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**The Role of Livelihood Choices on Women Economic
Empowerment, the Case of Kilte Awlalo Woreda, Tigray Region,
Ethiopia**

Meron Zenaselase

**A Thesis Submitted to
The Department of Rural Livelihood and Development**

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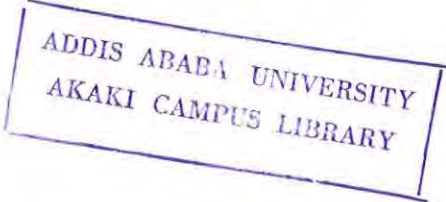
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Examiner Vijaya Subramaniam Signature [Signature] Date 13/07/2012

Examiner Sewalem Tsoga Signature [Signature] Date 13/07/12

Advisor Bamlak Alemsegu Signature [Signature] Date 13/07/12

Chair of Department or Graduate Program Coordinator

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ABSTRACT

The Role of Livelihood Choices on Women Economic Empowerment: the case of Kilde Awlaelo Woreda, Tigray Region, Ethiopia.

Meron Zenaselase

Addis Ababa University, 2012

Feminist poverty is not only consequence of lack of income, but also the result of the deprivation of capabilities and gender biases present in both societies and governments. Similarly, in Ethiopia the women particularly the female headed households face political, social and cultural challenges that undermine their human worth and dignity. Additionally, they suffer from economic poverty, social discrimination, and prevention to vote. This paper makes an attempt to investigate the determinants of livelihood choices and women economic empowerment in Ethiopia by examining the situation prevailing in one particular wereda kilte Awlaelo in Tigray region using the information gained from 196 women. Since the livelihood choices and the economic empowerment level is determined by different demographic and socioeconomic factors, this paper attempts multinomial logistic regression analysis to explore the possible determinants of livelihood choices and Tobit model analysis to explore the possible determinants of the economic empowerment level based on primary data from Kilde Awlaelo Woreda. The result shows that livelihood choices is considerably influenced by age, family size, education, access to media, asset holdings, marital status, job training, access to credit service, access to self help group, access to safety nets and transportation service. The result also shows that the economic empowerment level is also considerably influenced by age, family size, education, access to media, asset holdings, marital status, livelihood option choice, job training, access to

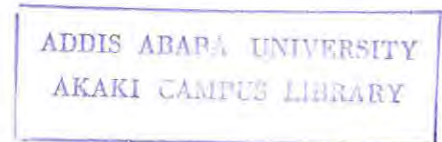
credit service, access to self help group, access to safety net, access to women group and transportation service. Apart from the other economic empowerment variables, a variable livelihood choice shows significant positive impact on the economic empowerment level. Additionally, the result checked the independency of asset holdings of the household across different livelihood options like farming, trade and daily labor through chi square test, so the test suggests that livelihood asset is dependent on livelihood option choice. Besides, ANOVA test used and indicated as different livelihood choices provide different economic empowerment level at less than 5% confidence level. Finally, it recommended that the economic empowerment can be improved by concentrating on the negative factors, which affects the rural women of the woreda, and consequently poverty levels will be reduced.

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List of Acronyms

ADLI	Agricultural Development-Led Industrialization
AU	African Union
BoARD	Bureau of Agriculture and rural development
CANGO	Coordinating Assembly of Non-Governmental
CEDAW	Convention on Elimination of all forms of Discrimination against Women
CSA	Central Statistics Authority
EASE	Ethiopian Agricultural Sample Enumeration
ECA	Economic Commission for Africa
EEA	Ethiopian Economic Association
EEPRI	Ethiopian economic policy research institute
FAO	Food and Agriculture Organization
FHH	Female headed household
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
ILRI	International Livestock Research Institute
KAW	Kilte Awlaelo Woreda
KII	Key Informant Interview
MDGs	Millennium Development Goals
MHH	Male Headed Household
MoFED	Ministry of Finance and Economic Development
NGOs	Non-Government Organizations
OoARD	Office of Agriculture and Rural Development
OSRA	Oromiya Self- reliance Association

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PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
REST	Relief Society of Tigray
SLF	Sustainable Livelihood Framework
SPSS	Statistical Package for Social Sciences
TLUs	Tropical Livestock Units
UN	United Nations
UNDP	United Nation Development Program
UNFPA	United Nation Population Fund
USAID	United States Agency for International Development

CHAPTER: ONE

1.1. Introduction

Ethiopia is one of the largest populated countries in Africa. Its population is around 73.918 million. About 84 % of the total population in the country lives in rural areas, while the remaining 16 percent lives in urban areas. Out of the total 84% of the rural population, 91% of the rural economically active population, employed in agriculture and agriculture related activities (CSA, 2007).

The Ethiopian economy has shifted to a higher growth trajectory since 2003/04. During the last 5 years, overall real GDP has grown rapidly at an average of 11% per annum (MoFED, 2010). Additionally, Teshome (2010) showed that the country per capital income increased by 9.9 percent per year and the income poverty index reduced to 29 percent at the end of 2008/09 as compared to 39 percent in 2004/05.

According to the UNDP (2010) Human Development Report, Ethiopia scored HDI improvement from 0.250 to 0.328 (2.73 % growth rate) in the year between 2000 and 2010, this was the third fastest average annual HDI growth rate in the world. The report also presented an analysis of the past 40 years that is 1970-2010, none of the Sub-Saharan Africa countries is in the top 10, but Ethiopia's improvement of the past decades ranked the country as 11th in the world.

