

ADDIS ABABA UNIVERSIY
SCHOOL OF GRAGUATE STUDIES

LIVELIHOOD DIVERSIFICATION AS A STRATEGY TO OVERCOME FOOD
INSECURITY IN ETHIOPIA: A CASE STUDY OF SMALLHOLDER FARMERS IN
BAKO-TIBE WOREDA.

BY: DEREJE BEYENE DEMISSIE



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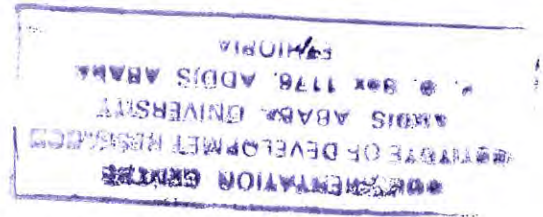
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Title

*Livelihood Diversification as a Strategy to Overcome
Food Insecurity in Ethiopia: A Case Study of Smallholder
Farmers in Bako-Tibe Woreda.*

By
Dereje Beyene

DEVELOPMENT STUDIES

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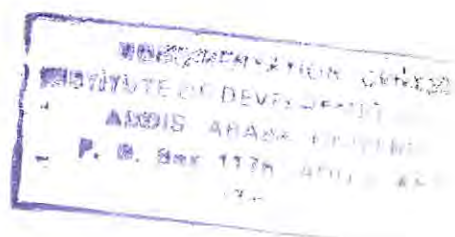
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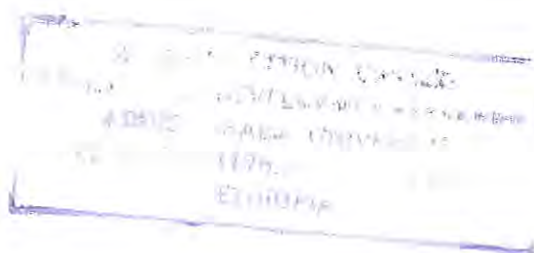
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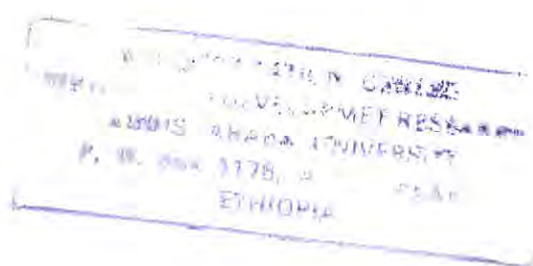
ACRONYMS

ADLI	Agricultural Development Led Industrialization
BARC	Bako Agricultural Research Center
BOG	Bachera Oda Gibe
BTWARDO	Bako-Tibe Woreda Agriculture and Rural Development Office
CFSPE	Coalition for Food Security Program in Ethiopia
CSDC	Community Skill Development Center
CSA	Central Statistical Agency
DA	Development Agent
DFID	Department for International Development
FAO	Food and Agriculture Organization
FDRE	Federal Democratic Republic of Ethiopia
FFW	Farm and Farm Worker
FGD	Focus Group Discussion
FSP	Food Security Program
FTF	Full Time Farmer
FTC	Farmer Training Centers
HDI	Human Development Index
HH	Household
IFAD	International Fund for Agricultural Development
KA	Kebele Administration
KII	Key Informant Interview
MoARD	Ministry of Agriculture and Rural Development
MoFED	Ministry of Finance and Economic Development
MSO	Mixed Skilled Only
OPPD	Oromia Physical Planning Department
ORESPO	Oromia Region Economic and Social Planning Office
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PSNP	Productive Safety Net Program
SDPRP	Sustainable Development and Poverty Reduction Program

SLF	Sustainable Livelihoods Framework
SSU	Secondary Sampling Unit
UNDP	United Nations Development Program
WB	World Bank
WDR	World Development Report
WSZFEDD	West Shewa Zone Finance and Economic Development Office
YTC	Youth Training Center

Meaning of Local Words

- *Abasanga* an animal disease having an equivalent meaning of Antrax.
- *Arata* a traditional money borrowing and lending method in which the borrower will return the money he/she borrowed by doubling the amount in one year.
- *Bulluko* a traditional cloth made of cotton and usually worn during cold times.
- *Bushoftu* an animal disease having an equivalent meaning of Black Leg.
- *Chimdi* a pair of Oxen, usually for plough.
- *Daado* a Social capital through which rural households work together on a rotational basis especially in the late afternoons.
- *Dabo* a social support system by which rural communities help each other in mass when one of the member of the community requests the others to help him in a kind of work.
- *Daraba* a system by which those households that have no cattle take from the rich and look after, with out cash payment but will use the products of this animals as payment.
- *Gumata* a social support system by which members of the community help each other during the critical social obligation times like wedding.
- *Humna* a system by which an oxen less household head go to another mans' farm who have extra oxen and work for them on his labour to get oxen to plough his own land.
- *Idir* a social capital established at village level to perform social duties especially during strong social problems, like deaths.
- *Iqub* a financial capital in which neighborhoods traditionally save their money in weekly or monthly basis and pay for a member weekly or monthly by a lottery method.
- *Koksa* an animal disease having an equivalent meaning of Tripanosomiasis.
- *Qabo* a social support system by which members of the community help each other in weeding especially in the late afternoons.
- *Teff* a widely grown crop of Ethiopia mostly used for the cultural food 'Injera'.



Abstract

This study aimed at assessing livelihood diversification as a strategy to overcome food insecurity in Bako-Tibe Woreda. The research employed qualitative and quantitative research methods. Sampling technique used in this research was purposive sampling method by which West Shewa Zone was selected from the 18 zones of the Oromia regional state and Bako-Tibe Woreda was selected from the 18 Woredas of West Shewa Zone. In addition purposive sampling was also used to select sample kebele administrations and sample target villages for data collection. From the three kebeles a total of 120 sample households were purposively selected for the survey.

Data collection instruments used to collect primary data was: structured household questionnaire for household survey, check lists for key-informant interview and focus group discussion and non-participant observation. Secondary data for this research was collected from reports of the woreda, reports of the CSA and research reports on the woreda. Data analysis was made by descriptive statistics and narrations.

The main livelihood activities of the study area were found to be: farm activities (crops and livestock production), non-farm activities (varieties of activities which are not farm related) and off-farm activities (agricultural wage labor and other activities related to agriculture) and Transfer activities (the flow of cash and other resources from relatives and others). Regarding the participants in diverse livelihoods in the study area the study revealed that: female diversify than males, the youth diversify than the children and the old age groups, the poor diversify than the rich and food insecure households diversify than the food secure.

Determinant factors to livelihood diversification in the study area were found to be vulnerability of the households to shocks, seasonality, and trends (population pressure, resource degradation), availability and lack of livelihood resources, households' aspiration and opportunities, institutional and governance factors and pull and push factors. Income earned from livelihood diversification in the study area is very significant.

The income earned at household level are using in diverse household expenses. This is avoiding the probability of the households to sell food crops for covering the extra household expenditures and even helping them to buy food. This is contributing for these households to be food secure.

CHAPTER ONE

Introduction

1.1. Background to the Study

Poverty and food insecurity go together in many circumstances. From the global context it is obvious that, where there is chronic poverty, there is also prevalent food-insecurity. On the other hand, availability and access to resources and the ability and use of resources determine the level of poverty and the status of food security in a given part of the world. This is influenced by bio-physical, socio-economic, institutional and political attributes of those areas. Today because of various reasons, the rate of poverty and food insecurity is declining in the rural world. According to World Development Report (2008: 45), poverty rate in rural areas have declined over the past decade, mostly because of impressive gain in China; but 75% of the worlds' poor still live in rural areas, and rural poverty remains stubbornly high in south Asia and sub Saharan Africa. This report also stated about the effort of poverty reduction that rural poverty reduction contributed more than 45% to overall poverty reduction 1993-2002. Therefore, the rate of poverty in the rural world is declining but still higher.

According to WB (2008: 94), poverty and food insecurity mutually reinforce each other, in that poverty aggravates food insecurity. On the other hand, food insecurity does not always result from lack of food availability; lack of food access has also great contribution. Food availability may not imply food security, unless there is food access and utilization. The same source stated that, currently the world has more than enough food to feed any one, yet 850 million are food insecure. It further explained that, achieving food security require adequate food availability, access and use. The same source stated that, food security is a broad concept, which implies; when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preference for a long and healthy life.

Experience and different studies have shown that people at any part of the world have their own survival and adaptation strategies towards any shocks, seasonality and vulnerability most probably on food insecurity. Among the strategies, adoption and pursuing of diverse livelihoods is the widespread strategy depending on one's cultural and livelihood attributes. To respond to their situation of food insecurity, the people of the globe have been designing and following the

different livelihood strategies. Meanwhile the most recognized food insecure zone of the world, sub Saharan Africa, is largely dependent on survival strategies predominantly: on-farm, non-farm, off-farm and to some extent transfer activities (Barrett et al., 2001).

In African, food insecurity and poverty have been an identity for centuries; most notably for sub Saharan Africa. According to World Bank (2008), the highest incidence of food insecurity or undernourishment is in sub-Saharan Africa. But the situation is not all similar rather varies in extent and intensity across space and time. According to this report, food insecurity is of three types, chronically food insecure-those households who never have enough to eat; seasonally food insecure-those who fall below adequate consumption level in the lean season and transitory food insecure-those who fall below the consumption threshold as a result of an economic or natural shock.

In sub-Saharan Africa, studies have shown that, there is fast growth in the rate of non-agricultural activities, because of various factors; mostly the reduction of the power of agriculture to support and fulfill the growing needs of the people, the dramatic rise in the price of agricultural inputs (modern technologies) including the price of livestock, the increasing role of non-farm and off-farm incomes to serve as a supplementary and insuring or stabilizing household needs and high population growth resulting in high demand for agricultural land and resulting in land scarcity. Thus, the victims of scarcity of agricultural land often go to non-farm and off-farm activities. These on the other hand, have contributed for the fast growth and high role of livelihood diversification in farm households in Sub-Saharan Africa (Bryceson, 2001).

Ethiopia is among the poorest countries in the world and rank 170th out of the 177 with human development index (HDI) value 0.367 (UNDP, 2005). As it is stated by scholars, poverty and food insecurity go hand in hand. This issue is also stated in Ethiopian case by Degefa (2005:8) as highly interwoven issues that reciprocally reinforce one another, in that poverty is a driving force for household food insecurity, and food insecurity in turn impoverishes a household. In the same case; Ethiopia is among the Sub-Saharan African countries, which are known for their food insecurity, and the people of the country account for third largest in number from the whole continent. On the other hand, Ethiopian economy is predominantly agricultural, but unable to cover the food requirement of the country, often for smallholder farmers and because of these and other motives, peoples are branching out their activities to non-farm and off-farm activities

to insure the failure of agriculture. There is variation in: seasons, sex, age, wealth status, and food conditions in the households' involvement in livelihood diversification. It is also stated by literatures, as there is many motives that lead Ethiopian rural communities to diversify their livelihood portfolios, these factors include food shortage, land scarcity and low food production and high opportunity of non-agricultural income (Devereux, 2000 and Degefa, 2005).

1.2. Statement of the Problem

Livelihood is a comprehensive concept that involves access to resources and activities that households undertake in order to secure their means of subsistence, and strategies that they pursue under both normal or abnormal /crisis situations. It also should be noted that the types of activities practiced and strategies followed by a household may lead to sustainability of the livelihood (Scoones, 1998; Degefa, 2005). Since this study is about livelihood diversification and its role in helping smallholder households to respond to food insecurity, the condition needs to be assessed from the household level. According to Degefa (2005:10), households that lead sustainable livelihood often feel food secure through out the year realigning crop cultivation and/or livestock rising or through running own non-farm ventures or to work with somebody else. As he further explains, a household is food insecure when it is incapable of sufficiently feed its household members from its own production or purchase from the market in return to own cash, which may be earned from the exchange of self-endowment.

WB report of 2008 stated that, smallholder farmers worldwide represent 2 billion people, the majority of which are unable to live on farming as their dominant and sole livelihood strategy, rather being many of them are women and subsist on non-farm and off-farm additional activities. Ethiopia is a country of predominantly smallholder farmers. As it is stated by Gezahegn et al., (2003:29), in reducing household food insecurity, agricultural diversification through intercropping, relay cropping and even double cropping is widespread in Ethiopia.

Even though mono-cropping is widespread in the country; there are also substantial research results that indicate diversification or multiple cropping systems are more sustainable. This could provide greater insurance against drought, increase soil fertility without long fallow periods, diversify the family diet, even solve labor requirements and provide additional products for sale Yohannes and Alemu (2003:37). The same source also stated that, the total food insecure peoples

in Ethiopia amounts nearly 30 million plus. Of which, 4.3 million people are affected by chronic food need, some 6 to 12 million in cyclical food security problem and the remaining 14 to 20 million depending on cyclical need can be affected by seasonal food shortages.

Studies have also shown that there are diverse causes for household food insecurity in Ethiopia and include: recurrent drought, limited sources of alternative income, population pressure, limitations in technology, lack of product diversification and market integration, limited capacity in planning and implementation, environmental degradation, limited access to credit and lack of access to information are the main ones CFSPE (2003:2). Getahun (2003) has stated that, even though farming has long tradition in Ethiopia and has served as important sources of food, agricultural production and productivity in Ethiopia is below the national requirement. Agricultural productivity in the country is constrained by backward agricultural technologies; population pressure, environmental and natural resources degradation, poverty, weak institutional capacity to up root the causes of food insecurity, inadequate infrastructure and social services and inappropriate policies which in turn cause food insecurity.

Smallholder households and those vulnerable due to limited agricultural inputs are most often victims of low agricultural production and the production is unable to satisfy the food needs of these people. Therefore, these households are often forced to complement and supplement their income from different non farm and off farm income generating activities such as selling of fuel wood, charcoal, rope, trading, hand crafting and engagement in wage labor Yared (2002). Even though, the greater contribution of diverse livelihood portfolios in ensuring household food supply by generating income that agriculture cannot provide and the inability of agriculture alone as a sole source of broad household demands, there is limited studies that have been conducted in relation to the contribution of livelihood diversification in food security in Ethiopia broadly and in Bako Tibe woreda particularly. As consequence, there is a wide knowledge gap on the contribution of livelihood diversification in response to household food insecurity, though its contribution is significant to rural households in Ethiopia. Therefore, it is this real contribution of diversified livelihood to household food insecurity in this era of fragile agricultural production and the knowledge gap on the topic under study in that initiated me to make research on this topic thereby fill; the knowledge gap and provide adequate information for the concerned bodies about the contribution of livelihoods diversification on household food security.

1.3. Research Questions

The research questions on which this research has dealt include:

1. What are the main livelihood activities of smallholder farmers in Bako Tibe woreda?
2. Who are the actors/dominant participants of livelihood diversification in the study area?
3. What are the determinant factors of livelihood diversification?
4. To what extent are diversified livelihoods responding to household food insecurity?
5. What should be done to encourage smallholder farmers to diversify their livelihoods?

1.4. Objectives of the Study

1.4.1. General Objective: The overall objective of the study is to assess the extent to which livelihoods diversification is helping smallholder farmers to attain food security at household level.

1.4.2. Specific Objectives: The specific objectives of the study include:

1. To assess different livelihood activities that smallholder farmers are practicing in Bako-Tibe woreda.
2. To identify the notable participants in diversified livelihoods in Bako-Tibe woreda.
3. To identify the determinant factors to livelihood diversification among smallholder farmers.
4. To explain the extent to which diversified livelihoods are responding to household food insecurity in the study area and suggest the ways in which diversified livelihoods will be encouraged.

1.5. Significance of the Study

Although agriculture has served as the sole source of food and still serving for a great deal of farmers round the world since long ago and still serving for many, it is missing to serve the same role for millions of farmers on the other side. For example, Barrett et al. (2001) stated that these farmers are expanding their livelihoods to non-farm and off-farm activities side by side with agricultural production most typically sub Saharan Africa. In view of this, this study is designed to reflect the role of livelihood diversification in responding to household food insecurity among smallholder farmers. This study has the significance of: giving constructive information for the concerned authorities of Bako Tibe woreda to make necessary measures to enable smallholder farmers to diversify their livelihoods, to respond to their household food insecurity; informing

the concerned governmental and non-governmental organizations that work on food security areas to include diversification as alternative means of dealing with securing household food conditions as one area of their concern, serving those researchers who intend to work on the same area as further reference material and filling the research gap on livelihood diversification in the country in general.

1. 6. Scope of the Study

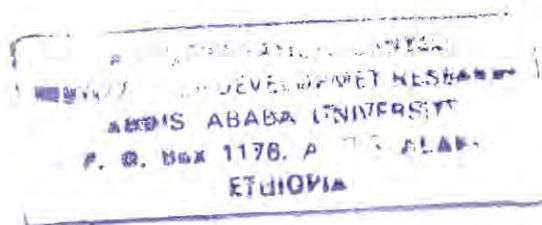
Farmers have a number of livelihood strategies that they practice for their means of subsistence, these include among others: agricultural intensification/extensification, diversification and migration are the main ones. This study focuses on livelihoods diversification and its impact in reducing household food insecurity among smallholder farmers in Bako-Tibe Woreda.

1.7. Limitation of the Study

The dominant limitations of the study are: time constraint that hindered the researcher to make repeated and staged field survey; some participants were not cooperative that three of the samples were not interviewed, transport problem to go to remote KA (Oda Gudeya) was another strong challenge; there was financial constraint to purchase materials needed for data collection, processing, and analysis; enumerators recruitment and training. But to keep the reliability of my data I have taken the following measures: to solve the time constraint I have used full time including long time in the night to arrange and transcribe the qualitative data in to the computer and tried to collect the documented data from the woreda officials through photocopy and mail systems. To solve the transport problem I hired the pack animals and to cope with the budget constraint I hired least cost and cooperative enumerators and used cooperation of friends.

1.8. Organization of the Study

This study is organized in to eight chapters. The first chapter is the introduction, chapter two deals with reviewing related literature, the third chapter describes the methodology used in the study; chapter four presents background of the study area. Chapter five concerned with household characteristics and household resource ownership. Chapter six discusses household livelihood activities, and the seventh chapter dealt with determinants of livelihood diversification and its role in food security. At last, chapter eight presents summary and recommendations.



CHAPTER TWO

General Literature Review

2.1. The Concept of Rural Livelihood Diversification

Peoples of the world, who inhabit in every corner of the world, have their own means of subsistence ranging from primitive to modern life styles. Peoples of either case and inhabit at a particular place have also internal variations in their activities. There are various livelihood strategies in a particular society since a single activity cannot fulfill the entire needs of the society. These varied activities have different backgrounds that range from bio-physical to socio-economic constituents.

Various scholars forwarded their views on the concepts of livelihoods and livelihood diversification. According to Degefa (2005: 233), a livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. The author further explains the sustainability of a livelihood; he stated that a livelihood is sustainable if it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets and provide sustainable livelihood opportunities for the next generation, and which contributes net benefits to other livelihoods at the local and global levels and in a short and long terms.

A number of studies expressed livelihood diversification in a number of ways. For instance, World Bank (2003) states “diversification as range of copying strategies, investments in livestock and non-farm income, and migration that are used to reduce fluctuations in income which also include traditional copying strategies”. Similarly Ellis (1998:4) stated livelihood diversification as “a process by which rural families construct a diverse portfolio of activities and social support capabilities in order to survive and to improve their standards of living; important is also access to social support and public transfers”. Livelihood diversification is “a process that involves; wage agricultural labor on others’ farms, trade and service related activities that have taken place in rural areas and urban based ones requiring workers’ commute” (Mohammed, 2006:18).

According to FAO (2006), livelihoods diversification is of two types. These are as a result of increased importance of off-farm wage labor in household livelihood portfolio or through the

development of new forms of non-farm/on-site production of non-conventional marketable commodities. In both cases, diversification ranges from a temporary change of households portfolio (occasional diversification) to a deliberate attempt to optimize household capacity to take advantage of ever-changing opportunities and cope with unexpected constraints (strategic diversification).

2.2. Reasons for Livelihood Diversification

People diversify their livelihoods depending on the challenges they commit and opportunities of the activities they engaged in. Various scholars stated various reasons for diversification. For example, diversification may occur as a deliberate household strategy or as an involuntary response to crisis or as to diminish and accentuate rural inequality, Ellis (2000). Livelihood diversification may be of various reasons; that can be of economic and social in nature. According to Anderson and Deshingkar (2004:70), the main reasons for livelihoods diversification are of two in nature. These are *asset-based* and *insurance-based* reasons of diversification. The asset-based diversification can be explained by the amount of diversity in a household's income portfolio reflects the amount of diversity in the assets (or factor of production) it owns or has access to. For example, households which own lots of land relative to their labor power specializes in cultivation while households which own very little or no land relative to their labor power specialize in wage labor. Households which possess some land, but not enough to fully employ the household's labor supply, drive their income both from own cultivation and wage labor. Similarly ownership of other income generating assets is also the most important reasons for livelihoods diversification. The second reason for livelihood diversification is that the *insurance-based* factor. This is when diversification is taken as a way of insuring against income shocks. This also can be explained as the amount of diversification varies across households according to their demand to a particular form of insurance, and its cost. Household diversification can arise because each individual within the household has a diverse income portfolio, or because individuals within the household are specialized in different activities. It can act as both a safety value for the rural poor and as a means of accumulation for the rural rich or can benefit farm investment and production or impoverish agriculture by withdrawing critical resources especially labor Bryceson (1999). In addition, it is well known that poor households in rural areas of developing countries often rely on a diverse set of income-

generating activities to meet their consumption needs. This is to provide security against diverse external shocks, coping with seasonality and generating additional income (Ellis, 1998; Anderson and Deshingkar, 2004 as cited in Ellis and Freeman, 2005:62).

In Africa livelihood diversification is the result of the composite driving forces and reasons. For instance, the main reasons according to (FAO, 2006) are: to generate cash that can be used to improve farm yields by hiring labor and purchase farm inputs, to reduce risk and encourage innovation, to bring environmental benefits. On the other hand, literature shows that livelihoods diversification in sub-Saharan Africa is because of the failure of agriculture to provide a sufficient livelihood for a substantial proportion of rural dwellers (Bryceson and Bank, 2001; Bryceson, 2002).

According to Yared (1999), in Ethiopia, food insecurity and cash needs to purchase other goods and services are the main reasons for many households to diversify their livelihoods and he stated that income earning intensifies as the granary begins to empty during a drought or the pre-harvest season. He added, wage-labor, which is one of the livelihood strategies, is a critical source of cash and food for the poorer peasant households. Furthermore, non-agricultural income occupies a significant disproportionate to its actual amount, because a cash source precisely at the time that many households start to face serious food and cash problems, Yared (1999: 11). They can be an important source of cash for purchase of necessary items from the market such as salt, pepper, coffee and clothes. This contribution of the non-farm income enhances household food security by allowing households to avoid grain sales rather help them to purchase additional grain.

