ?

[ ] 1. I do not feel a sense of ownership 2. I do not get compatible return from conserving a land

3. Other reason(specify)

D15. What are the major problems related to selling your agricultural products

[ ] 1. Distance 2. Lack of adequate produce for markeing 3. Price fluctuaion for agri.products 4. Other (specify)

Section E. GENDER ISSUES

E1 Who decides on the household income and expenditure?

[ ] 1. The husband 2. The wife 3. Together 4. The wife when she generates it

E2. Is there polygamy in your area?

[ ] 1. Yes 2. No.

E3. To what extent do women participate in decision - making processes both at the community and HH levels?

[ ] 1. Not at all 2.Rarely 3.Quite often 4.Always

E4. Are women entitled to land holding?

[ ] 1.Yes 2. No.

E5. Can women inherit the property of their husbands on the death of the latter?

[ ] 1.Yes 2. No.

E6. Do women have a say in deciding on family planning issues and detrming on the number of childern

[ ] 1. Sometimes 2.Always 3. Not at all

E7. Do you send all your childern to school?

[ ] 1.Yes 2. No.

E8. If yes. Which one you prefer to send school ?

[ ] 1. Boys 2. Girls 3 All

E9. How are women generally percieved in the society?

[ ] 1. As equal wiith their fellow men 2. As inferior and subservient to men 3. As useful only to procreation 4. Other (Specify)

Section F . HEALTH AND NUTRITION

F1. Where do you go when you or someone in the HH is sick?

[ ] 1. To clinic or H.center 2. Hospital 3. Tsebel 4. Nowhere 5. Other (Specify)

F2. What is your reason to choose the specific service provider?

[ ] 1. It is easily accessible 2. It is affordable 3.No other choice

4. Other (Specify)

F3. How far is the nearest modern health institution?

[ ] 1. Less than 15 min. walk 2. 30 minutes walk 3. One hour's walk 4. Two- Three hours walk 5. Four- Six hours walk

6. More than Six hours walk

F4. In the last one year, has a death of under five hild occurred in the HH?

[ ] 1.Yes 2. No.

F5. What is your source of water for HH consumption?

[ ] 1. River 2. Protected spring 3. Unprotected spring 4. Hand dug well 5. Pipedline
6. Pond 7. Open wells 8. Dams 9.Other (Speciy)

F6. How long does it take to fetch water from the source including possible queuing time?

[ ] 1. Less than an hour 2. Two to three hours 3. Four to five hours 4. More than five hours

F7. Do you think your water source is safe

[ ] 1.Yes 2. No.

F8. If yes, why?

[ ] 1. It looks clean 2. It never created any problem 3. It is chlorinated 4. Other(Specify)

F9. Have you you ever attended a hygiene education session?

[ ] 1.Yes 2. No.

F10. If yes, how many times did you attend in the last three months?

[ ] 1. Few times 2. Many times

F11. Who gave the education?

[ ] 1. Health workers 2. Community health educators 3. CHW/TTBA 4. Don't remember 5. Others(Specify)

F12. Have your children received anti- six vaccinations

[ ] 1.Yes 2. No.

F13 If no, why not?

[ ] 1. There is no service 2. I didn't want to have them for my childern 3. Only some 4 . Other(Specify)

F14. Have you ever heard of family planning?

[ ] 1. Yes 2. No.

F15. Do you or your spouse use family planning?

[ ] 1.Yes 2. No.

F16. If yes,what methods do you use?

[ ] 1. Pills 2. Injectables 3. Condom 4. Natural methods 5. Other(Specify)

F17. If no why not?

[ ] 1. Want to have more children 2.My religion prohibits 3. Preferred methods are not available
4. Cost is not affordable 5.Other(Specify)

F18. Have you ever heard of HIV/AIDS

[ ] 1.Yes 2. No.

F19. In what way do you try to protect your self from HIV/AIDS

[ ] 1.Avoiding promiscuity 2. Abstinance from sex 3. Using condoms during mating 4. Praying
5. Avoiding any kind of contact with people living with the virus 6. Being faithful to partner 7. Other (Specify)

F20. Is malaria a major disease in your locality

[ ] 1.Yes 2. No.

F21. Has your family ever experienced food shortage?

[ ] 1.Yes 2. No

F23. If yes, how often?

[ ] 1. one to three monthes a year 2. three to six monthes a year 3. more than six monthes a year

F24. How do you cope up with food shortage seasons?

[ ] 1. Reduce quality of food served 2. Reduce quantity of food served 3. Reduce number of meals

4. Eat less prefered food 5. Eat wild food(leaves, roots) 6. Others(Specify)

Section G. LAND USE,LAND TENURE AND NATURAL RESOURCE MANGEMENT ISSUES

G1. How do you come to hold the land you are now cultivating(using)?

[ ] 1.Inherit it from my father 2.Was alloted to me by the PA 3.Purchased it

4.Leased it 5.Through share cropping 6.Other (specify)

G2.Are you guaranted that all or part of your holding may not be taken from you?

[ ] 1.Yes 2.No 3.Not sure

G3.How fertile is your land?

[ ] 1.Very fertile 2.Moderately fertile 3. Highly infertile

G4.If infertile or poor what do you think the reason is?

[ ] 1.Erosion 2.Intensive cultivation 3.Other(spesify)

G5.What do you do to prevent further degredation of your land?

[ ] 1.Nothing 2.Use fertilizer 3.Apply conservation methods (terracing, planting.. 4.Add manure 5. Other (specify)

G6.If you face soil erosion problem which of the following conservation method do you use?