Even though, these successes achieved, Ethiopia is still one of the poorest countries in the world, which put her at a rank of 157 out of 169 countries (UNDP, 2010). Beside, MoFED (2008) and Fekadu (2010) said that poverty remained widespread in Ethiopia.

J.Coompson (2004) added that the incidence and severity of poverty are largely identical among the five most densely populated rural regions. Where it is estimated that the Tigray region is the poorest followed by Amhara region, Southern region, and Afar region with a poverty index of above 50% followed by Oromiya region with a poverty index of slightly less than 50%.

Since Ethiopian women constitute 49.5% of the population, hence households headed by women are common in rural Ethiopia (CSA, 2007; FAO 2006). They faced political, social, and cultural challenges that undermine their human worth and dignity and they suffer from economic poverty, social discrimination, political disenfranchisement, and cultural subjugations (OSRA, n.d).

Additionally, they have less direct access to land, credit, extension services, access to improved seed and fertilizer (FAO, 2006). As a result, Female-headed households far more likely affected by extreme poverty and landlessness and when they do have land, 70 percent must sharecrop it out since they lack access to male labor and oxen to farm their own land (FAO, 2006).

Particularly, Tigray region characterized by a sparse and highly uneven distribution of seasonal rainfall and by the frequent occurrence of drought, but like most regions of Ethiopia, Agriculture is the dominant sector in the region and biggest employer of the economically active population (CANGO, 2007). Beside, Hailu and Edwards, 2006 said there are a high number of female-headed households in the region because of the long

year civil war and they are generally among the poorest of the poor in each village of the region.

Traditionally, in the region it believed that women must not handle plough oxen; they, therefore, have to rent work force to have their land ploughed, this puts the single them at a double disadvantage because their fields are planted later and each day's delay in sowing reduces their final yield. Then, at harvest time, the female-headed households have to share part of the harvest with the farmer who ploughs her field (CANGO, 2007).

With this background, to mitigate the problem, the Ethiopian government puts different policy measures (PASDEP and GTP) and has taken a range of measures to increase women's participation in political, social and economic affairs (MoFED, 2010). According to the 2010 Ethiopian millennium development goals report, the government of Ethiopia has also declared its commitment to gender equality, equity and the empowerment of women by stipulating the rights of women in its Constitution, by issuing the Ethiopia women's policy and by revising the family law and the criminal law. In this regard, examining the role of livelihood choices on women economic empowerment has enormous policy relevance.

1.2. Statement of the Problem

Women economic empowerment is all about making women economically independent and self-reliant, as well as ensuring equal property rights through organizing, creating job opportunities, improve their access to credit and other inputs, enhancing their entrepreneurial skills and upgrading their decision-making power in overall spheres of development (Mukessa and Nije 2001, cited in Multa 2008).

However, around the globe, 1.3 billion people live in absolute poverty (CARE, 2005) and of this, 70% are women. Regardless of their significant role in the economic survival of their families', they have the least access to productive resources, health care, basic education, employment opportunity, and decision-making processes; this exposes them to a greater risk of poverty and powerlessness (UNIFEM and DAW, 2001 as cited in Rad *et al.*, 2010; UN, 2009).

In Ethiopia, women also face political, social, and cultural challenges that undermine their human worth and dignity. This are expressed in terms of economic poverty, social discrimination, political prevention from voting, and cultural subjugation. Specifically, the female-headed households have also a less direct access to land, credit, extension services, improved seed and fertilizer, education, employment opportunities, basic health services, and decision-making. Moreover, they are also victims of violence and harmful traditional practices (FAO, 2006; UNFPA, 2008). As a result, they influenced by resource endowments and wealth. Due to this, the rural female-headed households engaged more in a diverse range of off-farm livelihood options other than working in the home and on the farm (EEA, 2007/08 and World Bank, 2011).

Similarly, Tigray regional state, particularly the study area Kilde Awlaelo woreda is relatively dry, subject to frequent drought, low crop productivity, high soil degradation, and high number of female-headed households under absolute poverty due to the long year civil war (FAO, 2006; Hailu and Edwards, 2006). The livelihood of most of the poor female-headed households in Tigray is largely dependent on sharecropping agriculture and some engage in daily labor activities and others in small petty trade (CANGO, 2007). On the other hand, the livelihood of the better-off female-headed households is crop and livestock production, selling vegetables and spices, salt trading, running bars and small shops (CANGO, 2007).

Even though, there is no research in Tigray related to this study, particularly on the role of livelihood choice on women economic empowerment, some studies related to this have carried out in different countries. For instance, Chaudhry (2009) in Pakistan showed that women empowerment is multidimensional concept and considerably influenced by different socio economic factors, including, access to education and media, and socio-cultural norms of the community. He analyzed the data using ordinary least square method. In addition, Rahman *et al.* (2007) has studied determinants of women empowerment at domestic and non-domestic issues in Bangladesh. The data was analyzed using logistic regression and concluded that place of residence (urban and rural), level of education, mass media facilities, living in combined family, age at marriage has strong and positive significant impact on decision-making power of women. However, In order to measure empowerment level, these researchers developed separate index, different determinants and different methods and techniques of analysis. Since, the

women empowerment issue varies from region to region and culture to culture, the socioeconomic, environmental variation and the livelihood options of rural women vary in according to their particular settings. According to this, the livelihood choices and women economic empowerment level of *kilte Awlaelo woreda* has not been studied.