2.3. Determinants of Livelihood Diversification

2.3.1. Push and Pull Factors to Livelihood Diversification

Asset, activity and income diversification lies at the center of livelihood strategies in rural Africa Barrett and Reardon (2001), and very few people collect their income from any one source, hold all their wealth in a form of any single asset, or use their assets in just one activity. Multiple motives prompt households and individuals to diversify income, assets and activities. The first set of motives are what is termed as “push factors”: risk reduction, reaction to diminishing factor returns in any given use, such as family labor supply in the presence of land constraints driven by

population pressure and landholdings fragmentation, reaction to crisis or liquidity constraints, high transaction cost that reduce households to self provision in several goods and services, etc. The second set of motives to livelihoods diversification are “pull factors”: realization of strategic complementarities between activities, such as crop-livestock integration or milling and hog production, specialization according to comparative advantage accorded by superior technologies, skills or endowments, etc(Bryceson and Reardon, 2001:2).

The pull factor of diversification can be seen from the context of the benefit that stakeholders will get being engaged in diverse livelihoods. As stated by Thodaro and Smith (2003: 285); diversification has various advantages:

- 1) It can help stakeholders to use other activities in the slack season to take advantage of both idle labor and family labor;
- 2) Where labor is in short supply during peak planting, weeding and harvesting seasons simple labor saving devices can be used and free labor for other farm activities;
- 3) the use of better seeds, fertilizers, and simple irrigation to increase the yields of staple crops such as wheat, rice and corn can free part of the land for cash crop cultivation, that on the other hand can rise families consumption standard and help to invest in farm improvements;
- 4) Can minimize the impact of staple crop failure and provide a security of income previously unavailable. Similarly the realization of strategic complementarities between diversification and specialization according to the comparative advantages is the pull-factor for livelihoods diversification.

2.3.2. Capitals as Determinant Factors to Diversification

There are various kinds of capitals identified by different scholars and organizations: according to Ellis (1998) capitals are divided in to five as physical, social, natural, human and financial capitals; but adding personal capital, IFAD (2007), divided capitals into six parts. These are: personal, social, physical, natural, Human and financial capitals. The availability and absence of these stated capitals have its own influence on the extent of livelihood diversification.

With regard to natural capital, as stated by Ellis and Freeman (2005: 70); small landholdings in many countries limit the availability of agriculture as a livelihood strategy, forcing many smallholders to diversify into other livelihood options. Therefore, while dependence on agriculture is negatively correlated with income in some countries, this effect is limited by the small size of landholding in many other countries. According to the same study, full-time farming is only an option for those endowed with enough land or livestock to absorb all the adult labor in the household. Skilled non-farm employments are only available to those with education, particular skills, or the necessary financial capital to start a business.

Assets are the determinate factors for households' livelihood diversity. For example, as illustrated by (Ellis and Freeman, 2005:70) households which own lots of natural capital such as land and water diversify more in agriculture. For example, households which own some livestock but not enough to fully employ the household's labor supply, derive their income both from livestock-related activities and wage labor. According to these authors the range of activities which the household has access to, which will in turn depend on the household's asset base, including human capital (education, health, skill, etc), social capital (Networks, relationships etc), financial capital (credits, loans, etc), physical capital (infrastructure, modern agricultural inputs, market, etc) and personal capital(motivation, willingness to act, etc.).

2.3.3. Institutional Determinant Factors

There are institutional factors that also determine the individuals and households' livelihood diversification. These are local and international institutions (e.g. local customs, local and national land tenure systems) and social relations (gender, caste, kinship) as well as economic opportunities (local, national and global), wealth status (rich or poor), modern and traditional financial institutions, technology and information and communication institutions (Ellis and Freeman,2005; Barret,1997; Barret C.B. et al.,2001).

2.3.4. Vulnerability Contexts as Determinant Factors

As many scholars and organizations tried to state, contextual factors that determine livelihoods diversification include: shocks, trends and seasonality. As Ellis and Freeman (2005: 5) stated, diversification is used by the household as a way of insuring against income shocks. If this is the case, we would expect the amount of diversification to vary across households according to their

demand for their particular form of insurance, and its cost. The demand for diversification for insurance will depend positively on how risk-averse the household is and on how much income volatility it is subject to, and negatively on the extent to which it has other ways of insuring against or coping with risk, access to communal credit /loan groups, crop insurance, state safety nets, or migrant remittances. On the other hand, vulnerability of the household has its own influence on the extent of livelihood diversification. It is often expressed that poor households are both more likely to be members of local credit associations or receive government benefits, and have more diversified income. There are also seasonal variations in the household's livelihood diversification. As it was stated by Ellis and Freeman (2005), income diversification may reflect the fact that households and individuals are engaged in different activities during different seasons, rather than in different activities within any one particular season. Furthermore, individual livelihood diversification is also dependent on the seasonal availability of employment and raw materials.

In addition the finding by Bryceson (1996), on the effect of market imperfection and market liberalization enhanced the risk of Sub-Saharan Smallholder agriculturalists and forced them to take up an alternative risk averse and labor allocative activity, known as non-agricultural income diversification. Reductions in asset stocks below key threshold levels may cause households to shift from higher return to lower return livelihood strategies (Ellis and Freeman, 2005). The poor tend to be much more exposed than the rich are to asset risk and thus face a higher probability of being cast below critical thresholds due to adverse shocks (e.g. drought, floods, erosion, war, hurricanes, and diseases).

According to Mohammed (2006: 16), livelihoods diversification is widespread, but there are barriers or opportunities in accessing non-farm activities in rural areas that mostly context dependent i.e. local context and national context; locally, access to credit and affordable transportation and nationally, domestic trade liberalization. He continued and stated that the growth in livelihoods diversification is not the outcome of rising agricultural incomes since it is constrained by limited access to credit and land.

2.4. Debate on Livelihood Diversification

There are two views on the livelihoods diversification. The first group is that opposes the idea of livelihoods diversification and the second is that support livelihoods diversification. The first group or those who opposes livelihood diversification argue that diversification of livelihoods can adversely affect an economy by declining “specialization” in the production of a single commodity which can help high yield per hectare of land; it affects growth in agriculture, facilitates labor migration from agriculture to non-agriculture, and undermines investment in agriculture Lipton (1977); Degefa (2008:149). These groups further justify their position by advocating the linear path in agricultural growth i.e. “evolutionary mixed farming model” from traditional and background to modern agriculture (Degefa, 2005:199).

The second group is those that support livelihood diversification. They argue for diversified livelihoods, because it is a central mechanism for tackling rural poverty and food insecurity. For instance, Ellis (1998:4) stated livelihood diversification as “a process by which rural families construct a diverse portfolio of activities and social support capabilities in order to survive and to improve standard of living”.

According to these groups and Degefa (2008:150), livelihood diversification is the result of varieties of factors: seasonality, differential labor markets, risk strategies, coping behavior, credit, market imperfections, inter-temporal savings and investment are the main ones. In this research attention is given to the positive view of livelihoods diversification, this is because in Ethiopia where population to land ratio is very high, it is difficult for many farm households to focus on agricultural activities only, in addition as population increases the probability of the newly established households to get sufficient farm land is very limited, and they often go to non-farm activities. On the other hand, the study is on small holder farmers, who most of the times produce limited food crops, and often diversify for insurance. Thus this study was focused on this positive contribution of livelihood diversification in sustaining household food supply.

2.5. Major Participants of Livelihood Diversification

As livelihood varies from place to place, its actors also vary from place to place and subject to subject, Livelihood diversification is a process of branching out of household activities in view of harnessing varied out-puts to reduce household vulnerability. Thus, participants in livelihoods

diversification vary from household to household, from society to society, from age to age and from rich to poor. There are many conditions that make variation in household livelihood diversification. For instance, Ellis and Allison (2004:5) state that there are variations in diversification among different income groups, in that, the better-off tend to diversify in the form of non-farm business activities (trade, transport, shop keeping, bricking etc), while the poor tend to diversify in the form of casual wage work, especially in the others' farm.

Similarly as it was stated by Diyamett *et al.* (2001) and Mohammed (2006:18), at intra-household level, younger household members tend to diversify better than older ones. At gender level, women involve in less remunerative activities than their male counterparts, Seppala (1996); Mohammed (2006:17). In inter-household level poor households are involved in less remunerative and temporary employment than better-off, Baker (1995); Mohammed (2006:17). In continental variation, there is increasing level of income diversification activities in rural sub-Saharan Africa than in Asia Hassen and Karim (1997); Barrett *et al.*, (2001); Mohammed (2006:18). In addition, World Bank (2003) stated that, the rural non-farm sector is an important source of employment of rural women. As this study shows non-farm activities are linked to falling poverty rates for both male and female headed households, but the rate of decline is faster for woman than male headed households. Further Bryceson (1999:53); Ellis and Freeman (2005) stated that the need to pursue agriculture alone shifted to non-agricultural income diversification, the historically disadvantaged household members, and women, overturned the male dominance and started to participate, even take the lion share of non-agricultural activities. These authors additionally stated that households earn cash involving in activities such as: selling of prepared snacks, beer, hair plaiting, petty retailing, prostitution, knitting, tailoring, and soap making, especially female headed households, who face major labor constraints due to the relatively small size of their household and lack of male assistance for various tasks.

2.6. Constraints to Livelihood Diversification

There are considerable factors that can be pointed as the constraints of the livelihoods diversification in the global contexts. For instance, Reardon, (1997) stated that unequal access to non-farm opportunities are the main cause for poor farmers in Sub-Saharan African countries not to participate in non-farm activities. Similarly unequal access to land holding and non-farm earnings are the other dominant constraint that cause the land less and the limited land owners to

engage in non-farm activities because of their land scarcity. For instance Reardon,(1997); Barrett, (2000) and Reardon et al (1992) stated that farmers with large land holdings diversify better than farmers with small landholdings and farmers who are near to towns and access to market centers diversify better than those who are far from the market sources and with infrastructural problems. The same is true with wealth differentials, in that richer groups diversify better than the poor households. Therefore, limited access to capitals and other social and economic resources are the most important controlling factors in participation in diverse livelihoods. These factors are also working in the case of Ethiopia and this study is aimed at finding out whether these factors are working particularly in Bako-Tibe Woreda.

2.7. Smallholder Livelihood Strategies

As World Bank (2003: 51) stated, small producers on family farms are those who linked to markets, but have limited assets. This literature also suggested that, these farmers produce a large share of the developing world's food products including rice in Asia, vegetables for domestic markets all over the world, and milk in India and East Africa. These farmers are often poor and operating both in favored and less-favored areas and generally relies on diversified production systems and may have important off-farm livelihood activities. With improved market opportunities, many of these farmers can build their asset base and make the transition to commercially oriented farming. On the other hand, this same source continued describing the smallholder farmers as subsistence oriented farmers that frequently operate in less-favored production environments and lack most of the assets. They have varied livelihood strategies, often operate outside of the market and are prone to high levels of poverty and food insecurity. Within this group, part-time farming is growing in importance accounting for a significant share of family income.

In addition to agriculture, growing of non-farm rural income generating activities offers important opportunities to reduce rural poverty. A common feature is the wide diversity of non-farm income sources at the household level including income derived through mobility of labor markets and remittances. Many non-farm activities are derived from agriculture and natural resource use via upstream or downstream linkages and they can have important multiplier effects. Other activities are essentially similar to those in urban settings including manufacturing, services and commerce.

Studies from developing countries have shown that about two-third of the very poor scratch out their livelihoods from subsistence agriculture either as small farmers or low-paid farm workers. The remaining one-third are also located in rural areas but engaged in petty services, and others are located on the fringes and in marginal areas of urban centers where they engage in various forms of self-employment such as street hawking, trading, petty services, and small scale commerce, Thodaro and Smith (2003:286). According to (Ellis, 1998); rural households construct diverse portfolios of activities and social construct capabilities. Livelihoods are the means of subsistence and comprise of activities those peoples undergone to secure their livelihoods, and Ellis (1999:1) stated that, a livelihood comprises of.....the activities, the asset, and the access that jointly determine the living gained by the individual or the household. Livelihood strategies are the different activities that the peoples engaged in at different places according to their cultural and resource endowments.

Livelihoods that have the potential return and basically engaged by the target groups are important in achieving a sustainable livelihood. Thodaro and Smith (2003: 284) forwarded that, three basic factors are necessary conditions for agriculture and economic development in general. These include: *first* accelerated output growth through technological, institutional and price incentive changes desired to raise the productivity of smallholder farms. *Second*, rising domestic demand for agricultural output derived from an employment-oriented urban development strategy and; *third*, diversified non-agricultural, labor-intensive rural development activities that directly or indirectly supports and are supported by the farming community. Similarly the quality of the practitioners and the duration of the work are important factors to classify livelihood activities of an area or a country or a society. Therefore, Barret *et al* (2001: 316) categorized rural farm households as:

- 1) Farm and farm worker (FFW) - strategy of households that only work as un-skilled agricultural laborers or farm their own land;
- 2) Fulltime farmers (FTF) – strategy that represents households that farm their own land and livestock and had no off-farm employment;
- 3) Those who adopt mixed strategy (Mix) - that includes non-farm employment with farming and unskilled agricultural labor;
- 4) The mixed-skilled only (MSO) – strategy that involves only farming or skilled non-farm labor for salary or as an entrepreneur.

On the other hand, in case of Ethiopia, as it was stated by Temesgen et al. (2008); smallholder farmers practice traditional tillage systems using an ard plow called *Maresha*, traditional tillage systems that involve repeated cultivations with the *Maresha* plow have caused land degradation and poor utilization of rainwater that led to low crop productivity. One should also put distinction between non-farm and other forms of livelihood; in that sense “non-farm” refers to those activities that are not primarily agriculture and forestry or fisheries. However, non-farm does include trade or processing of agricultural products (even if, in the case of micro-processing activities, they take place on the farm). Similarly the term ‘non-farm’ shouldn’t be confused with ‘off-farm’; in that the latter generally refers to activities undertaken away from the households own farm (Ellis, 1998).

Farther according to Bryceson (2001), there are various activities that can be considered non-agricultural and can be categorized in to a number of categories. These include: *first*, local services such as beer brewing, and brick making that are commonly provided in remote areas; *Second*, trade that occur between rural and urban areas incorporating both agricultural and manufactured products; *Third*, transfer payment (remittance) in areas where mobile population working both in urban and rural areas.

2.8. Role of Livelihoods Diversification on Reducing HH Food Insecurity

2.8.1. The Concepts of Food Security and Insecurity

As it was stated above poverty has direct relationship with food insecurity and the effort that deals with poverty reduction also deals with food insecurity. There are various researchers who have forwarded their views on the contribution of livelihood diversification in household’s income generation and reduction of risk and reducing food insecurity. For instance, Ellis and Allison (2004: 6) stated as diversification encompasses on-farm diversity; other natural resources access diversity and non-farm diversify in combinations that reflect people’s capabilities and options. As the livelihood diversification is many types, the role that each kind plays in securing household food supply is different. For example as it is stated by WB (2008:141), irrigation is one of the key bases for agricultural development, which continues to be the main engine for broad-based rural development. It was instrumental in the success of the Green Revolution of the

1960s and 1970s when food security was the objective. Today irrigated agriculture represents only 17% of the cropped land, but provides 40% of the world food supply.

Households can be categorized into: “well-off” which are typically defined by owning more than two to three hectares of land, more than five cattle, a house of brick walls and corrugated iron roof. Furthermore, they are food secure all year round, hire labor seasonally, are educated up to primary level or higher, and engaged in diverse non-farm activities (trading, milling, shop keeping, brick making, lodgings, and bars) in addition to farming. A “middle category” of households are defined by owning less of most or all of the assets. In the third category, households tend to be net sellers rather than buyers of labor, they are seasonally food insecure in most years, and they engage in few or non-farm activities”. On the other hand, households regarded as poor tend to have less than 0.5 hectare of land or do not own land at all, do not own cattle or goat, have houses in poor repair constructed of mud and thatch, and are food insecure for much of the year (Ellis & Freeman, 2005: 37).

The most commonly accepted definition of food security is “when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a long and healthy life” WB (2008:93). According to this definition the notion of food security is very broad and far beyond food availability. The idea is multi-dimensional and all inclusive; physical, social, and economic aspects of food. Thus food availability alone does not imply food security. For instance, according to the same report today the world has more than enough food to feed anyone, yet 850 million are food insecure, therefore achieving food security requires adequate food availability, access and use WB (2008:94). It also states, when one part of the world is in state of surplus food and its residents are enjoying enough nutrition, the other part is suffering from food shortage; even within a particular area different groups may not enjoy similar food security due to various factors basically availability, adequacy and access factors. Therefore, food security depends on the adequate and stable food availability, access to adequate and appropriate food, and proper use and good health, to ensure that individual consumers enjoy the full nutritional benefits of available and accessible food. Availability is necessary but not sufficient condition to ensure access, which is necessary; but not sufficient for effective use. From the broader historical perspective, the thought of food security

starts during ancient times. As Maxwell states, the following were among the early thinking of food security:

1. The biblical story of Joseph at the pharaoh's court, predicting seven years of plenty followed by seven years of famine, is an early example of food security planning practice;
2. The Israelites receive "Manna" from heaven while fleeing the pharaoh's in the desert and exemplified as food aid by some; and
3. The Julius Caesar struggled with the spiraling cost of food subsidies in ancient Rome, and counted it something a triumph to have reduced the number of people receiving free grain to mere 150,000 (Maxwell and Devereux, 2000).

In recent view, the concept of food security varies in scope spatially and temporally and becoming very specific. Especially after the 1974's world food conference, food security can be conceptualized as, a phenomena consisting of three important and overlapping paradigm shifts Maxwell (1996); Maxwell and Devereux (2000). These shifts are: from the global and national to the household and individual; from a food first perspective to a livelihoods perspective; and from objective indicators to subjective perception. Food security can also be visualized at household level with variations with the nature of the households, especially in terms of their ability to feed their households and respond to their household food insecurity. According to Oshaug (1985; 5), these households are of three in type:

1. *Enduring households*- which maintain household food security on continuous basis;
2. *Resilient households*- which suffer shocks but recover quickly;
3. *Fragile households*- which become increasingly food insecure in response to shocks. Others explain food security in terms of freedom from fear of food shortages in the future as well as the ability to feed: children, women and marginal societies (Maxwell and Devereux, 2000:18).

The notion of food insecurity is a phenomenon which is resulted from a composite of different driving forces; these forces range from; the production inadequacy, because of various shocks to the distribution failure from areas of surplus to areas of scarce. As it is stated by Barrett and Heisey (2002); even though enough food is produced globally to meet everyone's dietary requirements adequately, more than one person in six in the developing world lacks access to

sufficient food to maintain good health. But a shocking number of entire nations suffer insufficient food availability in the aggregate compounded by instability in domestic food production and commercial imports that regularly cause food availability shortfalls. They added, national level food deficiencies in a world of global surpluses underscore that the contemporary food security challenge is primarily a distributional problem (Barrett and Heisey, 2002: 477). There is different labeling about food insecurity. For example, WB, (2008: 95) stated, food insecurity is of three in type, these are: *chronically food insecure*- who never have enough to eat; *seasonally food insecure*-fall below adequate consumption level in the lean season, and the *transitory food insecure* -fall below inadequate consumption as a result of an economic or natural shock such as droughts, sometimes with long lasting consequences. The same literature has shown that, the highest rate of food insecurity or under nourishment is in south Asia followed by South East Asia.

2.8.2. Food Security Condition in Ethiopia

Both chronic and transitory food insecurity in Ethiopia is prevalent. Per capita food production in Ethiopia is not enough to feed the households especially vulnerable households throughout a year. As a result, approximately five million people on average in the country, predominantly rural are under food deficit every year. According to Workneh (2006), it was estimated that domestic food production provided in the late 1980s was about 1620 calories per person per day while total availability in addition to food imports was about 1770 calories per person per day which is 16% below the minimum level (2100 Kcal per person per day, equivalent to 225 kg of grain per person per year).

Therefore, various factors are out-lined by different researchers, as the determinants of household food insecurity in Ethiopia: Size of landholding, amount of cultivated land, number of oxen, and amount of income earned from activities, are the determinant factors for household food insecurity Yared (1999); Workneh (2006). Similarly there are various reasons that drive households to be food insecure in Ethiopia: Households risk of food insecurity and famine were greatly increased by long term secular decline in resource endowment combined with unfavorable food policy intervention and food insecurity in Ethiopia is derived from dependence on undiversified livelihood based on low input and low output rain-fed agriculture (Getachew, 1995; Devereux, 2000).

According to FDRE (2002:3), food insecurity is of two type: (1) Chronic food insecurity- commonly as a result of overwhelming poverty indicated by lack of assets; (2) acute food insecurity is viewed as more of transitory phenomenon related to man made and unusual shocks such as drought. In further explanation, chronically food insecure populations may experience food deficits relative to need in any given year, irrespective of the impact of shocks. The acutely food insecure population are assumed to require short term assistance to help them cope with unusual circumstances that impact temporarily on their livelihoods.

As it is stated by Degefa (2005), livelihood diversifications is becoming the dominant activity for farmers especially for smallholder farmers, who are most of the time affected by recurrent food shortage which is the main challenge, while they are dependent on a single livelihood activity driven by small landholding owing to over-population, low productivity due to land degradation and inability to use modern technology and shortage of input subsidies from the government side. He added, land scarcity and low productivity in Ethiopia is enforcing the rural household to engage in diversifying livelihoods to raise their income. He continued, in the country today, it is difficult to identify a single household activity.

The main reason for some households to follow diverse livelihoods is the household food shortage. As it is stated by Degefa (1996), farm households face seasonal food shortage for two main reasons: first and for most, when they fail to produce food grains that can satisfy their annual household requirement driven constraints from resources such as land and cash capital. Second, farm households may face food shortage because of lack of proper system of food available at land. In Ethiopian case much of the rural population lives in state of chronic food insecurity. Recurrent drought, degradation of natural resources and rapid population growth are among the main causes of declining per capital food production (FAO, 2006).

Table 2.1: Indicative categories of food insecure HHs in Ethiopia

Types of food insecurity	Place		
	rural	urban	Others
chronic	<ul style="list-style-type: none"> - Resource poor HHs - Landless/land scarce - Oxen-less - Poor pastoralists - Female headed HHs - Elderly - Disabled and sick - Poor non-agriculturalists - Newly established settlers 	<ul style="list-style-type: none"> - Low income HHs - Those out of labor market - Elderly - Disabled and sick - Some female headed HHs - Street children 	<ul style="list-style-type: none"> - Refugees - Disabled people
transitory	<ul style="list-style-type: none"> - Less resource areas - Vulnerable to shocks, esp. drought - Farmers and others in drought prone areas - Pastoralists - Others vulnerable to economic shocks 	<ul style="list-style-type: none"> - Urban poor vulnerable to economic shocks, esp. those causing food price rises 	<ul style="list-style-type: none"> - Groups affected by temporary civil unrest

Source: FDRE (2002: 3)

In comparison between farm and non-farm activities in household food consumption studies states that in Ethiopia, the poorest quartile, 42% of food consumption derived from production, 38% from transfers and 20% from purchases. Even the richest quartile was far from food secure or self-sufficiency, deriving 54% of its food from the farm, 26% from the market and 20% from transfers (Tekabe, 1998:8; Deverux, 2000). The current food insecurity in Ethiopia is the result of small landholdings that resulted from high population increase which on the other hand also intensifies resource degradation, recurrent drought, and limited non-farm (Deverux, 2000). Food insecurity in Ethiopia drives directly from dependence on undiversified livelihood based on low output rain-fed agriculture; similarly over dependence on ones staple is a risky food security strategy and contributes to declining soil fertility. Expanding production of complementary staples need to be assessed. Thus, diversifying the range of crops would benefit people's diets and income, as well as soil fertility (Maxwell and Devereux, 2000:103).