[ ] 1.Farm terracing 2.Planting trees 3.Check-dam construction 4.Alley cropping 5.trench vend

6.hillside terracing 7.Nothing 8.Other (specify)

G7. Do you plant trees for conservation purpose

[ ] 1. Yes 2. No

G8. If you plant trees, what kind of them do you plant

[ ] 1.Eucalyptus 2.Tid 3. Other (Specify)

G9.Do you use irrigation?

[ ] 1. Yes 2. No

G10.If yes what do you produce?

[ ] 1.vegetables 2.fruit crops 3. cereals 4.Other (specify)

G11.If you are not using irrigation, why ?

[ ] 1.Water not available 2.Land not irrigable 3.Cereal crops 4. It is not our tradition 5. No market for products

6.Other (specify)

Thank you for your cooperation and supplying us with valuable information.

Annex 2: Checklists for Group Discussions, Interview and Observations

Checklists for Group Discussions, Interview and Observations

I Checklist for Group Discussion

A . On Vulnerability Issues

The aim of inquiry here is to identify those factors that make up the vulnerability context. They are: shocks, trends and seasonality

How are various natural and manmade shocks (health, natural, economic, conflict) are now affecting the livelihood condition

How are the various trends (population, economic, political, national and international trends) interplaying with the general livelihood situation?

In what way seasonality of price, production, health and employment affecting the livelihood

Who is most affected by the above vulnerability factors and why?

B. On Asset Level

B1. On Human Capital

How the above shocks, trends and seasonality are destroying or weakening the asset base

What are the traditional factors that limit access to human capital (skill, education etc)

How is the situation to access to information, skill, education etc ?

Availability of skill and knowledge at community level in coping vulnerability

Awareness on the rights and policies affecting community's life

B2. On Social Capital

What kind of social networks and connectedness are there to work together and increase access to institutions?

How is membership of more formalized groups based on agreed rules? Who is eligible or not?

How relationship of trust and reciprocity are performing in the community and interacts with the vulnerability context

How are the existing social capital being utilized with in formal institutional arrangements

B3. On Natural Capital

How is the situation of the existing natural capital (in terms of land, forest, water, erosion protection wild resources etc).

What are the major problems associated with natural capital

How the existing institutional arrangements interfere in determining the way in which natural capital is used, accessed and valued

How natural capitals are used in combination with others to sustain livelihoods

B4. on Physical Capital

The situation of the existing physical capital as manifested in the form of transport, water supply, road, energy, and access to information

How is access to this physical capital determined?

How are the sustainability and appropriateness issues (skill, finance, management etc) affecting the effectiveness of physical capital?

B5. On Financial Capital

How is the situation with regard to availability of surplus, saving and regular inflow of money that includes pensions remittances etc ?

Availability and access to saving and credit: problems of access and use

Constraints in generating financial capital

C. Institutional Issues

The aim of investigation under this theme is to determine how access to assets, terms of exchange and returns conditioned by the existing formal and informal institutional arrangements

Existing formal institutions and their deterministic role in accessing and using resources

How are the various formal regulations and rules facilitating/inhibiting/ access and resources use, asset creation, public mobilization, etc

Local convention and custom in determining access to resources and use

Informal restriction and rules in relation to livelihood strategies and diversifications

Existing property ownership right

Power relation ship at household and community levels

The role of market and livelihood

D. On Livelihood Strategies

The predominant livelihood strategies (rationales, trends prospects etc)

Who is adopting what strategy and why?

The dynamism of the various strategies as explained by institutional and other factors

Positive and negative strategic choices (forced and voluntarily adhered strategies)

II Checklist for Interviewing Key Informants

Historical landmarks and dynamism of the area (settlement, trends, dynamism of the socio economic context, etc)

Major landmarks (change in density, conflicts, etc)

How different livelihood strategies evolved (causes and outcomes that follow)

The dynamism of major socio economic constraints (diseases, services, food availability, land size...)

Perception on vulnerability and coping strategies (causes and effectiveness of the coping strategies

How the various institutions (formal and informal) interplay with vulnerability and livelihood. How traditional institutional issues and formal rules interact with vulnerability context and livelihood.

Major issues with respect to natural resource conditions (factors affecting resource use, etc)

Perception on various capitals (natural, physical, human, social and financial) and their availability, status, dynamism etc

III Checklist for Observation during transect walk

Natural Resource condition (land utilization, status, perception, etc)

Settlement pattern (proximity to services, density, pattern, etc)

Major livelihood strategies (who is doing what and where)

Major socio economic constraints (service delivery status, infrastructure's condition, agriculture constraints...)

Coping and adopting strategies to deal with vulnerability and livelihood promotion

Local rules and regulation in accessing and utilizing resources

Interventions by governmental and non-governmental bodies

The general status of the various assets/capitals/ at community level

Iv Checklist for conducting case studies

Demographic characteristics (name, age, sex, religion, place of birth, educational level, occupation, marital status and family size)

Perception on vulnerability (shocks, trends and seasonality)

Access to various capitals

-access to land for cultivation, grazing, tree planting. Natural resource condition, like water

-access to social services and infrastructures etc

-accesses to financial capital (income status, credit and saving service, asset ownership, ...)

-social relations and networking in relation to vulnerability and livelihood

-status of the human capital (education, skill, family health, economic activity)

Perception on formal and informal institutions (how access to assets is being conditioned by them).

How the formal and informal institutions (rules and regulation)are interplaying with the general vulnerability and livelihood conditions

How is the status of the major livelihood strategies (dynamism, constraints, etc)
Perception on the general livelihood outcome in the area (is the outcome positive or negative -well being status, poverty, sense of security etc)

Declaration

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

Declared by:

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