Realizing this, therefore, the main concern of this research is studying the issue of women empowerment in relation to their livelihood choices in this *woreda*. It is also unique in its nature because of its focus on how livelihood choices will ensure the economic empowerment of women analyzed using Tobit Model analysis.

In this regard, the following research questions were set to identify:

- ✓ The factors that determine the livelihood choices of the households
- ✓ The factors that constrain the women economic empowerment level households

1.3. Objective of the Study

General objective

- To examine the role of livelihood choices in women economic empowerment in *kilte Awlaelo woreda*.

Specific objective

- To identify factors determining the choices of livelihood strategies of the households, and
- To assess economic empowerment level of households and investigate determining factors

1.4. Significance of the Study

The outcomes of this research come up with possible remedies for those identified problems. Further, this study initiated to add some information to the existing knowledge of the women economic empowerment in the study area. The findings of this research will provide multipurpose information to different users, including donors, policy planners, academicians, and the public at large and it may serve as input for next research doings.

1.5. Scope and Delimitation of the study

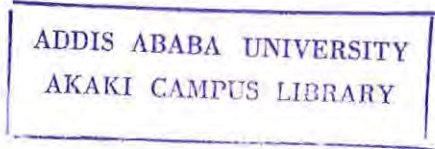
Because of the budget and time constraints, the researcher used limited data collection methods, focused only on women, selected 2 *tabias* and 196 respondents. As a result, generalization of this paper result to different cultures and regions may not be possible. The research focused only on women and economic empowerment, it restricted the researcher to assess a few empowerment indicators, particularly on personal autonomy, family decision making and political participation.

CHAPTER TWO

2. Literature Review

2.1. Basic Term and Definitions

2.1.1. Poverty



it expressed by conditions like malnutrition, inadequate shelter, unsanitary living conditions, unsatisfactory and insufficient supplies of clean water, poor solid waste disposal, low educational achievement, chronic illness, powerlessness, exclusion from democratic and legal systems (UNSD, 2005).

- **Feminist poverty:** is not only consequence of lack of income, but is also the result of the deprivation of capabilities and gender biases present in both societies and governments. This includes the poverty of choices and opportunities, such as the ability to lead a long and healthy life and enjoy basic rights like freedom, respect, and dignity (Wikipedia, 26 June 2012). In this paper, feminist poverty seen as the lack of access to different assets by the effect of gender biased.

2.1.2. Empowerment

Empowerment is about having decision-making power; having access to information and resources, range of options, assertiveness, a feeling that the individual can make a difference (Chamberlin, 1997).

Empowerment is also about learning to think critically, expression of anger and seeing things differently, feeling part of a group, effecting change in one's life and one's community, learning skills, changing

others' perceptions and capacity to act, increasing one's positive self-image and overcoming stigma (Chamberlin, 1997).

- **Women Economic Empowerment:** is all about making women economically independent and self-reliant, as well as ensuring equal property rights through organizing, creating job opportunities, improve their access to credit and other inputs, enhancing their entrepreneurial skills and upgrading their decision-making power in overall spheres of development (Mukessa and Nije 2001, as cited in Multa 2008). This study considered women economic empowerment as women's' decision making power on daily expenditure, health expenditure, purchase of house equipment, on personal/ family income, decision making to rent in or out land and going market by own will.

2.1.3. Female-headed household (FHH)

They may be one or multi-person household either a person who makes provisions for her own living without combining with any other person or a group of two or more persons who live together and make common provisions for food and other essentials of living (EASE, 2003). In this study context, female-headed household is a female loss her husband due to divorce or death and, because of this, she have high role and head for her family survival.

2.1.4 Livelihood

It comprises the capabilities, assets (including both material and social resources), and activities required for a means of living. A livelihood called sustainable when it can cope

with and recover from stresses and shocks and maintain or enhance its capabilities and assets for present and future, while not undermining the natural resource base (Serrat, 2008; Kollmair and Gamper, 2002; Lasse, 2001; Scoones, 1998).

2.1.5. Sustainable Livelihood framework (SLF)

It is the core of the sustainable livelihood approach and serves as an instrument for the investigation of poor people's livelihoods, whilst visualizing the main factors of influence. Like all models, SLF is a simplification and does not represent the full diversity and richness of livelihoods, which is understood by qualitative and participatory analysis at the local level (Kollmair and Gamper, 2002).

- **Livelihood Strategies/ Activities:** it aims to achieving the livelihood outcomes. Decisions on livelihood strategies may invoke natural-resource based activities, non-natural resource based and off-farm activities, migration and remittances, pensions and grants, intensification versus diversification, and short-term versus long-term outcomes, some of which may compete (Kollmair and Gamper, 2002). This study described livelihood strategy as livelihood choice that included both farm and off farm activities.

2.2. Poverty and Women in Ethiopia

Ethiopia is one of the poorest countries in the world. Poverty is widespread in the country because of having few jobs in the formal economy, low literacy rate, high inflation rate, inadequate infrastructure, low level of electrification, a high population growth rate, periodic droughts, and famine (FSF, 2009).