The role of livelihood diversification in income generation that on the reverse direction contributes to household food insecurity is the highest in Ethiopia. According to, Sara (2006) and Degefa (2005) due to land scarcity and low productivity, many rural household have engaged in

different economic activities including crop production, livestock raising, non-agricultural activities and remittance from kin. The share of non-farm activities is becoming a dominant activity in Ethiopia because of various factors, and currently its share is about 36% (Reardon 1997; Degefa, 2005).

Bearing in mind the above stated contributions of diversified livelihoods in raising household income and its role in reducing household food insecurity, this study was undertaken in Bako-Tibe Woreda to find out the real contribution of diverse livelihoods in responding to household food insecurity.

2.9. Recent Policy Environment to Food Security in Ethiopia

2.9.1. Rural Development Policies, Strategies and Programs:

According to (FDRE, 2002:60) the development direction that Ethiopia currently following, the Agricultural Development Led Industrialization (ADLI), is a strategy that places agriculture and rural development at its center. This strategy has four basic features: the first is to ensure fast economic growth; the second is to bring about a situation where the people could benefit substantially; the third is extricating the country from being a charity case and improving the position of the country in the process of international economic integration, and the fourth feature is to realize a flourishing free market economy. The main strategies include:

a) *The direction of agricultural development-* Agricultural intensification and extensification strategies to be used side by side. That is the method that makes use of the skilled and unskilled labor power. On the other hand, diversification of the products has also consideration; i.e. it encourages the land use pattern in which land will be used through out the year and produce diversified products through irrigation and other means. The strategy also focuses on rural social and infrastructural development, enhancing the capacity of human resources and utilization.

b) *Land utilization-* Land belongs to state but every farmers have right to get land and utilize it properly with the exception of sale. If the government wants the land for development purpose the farmer will be paid with appropriate compensation. According to the countries constitution, all Ethiopian farmers have right to get land freely and not to lose their land without any precondition (Ethiopian Constitution, 1987; article 40: 4).

c) *Putting emphasis on local peculiarities*- Since the country has diverse agro-ecologies it is impossible to provide identical agricultural development technology. Thus technologies that can fit a particular locality are designed to promote specialization though internal diversification has also been given due attention.

d) *Promoting market led agricultural development*- the emphasis has made to facilitate the proper market environment both internally and internationally for the products.

e) *Rural development management*- for proper implementation of the rural development activities, the creation and allocation of proper rural development management has also been given special emphasis

2.9.2. Sustainable Development and Poverty Reduction Program (SDPRP)

SDPRP is established by the government of Ethiopia in 2002. The major trust of this program includes: overriding the intentional focus on agriculture as the sector is the source of livelihood for 85% of the population where the bulk of the poor live; strengthening private sector growth and development especially in industry; as means of creating off-farm employment and output growth; rapid export growth through production of high value agricultural products and increased support to export oriented manufacturing sectors particularly intensified processing of high quality skins (leather and textile garment); undertake major investment in education and strengthening the ongoing effort on capacity building to overcome crucial constraints to the implementation of development programs; deepen and strengthen the decentralization process; improvement in governance to move forward in the transformation of society; agricultural research; water dam & small scale irrigation; and increased water resource utilization to ensure food security (FDRE, 2005:146-147). Therefore, this study was conducted in view of assessing the above policy instruments and their role in responding household food security.

A. Food Security Issues of SDPRP

SDPRP has the following food security related issues in Ethiopia: Making agriculture the central solution for food insecurity (increasing crop productivity and irrigation); gradual reduction of proportion of rural population dependence on food aid; realizing food security at household

level; ensuring timely intervention to avoid lack of food and use the resources of food aid to build the potential of agriculture and rural infrastructure.

B. Coalition for Food Security

In the establishment of the SDPRP in 2002, the government of Ethiopia has reaffirmed that; the reduction of poverty will continue to be the core agenda of the country's development. "In SDPRP document, in the context of establishing the nexus between policies and development programs on one hand and poverty on the other, issues of food security and agricultural development have been well reflected and areas requiring action are identified. It is therefore acknowledged that food security programs are the subset of poverty reduction interventions and integral part of the fulfillment of its objectives and series of consultative processes between the government and development partners to address the challenges of the food insecurity has been recognized.

In the course of process, the workshop organized by the government 11-12 June 2003 was the turning point in the effort to find lasting solution for the chronic food insecurity in the country. Commitment to work together was seen on the forum between the government leadership and development partners. The meeting concluded with commitment for a new "coalition for the food security in Ethiopia" with on the view to achieve a major turn around of the food insecurity challenges with in a framework of three to five years. The coalition was comprehensive that reflected the new partnership among government, development partners, civil society and private sector (CFSPE, 2003).

C. Productive Safety Net Program (PSNP)

Food insecurity has become one of the defining features of rural poverty, particularly in drought prone areas of Ethiopia. The government of Ethiopia initiated a productive safety net program (PSNP) in 2004. The objectives of the productive safety net program (PSNP) are to provide transfers to the food insecure woredas in a way that prevent asset depletion at the household level. The program will thus address immediate human needs while simultaneously; supporting the rural transformation process, preventing long-term consequences of short-term consumption shortages, encouraging house holds to engage in production and investment, and promoting market development by increasing household purchasing power. The productive safety net

program consists of two components; a labor intensive public works component; and a direct support component to ensure support to those households who have no labor at all, no other means of support, and who is chronically food insecure (FDRE, 2004; Devereux et al., 2006; MoARD, 2006).

2.9.3. Plan for Accelerated and Sustained Development to End Poverty (PASDEP)

PASDEP is a development plan which covers the five year period of (2005/06-2009/10) represents the second phase of the poverty reduction strategy program(PRSP) process, which has began under the sustainable development and poverty reduction program(SDPRP),which covered the past three years, (2002/03-2004/05). The objectives of the PASDEP are: to define the nation's overall strategy for development in the stated period; to lay out the directions Ethiopia wants to take with the ultimate objective of eradicating poverty; and to outline the major programs and policies in each of the major sectors.

The food security program under PASDEP is designed to address problems of shortfalls in food production, vulnerability to falls in consumption and incomes and consequent hunger that the country has faced repeatedly, through adoption of development alternatives to bring about lasting solution. The effort to reduce vulnerability is central to the five years plan strategy(2005/06-2009/10): including measures to reduce the variability in crop production and overall food availability- through more irrigation and water control, diversification of crops, and better integration of markets, transport, and information links; maintenance of macroeconomic stability; expansion of off-farm employment and income earning opportunities, better functioning credit markets; provision of improved health services and nutrition; introduction of innovative measures, such as experiments with crop and weather based insurance mechanisms; and above all implementation of the national FSP designed to manage the shift away from the cycle of dependence on emergency relief(MoFED, 2006:93).

Since the general policy framework of the Ethiopian government is poverty reduction, reduced poverty means food secure households in specific terms. Therefore, the above stated policies and programs have direct and indirect implications to secure the basic necessities of the peoples of the country. These policies and programs put poverty alleviation at the center especially household food security. Expansion of rural infrastructure, rural services, irrigation, and rural

non-farm employments are among the main focuses of these policies and programs. On the other hand, these policies and programs lead the rural communities to participate in any activity they need and produce and use for what ever they want; this implies the government is encouraging peoples' engagement in diversified livelihoods and uses the advantage these activities will bring. Thus, this study has organized to assess the role Ethiopian government in reducing household food insecurity through rural livelihood diversification and the combined role of the above policies and farm, non-farm and off-farm activities in household food security.

2.10. Conceptual and Analytical Framework

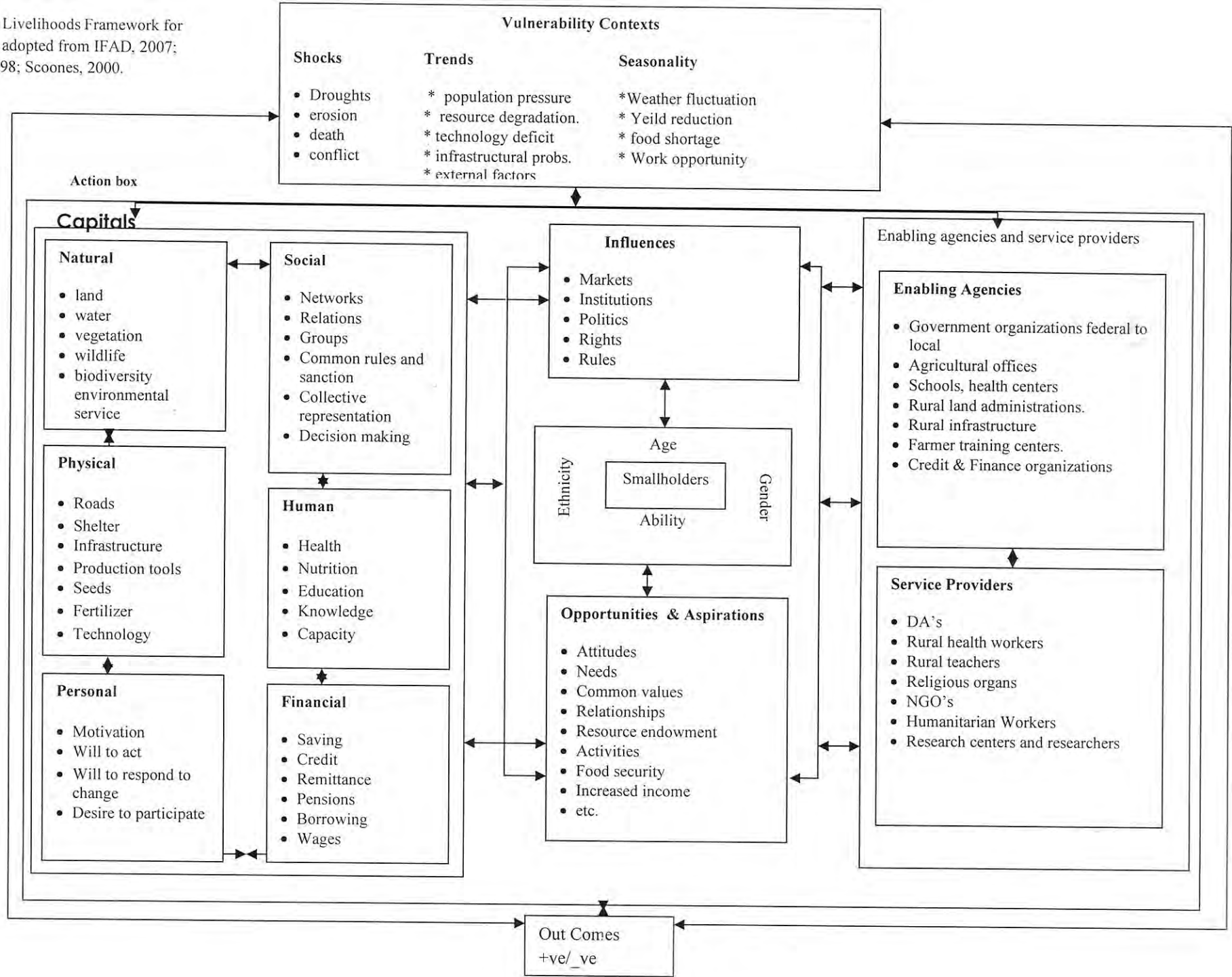
Different government agencies, international organizations and individual researchers have developed different sustainable livelihood frameworks with minor differences in the general contents, especially in the components of the livelihood capitals; to understand the diverse livelihoods and their role in responding to poverty and food insecurity in rural communities. The notable ones include: IFAD (2007); Scoones (2000); Ellis (1998) and many other organizations and researchers. According to these sources Sustainable Livelihoods Framework is a framework adopted to improve understanding of the livelihoods of poor people. It draws on the main factors that affect poor people's livelihoods and the typical relationship between these factors. It can be used in planning new development activities and in assessing the contributions that existing activities have made to sustain livelihoods. The central similarities of these frameworks include their focus on: vulnerability contexts, livelihood capitals, mediating process, livelihood activities and livelihood outcomes whether sustainable or unsustainable. According to the above sources, Sustainable Livelihoods Framework has two broad components. These are (1) a framework that helps to understand the complexities of poverty (2) a set of principles to guide action to address and overcome poverty, Ellis (1998); Scoones (2000); and IFAD (2007). They also stated that SLF comprise *people at the center*, particularly *the rural poor*.

For this research the combination of the contents of the above three livelihood frameworks are summarized and used. But the most dominantly focused framework in this study was the IFAD livelihoods framework. According to IFAD, for example, close to the people at the center of the framework are the resources or livelihood assets that they have access to and use. The extent of their access to these assets is strongly influenced by their vulnerability context, which takes into account trends (economic, political, and technological), shocks (epidemics, natural disasters,

civil strife) and seasonality (prices, production, employment opportunities). IFAD continued and stated that access is also can influence the prevailing social, institutional and political environment, which affect the ways in which people combine and use their assets to achieve their goals i.e. sustainable livelihoods.

The framework is neither a model that aims at incorporating all the key elements of people's livelihoods, nor a universal solution, rather, it is a means of stimulating thought and analysis, and it needs to be adapted and elaborated depending on the situation. SLF has seven guiding principles, which do not prescribe solutions or dictate methods. Instead, they are flexible and adaptable to diverse local conditions. These include: (1) people centered - analyzing peoples' livelihoods and how they change over time. People participate actively throughout the project cycle; (2) Holistic - acknowledges that people adopt many strategies to secure their livelihoods, and that many actors are involved; (3) Dynamic - seeks to understand the dynamic nature of livelihoods and what influences them; (4) Build on strengths - builds on people's perceived strengths and opportunities rather than focusing on their problems and needs; (5) Promote macro-micro links - examines the influence of policies and institutions on livelihood options and highlights the need for policies to be informed by insight from the local level; (6) Encourage broad partnership - accounts on broad partnership drawing on both the public and private sectors; (7) Aim for sustainability - sustainability is important if poverty reduction is to be lasting IFAD (2007:6). Considering the above livelihoods framework, this study analyzed the vulnerability contexts in the woreda under study that influences the smallholder households to diversify or not to diversify their livelihood portfolios, the livelihood capitals that encourage or discourage livelihoods diversification, and assessed the different livelihood activities persuaded by the smallholder farm households and found out the notable livelihood outcomes especially the role of engagement in diversified livelihoods in household food security. The study also assessed different institutional and governmental factors influencing peoples' livelihoods through the lens of Sustainable livelihoods framework.

Fig.2.1: Livelihoods Framework for analysis adopted from IFAD, 2007; Ellis, 1998; Scoones, 2000.



CHAPTER THREE

3. Research Method and Design of the Study

3.1. Site Selection and Study Approaches

3.1.1. Site Selection: - Among the preliminary steps to this study site selection was the first one. There were many factors that initiated me to select Bako-Tibe Woreda as a study area. Among other factors the following are the main ones: *First*, Bako-Tibe Woreda is one of the eighteen west Shewa Zone Woredas that have diverse agro-ecology ranging from Kolla to Dega Climatic Zones and experience diverse rainfall and temperature conditions that enabled the peoples of the woreda to be engaged in diverse livelihoods that again vary with the respective agro-climatic zones.

Second, in the case of the area coverage of the three agro-climatic zones, 51% of the Bako-Tibe Woreda land area is in Kolla which is conducive for the widespread problem of Malaria epidemic that on the other hand affect many of the smallholder farmers engagement in all the available livelihood strategies in full basis and intensifying the problem of food insecurity in the Woreda, especially those of land scarce and landless groups. The rest, 49% of the land area, of the woreda is under the other two agro-climatic zones(Woina Dega;37% and Dega;12%) which are known by their own distinct livelihood strategies and they are also relatively far from the nearby towns of the woreda, since all the towns of the woreda are exclusively found in Kolla climatic zone. This remoteness is hindering the access of these areas to market, administrative, and other socio-economic services.

Third, Bako-Tibe Woreda has very dense population which is 180person/squ.km. These resulted in land fragmentation and scarcity, which also led the people to live under the threat of food insecurity and enforced them to diversify their livelihoods to ensure their household food supply. *Fourth*, Bako-Tibe woreda is known for diverse activities like crop production, irrigation, fruit production and diverse traditional hand crafting (such as pottery, weaving, wood work etc). Therefore, this district was selected purposively to examine the role of diverse livelihoods towards responding household food insecurity among smallholder households in the Woreda.

3.1.2. Study Approaches

Regarding the study approach, both qualitative and quantitative methods have been employed. With regard to the quantitative data collection; household survey was designed and questionnaire was administered by recruited enumerators at door to door level, while the qualitative method was employed through FGD, Key-informant interview and observation to generate qualitative data.

3.2. Sampling Frame and Sample Selection

3.2.1. Sample Frame: The list of all 32 KA's (Kebele Administrations) with respective list of households was obtained from Woreda Agriculture and Rural Development Office as a sampling frame.

3.2.2. Sample Selection: There were five stages that have been employed during sample selection. These were:

Stage-1:- Since the study aimed at meeting a particular objective at a particular site; there was no need to undertake a holistic study over a wider area. Therefore, from the beginning the scope of the study was limited to one Woreda of West Shewa Zone of Oromia regional state i.e. Bako-Tibe Woreda. This Woreda was selected purposively.

Stage-2:- Once the Woreda was selected as a study area, sample KAs (Kebele administrations) were selected purposively depending on agro-ecological zones. There are three agro-ecological zones in Bako-Tibe Woreda namely **Kolla-Low Land**, **Woina Dega-Mid land** and **Dega- High land**. From the three agro-ecologies, three KAs were purposively selected, one KA from one agro-ecological zone to serve as a typical representation for the rest of the KAs. The sample KAs selected were: Bechera Oda Gibe was selected from 12 KAs in the Kolla, Cheka Dimtu was selected from 10 KAs of Woina Dega and Oda Gudeya was selected from five KAs in Dega agro-ecologies.

Stage-3:- Each KAs were sub-divided in to sub-zones (villages) currently known as Gotts. From the total of three Gotts of each KAs, two Gotts from each KA have purposively selected. Thus, totally six gotts/Villages were selected.

Stage-4:- To serve as sample respondents, 20 households were selected from each Gotts purposively. Thus 120 (7.0%) have participated in the household survey. In general the sampling frame is summarized in the table 3.2.below.

Table 3.1: Household Sample Respondents

No	Sample KA	Sample Villages	Total HHs	Selected	Interviewed
1	Bechera Oda Gibe	Oda walda'ee	306	20	20
		Goromti	224	20	20
2	Cheka Dimtu	Dimtu	276	20	19
		Laga mara	400	20	20
3	Oda Gudeya	Daso	192	20	20
		Adulan	316	20	18
T O T A L			1714	120	117

Source; household survey, 2010

For key-informant interview, a total of nine (9) respondents, three from each KA (KA leader, one DA and one elderly) were selected purposively. On the other hand, participants in FGD were selected purposively from one of the two sample Gotts, in which one gott was selected randomly. One FGD consists of 6-10 members and one FGD was conducted at each KA.

3.3. Data Sources

The data for this study was collected from both qualitative and quantitative primary and secondary sources. Primary qualitative data was collected through FGD, key-informant interview and observation, while the primary quantitative data were obtained from structured household survey. The secondary data for the study was obtained from CSA, WARDO, and BARC (Bako Agricultural Research Center), and from different sources like web sites, previous studies and reports.

3.4. Instruments Used for Data Collection

Both structured questionnaire for household survey and checklists for key-informant interviews and FGDs were used. For household survey a total of 96 multiple response type questions were prepared and administered to sample households by the enumerators in the three KAs. These questions were prepared first in English and then translated into Afaan Oromo, because all the enumerators were above diploma educational background and native speakers of Afaan Oromo. Check lists were prepared in English because they were all planned to be dealt by the researcher

and also done by the same translating the check-lists in to Afaan Oromo because the researcher is native Afaan Oromo speaker. During qualitative data collection the researcher also used note book, photo camera, Tape recorder and structured observation to properly keep the responses and record the observed reality on the ground.

3.5. Data Collection and Analysis Procedure

3.5.1. Data Collection Procedures

Stage-1:- Organization of the Field Work:

First I prepared the material needed for the collection of the data one week ahead of the commencement of the training of the enumerators. At this stage the enumerators were hired and given a minor test that I used to check their language ability and their confidence to deal with the collection of the data honestly without bias.

Stage-2:- Households Related Tasks:

At this stage I have gone through the three KAs and assessed the location of the respective villages selected as target EA for the HH survey. I met with Kebele administrators and explained the purpose for the authorities and told them the time I would administer and with whom and to whom I will administer the instruments of data collection. After discussion they allowed me to continue.

Stage-3:- Training of Enumerators and Allocation:

The selected enumerators were one supervisor and one enumerator for each kebele. I have given them one and half day training on how to administer the interview and deal with the respondents. Following the training, on the next three days I have taken the respective enumerators to the site they have assigned and introduced them with the administrators and shown them the villages they should deal with respectively. On the fourth day after training I called the six field staff and gave them the questionnaire according to the number of the sample in the respective kebeles and other equipments. Following that they have collected primary data at household level for two consecutive weeks.

Stage-4:-Actual Data Collection:

A) Structured Household Survey: As I have tried to state in (Stage 3) above, enumerators collected the primary quantitative data from the sample households through structured questionnaire. The questionnaire was prepared comprising household characteristics, household resources ownership, household activities, notable participants in livelihoods diversification, and determinants of livelihoods diversification and role of livelihoods diversification in responding household food insecurity. Each enumerator have collected the data moving door to door and they were all committed to their work because most for them were aware of the requirements to do a research at their higher education times, the other factor that makes the data collection successful was that it was conducted during the break weeks of University and High School for the first half of the year. Self-reporting have been given due attention while data collection.

B. Participatory Qualitative Data Collection Method: This stage of data collection was totally accomplished by the researcher. It incorporates: key informant interview, focus group discussion and structured observation.

B.1. Key-Informant Interview (KII)

For the key informant interview a total of nine informants: one elderly, one DA and one Kebele administrator at each kebele have been interviewed using separate check-lists prepared for each of them, and their responses were recorded on the Tape recorder and written on the note book.

B.2. Focus Group Discussion (FGD): One FGD was made at each Kebele. This was because the subject of discussion was what they did in public and what they experience daily i.e. their activities and their food security issues. I was the one who gave them the point of discussion and guide them from the checklist, but no correction was provided rather than note taking.

B.3. Observation

Meanwhile, I was observing about the area of my concern related to livelihood activities, resource status of the area, food situations and other necessary evidences. I have taken photos and record such observed realities on my note book that I used for further clarification and triangulation during data analysis and discussion.

3.5.2. Data Analysis Procedures

The study has employed both qualitative and quantitative research methods. Thus data that was collected through both qualitative and quantitative methods, entered in to computer software by SPSS. Quantitative data was analyzed by descriptive statistics, in which tables, graphs, charts, averages and percentages were employed and qualitative data were presented, categorized narrated, summarized and used for further triangulation in the course of analysis, explanation and justification.

CHAPTER FOUR

Administrative, Bio-Physical and Socio-Economic Background of the Study Area

4.1. Administrative Background

According to the current Federal Government, Ethiopia is Sub-divided into nine regional states established on the basis of Ethno-linguistic backgrounds and two city councils (Addis Ababa and Dire-Dawa). From the nine regional states, Oromia is the largest in physical area coverage, and the most populous; more than 35 million from the total 80 million population of the country. Oromia is sub-divided into 18 zones. From among the 18 zones, this study was focused on west Shewa Zone. West Shewa Zone is also sub-divided into 18 Woredas/Districts. From among the 18 Woredas this study was focused on one Woreda, i.e. Bako-Tibe Woreda.

Bako-Tibe Woreda is one of the West Shewa Zone Woredas which is found at the Western part of the West Shewa Zone. Bako-Tibe Woreda is Sub-divided in to 32 kebele administrations of which 28 of them are rural kebeles and 4 of them are urban kebeles, and this study focused on rural kebeles.

4.2. Bio-Physical Features of the Study Area

4.2.1. Location:- Bako-Tibe Woreda is one of the 18 Woredas found in West Shewa zone and found at the Western part of the zone at about 250 km from the regional capital city and national capital, Addis Ababa, and 125 km away from the zonal capital, Ambo. The Woreda, according to the source from the Woreda's Agriculture and Rural Development Office has the total area of 80,876 hectares or 808.67sq.km. Relatively Bako-Tibe Woreda is bounded by Jimma Ganati Woreda of Horo-Guduru Wollega Zone in the north, Jimma Rare Woreda of Horo-Guduru Wollega in the north-west, Cheliya Woreda of West Shewa Zone in the East, Gobu-Sayyo and Wamaa Boneya Woredas of East Wellega Zone in the west and south west and Cheliya Woreda of West Shewa Zone in the south. The Kebeles for data collection have their own average distance from the woreda's capital, Bako. They are Bechera Oda Gibe (7 kms), Cheka Dimtu (15kms) and Oda Gudeya (25kms) away from Bako respectively (ORESPO V-III, 1999).

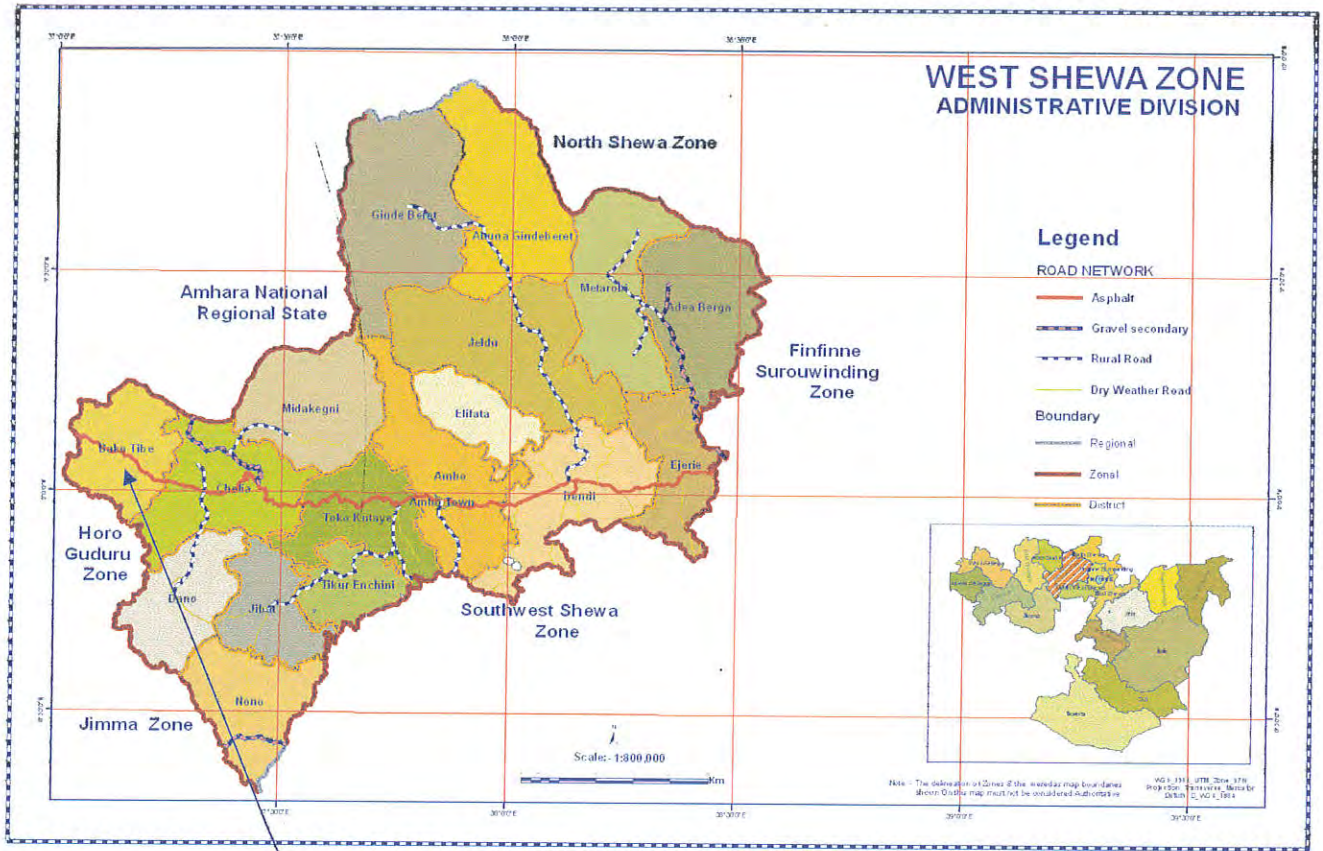


Fig. 4.1: Map of Woreda Division of the West Shoa Zone and the Case Study Woreda (source: Oromia Physical Planning Office)

Case Study Woreda

4.2.2. Climatic Condition of the Study Area

As it was stated above that, Bako-Tibe Woreda is sub-divided into three agro-climatic zones. These are highland (Dega) which accounts for 12%, mid land (Woina Dega) which accounts for 37% and low land (Kolla) which accounts for 51% of the total land area of the woreda respectively. Thus Bako-Tibe Woreda is predominantly Kolla climatic condition with average monthly temperature range between 19.3⁰c – 22.8⁰c and the mean monthly rainfall ranges between 13.1mm to 253.8 mm for the last 45 years. This is illustrated by the following tables.

Table 4.1: Average Monthly Temperature and Rainfall of Bako-Tibe Woreda from 1961-2005

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec.	Total	Mean
RF(mm)	13.1	17	52.1	65	143.8	215	253.8	232.3	142.4	69.2	24.3	13.7	1242.1	-
T ⁰ (°c)	20.5	21.7	22.7	22.8	21.9	20.4	19.3	19.3	19.6	20	19.8	19.8	247.7	20.7
Evapo- tra ⁿ	4.75	5.34	5.63	5.45	4.20	3.46	2.97	2.14	3.41	3.88	4.55	4.86	51.44	4.29

Source: Meteorological data of Bako Agricultural research center (2005)

From the above data conclusion can be drawn that the amount of rainfall in the area seems to be sufficient but the amount per year alone is not a necessary condition rather the time of fall is very important. The intensity and distribution of rainfall as well as evapo-transpiration are the influencing factors for agricultural production. In the woreda, the agricultural calendar (the beginning and ending) of the rainfall is becoming irregular. This is because of the widespread deforestation and climatic fluctuation in the area, which aggravated the scarcity of the rainfall and reduction in agricultural yield especially cereal crop and enforcing farmers to follow non farm and off-farm activities side by side agricultural activities. The irregularity of the maximum rainfall period of the study area is shown below for the period of ten years from 1996 to 2005 as shown by meteorological station of Bako-Agricultural Research Center (2005). Because of the rainfall variability most of the rural smallholder households in the study area have been food insecure, but now days they are diversifying their livelihoods to off-farm and non-farm activities and start to be food secure.

Table 4.2: Maximum rainy month for 10 year in Bako area

No	Years	Months		
		June	July	August
1	1996	-	-	59
2	1997	-	63.8	-
3	1998	-	-	43.3
4	1999	64.9	-	-
5	2000	-	45.5	-
6	2001	40.6	-	-
7	2002	-	70.5	-
8	2003	-	64.9	-
9	2004	-	-	45.6
10	2005	-	37	-

Source: Meteorological data of Bako agricultural Research Center (2005)

4.2.3. Landform and Land use Characteristics of the Study Area

The land form characteristics of Bako-Tibe woreda is characterized by flat plains, high mountains and hilly ridges. According to ORESPO V-III (1999) the geological feature of the woreda is characterized under tertiary sediments of Cenozoic era. The dominant mountain ranges of the Woreda are mt Adulan in the north, mts Mara and Hara Simala in the North West, Mt sharite, Aba Margo, Giri at the Center, Mt Sangota and Gona in the east. The Woreda is dominantly occupied by northern Gibe low-land and the altitudinal range of the woreda is 165 masl to 2800 masl. As data from WARDO (2009) shows the land use pattern of the woreda is dominantly under small farm except the newly opened Karuturi Agro-processing commercial farm plc from India that has started rice and Maize production from this harvest year in the northern Gibe low-land.

Table 4.3: Land use Proportion of the woreda

No	Type of land	Amount
1	Cultivable	51,030 hectares
2	Pasture land	6647 hectares
3	Forest land	1418 hectares
4	Others	21,781 hectares
Total		80,876 hectares

Source: Woreda Agriculture and Rural Development Office (2009)

The same source shows that from the total of 51,030 Hectares of cultivable land the amount currently cultivated is 33,623 Hectares.

4.2.4. Rivers and Streams in the Woreda

According to data obtained from the Woreda Agriculture and Rural Development Office, there are 491 small streams that can flow both dry and wet seasons and 72 large to medium rivers in the woreda. From among the big rivers Gibe river is the biggest and also serve as natural boundary that separate the Bako-Tibe woreda from East Wollega Zone of Oromia regional state. Other rivers include: Sangota, Laku, Mara, Sama, Abuko, Roobi and qala are the notable ones. For example, the following table shows the number of streams and rivers found in the sample kebeles.

Table 4.4: Rivers and streams in the sample kebeles

No	Kebele	No. rivers	No. Streams	Total
1	Bechera Oda Gibe	2	6	8
2	Cheka Dimtu	2	29	41
3	Oda Gudeyya	9	28	37
Total		13	63	86

Source: WARDO (2009)

4.2.5. Natural Vegetation and Soil Condition

The natural Vegetation of an area is the reflection of the physical condition of an area basically the climatic condition. As it was discussed so far Bako-Tibe woreda has three agro-climatic zones, Dega (high land), Woina Dega (mid land) and Kolla (low land). These three zones have their own distinct vegetation types except few types of vegetation that can grow at the three areas based on their adaptation ability. In the mid and high land areas trees like Zigba (podocarpus), Tid (Juniperus procera) and Eucalyptus are dominant vegetations, while in the low lands due to scarcity of rainfall those vegetations that can withstand the arid and semi-arid conditions such as smaller trees and bushes and grasses are the common vegetations, especially in the plains around the Gibe river. Regarding the soil type of the woreda, regardless of the variation, the dominant soil types are Nitosols and Humic Acrisols WSZFEDD (2004). Grey and clay loam texture are the characteristics of the soil.

4.3. Socio-Economic Aspects of Bako-Tibe Woreda

4.3.1. Demographic Characteristics

Data collected 15 years ago shows that the population of the woreda was densely populated with the average density of 131 people per square kilometer with average family size of 7 (Legese et al, 1992:5). According to the central statistical authority (1999), Bako-Tibe woreda has the total population of 137,819. From the total population of the woreda, 67,373 of them are male and 70,446 of them are female with the average density of 216.3 people per kilometer square. The other source of information from OPPD (2000), stated that, the age proportion of the population of the Woreda; 0-14, 15-64 and >65 years account for 45.3%, 51.3% and 2.9% respectively, similarly average family size in the Woreda is 4.4 persons.

Data from the WARDO (2009) shows that the total population of Bako-Tibe woreda is 145,604; of which 117,940 are rural populations and 27,664 are the urban dwellers. The crude density of the population of the woreda is 180.03 person per kilometers (145,604/808.76 km²). From the total population of the woreda 70,181 are males and 75,423 are females. On the other hand the sex ratio of the woreda which is given by the ratio of male population to female population is about 93.05 percent ($M/F \times 100 = 70,181/75,423 = 93.05\%$).

Table 4.5: Proportion of rural and urban inhabitants of Bako-Tibe Woreda

No	Residence	Sex	Number	Total
1	Rural	Male	56,847	117,940
		Female	61,093	
2	Urban	Male	13,334	27,664
		Female	14,330	
	T o t a l		145,604	

Source: BTWARD0 (2009)

However, the distribution of the population is uneven. Most of the populations live in mid and high land where the climate and soil are conducive and the Malaria epidemic is not a threat like that of low land part. In case of livelihoods the low-landers tend to engage in diverse activities like irrigation, petty trade, pottery, crafting, etc than the mid and high-landers, this is because they often do this to compensate the above stated bio-physical problems and their effect on their livelihoods.

4.3.2. Economic Characteristics of the Woreda

Bako-Tibe Woreda is characterized economically by involvement in livelihood activities such as crop production, livestock rising and other off-farm and non-farm activities.

4.3.2.1. Crop Production

A. Production of Cereal Crops and Pulses: - Cereal Crop production in the woreda is dependent largely on rainfall. But there are varieties of crops that are grown in the woreda depending on the agro-climatic zones. Consequently the main cereal crops grown in the Dega agro-climatic region of Bako-Tibe woreda include: Wheat, Barley, Teff, and pulses such as Beans, Peas etc. and the main crops grown in the Woina Dega agro-climatic zone are Maize, Beans, Pea, Teff, Millete, etc. And the main crops grown in the Kolla area are Maize, Sorghum, Teff, Nigger, pepper and other varieties of crops.

B. Vegetable Production in the Woreda

Vegetable production in Bako-Tibe Woreda is the most widespread activity especially in the low land. It is an activity which is a year round in character. In one hand, it is dependent on rain water during the availability of rain and in the dry season dependent on irrigation. There are two types of *irrigation* in the woreda: modern and traditional. According to data obtained from WARDO (2009), there are 610.8 Hectares of land that have irrigated by both traditional and modern irrigation systems. There are two modern irrigation schemes in Bako-Tibe woreda, these are *Abuko irrigation scheme*, which has irrigation potential of 80 Hectares of land and *Laku irrigation scheme* which has irrigation potential of 50 hectares of land to irrigate. The irrigation activity is becoming very widespread as the land fragmentation is prevalent and costs of agricultural inputs are increasing and the price of vegetables is rising in the local community and distant markets. The main vegetables and fruits grown in the woreda both through rain water and irrigation include: sugarcane, potato, Green Pepper, Tomato, Sweet Potato, Mango, Banana, Orange, Cabbage, Onion, Papaya, and the like. According to the informants from the woreda, vegetables and fruits production during the slack time and side by side with the production of grains have contributed a lot to enhance their household income and reduce the sale of grains for the purchase of other materials and pay their social expenses.

Fig.4.2: Irrigation in Bako Tibe Woreda



Source: Author's field work, 2010

4.3.2.2. Animal Raising

In the three agro-ecologies animal production is the second ranking activity next to crop production. Since the households are predominantly smallholders and unable to use modern mechanized equipments, the use of animal power for production and transportation is the blood vessel of the farmers. Animals are not only the means of production for these communities; they are also the main sources of food and income. According to the Woreda Agricultural and Rural Development Office report (2009), there are 245,390 livestock populations in the woreda. The following table shows the proportion of livestock in the Woreda.

Table 4.6: Livestock proportion of the woreda

No	Type of livestock	Number
1	Cattle	124,192
2	Sheep	11,213
3	Goat	12,666
4	Horse	3,221
5	Mule	720
6	Donkey	7424
7	Hen	85,936
Total		245,390

Source:-WARDO (2009)

4.3.2.3. Non-Farm and Off-Farm Activities

While crop and livestock production are the first and the second ranking economic activities of Bako-Tibe Woreda; non-agricultural activities are also playing an integral role in the livelihoods of the community. Non-farm and off-farm activities are the most important supplementary activities in the rural households. They serve as a source of income that can help to keep the agricultural activities on the track while there is shock by rising the funding that would help to purchase inputs that agricultural sector needs. On the other hand, they play a significant role in supporting poor and smallholders or landless households to scratch their livelihoods through these activities.

The most important non-farm activities that the peoples of the area engaged in include petty trading, transfer, pottery, wood work, black smiting and so on. On the other hand, there is also off-farm activities which often poor households engaged in, these activities are wage labor on other's farm, crafting during spare time and so on. Therefore, it can be concluded that the non-farm and off-farm activities are the crucial activities to raise household income and reduce household vulnerability also enhance the power of agricultural activities by supplementing the extra cost of agriculture.

4.4. Constraints of Crop and Livestock Production in the Study Area.

According to the data from KIIs and FGDs held at the three sample kebeles the major problems currently limiting crop and animal production include: seasonal food shortage, peak season labor shortage, shortage of draught power, low soil fertility, low cash income and dry season feed scarcity. Seasonal food shortages often occur before the main harvest and following years of poor harvest, Peak season labor shortage, predominantly, occur from February through June and from November to January which is the main growing and harvesting times. Shortage of draught power (oxen and other animal power), that limits the total area cultivated, has an adverse effect on the total food production and household food supply. Low soil fertility as constraint is the reduction of the nutrient of the soil through leaching and surface runoff during heavy rains often reduces continues cropping and the reduction of the yields of the crops grown, though farmers are applying manure, chemical fertilizer and rotating crops they are not sufficient for maintaining soil fertility because of the limited amount they apply on the large area of land. Similarly, low

cash income, about 800 birr per family on average, is lower in view of expenses to be made for clothing, land taxes, and school and other expenses. On the animal side, feed shortage is a severe problem from February to May. As a result, milk yield and oxen drought resisting capacity drastically decreased. Other constraints, that have medium priority in Bako-Tibe Woreda include: land scarcity, low genetic potential of local cattle breed, animal diseases, unavailability of fertilizer, crop pest and diseases and various others (Legese et al., 1992:47).

CHAPTER FIVE

Demographic Characteristics and Livelihood Resource Possession in the Study Area.

5.1. Demographic and Socio-Economic Characteristics of the Respondents

In this section attempt has been made to discuss about the demographic and socio-economic characteristics of the sample respondents. The main characteristics focused here are sex, age, marital status, education, wealth status and head of the sample households.

Table 5.1: Sex, age and marital status of the sample HHs

No	characteristics		Responses						Total*
			B.O.Gibe		Ch.Dimtu		O. Gudeya		
			N	%	N	%	N	%	
1	Sex	male	19	62.5	19	69.2	18	68.4	56(47.9)
		female	21	37.5	20	30.8	20	31.6	61(52.1)
		Total	40	100	39	100	38	100	117(100)
2	Age	15-45	21	52.5	22	56.4	21	55.3	64(54.7)
		46-65	12	30.0	11	28.2	10	26.3	33(28.2)
		>65	7	17.5	6	15.4	7	18.4	20(17.1)
		Total	40	100	39	100	38	100	117(100)
3	Marital status	unmarried	3	7.5	2	5.1	4	10.5	9(7.7)
		married	30	75	32	82.1	31	81.6	93(79.5)
		widowed	3	7.5	3	7.7	-	-	6(5.1)
		divorced	4	10	2	5.1	3	7.9	9(7.7)
		Total	40	100	39	100	38	100	117(100)

Source: Household Survey; 2010

*figures in the parenthesis are percentages.

As shown in table 5.1 above, the recent household survey at Bako-Tibe woreda by the author found out that, 52 percent of the total household heads surveyed are female and the rest 48

percent are male. These finding supports the data obtained from BTWARD (2009), in that the number of female outnumbers the number of male in the study area. On the age proportion of the sample households in the woreda, the result of the survey shows that, age group that range from 15 years to 45 years accounts for 55 percent of the total sample households participated in the survey and the age group that ranges from 46 years to 65 years accounts for 28.2 percent of the total sample households and the age group that constitutes above 65 years of age accounts for 17.1 percent. Therefore, from these findings it is possible to conclude that, the woreda has large proportion of economically active population that can engage in varieties of activities according to their necessities and opportunities. But according to some key informants, the woreda was reported as food insecure for the last few years and the main reasons for food insecurity was not driven by labor scarcity rather by bio-physical and socio-economic factors that have greater influence on the local household activities.

As the household survey indicates, of the total sample households 79.5 percent are married and 7.7 percent of them are unmarried. On the other hand, due to various reasons, like death from diseases; For example, Malaria at Bechera Oda Gibe, and many other socio-cultural reasons, 5.1 percent of the respondents are widowed and 7.7 percent of them are divorced. It is also possible to see how much the population of the area is contributing to the land fragmentation, as stated above 79.5 percent of the respondents are married, most of which are newly established households and also need extra land to support their households. This need and scarcity of land enforces the young households to find an alternative means of life other than the main livelihood (agriculture). Therefore, livelihood diversification is growing in importance in the study area the above stated reasons in that population number is becoming above the supporting ability of the household resources.

According to table.5.2, regarding the educational condition of the sample respondents, from the total respondents 34.2 percent of them are illiterate, 41.9 percent of the respondents can read or write, 16.2 percent of the respondents attended their junior schools and 7.7 percent of them have attended high schools. When wealth status is concerned, the result of the survey has shown that 48.7 percent of the respondents are from poor households, 41 percent of them are from the medium wealth status and 10.3 percent of them are from the rich households.

Table 5.2: Education and Wealth status of sample HH's

NO	Characteristics		Responses						Total*
			B.O.Gibe		Ch.Dimtu		O.Gudeya		
			N	%	N	%	N	%	
1	Education	Illiterate	9	22.5	14	35.9	17	44.7	40(34.2)
		Read/Write	20	50	16	41	13	34.1	49(41.9)
		Junior	7	17.5	6	15.4	6	15.9	19(16.2)
		High School	4	10	3	7.7	2	5.3	9(7.7)
		Total	40	100	39	100	38	100	117(100)
2	Wealth Status	Poor	20	50	19	48.7	18	47.4	57(48.7)
		Medium	15	37.5	16	41.0	17	44.7	48(41)
		Rich	5	12.5	4	10.3	3	7.9	12(10.3)
		Total	40	100	39	100	38	100	117(100)
3	Food condition of the HH	Food secure	24	60	28	71.8	31	81.6	83(70.9)
		Food insecure	16	40	11	28.2	7	18.4	34(29.1)
		Total	40	100	39	100	38	100	117(100)

Source: Household Survey; 2010

*figures in the parenthesis are percentages.

In Bechera Oda Gibe Kebele which is located at about 7 km from the woreda's capital, Bako, and near to the other two towns that have high schools and other primary schools, 50 percent of the total sample households can read and write, while in Cheka Dimtu Kebele 41 percent of the total respondents can read and write. But the larger proportion respondents who cannot read and write are found at Oda Gudaya, which found at about 30 kms away from the woredas capital, and other towns that have well equipped junior and high schools. This kebele is also found at the highland agro-ecologic zone and has less access to infrastructure. The data has also shown that 45 percent of the respondents at Oda Gudeya, 36 percent at Cheka Dimtu and 23 percent at Bechera Oda Gibe Kebeles were found to be illitrates.