Since Ethiopian women constitute 49.5% of the population, hence households headed by women are common in rural Ethiopia (CSA, 2007; FAO 2006). They faced political, social, and cultural challenges that undermine their human worth and dignity and they suffer from economic poverty, social discrimination, political disenfranchisement, and cultural subjugations (OSRA, n.d).

They have also less direct access to productive resources including land, credit, extension services, improved seed, and fertilizer. Even when they have land, 70 percent must sharecrop it out (losing around half of the crop yield in the process), since they lack access to male labor and oxen to farm by their own (FAO, 2006).

The Ethiopian women are also vulnerable to socioeconomic marginalization through lack of access to education, employment opportunities, basic health services, and protection of basic human rights; low decision making; violence and harmful traditional practices (UNFPA, 2008).

The main constraint of Ethiopian female-headed households to get livelihood capital asset is that, they are often neglected by development initiatives, Office of Agriculture and Rural Development (OoARD) and credit institutions and they are in a weak position

economically (if they lose their land following the death of their spouse) when their access was formerly through their husbands (USAID, 2006). As a result, due to they are influenced by resource endowments and wealth rural women's engaged more in a diverse range of off-farm livelihood choices other than working in the home and on the farm (EEA, 2007/08; World Bank, 2011). Even though, they engaged on diverse livelihood choices, they are highly dependent on others, particularly male relatives or share cropping partners for labor, skills and inputs, to make decisions to adopt new technologies or practices, since they are, by convention, unable to plough, sow, harvest and store on their own (ILRI, 2010).

Recognizing this fact, to mitigate the problem, the Ethiopian government initiated and formulated a development strategy known as the Agricultural Development-Led Industrialization (ADLI) to the proper diffusion of fertilizers, improved seeds and for establishment of credit schemes as well as to expand the road system and improvement of primary health care, primary education, and water supply (EEA/EEPRI, 2002).

Additionally, the federal government of Ethiopia has taken several economic reform measures to address poverty in its every aspect, the economic reform includes fulfillment of basic needs of the population and promotion of policies that will encourage savings, private investment, increasing income-earning opportunities and promotion of small-scale industries (Getaneh, 2004).

According to the Ethiopian legislation and legal notices (1943), women cannot represent themselves in a legal tussle including issues related to administration of property. In

respect to that, the Government issued the national policy on women, which ensures women participation in all developmental spheres with the objectives like; raising the economic and social status of women, empowering the vulnerable segments of the society (women and children) and removing all legal and customary practices constraining women's economic, social development and enjoyment of rights (UNFPA, 2005).

Convention on Elimination of all forms of Discrimination against Women (CEDAW) incorporates the following measures that governments have to take to guarantee gender equality; elimination of discrimination against women in employment opportunities; ensuring gender equality through legal property right; equality of women in national constitutions; and abolishing existing laws, regulations, customs and practices that discriminate against women (UNFPA, 2008).

Although the Ethiopian government has ratified international treaties that advocate the elimination of discrimination against women, certain cultural, social, and traditional practices have continued to undermine women progress in the country. For example, women continued to have limited access to land and control of resources such as credit (UNFPA, 2005).

As the country is a patriarchal society that keeps women at a subordinate level by using religion and culture as an excuse. These cultural and religious excuses reinforced over the years by laws and legislation to uphold patriarchy and women's subordination (UNFPA, 2005).

As a result, disparities between men and women in the division of labor and share of benefits at household level interrelations among household members continue to witness. This negative cultural and religious subordination has resulted in the low status of women where they: Are generally poorer than men, are less educated, do not enjoy due acknowledgment for their labor and do not have decision-making power on output (ibid).

Although, women's ownership and plowing of the land is highly restricted due to socio-cultural norms in Ethiopia. the female-headed household from rich and middle wealth often trade agricultural products (World Bank, 2011) and a few women farming their own fields, however, this has generally been at considerable social cost by their neighbors and relatives (Hailu and Edwards, 2006). whereas poorer women work as casual laborers; they also harvest natural resources for resale (fuel wood, sorghum stalks and grass) or engage in low input activities such as cotton spinning or making *injera* for sale and migration (ILRI, 2010).

There is also the problem of cultural bias towards some activities for those who diversify their livelihood activities. The tendency and the attendant competition for resources are often to get from agriculture, trade, etc, which are somehow free from cultural taboos. Some non-traditional activities provide alternative employment opportunities (like blacksmithing, weaving, tannery, pottery, embroidery, other handicrafts, etc...) rather not easily taken up by clients (Getaneh, 2004). Therefore, practicing the nontraditional activities as livelihood choice leads women to cultural discrimination.

2.3. Women Empowerment

Dyson and Moore (1983) defined women empowerment as “the capacity to obtain information and make decision about one’s private concern” (as cited in Mahmood, 2010). Beside, empowerment of women is to let women survive and let them live a life with dignity, humanity, respect, self-esteem and self-reliance (Sara, 2011). In addition, women empowerment is about mobilization of political will, the enforcement of existing conventions or adopting stronger conventions, laws and policies and the linkage of such efforts with effective implementation strategies (ADF, 2008).

Women empowerment is one of the momentous issues of contemporary development policies in developing countries and it is a complex and multidimensional process and requires multivariate analysis (Chaudhry, 2009).

The variables like women doing paid work, having bank account, access to media, participating in excursion activities and participation rate formal and non-formal education, exposure to information media and spatial mobility are the most influential factors that enhance women’s empowerment. In contrast, the traditional beliefs, attitudes, and practices deeply fixed in women’s lives that hinder their empowerment (Chaudhry, 2009).