As dictated in table 5.2 the result of the survey has shown that 70.9 percent of the respondents reported that their households are food secure and the rest 29.1 percent of them stated that their HH are food insecure. The condition of food security of the HHs can be justified by the following key informant interview result.

Box 5.1: Key-informant interview on food security at Bchera Oda Gibe

I am Kajela Galata; I have one hectare of land, one 'chimdi' of oxen and two cows. I harvested this harvest year about 15 quintals of grain of which 5 quintals are Sorghum, 4 quintals are Teff and six quintals are Maize. These are enough to feed all the five members of my family. As you can see me I am weaving to produce "Bulluko" for sell and my wife has the skill of pottery. We both do this while we have free time during morning up to the normal time of farming starts and during the late afternoons while we come back to home from farming and during the slack season when the time of regular farming concluded and the extra-farming /irrigation time yet not started. The reason we do this is that it can help us to buy other home materials/utensils, food items like salt, sugar, spices, cloths and other social obligations like Idir. We have also irrigation land that we have got it through share cropping, and we produce Tomatoes, green pepper, onions and potatoes, both for home consumption and for sell. Thus though our land is too small and we cannot produce enough for our household consumption, our engagement in other activities help us not to sell the crops we produce to buy other things we need by supplying extra incomes that can help us to buy things we need from the market. These on the other hand help my family to be food secure throughout the year.

Source: household survey; 2010

Therefore, the above box implies that land and other resources scarcity do not hinder those households who engage in diversified livelihoods.

Regarding the wealth status of the sample households, the greater proportion of them has found to be poor, who account for about 48.7 percent of the total households involved in the survey. The next dominant wealth groups in the survey are those households with medium wealth status that account for 41 percent of the sample households. On the other hand, very small number of the sample households is considered as rich, accounting for 10.3 percent of the total households surveyed (see table, 5.2). Generally, from the above data it is possible to conclude that in the study area there are large numbers of working age group which can help to conclude that the problem of labor is not a serious problem. On the sex proportion female are larger than the number of male, which can go with the general fact the country. On the case of education even though large proportion of the households are still illiterate the expansion of education is encouraging and the proportion of married households is higher and the vast majority of the

households in the study area are poor but food insecurity is not a serious problem in the study area.

5.2. Household Livelihood Resources Possession in the Study Area

In this study resources are labeled as capitals. Capitals are of different types, and categorized into different categories by various researchers and research organizations. For example, Ellis (1998) classified capitals in to five categories, these are: Human capital, Social Capital, Natural Capital, Financial Capital and Physical Capital. Others classify capital into more than that, by adding other capitals, for instance, IFAD (2007), includes: Personal capital to those capitals mentioned by Ellis. This study uses the IFAD'S categories to explain the availability and the ownership of the livelihood resources in the study area.

5.2.1. Personal Capital

Regarding the personal related issues in the society under study, the researcher focuses on two attributes adopted from IFAD (2007); that is, personal motivation and willingness in the engagement, action, and reaction, with other related socio-economic and bio-physical factors. This is because personal related factors are decisive in the activities and livelihoods of the people.

Therefore, the personal dimension of the survey resulted in the following findings. On the motivation side of the personal attribute, the result of the FGD at Bechera Oda Gibe shows that great deal of the people of the study area, have high motivation to be engaged in diverse livelihood activities. This is because good market prices for their produce are among the drivers of high motivation among these households.

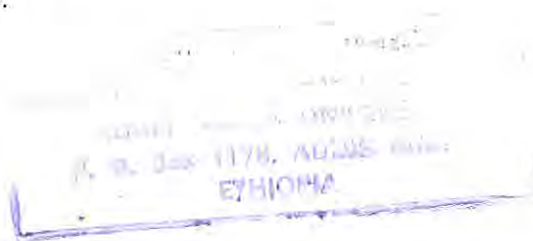


Table 5.3: personal capital

No	Characteristics		Response						Total*
			B.O.Gibe		Ch. Dimtu		O.Gudeya		
			N	%	N	%	N	%	
1	Motivation To diversify	high	30	75	29	74.4	30	78.9	89(76.1)
		low	10	25	10	25.6	8	21.1	28(23.9)
		Total	40	100	39	100	38	100	117(100)
2	To act and respond	willing	32	80.0	30	76.9	26	68.4	88(75.2)
		unwilling	8	20.0	9	23.1	12	31.6	29(24.8)
T O T A L			40	100	39	100	38	100	117(100)

Source: Household Survey; 2010

*figures in the parenthesis are percentages

The result of the survey revealed that 76.1 percent of the total sample households in the study area have high motivation of engagement in various livelihoods and improve their wellbeing. On the other hand, there are also people who are discouraged by bio-physical and socio-economic factors, and lost motivation to participate in diverse livelihoods, and hence become vulnerable and most often depend on single cropping. In relative this to the survey result shows that 2.9 percent of the sample households have low motivation. With regard to acting in response to changes 75.2 percent of the sample households expressed their willingness, where as the rest 24.8 percent of them reported unwillingness.

5.2.2. Human Capital

Human capital is a condition of an individual related to such attributes as health, education, nutrition, capability and so on. Human capital comprises of skills, knowledge, and ability to labor and good health which are crucial to pursue the different livelihood strategies. In this study focus has given to such human capitals as health, labor capacity, education and household food conditions. In this view the household survey in the study area has found out such characteristics of education, health and labor capacity of the sample households.

Table 5.4: Human capital

No	Characteristics		Responses						Total *
			B.O.Gibe		Ch.Dimtu		O. Gudeya		
			No	%	No	%	No	%	
1	Health	healthy	27	67.5	33	84.6	34	89.5	94(80.3)
		sick	13	32.5	6	15.4	4	10.5	23(19.7)
		Total	40	100	39	100	38	100	117(100)
2	Labor capacity	Active	30	75	28	71.8	31	81.6	89(76.1)
		inactive	10	25	11	28.2	7	18.4	28(23.9)
T O T A L			40	100	39	100	38	100	117(100)

Source: Household Survey, 2010

* Figures in the parenthesis are percentages

The survey result on the health status of the sample households show that 80.3 percent of the respondents are at their good health condition compared with 19.7 percent who are not at good health condition. With the emphasis on the educational characteristics of the community the survey results of the sample households as shown in (Table 5.2.), larger proportion of the respondents can read and write while significant number of the households are illiterate households, but the proportion of the respondents who have attended up to junior classes or up to high schools are very small. Human related conditions that can influence the activities of the individual is not only limited to the health and education, rather it may stretch its dimension to nutritional condition and labor capacity of an individual and the household in general. According to the survey result, 70.9 percent of the sample households are food secure and the remaining 29.1 percent of the households are food insecure. Furthermore, the survey has shown that 76.1 percent of the total households are active in labor capacity and the rest 23.9 percent of the total households are inactive. Therefore, the human capital of the Woreda is to some extent at a normal condition except the health condition at Bechera Oda Gibe Kebele.

5.2.3. Financial Capital

Table 5.5: Financial Capital

NO	Participation		Response						Total*
			B.O.Gibe		Ch.Dimtu		O. Gudeya		
			N	%	N	%	N	%	
1	Informal	Idir	40	100	36	92	32	84.2	108(92.3)
		Iqub	38	95	34	87.1	33	86.8	115(98.3)
		Arata	30	75	27	69.2	25	65.8	82(70.1)
		Transfer	38	95	31	79.5	29	76.3	98(83.8)
2	formal	Credit and saving	35	87.5	22	56.4	24	63.2	81(69.2)
		Women association	25	62.5	20	51.3	18	47.4	63(53.8)

Source: Household Survey, 2010

*figures in the parenthesis are percentages.

According to world development report (2008: 143); financial services are delivered to rural populations by organizations that exist along a continuum from informal to formal, formal financial institutions are licensed and supervised by a central authority. They include public and private commercial banks; State owned agricultural or rural development banks; savings and loan cooperatives; micro finance banks; and special purpose leasing, housing, and consumer finance companies. Informal providers of financial services include rotating savings and credit associations, money lenders, pawn-shops, businesses that provides financing to their customers, and friends and relatives. In between stands financial governmental organizations, NGOs, self-help groups, small financial cooperatives, and credit unions.

The household survey at the study area revealed the following sources of finance for smallholder households. These sources of finance for rural smallholders in the target groups are of two streams; the first one is the formal financial services that include two broad streams (credit and savings) in which 69.2 percent of the total sample households are participating. And the second formal sources of financial institution is Women associations in which Women come together and borrow money from financial intuitions and buy animals like sheep, goat, etc and raise or

fatten and make profit from them, and beneficiaries from this kind of financial services accounts for 53.8 percent of the respondents. There are many constraints that the respondents to household survey and other data collection methods informed regarding formal financial sources, For example, one key-informant expressed his dissatisfaction in participating in formal credit and finance as follows:

Box 5.2: Key-informant on financial capital

I am Tolosa Gurmu, I have six family members, and a hectare of land. Two years ago, I borrowed money from credit and saving institution, and I bought an ox and a year after that ox was died of antrax (abasanga/chita). Then I rent out the land (not to buy another ox or to purchase food for my family) but to pay back the loan that I took from the credit and saving institution. Currently, I have no ox and no land; I am working on some ones farm for cash and my wife prepares and sells local alcoholic drink to purchase food for our family. I planned to profit from the credit, but I lost even my land leave alone profit.

The other source of finance for the rural households at the study area is the informal sources. These informal sources have their own local name; such as ‘*Iquib*’ accounts for the largest share of the financial service, which responded by 98.3 percent of the total sample households, followed by ‘*Idir*’, which serve as a social insurance during stress and death of the family members. 92.3 percent of the sample respondents were gave answer to this financial source. The third popular informal source of finance is money lending and borrowing to which 83.3 percent of the respondents show their involvement. The forth informal financial sources to the rural smallholder households in the study area is “Arata” which is traditional money lending for interest that double itself within a year and those who gave answer to this accounts for 70.1 percent of the sample respondents .

5.2.4. Social Capital

Man is a social animal, no man can fulfill his or her needs standing alone, and therefore, interaction is a mandatory social capital. According to Degefa (2005) Social capital refers to social resources involving networks, social claims, social relations, affiliations, and associations upon which people draw in pursuit of livelihoods. He added kinship or neighborhoods form the most important component of social capital. Similarly, other researchers expressed social capital

as resources including social networks, Membership of groups, relationship of trust, and access to wider resources of the society upon which people construct their livelihoods (Ann Gordon and Cathrine Carig, 2001)

Table 5.6: Social Capital

No	Characteristics		Response						Total*
			B.O.Gibe		C.Dimtu		O.Gdeya		
			N	%	N	%	N	%	
1	Social relationship	Inter-HH	40	100	39	100	38	100	117(100)
		Blood r/ship	12	30	11	28.2	10	26.3	33(28.2)
		Social Networks	39	97.5	39	100	36	94.7	114(97.4)
		Common rules	35	87.5	30	76.9	28	73.7	92(78.6)
		Tribal/Clan	34	85	35	89.7	30	78.9	99(84.6)
2	Social Support activities	Daado	40	100	37	94.9	38	100	115(98.3)
		Dabo	38	95	38	97.4	36	94.7	112(95.7)
		Qabo	26	65	20	51.3	11	28.9	57(48.7)
		Humna	17	42.5	12	30.8	13	34.2	42(35.9)
		Gumata	35	87.5	21	53.8	34	89.5	90(76.9)

Source: Household survey, 2010

*Figures in the parenthesis are percentages.

As the household survey shows, at Bako-Tibe woreda two dominant social capitals are identified. These are social relationships and social support activities that emanate from social interaction. Regarding the social relationships, of the total sample households surveyed 100 percent of them responded that they have inter-household neighborhood relationships. Added that, such relationships are the most important social relationships in the woreda; this is followed by social networks which is reported by 97.4 percent of the respondents. Tribal /clan relationship is the third type of social relationship that is stated by 84.6 percent of the inter-relationships; similarly, common rules and common decision making by which the community react with each

other and rule each other represents 78.6 percent and relationship by blood among the sample households is responded by 28.2 percent of the sample households.

The second type of social capital in the study area is social support activities that the community most often practices is stated below. 'Daado', which is an activity practiced by neighborhoods to support each other or work together in rotational basis, to cooperate and make an activity faster. 98.3 percent of the total respondents of the study area are responded as they are participating in this activity. 'Dabo,' is another form of social support activity in which one household asks the other neighborhoods or relatives from distant areas to help him/her in a particular work for a day or part of a day; this is stated by 95.7 percent of the total sample households. The other social support activity in the community is 'Qabo,' a kind of activity in which a household asks his/her neighbor to help in weeding in the late afternoons, and 48.7 of the total respondents have responded as they are participating in this activity. 'Humna,' is also a social support activity in which a household with no oxen go to an others' farm that have extra oxen and work for him on his labor and take oxen for his power to plough his own land one day. This is responded by 35.9% of the total sample households. 'Gumata', is also a kind of social support activity in which a household asks for additional support when the power he/she has in any forms are below the dealing ability of that household, This is responded by 76.9 percent of the total respondents (see table 5.6.).

5.2.5. Natural Capital:-This type of capital is a capital that exists in the environment naturally. It includes: land, water, vegetation, clean air, water, livestock and others. The way to get access and ownership of these natural resources are the most determinant factor in the livelihoods of the people.

5.2.5.1. Land: - The result of the survey has shown that, 96.6 percent of them have replied that they have access to land. But, the source of land they access to is of different in its origin. Those who have access to their own land are about 38.5 percent of the respondents; those who have got access to land by a means of rented land are about 18.8 percent of the total sample households; on the other hand, those who share cropped, inherited and have got land through gift account for 19.7 11.1 and 5.9 percent of the total sample respondents respectively. Although it is stated that 96 percent of the sample households have access to land, it does not mean that there is no land related constraints; rather it is also evident from the household survey that there are a

number of land related constraints. The notable land constraints in Bako-Tibe Woreda include land degradation to which 84.6 percent of the sample households responded, they also informed that the main reason for land degradation is over population followed by bad farming system which resulted in the reduction of their agricultural. The next dominant constraint is land scarcity. This is because, as population grows and newly formed households request for land. Households that reported as they have scarcity of land accounts for 62.4 percent of the total sample households. As land scarcity does not mean landlessness, there are also other groups that informed that they have constraint on landlessness, these groups account for 14.5 percent of the respondents. The next constraint the sample households reported was remoteness from the nearby towns which are mostly reported by part of Cheka Dimtu Kebele and the whole Oda Gudeya kebele. These respondents account for 24.2 percent of the total respondents.

5.2.5.2. Water: - The household survey indicated that 96.6 percent of the households have access to water resources. The major sources of water for home consumption are streams indicated by most of the sample households. Of the total sample respondents those who indicated 'water well' driven by hand-pulled wheel as their household water supply were 20.5 percent and 79.5 percent of the respondents have indicated rivers as the main sources of household water supply. Regarding the use of water, 36.7% percent of the sample households responded that they use water for irrigation both traditional and modern, while home consumption and animal watering the other uses of water in the study area that responded by 100 and 95 percent of the sample households respectively.

5.2.5.3. Vegetation: - As I have tried to mention in the previous sections the woreda is densely populated and there is high demand for agricultural land by youth and newly established households. This in turn contributes to the deforestation of the natural vegetations which include forests, shrubs, bushes and woodlands.

According to one DA (development agent), natural vegetation in Bako-Tibe woreda varies with the agro-ecological zonations in the type and extent of natural vegetation. Vegetations such as Woira, Wanza, Tid are commonly grown at Dega (high-land) agro-ecology while other vegetation (grasses, bushes, and smaller trees) are often grow in kolla (low land) areas. In general, the two types of vegetation in the study area are natural and man-made vegetations. From the total respondents to the household survey 27.4 percent of them were reported that they

o Kebele. The household
tribe than in the two other
28.2 percent of the total
t Dimtu. In Oda Gudeya,
nts for 18.4 percent, The
Gibe as compared to Oda
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food and for other social
and people in search of
roportion of man made
vegetation is much smaller
e remotest area from the
ged in fire wood sell and
s in the remote high land

holds use vegetations for
ent of the total sample
for wild fruit collection
woreda, deforestation and
le households.

re the sources of drought
ocio-cultural value. One
articipants forwarded the
important activity, and
ake animals in trust from
ed *Daraba*. Animals are
is reserved for the owner.
ccess and ownership of
idespread activity in the
family. According to this

focus group discussion (FGD), though livestock rising is the dominant activity in the area there are a widespread animal diseases in the area. According to the discussion participants, there are two dominant animal diseases in the locality. These are Tripanosomiasis(Gendi,koksa) and Antrax(Abasanga,Chita). Black leg (Bushoftu) and others are the dominant animal diseases in the woreda.

The result of the household survey shows livestock ownership and the proportion of respondents in the household survey is Cattle (94.9 percent), Pack animals (71.8 percent), Sheep & Goats (74.4 percent) and hen (59.2 percent). Regarding the constrains to the livestock in the study area the majority of the sample households (94.5 percent) reported that animal diseases are the main challenges to the livestock and the next challenge is the lack of veterinary services, which reported by(92.3 percent) of the sample households. The highest proportion of the sample households (88 percent) also replied that lack of pasture is another challenge for livestock in the study area.

5.2.6. Physical Capital

Physical capital includes hard infrastructure (e.g. roads, telecommunications, power, and water supply) as well as production equipments and buildings that are most likely individually owned (Ann Gordon and Cathrine Craig, 2001). Infrastructure is the most important physical capital. It includes roads, market, agricultural inputs, distance from town and public services. Data from the household survey at the study area revealed that in average 12.5 percent of the sample households are 2km away from the nearby town and 29.9 percent of the sample households are 2-7kms from towns. Those households who are 8-10 kms away from the town account for the lion-share of the households i.e. 38.5 percent of the sample households. 27.4 percent of the sample households are more than 10kms away from the town.

Regarding the availability of social services, 54.7 percent of the households responded that they are connected to towns by roads. But the proportion of the road availability decreases as distance from the main road increases; thus Bachera Oda Gibe has more chance to get road and access to market as other social services, and witnessed by 75 percent of the sample respondents. The main physical capital constraints in the study area are wastage of produce because of the remoteness from market centers and absence of road, especially for Oda Gudeya Village, for

which 66.6 percent of the sample households have cited it as main problem. The other challenge the informants also forwarded during the field research was limited access to agricultural inputs, 61.5 percent of the respondents replied that they experienced the problem of agricultural inputs supply. According to the informants, the problem of limited application of agricultural inputs was due to two reasons. First in the past the government has been distributing inputs in loan form annually that the farmers pay after the next harvest, but currently such service is interrupted and farmers are expected to finance themselves in agricultural input purchasing. The majority of the farmers are smallholders that produce varieties of crops by dividing the small landholding they have. This condition has hindered them to have ability to purchase modern agricultural inputs. Second, there are remote kebeles that are found at inaccessible areas where it is impossible to transport the purchased inputs and most of the time these households prefer to use traditional methods like manure. So, limited infrastructure and shortage of inputs are the main problem in the remote communities like Oda Gudeya. Therefore, the general problem in physical capital in the study area is limited infrastructure and social services to which 74.4 percent of the sample households have responded.



CHAPTER SIX

6. Livelihood Activities and Strategies in the Study Area

6.1. Dominant Livelihood Activities in the Study Area

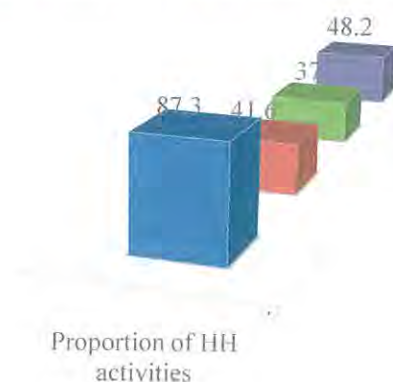
Studies have distinguished three livelihood strategies that the rural community is engaged in as their source of means of subsistence. These include: agricultural intensification/extensification, livelihoods diversification and migration Carney (1998). Similarly (Ellis, 2000 as cited in Degefa, 2005) stated that livelihoods consist of activities that generate the means of household survival and activities that households engage in for their survival depends on their asset status mediated by social relations, exogenous trends and shocks and livelihood activities in Ethiopian case under normal conditions include crop production, animal raising, and various non-farm and off-farm activities.

According to the result of the household survey shown in Fig: 6.1, there are farm, non-farm, off-farm and transfer activities in the study area. Accordingly, the average proportion of each activities are as follows: farm activities in the Woreda take the lion share of activities, it is reported by 87.3 percent of the total sample respondents as their main livelihood, followed by non-farm activities which is supported by 41.6 percent of the total sample households. The third dominant activity was off-farm activity which was an important activity out of one's own farm and taken up by 37 percent of the total households.

The fourth and non-labor taking activity in the study area is transfer. This is a means of getting income from remittance, i.e. from relatives residing somewhere in the urban area within the country or abroad, and the other ones are grain or cash lending and borrowing from relatives, neighborhoods and money lenders. This unique activity from the other activities accounts for the participation of 48.2 percent of the sample households. Therefore, on-farm, non-farm, off-farm and transfer activities are the dominant activities in the Bako Tibe woreda. In addition the bar graph below shows that a household engages in more than one activity most of which make agriculture their dominant activity because agriculture accounts to 87% of the total HHs.

fig.6.1: livelihood activities of the study area

■ Farm ■ non farm ■ Off farm ■ transfer



Source; Computed from HH survey, 2010

a) On-Farm Activities: - As it is attempted to explain above farming is the dominant activity of the community pursued by 87.3 percent of the total sample households. On-farm activity is an activity exclusively dependent on the production of crops and the raising of animals. There are two streams of crop production in the study area, these are cereals and pulses and the others are vegetables and cash crops. According to the result of the survey, 99.1 percent of the sample households are practicing the production of cereal crops and pulses, and 89.7 percent of the households are involved in the production of vegetables and cash crops. The next on-farm activity is livestock rising and poultry, this is the second dominant activity in the area next to crop production. It involves 74.3 percent of the total households. Therefore agriculture is the dominant activity of the study area by constituting to the highest proportion of the house activities.

b) Non-Farm Activity: - Rural non-farm activities include activities that are not primarily agricultural or fishery or forestry. However, non-farm does include trade or processing of agricultural products (even if in the case of micro-processing activities, they take place on the farm) Ann Gordon and Catherine Craig (2001). As the household survey revealed; the non-farm activity in the woreda accounts for the second largest proportion of the household activities. From the total sample households surveyed, 41.6 percent of the households are participating in non-farm activities; of which, petty trading, hand crafting and wage labor are the main ones

taken up by for 41.0, 46.2 and 37.6 percent of the total sample households responses respectively. Hand crafting is the dominant non-farm activity in the study area by pursued by 46.2 percent of the sample households. This is supported by the information from the key informants at BOG kebele that they stated various types of activities which include: Pottery, Blacksmithing, Weaving, Tannery and Woodwork are the main ones. Wage labor and petty trade take the second (41.0) percent and the third (37.6) percent of the total sample households respectively.

This implies the most important non-farm activity in the woreda is hand-crafting that includes pottery, woodwork, weaving, blacksmithing, rope making, basketry, tannery and others. The other dominant non-farm activity, as it is shown by the above diagram is, petty trading; which is most of the time practiced by women (will discussed later) is an activity involves trading of pepper, salt, vegetables, grain, soup, spices, and others to supplement the small and less productive household farm . The third activity according to the survey was wage labor; this kind of activity is the type of activity in which smallholder households engage in other activities outside of their community in the urban areas or in others farm institutions. The most important example is the wage labor work at BARC and the newly established Karuturi agro-processing plc, an Indian company that engaged in rice and maize production in the upper Gibe River plain, in the woreda's territory. Melaku Edosa, a key informant and leader of Bechara Oda Gibe Kebele stated the following about the people of his Kebele who engaged in wage labor at karuturi agro-processing plc.

Almost all of the farmers in our kebele are smallholders. But there are some who have no land or who have no oxen to plough their land. Hence, they most often, go to work as wage laborers to the nearby towns, Bako and Sheboka, to work on vegetable gardening, and work in the rural areas as agricultural laborers on some ones farm; they also have been moving to Bako Agricultural Research Center, which is about 15-20 kms away from our kebele and work as wage laborers in activities as weeding, looking after research cattle, harvesting crops, safeguarding crops against vermin(enemies) like monkey, ape and other. But their wage was too small and they have been profiting little that cannot contribute to their households a lot. Currently a new commercial farm is opened in our kebele, it is 'karuturi agro-processing, it pays 15- 20 Birr per day. Therefore, those who are employed here are benefiting from it. On the other hand, those who have land but no oxen, share crop out or rent their land and go to wage labor, and are benefiting from both sides. Therefore, households are almost food secure except those who depend only on one activity especially daily laborer or less productive activities.

Box 6.1: Evidence from key informant interview on non-farm activities.

C) Off-Farm Activity:- Off-farm or out of one's own farm activities, are activities that one engaged in away from ones own possession, regardless of sectoral or functional classification, can be wage or self employment (Barrett and Reardon,2001). Household survey result has shown that, in Bako-Tibe woreda a significant number of households engage in off-farm activities. According to the finding on average 37.0 percent of the sample households are engaged in off farm activities (Fig: 6.1). The most dominantly practiced off-farm activities in the woreda according to the survey are daily labor on others' farm, self- employment on farm activities and agricultural wage labor. 35.9 percent of the sample households i.e. this percentage of households go out of own farm and work on someone else's farm for money on daily basis. This activity is prevalent in all the three kebele's with almost equal proportion.

The most practiced off-farm activity by the sample households is brewery which 41.0 percent of the sample households engaged in. The third most practiced off-farm activity in the woreda is collecting and selling of fire wood to which 34.1 percent of the sample households have take up. It is mostly practiced in Bechera Oda Gibe Kebele that has short distance to take the fire wood collected to the market. Therefore, it is important to conclude that a significant number of households engage in off-farm activities in Bako-Tibe Woreda.

D) Transfer:- According to the household survey result; remittance, cash loan and food loan are the three dominant sources of household earning flow, either from migrated relative or through loan or borrowing of money or grains. In this regard, 33.3 percent of the sample households are those who benefit from remittance while 65 percent of the sample households are those who benefit from cash loan from relatives, friends, money lenders or formal financial institutions. But those who are food insecure engage in food grain loans, and they constitute about 46.6 percent of the sample households. Therefore, on average about 48.2 percent of the sample households surveyed replied that they earn cash or kind through transfer for temporary coping strategy or for long-term livelihood strategy.

Generally from the above result of the survey, the most notable livelihood strategies and household income flow in Bako-Tibe woreda are: farm, non-farm, off-farm and remittance that accounts for 87.3%, 41.6%, 37.0% and 48.2% of the beneficiary sample households respectively. Thus the conclusion that can be drawn from this is that composite effect (contribution) of these activities at the household level to enhance the household food security. This will be discussed

with the income contribution each of the above activities provides to the household and the use of the income earned from these activities.

6.2. Seasonal Variations in Labor Involvement in Diverse Livelihoods in the Study Area

In section 6.1, the survey found out the four dominant livelihood strategies in Bako Tibe Woreda. These are on-farm, off-farm, non-farm and transfer. This section concerns the seasonal differences in the extent of labor involvement in the above specified livelihood strategies. In the study area, according to the Woreda’s agriculture and rural development office, there are four distinct seasons. These four seasons have their distinct climatic and agronomic characteristics; these are summer (June, July and August), spring (March, April and May), and autumn (September, October and November), and winter (December, January and February) BTWARDO (2010). Depending on the opportunities of each season households engage in different activities in the Woreda.

Table 6.1: Seasonal variations in labor involvement in diverse livelihoods

Characteristics		Respondents							
		summer r		autumn		winter		spring	
		N	%	N	%	N	%	N	%
Activities	On farm	95	81.2	25	21.4	35	29.9	69	59.0
	non-farm	35	29.9	74	63.2	65	55.6	66	56.4
	Off-farm	17	14.5	34	29.1	47	40.2	43	36.8
	Transfer s	30	25.6	23	19.7	22	18.8	35	29.9
Total Ave. (%)		70.6	60.5	62.5	53.1	67.6	57.8	82.5	72.8

Source: household survey, 2010

*multiple responses are possible.

As shown in table 6.1, there is variation in labor involvement in diverse livelihoods in these four distinct seasons in Bako-Tibe Woreda. The numbers of workers that participate in farm activities are higher in summer and spring seasons, accounting for 81.2 percent and 59 percent of sample households respectively than winter and autumn, which on the other hand account for 29.9 and 21.4 percent of the respondents respectively. The amount of labor involved in non-farm activities are higher in autumn than in the other seasons, it involve 63.2 percent of the households followed by spring when 56.4 percent of the total household labor involve and winter when 55.6 percent

of the households involve. On the other hand comparatively smaller number of farm households involve in non-farm activities during summer in Bako -Tibe woreda, because the great majority of the households 81.2 percent as stated above involved in farm activities. The above evidence shows that summer season is when farm activities are more dominant in that farm households have no time to fully engage in non-farm activities but only those who have no oxen and limited natural capital and those who have no land are forced to involve in non-farm activities in the season.

Regarding the involvement of labor in off-farm activities in the four seasons, winter is the season when more labor is involved in off-farm activities than the rest seasons; it involves 40.2 percent of the total labor forces of sample households. It is followed by spring when 36.8 percent of sample households are involved in off-farm activities and autumn when 29.1 percent of the total households involved. But summer is the time when off-farm activities are very limited as compared to the rest of seasons, it accounts for 14.5 percent of the labor involvement. On the other hand, transfer, who involves the free flow of assets from individual or groups to the other in the form of cash or kind, is also prevalent in the Woreda. This activity is more common when the households are in a state of asset deficit and ask for flow to them for temporary insurance or for long-term support. The season which is more common in resource transfer in the study community is spring which accounts for the involvement of 29.9 percent of the households; followed by summer when 25.6 percent of the sample households are involved in transfer of assets. Autumn (19.7) and winter (18.8) are the two seasons when households involvement in transfer activities is comparatively lower because during these seasons, crops are ripe and it is when harvesting is undergoing and their households can easily access assets they need directly from own farm production.

Generally spring is the busiest season engaging 72.8 percent of the total labor power in different livelihood activities. This is because, according to informants, it is the time when farming starts, irrigated crops sold, inputs for agriculture purchased, sowing seeds, weeding and etc are done. And the second busiest season is summer, because this is the season when many of the farm activities are done, weeding and sawing other crops are the most important activities of the season in addition to the other non-farm and off-farm activities; it involves 60.5 percent of the sample households. Comparatively, autumn and winter are the two less busy seasons of the year.

6.3. Age, Sex and Wealth Differentials in the Involvement in Livelihood Strategies

6.3.1. Age Differentials: - The house hold survey at Bechera Oda Gibe revealed that, there is age difference in livelihood diversification or in the involvement in diverse livelihoods. There are three age groups identified based on their involvement in diverse livelihoods, these are children, youth and old age groups. Of the sample households responded, majority of them agreed that the youth are more engaged in diverse livelihoods as compared to children and the old age groups. The result further shows that 53.8 percent of the sample households reported that the youth are participating in various livelihood strategies as compared to 22.2 percent of the sample households who reported children and 24.0 percent who responded the old age group. From (table. 6.2) it is easy to see that the proportion of the participants from all age groups in diverse livelihoods at the three sample KAs is almost equal. The involvement of children in diverse livelihoods in Bechera Oda Gibe is reported by 17.5 percent of the sample households, in Cheka Dimtu by 25.6 percent the sample households and in Oda Gudeya by about 23.7 percent of the sample households responded to the survey. The proportion of youth involvement in diverse livelihoods is high with 55% of the sample households' response in Bachera Oda Gibe, those responded for the high involvement of the youth account for 53.8 percent in Cheka Dimtu, and in Oda Gudeya, for 52.6 percent. With regard to the old age group involvement, the respondents' accounts for 27.5 percent in Bechera Oda Gibe, in Cheka Dimtu, they account for 20.5 percent and in Oda Gudeya for 23.7 percent.

Thus according to the above findings the youth involve more in diverse livelihood activities as compared to the children and the old age groups. According to informants the reason why the youth age groups are more engaged in diverse livelihood is that their ability to participate in any activity they want, the wider opportunity they have to be involved, and their ability to move to distant areas from their residence. These enable them to participate in diverse livelihoods as compared to children and the old age.

Table 6.2: Age, Sex and Wealth differentials in the involvement in livelihoods strategies

No	Characteristics		Respondents						Total*
			B.O.Gibe		Ch.Dimtu		O.Gudeya		
			N	%	N	%	N	%	
1	Age	Children	7	17.5	10	25.6	9	23.7	22.2
		Youth	22	55	21	53.8	20	52.6	53.8
		Old	11	27.5	8	20.5	9	23.7	24.0
	T O T A L		40	100	39	100	38	100	100
2	Sex	Female	24	60	22	56.4	20	52.6	56.4
		Male	16	40	17	43.6	18	47.4	43.6
	T O T A L		40	100	39	100	38	100	100
3	Wealth status	Poor	18	45	19	48.7	20	17.1	48.9
		Medium	12	30	10	25.6	10	26.3	27.4
		Rich	10	25	9	23.1	8	21.5	22.2
	T O T A L		40	100	39	100	38	100	100

Source: Household Survey, 2010

*Total percentage

6.3.2. Sex Differentials in Involvement: - As shown in table 6.3, there are sex differentials in participation in diverse livelihoods. Thus 56.4 percent of the sample households felt that females are involved more in diverse livelihoods as compared to their male counterparts, where as 43.6 percent of the sample households perceived male participation. The informants further reported that males most often engage in farming or single non-farm activities, while females engage in more than one livelihood strategies such as petty trade, brewery, fattening of small animals, poultry and so on. Therefore, females play important role in stabilizing the household income by generating extra-income in addition to the main sources of household income like farming and livestock and play a greatest role in household food security.

6.3.3. Wealth Differentials in Involvement: - The household Survey shows variations in diversification among the different wealth groups in Bako Tibe Woreda. The result of the survey shows that poor, medium and rich households have unequal status, ability, motivation and reason for engagement in diverse livelihood strategies. Out of the total sample households participated

in the survey, 48.9 percent of them responded that the poor diversify greater than the rich being driven by need of risk minimization. 22.2 percent of the sample households replied that the rich would involve in diverse livelihoods because they need to widen the opportunity of increasing their wealth and keep their status, While 27.4 percent of the sample households responded medium wealth group are engaged in diverse livelihoods who either for risk minimization or wealth accumulation. Therefore, conclusion can be drawn from the above evidence that poor households tend to diversify more often than the better-off for the reason of insurance when there is shortage of the household asset.

6.4. Sources of Income and Patterns of Expenditure

6.4.1. Sources of Cash Income

6.4.1.1. Income from Crops As it is depicted in table 6.3, Cereals, pulses, cash crops and vegetables are the dominant crops grown in Bako-Tibe Woreda. The total average income earned by the sample household from the sales of these crops is computed to be 311.9 Birr on average. As it can be seen from the table the dominant crop types are presented in terms of the average amount produced, sold, and income earned from sales. Accordingly incomes earned from sales of Cereals, Pulses, Cash Crops and Vegetables account for Birr 210, 350, 350, and 337.5 respectively.

Fig. 6.2: Sample cash crops in Bako-Tibe Woreda



Source: authors' field work; Feb, 2010.

NB. The above fig. shows the widely practiced cash crops in the study area which are Green Pepper, Mango and Coffee from left to right respectively.

Table 6.3: Average household income from crop sales

Crops	Type of crops	Production in kg(Ave.)	Sold in kg (Ave.)	Net Ave.Income
cereals	Maize	800	300	200
	Sorghum	500	200	150
	Teff	300	50	200
	Wheat	600	200	300
	Barley	500	250	200
	Total Aver.	540	200	210
Pulses	Beans & peas	600	500	350
Cash crops	Coffee	50	40	600
	Sugar cane	-	-	600
	Pepper	100	95	200
	Fruits	300	300	400
	Total Aver.	112.5	108.75	350
vegetables	Onion	200	195	350
	Potato	200	195	300
	Cabbages	300	300	400
	Tomato	300	300	300
	Total Aver.	250	247.5	337.5
T O T A L AVE.				311.9

Source: household survey; 2010.

6.4.1.2. Income from Livestock

Table 6.4: Aver. Income from livestock sales

Type of livestock	No_ owned Ave.	No_ Sold Ave.	Income Ave./Birr
Cattle	6	1	500
Pack animals	3	1	400
Sheep	5	2	300
Goat	4	2	200
Hen	4	3	70
Total/Ave. income in birr			294

Source: household survey, 2010.

According to the household survey result, the average income earned by sample households from the sales of livestock is found to be 294 Birr per year. As it is shown in table 6.4 above the main types of livestock in the woreda are Cattle, Pack animals, Sheep, Goat and Hen and the income earned from sales of these animals are 500,400,300,200 and 70 birr on average per household respectively.

6.4.1.3. Income from Non-farm, Off-farm and Transfer

Table 6.5: Aver. Income from Non-farm, Off-farm and Transfer

No	Activities	Types	Ave. Income/Birr/
1	Non-farm	Petty trade	250
		Hand craft	200
		Wage Labor	300
		Aver. total	250
2	Off-farm	Daily laborer	150
		Fire wood sell	250
		Drink sell	300
		Aver. total	233.3
3	Transfer	Remittance	400
		Cash loan	200
		Grain loan	300
		Total/Ave. income in birr	300

Source: household survey, 2010

As shown in table 6.5, non-farm and on-farm activities provide average income of 250 birr and 233.3birr respectively per household per year and transfer provides about 300 birr on average per household per year. Thus, the total average income each household earns from all livelihood activities is added up to 1389.2 birr (See tables; 6.3, 6.4, 6.5.).

CHAPTER SEVEN

Determinants of Livelihoods Diversification and Its Role in Household Food Security

7.1. Determinants of Livelihoods Diversification

7.1.1. Vulnerability Contexts as Determinant Factors

The household survey results show that vulnerability contexts force smallholder households to participate in livelihoods diversification include shocks, trends and seasonality. According to the household survey, the highly influential shocks in Bako-Tibe Woreda which bear great challenge in smallholder farm households and force them to be engaged in diverse livelihoods to respond to such shocks are:

Flooding which is reported by 83.8 percent of the sample households is one of the shocks in the woreda. According to the informants, the main reason why sudden erosion affects their livelihood is that inappropriate use of the land and high deforestation rate; that conversely affect soil fertility, and thus minimizing the agricultural production and aggravating the household food insecurity. In this case households engage in other non-farm and off-farm activities in order to insure their household food supply.

Animal disease and death of a family head are the next dominant shocks that farm households in the study area often encounter. In the study area severe animal diseases impose high problem on smallholder households by killing and asking them extra household expenditure to treat their animals. About 64.9 percent of the sample households responded to the prevalence of animal diseases in the woreda, affecting livestock and reducing their contribution to the household necessities. Death of family head as a shock is more prevalent in some households in the woreda. As it is shown by the result of the survey, dominantly in Bechera Oda Gibe where Malaria epidemic is more dominant the probability of losing one of the household head is higher as compared to Checka Dimtu and Oda Gudeya. Similarly, household survey has shown that 28.2 percent of the sample households have replied that there is high probability of losing one member (head of the household) because of the presence of Malaria epidemic; this in turn causes the family to commit shortage of ability, confidence and leadership that may degrade the

household productivity in agriculture, thus force these households to go to non-agricultural activities side by side agriculture.

Trends, which include resource degradation, population pressure and technological deficit, are the other dominant factors that force households to participate in diverse livelihoods. Resource degradation is the most prevalent trend in the woreda by affecting people's livelihoods and forcing them to find other insuring activities in the failure of agriculture to serve as a sole means of subsistence. According to the survey, 84.6 percent of the sample households responded that, resource degradation is the most influencing factor in households' engagement in diverse livelihoods, while others (82.1 percent) of the households responded that population pressure is the most influencing factor in households' participation in diverse livelihoods. And those who respond that technological deficits (inability to buy modern agricultural inputs) are the main influencing factors of livelihood diversification account for 82.9 percent. Even though these three factors play nearly equal influence on household livelihood strategies and their willingness to participate in diverse livelihoods; resource degradation has a greater influence to which 84.6 percent of the households replied as compared to 82.1 percent and 82 percent of the respondents who mentioned that population pressure and technological deficit respectively. As it can be seen from the table, when village level variation concerned, resource degradation and population pressure are more influential in Bechara Oda Gibe, while, technology deficit is more influential at Cheka Dimtu and Oda Gudeya, because of their remoteness from the urban area where agricultural technologies easily accessible.

Seasonality is another factor that influences the households' decision to get involved or not in diverse livelihoods. According to (Fig: 7.1.) because of weather fluctuation, there is yield reduction and thus resulting in seasonal food shortage that smallholder households in Bako-Tibe Woreda experience for many years. The survey result shows that weather fluctuation is the most influential seasonal factor and reported by 87.2 percent of the sample households and followed by reduction in agricultural output, for which 72.6 percent of the sample households agreed. Furthermore the other significant proportion of the households, (i.e 65.8%) agreed that seasonal food shortage is the main problem they are facing, and it is the reason for their involvement in diverse livelihoods. Village wise variation is also considerable regarding exposure to seasonal factors. In relation to this, Bachera Oda Gibe is highly exposed to the influence of seasonal

factors as compared to the other two sample kebeles. FGD at Bachera Oda Gibe has revealed that, seasonal variation in their household food supply is regular and cyclical in nature especially among smallholders and poor households because of the various contextual factors stated above that resulted from the combination of shocks, trends and seasonality and force such households to engage in diverse livelihoods to ensure their survival.

Fig 7.1: Vulnerability contexts as determinant factors to Livelihoods diversification



Source: Computed from household survey, 2010

Generally according to the household survey, FGD and key informant interview results, the vulnerability of the households to shocks, trends and seasonality forces the households to branch out from their normal activity, which is dominated by agriculture to non-agricultural and off-farm activities and transfer flow from urban, abroad and from relatives. Thus vulnerability of the households is one of the dominant determinant factors for the livelihood diversification in the rural smallholder farmers in the study area. Furthermore, some key informants stated that, they engage in diverse activities because of the opportunity it gives them to widen the sources of their household income and can insure them against the adverse effects of the failure of their main activities and the household survey revealed that trends which include resource degradation, population pressure and inability to apply modern technologies are the main factors to determine households to diversify their livelihoods by accounting to 83.2 average percentage of the respondents. The second influencing factor is seasonality which is reported by 75.2 percent of the sample respondents, comparatively the lower influencing factors are shocks and reported by 72.6 percent of the sample households. Therefore, vulnerability contexts are among the driving

forces /determinant/factors in pushing households to involve in diverse livelihoods for the reasons stated above

7.1.2. Capitals as Determinant Factors

The availability and lack of capitals have the determining effect in the households' decision to diversify their livelihood strategies. According to the survey, there are six types of capitals identified in the study community that positively and negatively affect household livelihood diversification. All the six capitals are clearly stated below.

Table 7.1: Availability and lack of capitals as determinant factors

N O	Capitals		Respondants						Total*
			B.O.Gibe		Ch.Dimtu		O.Gudeya		
			N	%	N	%	N	%	
1	Personal capital	available	35	87.5	34	87	32	84.2	86.3
		lack	5	12.5	5	12.5	6	15.8	13.7
2	Social capital	available	25	62.5	26	66.7	22	57.9	62.4
		lack	15	37.5	13	33.3	16	42.1	37.6
3	Physical capital	available	22	55	20	51.3	18	47.4	51.3
		lack	18	45	19	48.7	20	52.6	48.7
4	Natural Capital	available	30	75	31	79.5	31	81.6	78.6
		lack	10	25	8	20.5	7	18.4	21.4
5	Financial Capital	available	20	50	18	46.2	19	50	48.7
		lack	20	50	21	53.8	19	50	51.3
6	Human Capital	available	32	80	30	76.3	28	71.8	76.9
		lack	8	20	9	23.1	10	26.3	23.1

Source: Household Survey, 2010

*average percentage total

7.1.2.1. Personal Capitals as Determinant Factor

Household survey has shown that personal related capitals. I.e. their motivation to engage in diverse livelihoods, their willingness to act and respond to changes, and other personal factors are taken as determine households tendency to diversify their livelihoods. The result obtained from the survey can be seen in two ways. The first one is the positive effect of personal capital availability in livelihoods diversification. This is shown by the household survey; Out of the total sample household 86.3 percent of them replied that they have strong motivation to diversify their livelihoods. They further explained that the reason why they have strong motivation to diversify

their livelihood strategy is good market price for the diverse products they produce from all strategies. In addition they also witnessed that they are willing to get involved in any activity under whatever condition it may be. Contrary to the above positive response to livelihood diversification, some of the respondents (13.7%) of them opposed the idea of diversification. These took this position as they have no motivation to be engaged to diverse livelihoods and are unwilling to practice more than one activity. The reason they stated include, some have the ability to produce enough from a single activity for household consumption and able to purchase other consumer goods from market. The others are those who reside in remote area and have limited access to market centers for selling their produce on time without wastage. These factors affected their unwillingness to engage in diverse livelihoods and minimize their motivation. According to the survey, inhabitants in Oda Gudeya, who reside at a distance of approximately 30km away from market centers are unwilling and less motivated as compared to inhabitants in Bechera Oda Gibe who reside at average distance of 7km away from market centers. Generally household members' motivation and willingness have their own determining effect on the households' choice in participation in diverse livelihoods. Those who have access to market centers and good infrastructure, have high motivation and willingness to diversify, while those that are found far from market centers and who have limited access to market centers and limited infrastructure like Oda Gudeya KA have low motivation and unwilling to engage in diverse livelihood strategies (see table: 7.1).

7.1.2.2. Social Capitals as Determinant Factor

According to the household survey, the majority of the households are involved in diverse livelihoods. Some of the factors that contribute for their participation were: social networks, neighborhoods, inter-household relationships. This is evidenced by the participation of 62.4 percent of the total sample household's responses. This condition facilitated by the encouragement for participation from the social networks in which the experience of success by one member initiates the other to follow his/her path. On the other hand out of the total sample households 37.6 percent of them have responded that the role of social capital in increasing household participation in diverse livelihoods was limited. Generally, it is possible to suggest from the above survey result to conclude that social capitals are significant determinant factors in facilitating and mediating social groups to adopt from each other and share experience of success

and in the long-run help the households to raise households' income and help them to increase their households' food security.