Women, who have their own work, contribute to national income of the country and maintain a sustainable livelihood of the families and communities, throughout the world. But regardless of their economic contribution they face many socio- cultural attitude,

legal barriers, lack of education and personal difficulties. Traditionally, women marginalized. However, sometimes they are rarely financially independent and empowered often they are more vulnerable members of society in the world (Sara, 2011).

The majority of women smallholder farmers in Africa depends on rain-fed farming for their livelihoods, which impeded by environmental and climatic conditions. One of the gravest risks to smallholder population in the wake of climate change is food shortage with a high number of people experiencing hunger for 3 to 5 months each year. Therefore, to empower the poor households especially women the country develops a resilience program against climate change with diversification of livelihood choices and focusing on community-based activities (Trax, 2012).

According to Pratt and Earle (2004) the positive community experience of implementation and management of service delivery program's can give groups greater levels of self-confidence. The direct benefits to the poor through service delivery can lead also the women headed households, to empowerment in Ethiopia.

Getaneh (2004) also puts that, because of women have fewer resources available to them, they tend to be more vulnerable when economic challenges or unforeseen circumstances arise; by providing access to loans for income-generating activities, microfinance institutions can significantly increases a women's resources, thereby reducing their overall vulnerability. He has also showed that increasing women's access to microfinance services will enable women to make a greater contribution to household income and this

in turn, will translate the Ethiopian household into improved standards of living and economic empowerment.

2.4. Poverty Measurement Approaches

The measurement and analysis of poverty, inequality, and vulnerability are crucial know what the situation is. It used to understand the factors determining this situation, for policymaking purposes, and for monitoring and evaluation purposes (Coudouel *et al.*, 2000).

Poverty can be assessed by using different approaches, like income or consumption, based poverty measures, basic needs measures of poverty, social exclusion/social marginalization as a measure of poverty, sustainable livelihoods, human development approaches (Odi, 1999).

In the 1960s, the focus was on the level of income, reflected in macro-economic indicators like Gross National Product (GNP) per head. In the 1970s, poverty became prominent. Therefore, the concepts of income poverty measure broaden to a wider set of 'basic needs', including those provided socially. Thus, following ILO is pioneering work in the mid-1970s; poverty became defined not just as lack of income, but also as lack of access to health, education and other services. The concept of basic needs inspired policies like integrated rural development. Its influence continues to seen in current debates about human development. In 1980s, The incorporation of nonmonetary aspects like lack of empowerment and isolation, vulnerability, and its counterpart, security, associated with better understanding of seasonality and of the impact of shocks, notably

drought. This pointed to the importance of assets as buffers, and to social relations. In the 1990s broadening of the concept of poverty to a wider construct, livelihood which is measured through the sustainable livelihood framework was adopted (Odi,1999).

A sustainable livelihood (SL) is a systemic and adaptive approach that links issues of poverty reduction, sustainability, and empowerment (e.g., participation, gender empowerment, and good governance). The attractiveness of SL lies in its applicability to different contexts, situations of uncertainty and in its capacity as a consultative and participatory process for the cross-fertilization of ideas and strategies between various stakeholders (www.undp.org/sl).

Additionally the framework has many advantages including; it concerns people rather than the resources, holistic in manageable model to identify the most pressing constraints faced by people regardless of which sector and geographical space, dynamic in order to learn from changes and help mitigating negative impacts, whilst supporting positive effects; the central issue of the approach is the recognition of everyone's inherent potential for removal of their constraints. The framework also tries to link the two development activities the micro and macro level, as people affected from decisions at the macro policy level and vice-versa (kollmair and Gamper, 2002).

2.5. Conceptual framework

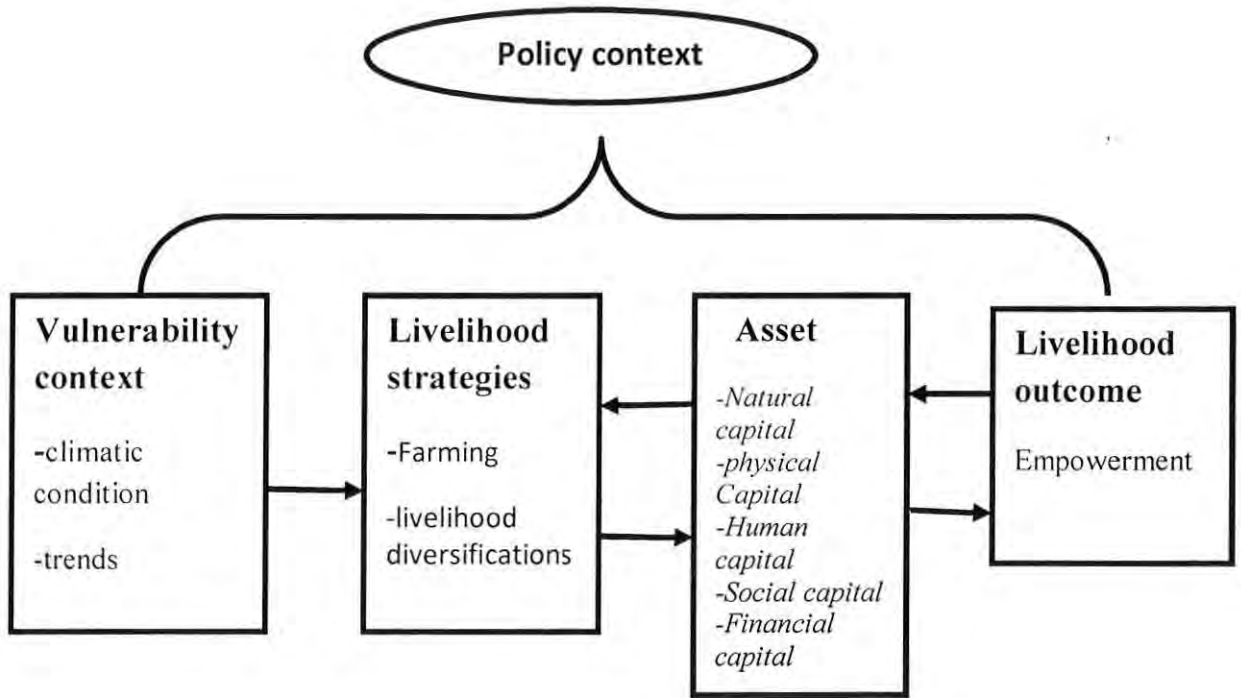
A key questions answered by **sustainable livelihood framework** is *context* (of policy setting, politics, history, agro ecology and socio-economic conditions), what combination of *livelihood resources* (natural capital, financial capital, physical capital, human capital and social capital) result in the ability to follow what combination of *livelihood strategies* (agricultural intensification, livelihood diversification and migration). The interest in this framework are the *institutional processes* (embedded in a matrix of formal and informal institutions and organizations) which mediate the ability to carry out such strategies and achieve (or not) such outcomes (Serrat, 2008; Lasse, 2001; Scoones, 1998; Kollmair and Gamper, 2002).

SLF is important to emphasize that a detailed understanding of people's livelihoods established through participatory analysis. Such as:-

- The SL approach also places people at the centre, in an environment where analysis has until now focused almost exclusively on resources or institutions;
- The SL approach facilitated a process of stepping back and looking at the wider issues affecting rural development. It extended the menu for support to livelihood development both in the short and long term;
- The SL framework proved to be a useful tool for structuring a review of secondary information sources and offered a way of organizing the various factors and making relationships between them.

- It specifically highlighted the links (or lack of them) between the macro and the micro level and highlights that higher level policy development and planning is being formed with little knowledge of peoples' needs and priorities (ODI, 2000)

Figure 1: Sustainable Framework Approach



Source: Modified from Scoones, 1998

SLF improves the knowledge of the context from the local level upwards and helps to analyze opportunities and constraints of the rural poor. It helps to identify what options have better potential to reduce poverty within the given context and what enabling conditions, policies and incentives are needed (Nargiza *et al.*, 2005).

The conceptual framework, which guided this research, is the body of work known as the sustainable livelihoods approach or framework (SLF).

1. Vulnerability context/ trend

Trend: - Trends are prevailed in terms of availability of different types of livelihood resources. Trends understood as lack of access to credit, lack of pastoral land, and lack of agricultural inputs and voiceless (Stephen and Simon, 2001). In this study, the women problem in terms of, lack of assets such as micro credit, land, livestock, women association, health service, job training, safety net, and self-help groups assessed.

2. Livelihood strategy

According to Binayak (2007), livelihood strategies are the planned activities women undertake to build their livelihood (Cited in Multa, 2008). In this section, the research studied about different livelihood choices like farming and off farm activities.

3. Asset

Different households have different access to different livelihood assets. The livelihood assets, which the poor must often make trade-offs and choices about, comprise such as human skill and knowledge, social network, physical, natural, and economic assets (Serrat, 2008). In this part, this research seen the households acquired resources through their of livelihood choices.

4. Out come

These are the results of women's livelihood strategies such as food security, poverty reduction, positive attitude, autonomous, self-esteem, and happiness (Multa, 2008). In this study, improved empowerment level of women considered as desired outcomes while decreased empowerment level considered as undesired outcome.

CHAPTER: THREE

3. Research Methods

3.1. Description of the Study Area

Tigray Region has five administrative zones, which further sub-divided into 35 *woredas* (districts). The particular study site, *Kilte Awlaelo Woreda* (KAW) is located at a distance of 825 km north of Addis Ababa and 45 kms north of *Mekelle* (regional capital). KAW has 18 rural administrative localities called '*tabias*'. Each '*tabia*' has its own administration unit called '*baito*'. The total area of the *woreda* is 101757.63 ha. The altitude of the *woreda* ranges from 1900-2300 meters above sea level. The temperature ranges between 17.25⁰c to 28⁰c and classified as mid land (*weinadega*). The average annual rainfall reaches from 350- 450 mm and the rainfall season in the *woreda* extends from late June to August. The current KAW demographic data, the total population is 111629 (57163 female and 54466 male) and the total household of the *woreda* is 24583 (9833 female and 14750 male). According to the available sources, agriculture is the main economic source of the community; about 95% of the population of the *woreda* depends on agriculture practicing mixed farming, livestock husbandry and crop production simultaneously. However, KAW is one of the drought prone areas of the region and the country as well, the existing farming system is dominantly depend on rain fed production, which is unreliable, erratic, little use of improved agricultural input, dependency on growing of limited type of cash & feed crops (BoARD, 2012).