7.1.2.3. Physical Capitals as Determinant Factor

Physical capitals like weather and climate, infrastructure, markets, agricultural inputs and others have their own role in the household's choice to get involved in diverse livelihoods. Thus, 51.3 percent of the total sample households stated that the availability of physical capital and its contribution in helping the smallholder household livelihood strategies are higher in the study area. These include; road, market, weather condition, etc which are more positively contributing to livelihood diversification in Bachera Oda Gibe and some part of Cheka-Dimtu. On the other hand, 48.7 % of the sample households responded that they are not able to participate in diversifying their livelihoods because of limited infrastructure, road, and other physical capitals. Therefore, physical capital is one of the most determining factors in the household involvement in diverse livelihoods.

7.1.2.4. Natural Capitals as Determinant Factor

Household survey revealed that, natural capital such as land, vegetation, water, air, soil; livestock are the most determinant factors in the households' involvement in diverse livelihoods. The survey result has shown that on average 78.6 percent of the total sample households stated the positive contribution of natural capital in households' involvement in diverse livelihoods while the remaining 21.4 percent of the sample households reported constraints they have on the natural capital and thus hindering their engagement in diverse livelihoods.

On the other hand, key informants in Bako-Tibe woreda felt that absence and presence of natural capitals have their own positive and negative effect on livelihood diversification. Regarding the presence of natural capital they all agreed that it positively contribute to the diverse livelihood strategies which the households engaged in. But with regard to the scarcity of the natural capital, the respondents replied that it has positive effect in that it forces farm households to engage in non-farm and off-farm activities than on-farm. These facilitate the diversification of their household income. And on the negative effect the absence of natural capital affects not only on-farm activities but also the non-and off farm activities, because where there is limited capital,

there may be limited chance to participate in off farm activities. Therefore, natural capitals have both positive and negative contribution on involvement in diverse livelihoods.

7.1.2.5. Financial Capitals as Determinant Factors

On the financial side of capitals, the result of the household survey has shown that 48.7% of the sample households replied to the positive effect of the financial capital to their livelihood activity; while 51.3% of the sample households reply that financial capital is not an efficient factor in their household livelihood strategy. Therefore, we can conclude that there is scarcity of financial supply from both traditional and modern financial institutions to enhance the diverse activities they are practicing in the study area.

7.1.2.6. Human Capitals as Determinant Factors

Human capitals are the human characteristics including his education, skill, attitude, competence, health, and so on. In the study area the role of this human capital in livelihood diversification is in the (table: 7.2). Out of the total sample households 76.8 percent of the sample households reported that education, Health, skill and other human related characteristics are well responding in the woreda in helping the households to pursue the different livelihoods and that will reduce their vulnerability and increase their food conditions at household level. On the other hand, 21.1percent of the households replied that the human capitals are not sufficiently responding to household livelihood strategies to reduce vulnerability and to increase household food security.

7.1.3. Household Aspirations and Opportunities as Determinant Factors

Households have different aspirations to be engaged in livelihood diversification. According to the survey result, the first important reason for households to diversify their livelihoods is their need to be food secure above all. To this issue 73.5 percent of the sample households agreed. The second category of the households, are those who engaged in diverse livelihoods to reduce risk. This is when households think that they will sometime in the future face challenge and be affected by that. So, before that risk comes to them, they want other means that can help or supplement their main livelihood and then they will withstand the expected risk. Therefore, from

the total sample households 69.2 percent of the households are diversifying to respond to risk, while 30.8 percent of the sample households are not diversifying to reduce to risk.

Table 7.2: Opportunities and aspirations as determinant factors

No	Characteristics	Yes	%	No	%	
1	Aspirations	need to be FS	86	73.5	31	26.5
		to reduce risk	81	69.2	36	30.8
		to widen income	68	58.1	49	41.9
2	Opportunities	market access	64	54.7	53	45.3
		infrastructure	72	61.5	45	38.5
		resource access	65	55.5	52	54.5
		good policies	58	49.6	59	50.4

Source: household survey

The other respondents show that they are diversifying their livelihoods to widen the opportunity of income generation, for this case 58.1 percent of the sample households replied and 41.9 percent of the households are diversifying for other reasons. Generally, aspiration of the households has its effect on the livelihood portfolios that household to be involved in and why they want to do so. In this case to be food secure is the main reason than the other variables in the study community of their engagement in diverse livelihoods.

On the opportunity case, households diversify livelihoods depending on the opportunities they expect form that activity. Among the opportunities that encourage some households to diversify their livelihoods include: Market availability and reliability, infrastructure availability, resource availability, and policies (agricultural policies) are to which 54.7%, 61.5%, 55.5%, and 49.6% percent of the sample households have gave response respectively. But market imperfection, limited infrastructure, inadequate resources and discouraging rural policies are the main challenges to livelihood diversification for some groups in the study area.

7.1.4. Institutions and Governance as Determinant Factors

Institutions in the rural community may take formal and informal characteristics. According the household survey the most prevalent institutions in the woreda are farmer associations, credit and saving, rural service providers like; schools, health centers, DA offices etc.

Table 7.3: Institutions and governance related factors

No	Characteristics	Yes	%	No	%	
1	Institutions	Saving & Credit	40	34.2	77	65.8
		Rural Services	75	64.1	42	35.9
2	Governance	Rural land adm.	83	70.9	34	29.1
		Self governance	79	67.5	38	32.5
		Developmental groupings	60	51.3	57	58.7

Source: Household Survey, 2010

Household survey revealed that, credit and saving institution, to which 34.2 percent of the total households reply is helping some households to diversify their livelihoods. They farther explain this as it is playing an enabling role in their choice by providing them money on loan form in which they save on monthly basis. But the larger proportions of the households are not the beneficiaries of the service of credit and finance; this constitutes for 65.8% of the sample households. The next intuitions in the study area are rural services that are serving the community in giving health service, education and agricultural inputs, the survey result has shown that, these services are important in providing technical and financial inputs and enable the rural smallholder farmers to participate in diverse livelihoods. Of the total participants of the survey 64.1 percent have suggested that such service providers are playing an important role in their livelihoods. But 35.9% of the sample households are complaining for the lack of the rural service provision; which on the other hand discourage the involvement of rural smallholders in diversified livelihoods.

Similarly, governance related factors and activities are the other most important factors in providing enabling environment and safeguarding their ownership security. For instance, rural land administration is one of the rural governance that is responsible in land administration. These institutions play a typical role in rural livelihood diversification because directly or indirectly the rural activities have connection with land that is why 70.9 percent of the sample households agreed that rural land administration has a determinant role in their livelihood diversification. On the other hand, developmental groups and self governance are also playing an integral role as part of governance in the rural communities of Bako-Tibe woreda; accounting 51.3 percent and 67.5 percent of the sample households response respectively (see table:7.3). Therefore, rural institutions and governance are playing an important enabling role in rural livelihood diversifications, although there are constraints on less availability.

Fig. 7.2: Sample rural services in Bako- Tibe Woreda



Source: authors' field work; Feb, 2010.

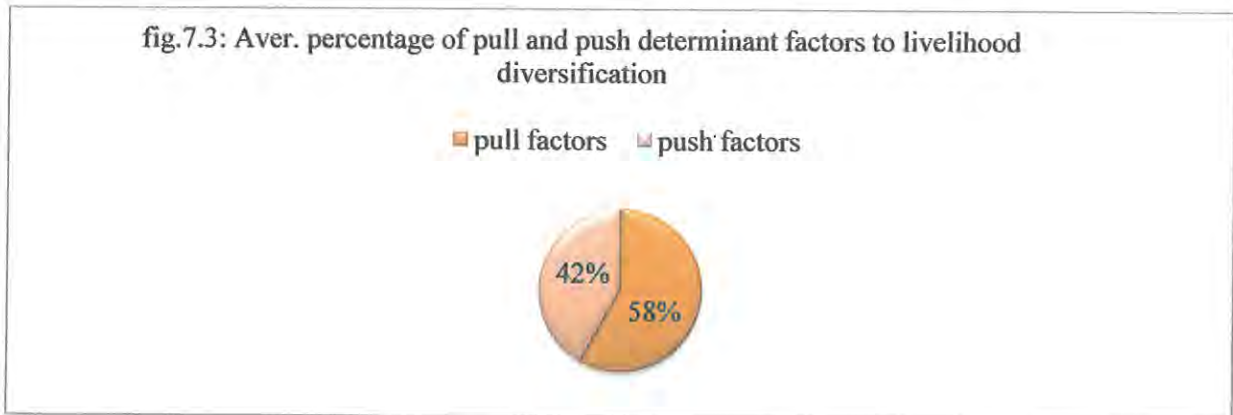
NB. The above figure indicates health post, rural school and developmental group respectively.

7.2. Push and Pull Factors of Livelihoods Diversification in Bako-Tibe Woreda

The household survey identified two opposing factors that facilitate the engagement of rural farm households in diverse livelihoods in Bako-Tibe woreda. These factors are push and pull factors. According to the survey the pull factors to diversify livelihoods are the opportunities to use slack season, in which farmers can engage in any activity they can according to their skill or the opportunity their environment give them to produce extra income. The data from the household survey shows that 79.5 percent of the sample households responded as they use the slack season to produce other crops or generate income from other non-farm activities. Diversification because of the opportunity the other activities can generate is also the other pull factor; this was replied by 82.1 percent of the sample households. The next important pull factors that make households engage in diverse livelihoods is the need for extra income to which 74.4 percent of the sample households respond. The other factor was the ability that other activities can compensate the inability of one dominant activity of the household to fulfill the need they want from that activity; this idea is supported by 85.5 percent of sample households.

The second factors that force households to diversify their livelihoods in Bako-Tibe woreda are the push-factors. These include: to reduce the risk i.e. when a household is expecting that there are risk in front of them because of the scarcity of a kind of asset in their household, they most probably forced to engage in diverse livelihood to earn extra-income that will help their

household to cope with the expected risk. This idea is supported by 77.8 percent of the sample households involved in household survey. The second push factors that enforce the households to diversify their livelihoods is the diminishing factor return this means when the return from one dominant activity diminished, households often engage in other activity that they expect it can assist them to survive. This factor is supported by 61.5 percent of the sample households. The third push factor was reaction to crisis. According to the response from 35.9 percent of sample households, they diversify as their household face crisis in household assets. Therefore, push and pull factors are two opposing but reinforcing factors that force households to diversify either to reduce vulnerability to harmful outcomes or to harness the opportunity other activities would bring to the household. When compared the two factors show different proportion in influencing households to diversify their livelihoods. Accordingly pull factors that include the use of slack seasons, extra-income generation, wider opportunity and the ability of the livelihood to participate in diversification to compensate household vulnerability are the main determinant factors accounting on average to 58% of the sample respondents and followed by push factors such as risk reduction, reaction to crisis and diminishing factor returns which account on average for the rest 42% of the sample respondents (see fig:7.3).



Source: computed from HH survey, 2010

7.3. The Role of Livelihoods Diversification in Household Food Insecurity

As it is explained in the introduction part, this study was designed to assess the role of livelihood diversification in reducing household food insecurity. Livelihood diversification involves the engagement of an individual or the family in more than one activity depending on the opportunity that activity will intended to bring to the household and to the individual. An

individual or a household follows diverse livelihoods depending on various factors. The most important reasons that make the households to diversify their household activities are of many sources which include: vulnerability of the household to shocks, trends, and seasonality, food insecurity of the household, resource scarcity or availability and the access and ownership of these resources and many other factors.

There are various livelihood activities that the peoples of the Bako-Tibe Woreda are pursuing. In broader sense the dominant livelihoods in Bako-Tibe include; on-farm, non-farm ventures, off-farm activities and transfer. These activities have their own role in household food security in many circumstances. As it was tried to be explained in the previous chapters the cumulative effect of these diverse livelihoods helped the households to contribute a lot to their household food security. The income proportion each livelihood activities contributed to the household was quite different in which farm income is the dominant income source to the household and the other activities such as non-farm, off-farm and transfer activities are the other dominant sources of household income.

According to the WB (2008) even-though there are still views that think smallholder households as pure farmers, but landed rural households rely on many activities and income sources. Besides farming they participate in agricultural labor markets, in self-employment or wage employment, rural non-farm economy, and they might receive transfers from household members who have migrated to the nearby town or abroad.

This research has found out that household average income proportion from different livelihood activities per household per year these include: Crops (311.9 birr), livestock (294 birr), non-farm (250birr), off-farm (233.3birr), and transfer (300birr). As many researchers and development organizations stated in Sub Saharan Africa the household income is more of from diverse livelihood portfolios. Thus it is possible to see from the above data that households' income of the study area is from diverse livelihood portfolios. These helped them to reduce their household vulnerability to seasonality and strength their overall household food security. This implies, following more than one livelihood activity is important that it enhances the households self reliance in food and non-food household requirements (see tables: 6.4.1, 6.4.2, and 6.4.3 and Fig: 7.4).

fig. 7.4: Aver. proportion of HH income earned from various activities in Bako-Tibe Woreda



Source: Computed from HH Survey, 2010.

Regarding the expenditure of the income earned from the diverse livelihoods, the result of the survey showed that 12.7% of the income earned from the participation in the above activities is used for the expense of social obligations such as Idir, Gumata and others. Similarly the other larger proportion of the household income goes to the expense of social services, this account to 31.5% of the income earned from diverse sources. On the other hand, tax for land and other related expenses share 6.5% of the income earned. The largest proportion of the income earned through livelihood diversification is utilized for the purchase of household goods including food and food items like salt, sugar, spices and others. The remaining 3.7% of the income earned goes to saving through traditional financial institutions like, Iqub (Fig: 6.2).

Therefore, livelihood diversification helps the peoples of Bako Tibe Woreda in reducing vulnerability and to be food secure by minimizing the probability of the households to sell food grains for the purchase of other goods and services and using the food grains for home consumption and sell the surplus for capital accumulation. Thus the role of livelihoods diversification in responding to the household food insecurity is very high in the study area.

CHAPTER EIGHT

Summary and Recommendations

8. 1. Summary

This study attempted to assess the role of livelihood diversification as a strategy to overcome food insecurity in the particular case of Bako-Tibe Woreda of West Shewa Zone of Oromia National Regional State.

As the main approach to the study, both qualitative and quantitative research methods were employed. With regard to the target group selection, three Kebeles were selected purposively and 117 households from the three kebele's were surveyed to generate quantitative data. On the other hand, qualitative data was generated through qualitative data collection methods (FGD, KII and observation).

This research basically focused as its central assessment on the household livelihood activities such as farm, non-farm, off-farm and transfer activities and their contribution to household income generation and insuring household food security and also the advantage of following diverse livelihood portfolios for smallholder households to attain their household food security.

As livelihood diversification is the act of pursuing more than one livelihood strategy, there are a number of factors that encourage or discourage household involvement. The enabling forces for livelihood diversification are capitals in the general sense. Personal capital (people's motivation and willingness to act and respond to changes and opportunities) play a crucial role. According to the household survey, the people of Bako-Tibe Woreda have strong motivation to diversify their livelihoods and also have high willingness to act to respond to any changes in their community. Physical capital (availability of capitals such as roads, markets, other infrastructures, and agricultural inputs), in Bako -Tibe Woreda regarding roads; only one asphalted road is crossing the woreda and very few dry weather roads found in the woreda that leads to the remote kebeles. Similarly the high price of the modern agricultural inputs and inability of smallholder farmers to buy these inputs makes agricultural produce very limited to the level of household consumption only and the absence of extra produce for sell leads these farmers to engage in diverse livelihoods to increase their self reliance in food and other services, Human capital (the

health, education and other conditions of the peoples of the study area). With regard to the education of the sample households the youth are more educated than the old and there is fast expansion of education sector in the Woreda, Regarding the village-wise differences in education, from the three kebeles under consideration Bachera Oda Gibe is relatively more educated as compared to Cheka Dimtu and Oda Gudeya, because of their accessibility to high and junior schools. In relation to health provision and health condition there is a health center and few health posts in the woreda, but Malaria is the most challenging disease in the woreda for humans, while anthrax and tripanosomiasis are the most influential animal diseases.

Banks, Micro-finance, credit and savings are less developed in the Woreda under consideration. One Commercial Bank and very few credit and saving institutions are found as the modern financial institutions to which the rural smallholder households have limited access. Iqub is the widespread traditional financial institution in the Woreda. Money lending and borrowing is also of great importance.

In the woreda are social networks by which people tied together. And the reactions they have through inter-household relationships, blood relationships and neighborhoods. In this regard the peoples of the woreda have the following social capitals: Idir, Daado, Dabo, Gumata, etc; through which, the community traditionally interacts, rule itself, support each other and perform their duties.

Land, Water, Forest, Soil and etc, are those capitals that naturally exist. All these capitals found in the woreda but the extent varies. The most influential capital in the woreda is land; this is because access to land determines the ownership and access to other resources. According to the household survey, there is a great deal of young households in the woreda that complain of landlessness, and the most prevalent constraint in the woreda is land fragmentation per household. Regarding land utilization, mostly land is under crop cultivation through rain fed agriculture, although modern and traditional irrigation activities are widely practical in the woreda. Next to land the most important resources are water (many rivers and streams and irrigation dams) are found in the Woreda, forest (limited forest coverage because of high deforestation) and livestock (large number of livestock) are found in the woreda.

Shocks, trends and seasonality are the other most known influencing factors in the woreda in people's livelihoods and food security. These factors include death of family head, unexpected soil erosion, seasonal fluctuation of crop yield, food shortage and population pressure are the main ones. However, the dominant factors in the woreda are: population pressure; land degradation and seasonal food deficit. Thus based on the above influencing factors the rural communities of the woreda are undergoing various activities in response to changes and opportunities resulted from such factors.

According to the household survey, livelihood activities in the woreda include: farm, non-farm, off-farm and transfer activities. Farm diversification incorporates the production of crops both by rain and irrigation, vegetables and fruit production and livestock raising; non-farm activities like: petty trading, brewery, handcrafting, charcoal and firewood selling and off-farm activities like: agricultural wage labor, daily laborer on others' farm, are the main ones. Transfer activities are also the main source of income for some who have relatives and member of the household from nearby town, other towns in the country or abroad. The survey also found out that farm activities are the dominant activity in the woreda. On the other hand non-farm, off-farm and transfer activities are also the notable activities.

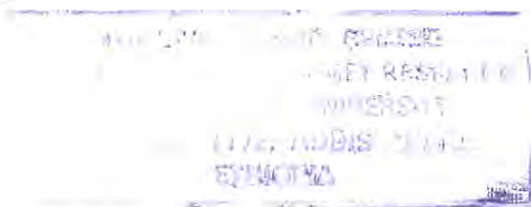
As the study revealed, determinant factors that force the peoples of the study area to pursue diverse livelihood portfolios include: seasonality, shocks, trends, availability and access to resources, push and pull factors, age, sex, and wealth status of the households, peoples' motivation and aspirations, availability of institutions and good governance are the main ones. It was also found that, young age groups more participate in livelihood diversification than children and the old, female diversify more as compared to male, the poor diversify than the rich and food insecure diversify than food secure households.

Therefore, diversifying livelihood portfolio's were found to be very important for smallholder households to serve as additional source of income and complementing the income earned from agriculture and serve as a great contributor to household food security restricting their probability of selling of food grains and cover the extra household expenses.

8.2. Recommendations

Livelihood diversification in the study area which includes (farm, non-farm, off-farm and transfer) activities and contributing a lot in the households' food security have its challenges and opportunities that should be focused by national government, policy makers, local administrators, researchers, development agents and farmers in order to fully enable this style of activities contribute to household food insecurity reduction. Thus based on the above facts the following recommendations have made:

- ✦ National government of Ethiopia should take in to consideration the growth and development of livelihood diversification in policy documents similar to the attention given to other agricultural activities.
- ✦ Poor smallholders are most of the time unable to buy high priced modern agricultural inputs. Therefore, national government should reconsider such smallholders in agricultural input provision to boost their agricultural production.
- ✦ The development of rural infrastructure especially roads are the most enabling factors for the accessibility of the remote communities to the market and other social services. Therefore, the national and regional government should take necessary measures for the development of the rural roads for the remote communities like Oda Gudeya in the study area.
- ✦ In the study area female, the youth, the poor and food insecure often diversify their livelihoods than male, children and the old, the rich, and the food secure households. Therefore, capacity building programs should be considered and given to this group of the community to enable them harness the opportunities that these activities will provide.
- ✦ Financial resources, especially the modern financial sources like rural banks and credit and saving institutions are very limited in the study area though they are very crucial for the development of any sector. Thus, these sources of finance are recommended to be established in the study area.
- ✦ Access to land is basic for farmers to engage in any activity they want. But in the study area because of high population growth and the unbalanced land holding size most newly



formed households are landless or live on very limited land. Therefore, the national government in general and the rural land administration office of the woreda in particular should reconsider the issue of landlessness and land scarcity among the newly established households in the study area and take necessary measures.

- ✦ Resource loss through land degradation is very high in the study area. But minimizing the rate of resource loss can enhance the productivity of the livelihood activity and make livelihood sustainable. Hence, the agriculture and rural development office of the woreda and the development agents should work hand in hand with the farmers of the woreda to reverse the high resource loss through degradation.
- ✦ Healthy people can engage in any activity they want depending on the opportunity the environment and socio-economic situations provide them. In Bako-Tibe Woreda the most influential disease is Malaria especially in Bachera Oda Gibe. Thus Oromia regional state health bureau and Bako-Tibe Woreda health office are recommended to work together to minimize the impact of this disease on the inhabitants' health.
- ✦ Animals play the dominant role in the success of the activities that the third world farmers engaged in. Even though considerable number of animals found in the study area, animal diseases such as Tripanosomiasis are widespread and affecting the health and productivity of animals. Therefore, the agriculture and rural development office of the woreda should take the necessary measures including the expansion of veterinary services.
- ✦ Natural vegetations play a crucial role in the livelihoods of the farm households, but deforestation is a severe problem in Bako-Tibe Woreda. Hence, the woreda's agriculture and rural development office should take in to consideration the participatory afforestation programs.
- ✦ Since livelihood diversification is the involvement of farm households in farm, non-farm, off-farm and transfer activities, understanding what activity should be done at what time is very important. Therefore, farmer training centers should be constructed and DA's should properly be assigned to train farmers.

- ✦ Irrigation potential of the woreda is very high. It can minimize over dependence of an area on rain fed agriculture and widens the opportunity of the household to harness wide varieties of production and raise household income sources. Though irrigation potential of the study area is higher, peoples' involvement is very limited. Thus, concerned bodies of the study area should work on this issue to enhance peoples' involvement in irrigation activities.

- ✦ As it is stated above income from different livelihoods is contributing a lot in households' food security, but the knowledge gap in this sector is significant in the study area. Therefore, researchers should focus on this area and further explore the structural complementarities between diverse activities in raising household income and securing household food supply.