3.3. Sampling Technique

Sampling is the process of selecting a number of study unities from a defined study population; often research focuses on a large population; it is only possible to include some of its members (samples) in the investigation (Abiy *et al.*, 2009).

Due to the time and budget limitation, only two *Tabias* out of 18 *Tabias* were selected purposively. These are *Abrha Weatsbeha* and *Negash*. Both *Tabias* have their own lower administration unit (*Kushet*). *Abreha Weatsbeha* includes 3 *Kushets*, such as, *Mendae*, *Selam* and *Abreha Weatsbeha*. On the other hand, *Negash* includes four *Kushets* including, *Kalhable*, *Ma'ago*, *Adiekli* and *Adikasho*. The total populations of the female-headed households of the two *Tabias* are 350 and 628, respectively. Total 196 sample respondents based on 10% calculation of the total 978 of female-headed households. From this 98 sample respondents taken from FHHs and 98 samples of wives of male-headed households also taken proportionally. All taken using stratified random sampling technique. Since, *Negash* is comparatively more populated, 126 respondents selected from *Negash*, and the rest 70 samples taken from *Abreha Weatsbeha*.

Table 1: Sampling Technique

Name of the <i>tabia</i>	Total population of FHH	10% of total population of FHH	Number of women under MHH based on Proportionate number of FHH
<i>Abrha Weatsbeha</i>	350	35	35
<i>Negash</i>	628	63	63
Total	978	98	98
Total sample size \approx 196			

Own source, January 2012

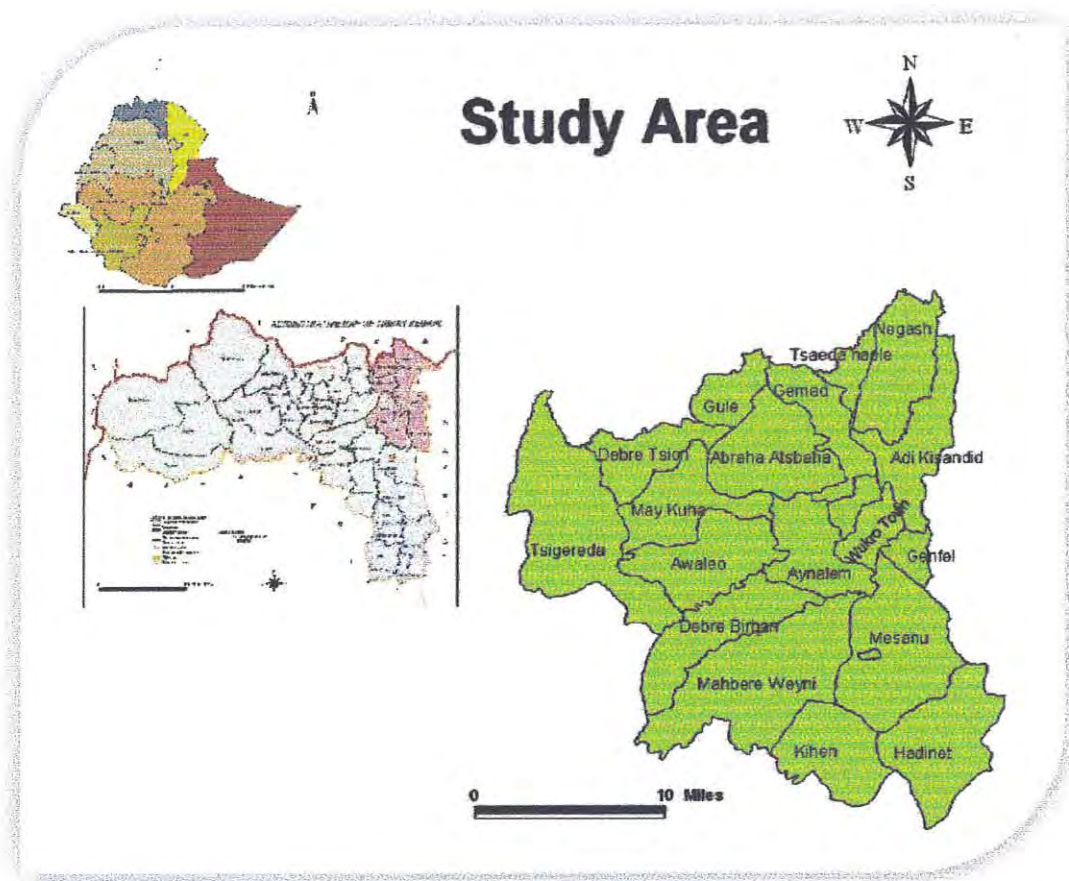


Figure 2: Map of the study area (*Kilte Awlaelo woreda*)

3.2. Data Source

The study used both primary and secondary sources of information. Before the primary data collection, the researcher collected the secondary data related to the study title from various books, reports, publications (organizational and governmental), journals, and thesis papers. Primary data also collected through survey, structured questioner, case study, key informant interview and field observations.

3.4. Method of Data Collection

The use of multiple methods can neutralize or cancel out the disadvantages of certain methods and the strengths of each approach can complement each other's gap (Byrne and Humble, 2007). In order to get the best result, the researcher used the combination of both qualitative and quantitative method of data collection.