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Appendix .I

Household questionnaire

Part I. General Information of the HHs

Region _____ Zone _____

Woreda _____ KA _____ Code _____

Agro – ecology Dega Woina dega Kola

Household number _____, Name of the household head _____

Interviewer name _____, Date of interview _____ 2002/2010

Supervised/ checked by _____, Status: ok _____ problem _____

Comment (if any) _____

Part II.A. Information on household demographic characteristics

No	Name	sex	age	Relationship	marriage	Educ. Status	religion	ethnicity
	Codes			A	B	C	D	E
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

NB. For columns labeled by A – E select from the following and put the numbers on the space.

	A	B	C	D	E
1	husband	1. Single	1. illiterate	1. Christian	1. Oromo
2	wife	2. married	2. read/write	2. muslim	2. Amhara
3	son	3. divorced	3. grade 1-4	3. Traditional religion	3. Others
4	daughter	4 widowed	4. grade 5-8		
5	grand child		5. grade 9-12		
6	brother		6. diploma/certificate		
7	Sister				
8	not related				
9	others				

B. Household profile

1. What is the type of your household? 1) Monogamous 2) Polygamous

2. Is your household female-headed or male-headed? 1) Female-headed, 2) Male-headed

3. Is your household formed recently or long ago? 1) Recently 2) Long ago

4. Housing condition: 1) Strew roofed 2) Corrugated iron roofed
3) Stone walled and corrugated 4) Corrugated and soil floor 5) Others specify _____

5. Household food habit

Food item	yes	No	Food item	yes	No
Injera	1	2	milk	1	2
Dabo	1	2	meat	1	2
vegetables	1	2	fruits	1	2
Tella	1	2	Root crops	1	2
Coffee	1	2	Teji	1	2
Others _____					

6. Household wealth status: 1) Rich 2) Poor 3) Medium

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Part III. Household resource ownership

Land and other resources

3.1. Do you own agricultural land? 1. Yes 2. No

3.2. If 'yes' how do you get it? 1) Through land redistribution 2) Through share cropping

3) Gift from relatives 4) through inheritance 5) Rented 6) Free access to some ones land

3.3. Who owns land in tour household? 1) Father 2) Mother 3) Son 4) Daughter
5) Common ownership 6) Divided to household member 7) Others specify _____

3.4 If your answer is "divided to the household members" what is the reason?

1) Because of the family is polygamous 2) Because of disagreement between the household members 3) Objectively divided the land to the household members 4) because of the government land certification

3.5. Have you given land to someone recently? 1. Yes 2. No

3.6. If 'yes' what was the purpose? 1) to sharecropped out 2) to rent out 3) to give for others as gift 4) others specify _____

3.7. Can you give me the proportion of your land utilization?

No	Types of land use	Timad	Hectare
1	Under annual crops		
2	Under cash crops		
3	Garden land		
4	Grazing land		
5	Forest land		
6	Fallow land		
7	Other specify		
8	Total		

3.8. Did you sell, rent or sharecrop out any land in the last farming season? 1) Yes 2) No

3.9. If 'yes' why did you do this? 1) need cash to buy food 2) need cash for family health care
 3) need cash for social responsibility 4) have extra land 5) shortage of oxen
 6) Because of the land is infertile

3.10. What is the trend of your household land holding size since the last two or more decades?
 1) Increasing 2) Decreasing 3) No change 4) Others specify _____

3.11. If decreasing, what do you think the reason?
 1) Land redistribution 2) Population growth 3) Others (specify) -----

3.12. Is there any grazing land or forest on which you use commonly? 1. Yes 2. No

3.13. If 'yes' what do you benefit from it? 1) Grazing 2) Fire wood for sale 3) Construction material 4) Fire wood for home consumption 5) Fruits 6) Others specify-----

3.14. Do you own irrigable land? 1) Yes 2) No

3.15. Is it traditional or modern? 1) Traditional 2) Modern

3.16. If your answer for Q.3.14. is 'yes' how did you get the land?

1) through sharecropping 2) through land rent 3) farming own land 4) others specify_____

3.17. If yes for what purpose did you use the irrigation scheme for the last 12 months?

No	types of crop	amount produced	income obtained	purpose used
1	vegetables			
2	fruits			
3	sugar cane			
4	cereals			
5	cash crop			
6	pepper			
7	spices			
8	others			

3.18. What is the productivity of your land for the last 10 years?

1) Increased 2) Decreased 3) Unchanged

3.19. If it was "**decreased**", what do you think is the reason?

No	Reason for decrease	rank
1	erosion	
2	frost	
3	drought	
4	crop pest	
5	deforestation	
6	poor farming system	

3.20. Did you use fertilizer to improve the productivity of your land? 1. Yes 2. No

3.21. If 'yes' where did you get it? 1) through purchasing 2) by borrowing from the government 3) by selling part the land to buy the fertilizer 4) Others specify_____

3.22. If 'no' how did you fertilize your land holding? 1) Using animal manure 2) Crop rotation 3) Following 4) others specify_____

3.23. Take the first and the second ranking reasons for your land productivity reduction and state the case that leads to that and measures taken by your household and the government_____.

3.24. For the crops you have grown this year specify the amount of the income you have earned.

crops	Total harvest	home consumed	sold	Net income
Maze				
Noug				
Teff				
Barley				
Wheat				
Sorghum				
Pepper				
Fruits				
Vegetables				
Spices				
Cash crops				
others				

B. Livestock Resources

3.25. Do you have livestock?

1) Yes

2) No

3.26. If "yes" please can you tell me the number of livestock you currently own, number of livestock you bought/ sold recently and income obtained/lost and the purpose?

No	type of livestock	number owned	number sold	number bought	net income obtained (birr)	use of income obtained
1	ox					
2	cow					
3	bull					
4	goat					
5	sheep					
6	calf					
7	hen					
8	donkey					
9	horse					
10	mule					
11	not owned					

NB. For column seven of the above question, specify your answer from the following alternatives by writing the letters of the alternatives.

1) for buying food items 2) for paying taxes 3) for paying children's school fee 4) for buying agricultural inputs 5) for medical expense 6) others

3.27. If your answer is "No" for que. No 3. 12, how do you get animals for the following purposes?

No	Item	Source
1	ploughing	
2	milk and milk product	
3	transport	
4	egg	
5	meat	

3.28. If you have livestock, what are the main constraints did you face against your livestock for the last five years?

- 1) Lack of grazing land 2) Limited productivity 3) Widespread animal diseases 4) Lack of veterinary services 5) Others specify _____

C.Transfer

Informal transfer

3.29. In the last 12 months, has your household received any of the following type of assistance from any person except government?

Type of assistance received	yes	No
Loan/cash	1	2
cash	1	2
Remittances	1	2
Loan/grain	1	2
food	1	2
Loan/seed	1	2
Gift/food	1	2
Gift/seed	1	2
Free labor	1	2
Oxen or plough	1	2
Pack animals	1	2
chicken	1	2
Others specify _____		

Formal Transfer

3.30. In the last 12 months, has your household received assistance from government or humanitarian organizations?

Types of assistance received	Yes	No
Food for work	1	2
Cash for work	1	2
Credit/loan	1	2
chicken	1	2
livestock	1	2
Free fertilizer	1	2
Free food	1	2
Free cash	1	2
Others specify _____		

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D. Household materials

3.31. Specify the productive assets, household goods and consumer durables at your household.

asset	Yes	No	asset	Yes	No
plough	1	2	Charcoal/kerosene stove	1	2
axe	1	2	bed	1	2
hoe	1	2	chair	1	2
sickle	1	2	table	1	2
spade	1	2	telephone	1	2
beehive	1	2	TV	1	2
Grain mill/stone	1	2	Radio	1	2
Water pump	1	2	Others _____		

Part IV. Household activities and dominant stakeholders

4.1. What are the main activities your household engaged in?

- | | |
|-------------------|---------------------------|
| 1. Farming | 5. petty trading |
| 2. animal raising | 6. hand craft |
| 3. poultry | 7. vegetable gardening |
| 4. irrigation | 8. animal fattening |
| | 9. others (specify) _____ |

4.2. What are the main sources of income for your household?

- | | |
|--------------------------|-----------------------------|
| 1. petty trade | 9. stock fattening |
| 2. vegetable production | 10. small animal breeding |
| 3. bee farming | 11. irrigation |
| 4. hand craft | 12. transfer |
| 5. local alcoholic drink | 13. wage labour |
| 6. share cropping | 14. home servant for others |
| 7. land renting | 15. daily laborer |
| 8. poultry | 16. self employment |
| | 17. others (specify) _____ |

4.3. for what purpose did you use the income earned from the above activities?
Specify _____

4.4. If you have problems to participate in any of the above activities, what are the factors that hinder you to do so?

- | | |
|----------------------|--|
| 1. lack of interest | 7. cultural norms |
| 2. lack of ability | 8. backward attitudes |
| 3. lack of knowledge | 9. traditional beliefs |
| 4. health problem | 10. lack of physical, human, social, financial resources |
| 5. age problem | 12. others (specify) _____ |
| 6. lack of access | |

4.5. If you are participating in the activities stated under Q.4.2., please specify which member of your HH performs what kind of work?

No	HH. member	activity	time of activity					
			year round	summer	winter	spring	Autumn	part time
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

4.6. From among your household members who most often engage in diversified activities to maximize your HH income?

- | | |
|--------------|---------------------------|
| 1. mother | 5. relatives |
| 2. father | 6. younger members |
| 3. sons | 7. older members |
| 4. daughters | 8. others (specify) _____ |

4.7. From among smallholder households in your community which HH most often engage in various activities? Why?

1) Poor households 2) Medium income households 3) High income households

4.8. If your answer for que. 4.7. is **poor household** what are the reasons? Specify _____

V. Determinants to follow diverse livelihoods

5.1 Vulnerability contexts as determinant for HH's engagement in various activities.

5.1.1. Do you participate in diverse income portfolios? 1. Yes 2. No

5.1.2. If **yes** why do you participate? Specify _____

5.1.3. Is there seasonal variation in your livelihood activities? 1. Yes 2. No

5.1.4. If your answer is 'yes' what season is prevalent?

No	Season	What activities
1	During harvest	
2	During summer	
3	During winter	
4	During spring	
5	During autumn	

5.1.5. Which of the following conditions most influence you to diversify livelihoods?

- | | |
|-------------------------|----------------------------|
| 1. weather fluctuation | 6. technological deficit |
| 2. yield reduction | 7. infrastructural problem |
| 3. food shortage | 8. drought |
| 4. work opportunity | 9. death of family member |
| 5. resource degradation | 10. conflict |
| | 11. others (specify) |
- _____

5.1.6. Based on the reality on the ground in your locality complete the following table.

No	livelihood activity	push factor	pull factor

5.2. Availability and access to livelihood resources.

Personal capital

5.2.1 What personal factors have you observed from your HH to diversify livelihoods? Specify your reason _____

- | | |
|-----------------------------|--|
| 1. high motivation | 5. willingness to respond to changes |
| 2. low motivation | 6. unwillingness to respond to changes |
| 3. willingness to act | 7. willingness to participate |
| 4. unwillingness to respond | 8. Unwillingness to participate. |

Human capital

5.2.2. Are there human related determinants that have effect to diverse livelihoods in your locality? 1. Yes 2. No

5.2.3. If your answer is 'yes', what are these factors? Justify your answer.

- | | |
|-----------------------|-------------------------|
| 1. human health | 4. knowledge and skill |
| 2. educational status | 5. capacity to work |
| 3. nutrition | 6. capacity to adopt |
| | 7. Others specify _____ |

5.2.4. Of the factors under Q. 5.2.3 which do you think is more influential at your HH?

Financial capital

5.2.5. Are there financial institutions in your locality? If yes what are these?

- 1) Formal 2) Informal 3) Both

5.2.6. If your answer above is both to which your HH belong?

- | | |
|-----------------------------|-----------------------------|
| 1. Iqub | 4. Idir |
| 2. Borrowing from relatives | 5. Formal credit and saving |
| 3. Arata | 6. Others specify _____ |



5.2.7. For what purpose do you use the money you get through the above ways?

- | | |
|-------------------------------|--|
| 1. to buy food items | 5. to buy animals |
| 2. to buy agricultural inputs | 6. to buy other food items like salt, sugar etc. |
| 3. to buy cloth | 7. others specify _____ |
| 4. to pay tax | |

5.2.8. What is the formal financial institution in your woreda? Is it governmental or private? What is its contribution to your community and your HH? Specify _____

5.2.9. Have you borrowed money from such institutions for the last 3 years? If **yes** have you benefited or lost? Specify _____

Social Capital

5.2.10. Do you have relation with other members of the community? 1. Yes 2. No

5.2.11. If your answer is 'no' specify the reason-----

5.2.12. If your answer is 'yes' what are the channels of your relationship?

- | | |
|------------------------------------|-------------------------------|
| 1. inter-household neighbor- hoods | 5.tribal and clan relations |
| 2. blood relations | 6. common rules and sanctions |
| 3. social networking | 7. common decision making |
| 4. grouping | 8. others specify _____ |

5.2.13. What are the social support activities your HH engaged in?

- | | |
|----------------|-------------------------|
| 1. Daado | 6. Gumata |
| 2. Humna | 7. Qabo |
| 3. Dabo | 8. Galgale |
| 4. Gargarsa | 9. Others specify _____ |
| 5. Qote Qotana | |

5.2.14. What are the constraints/challenges you face from your social group while participating in diverse livelihoods? Why?

- | | |
|------------------------------|-------------------------------|
| 1. discouraging you verbally | 4. not to come to your 'Dabo' |
|------------------------------|-------------------------------|

2. refusal to work with you through 'Dado'

5. Others specify _____

3. not to give you 'Gargarsa'

Natural capital

5.2.15. What kind natural resources do your community own?

1. land

4. wildlife

2. water

5. biodiversity

3. vegetation

6. others specify _____

5.2.16. What constraint do you have regarding land holding and your livelihood activities?

1. land scarcity

4. less fertility of land

2. remoteness

5. lack of oxen

3. land lessness

6. others specify _____

5.2.17. Of the existing natural resources in your area from which your HH more benefiting?

1. Land for production of crops

4. Wildlife for food

2. Water for irrigation

5. Wild life for income generation

3. Vegetation for construction and income generation

6. Others specify _____

5.2.18. Among the above stated natural resources rank from more influential to less important for your household food security? Specify _____

5.2.19. How did you use your household landholding in the previous years? 1) Growing the same crop on all of the land holding 2) Growing different crops and for other purposes

5.2.20. If your answer is 'growing different crops' what are the crops grown, your expense, your yield and net income you get?

Crops grown	Expense approx.	Yield in kg	Net income/Birr
Maize			
wheat			
Barley			
Teff			
Neug			
Pepper			

Root crops			
Vegetables			
Cash crops			
Fruits			
Others			

Physical Capital

5.2.21. How far is your residence from the near by town?

1) 5 km 2) 8 km 3) 10 km 4) 2 km 5) 15 km

5.2.22. Have you faced problem of services? If yes which service?

1. Road

5. production tools

2. Transport

6. market access

3. telephone

7. modern agricultural inputs

4. electricity

8. others specify _____

5.2.23. What problem did your household face due to limited infrastructure?

1) unable to sell produce on time 2) Unable to buy inputs on time 3) Unable to go to public services on time 4) Reduced motivation to work 5) Forced to work on single crop 6) Others specify _____

5.3 Smallholders' aspirations and opportunities to diversify

5.3.1. Do you have some aspirations to pursue diversified livelihoods? 1. Yes 2. No

5.3.2. If yes, indicate some of them: 1) Increased income 2) self sufficient 3) Reduced hunger others specify _____

5.3.3. Tell me your experience of success and failure pursuing diverse portfolios: success: _____ Failure: _____

5.3.4. Can you specify the wellbeing difference between those households that follow diverse livelihoods and those who do not? 1. Yes 2. No

5.3.5. If your answer is 'yes' how can you specify? Circle the numbers

Those who diversify	Those who didn't diversify
1. Have high income	1. have low income
2. can purchase food during shortage	2. easily affected by hunger
3. can easily pay social obligations	3. cannot purchase food
4. can purchase agricultural inputs	4. cannot pay social obligations easily
5. can pay tax, school fee, and other expenses	5. easily affected during crop failure
6. others specify _____	6. cannot buy agricultural inputs
	7. others specify _____

5.4. Institutions and Government

5.4.1. What are the benefits you have received from the government and other institutions?

benefit	Yes	No
Have got land ownership certificate	1	2
Have got rural road	1	2
Have got free agricultural inputs	1	2
Have got free food aid during food shortage	1	2
Have got free access to credit	1	2
Have got good assistance from DA's	1	2
Have got free access to clean water	1	2
Have got health service and rural schools	1	2
Others specify _____		

Part VI. Livelihoods diversification and household food insecurity

6.1. Is your family food secure? 1. Yes 2. No

6.2. If your answer for question 6.1. is 'No' what do you think is the root cause for your household food insecurity? 1) Crop failure 2) Land scarcity 3) Dependence on crop production only 4) Lack of diversified livelihoods 5) Others specify _____

6.3. If your household is food insecure, Have you received any aid? If 'yes' in what way?

1) direct food distribution 2) productive safety net 3) cash to buy food 4) cash to buy Oxen

6.4. What was your household survival strategy while you face food shortage?

Strategy	Yes	No	Strategy	Yes	No
Ate less food	1	2	Sell livestock	1	2
Reduce no_ of meal	1	2	Sell household assets	1	2
Collect wild food	1	2	Selling fire wood	1	2
Receive help from relatives	1	2	Selling charcoal	1	2
Migration and remittance	1	2	School withdrawal of students	1	2
Borrowing grain/cash	1	2	Child labor selling	1	2
Increasing food expenditure ²	1	2	Sending children to relatives home ¹	1	2
Rent land for food	1	2	Others specify _____		
Sell land	1	2			

6.5. If your answer for question 6.1 is **yes**, what is the factor most contribute to it? Why?

1.enough crop harvest 2.diversified portfolios 3.enough land holding 4.others specify _____

6.6. Is your households engage in diversified activities? 1. Yes 2. No

6.7. Is your answer for Q. 6.4. is **'yes'** fill the following table

No	Household member	activity he/she engaged in	contribution to HH food
1			
2			
3			
4			
5			
6			
7			
8			
9			

6.8. If your answer for Q. 6.4. is **'yes'** what factors led your household to do this?

1.For grain purchase 2.Fee for tax for land 3.Fee for school 4.fee for medical care
5. need of extra income 6.Others specify _____

6.9. What are the constraints you face to diversify your livelihoods? Fill the following table:

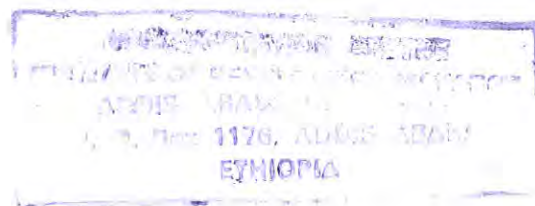
No	institutional cultural	and	socio-economic constraints	bio-physical constraints
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
12				
13				

6.10. Among the various constraints which do you think have strong impact on your community to engage in diverse activities? 1. Institutional and cultural 2.Socio-economic 3.Bio-physical 4. Others specify _____

6.11. Please would you give us the role of diverse portfolios to your house hold food security?

1. great role 2.Medium role 3.Limited role 4.No role _____

Thank you!



Appendix II

Checklist for interview with DA

I. Background

- What is the location and the topography of your woreda?
- How many is the population of KA?
- What is the land holding situation of your woreda?
- What are the contextual factors that affect your livelihoods?
- Is there a variation in the physical conditions (RF, weather, climate, soil) in your woreda?
- What the social organization (local, traditional) seams in your locality?
- Is there infrastructural facility in your woreda?
- What environmental services are you access to?
- How social relations responding to your livelihoods?
- How government and non-governmental actors working in your livelihood strategies?

II. Activities/livelihoods

- What activities are you engaged in?
- What dominant and supplementary activities do you have?
- What assets your locality access to?
- What is your aspiration towards diversified livelihoods?
- What opportunities have you get to diversify your activities?
- Is there an influential factor in your livelihoods?
- How institutions (traditional, formal, informal) affecting your livelihoods?
- What is the motivation of people to engage in different activities?
- What different activities (form, non-form, off – farm) does your family pursue?
- Do these activities have role to income generation?
- Who, when, why they diversity?

III. Food security

- What is the status of food in your household?
- For what months are you food secure?
- Why food insecure?
- What do you suggest on food security?

Appendix. III

Checklist for key informant (elderly)

I. Background

For how long did you live here?

What it seems over time?

Is there environmental change?

Is there social change?

Is there physical change?

Is there change of activities?

Is there cultural change?

What are the cultural, institutional, and traditional attributes of your community?

What resource endowment is there in your community?

II. Livelihood

What activities and when, who engage in them?

What contributions farm, non-farm, and off-farm activities are there in your woreda?

What is the yield over time in your locality?

What are the crops produced in your locality?

What animal production do you have?

What are the challenges to farm in your locality?

Is there non –agricultural produce need?

What are the motives and role of livelihoods diversification in your community?

III. Food security

What is the Status of household food security?

Is there change on availability over time?

What is the duration of your HH food security in a year?

What causes for food insecurity in your locality?

Is there diversification (need and contribution) in your woreda?

What is the relationship between food and livelihoods diversification in your locality?

Appendix IV

Checklist for FGD

I. Background

- What is the physical background over years in your woreda?
- What are the household activities over years in your community?
- What are the social, economic, physical and cultural resource endowments of your Woreda?
- How can you suggest about landholding in your Woreda?
- What is the land use pattern of your locality?
- How can you explain the resource ownership of your community?
- Do your communities have social relations?
- What institutions (formal and informal) in your community?
- Is there infrastructural development in your community?
- What is the government and non-government actors' role in livelihoods in your community?

II. Livelihoods and determinants

- What are the major activities (occupations) in your community?
- What diverse activities do you have?
- What are the motives for diverse activities?
- What are the actors (intra and inter households) of diverse livelihoods?
- Is there contribution of diversified activities for your household welfare?
- What are the push and pull factors for diversification?
- What relationships does assets and diversification have?
- What are the internal and external factors for diversification?
- How is the aspirations and opportunities in the community to diversify?

III. Food security and diversification

- What is the food security status of your HH?
- For how many months is your HH food insecure?
- Why food insecure?
- What role does diversification has for food security?
- What contribution diversification has for income generation?
- Is income from diversification have role for food security?

Appendix V

Checklist for KA leaders

Background

- For how long he was on power?
- What number of them are smallholders?
- What type of good and bad conditions passed in the community? Why?
- What physical conditions have the area?
- What kind land holding?
- What kind infrastructure?
- What kind administrative structure?
- What social services are there?

Activities

- What is the role of the KA for HH activities?
- What most of the household lacking?
- What most of the households engaged in?
- What relationship households and the government have?
- What is the relationship with the household activities and other institutions?
- what the government doing about the land administration
- What marketing situations?


Diversification and food security

- What kind activities in the smallholder HHs?
- What its contribution?
- What the government doing for food insecure?
- What is done and planned to be done for diversification of livelihoods?
- What is the state of livelihoods diversification for reducing HH food insecurity?
- What are the widespread constraints for livelihoods diversification?

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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Candidate

Confirmed by:


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