3.4.1. Qualitative Method of Data Collection

Qualitative research is concerned with subjective assessment of attitudes, opinions, and behavior (EEA, 2010; Kothari, 1990). According to Degefa (2005) study , qualitative data is also consist of a range of behavioral traits such as belief, customs, values, knowledge and experiences and resultant structures, which cannot be accounted for in numerical terms (as cited in Mulate, 2008). In this study, the researcher used qualitative method of data collection, such as; direct observation, key informant interview, structured questionnaire, and case study.

3.4.1.1. Direct observation

In direct observation, the information sought by way of investigator's own direct observation without asking the respondent (Kothari, 1990). It helps to identify economic activities, key indicators of conditions, new topics, or issues for discussion and it helps in the assessment of differences between reported conditions and real conditions (Abiz *et al.*, 2009). To understand the livelihood situations, the basic access to infrastructure and the natural externalities of sampled households; the researcher used direct observation method of data collection.

3.4.1.2. Key Informant Interview

The key informant interview method of data collection involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. This method is also suitable for a detailed and intensive investigation by contacting persons who are supposed to have knowledge about the problem under investigation (Kothari, 2004). This method carried out to obtain basic information about a population size, environmental situation, the main livelihood choices of the households, to know purpose of the supporter NGOs and the participation rate of women in the women's association.

For this method of data collection, I selected four individuals purposively; three from administrative of BoARD (one from food security and other two are from natural resource department) of the *woreda* and one from women's affairs office of the *woreda*. During the interview, pre determined questions and informal interview were used.

The first interview was done with the two natural resource department workers. They were cooperative and interested to give information about environmental situation and the livelihood of the community in the *woreda* and *tabias* specifically. The next interview, was done with one of food security staff in BoARD. From this interview, information about the current productive safety net, the number and purpose of NGOs were obtained. At last, an interview was took place with the administer of women's affairs in the *woreda*, she was cooperative to give an information about female headed households participation rate in different trainings and women's affairs institutions, their access to assets like, credit service and other inputs.

3.4.1.3. Structured Questionnaire

Structured questionnaires are questions in which there are definite, concrete, and pre-determined questions. These questions are presented with exactly the same wording and in the same order to all respondents and the form of the question may be either closed (i.e., of the type 'yes' or 'no') or open (i.e., inviting free response) (Kothari, 1990).

Additionally, household survey is useful to gather data on a single basis and hence economical and efficient, represents a wide target population, generate numerical data and manipulates key factors and variable to derive frequencies (Abiy *et al.*, 2009). In order to gain the quantitative information about household size, farm size, income, and expenditure of the respondents, I included such question in the structured questionnaire.

For the household survey, the researcher prepared a 7-page questionnaire with 58 questions for 196 respondents. The questioner included a pre-determined question (yes or no) and open ended questions. To make it clear, the question translated from English to *Tigrigna* (local language). Five data collectors and I were participated on the data collection process. Two were female and the others were male. One of the female data collector completed grade 12 and the remaining four collectors (1 female and 3 male) were 5th year Mekelle University students. All of them speak and write Tigrigna. Before the collection process began, the researcher gave a 3-hour orientation to all data collectors on how they collect the data.

They collected the data within 4 days. During the data collection process, the data collectors reported no communication problem and most of the respondents were cooperative to give an appropriate response to the question they were asked.

3.4.1.4. Case study

Case study is a method of study in depth (intensive investigation) and a method to locate the factors that account for the behavior-patterns of the given unit as an integrated totality. It involves a careful and complete observation of a social unit, person, a family, an institution, a cultural group, or even the entire community and places more emphasis on the full analysis of a limited number of events or conditions and their interrelations (Kothari, 1990). For depth investigation of the households, the researcher selected two respondents purposively.

3.5. Expectation of the Result

To identify women economic empowerment, list of variables is constructed and their result hypothesized. According to my hypotheses, the independent variables like education level, livelihood option choice, participation in self-help group, access to media and training, per capita income of the household, marital status and asset holdings of the households expected to have a positive impact on economic empowerment level of the household. On the other, number of family size and age of the respondent are the explanatory variables, which hypothesized to have negative impact on economic empowerment level of the household.

3.6. Method of Analysis

Method of data analysis involves a number of closely related operations, which performed with the purpose of summarizing the collected data and organizing these in such a manner that they answer the research question (Kothari, 1990). To analyze the collected data the researcher used both the quantitative and qualitative method of data analysis.

3.6.1. Quantitative method of analysis

- To describe the data the researcher used frequency, cross tabulation, percentage, average, minimum, and maximum.
- The techniques of **multinomial logit** employed to study nominal categories; the occupational choices are essentially nominal in character (Gujarati, 2004). As a result, the researcher used multinomial logit to analyze the factors affecting livelihood choices of households in the study area.
- **Tobit model** is an extension of the probit model, it sometimes called limited dependent variable regression model because of the restriction put on the values taken by the regressand (Gujarati, 2004).

$$Y_i = \beta_1 + \beta_2 X_i + u_i \quad \text{if RHS} > 0$$
$$= 0 \text{ otherwise}$$

Where, RHS is right hand side, β is Intercept, X is independent variables, Y is dependent variable, and U_i is error term; to analyze the determining factors of economic empowerment level the researcher used Tobit model of analysis.

- **Analysis of Variance** (abbreviated as ANOVA) and it is extremely useful technique for different type of researches. This technique used when multiple sample cases are involved and used to compare more than two population means (Kothari, 1990). To compare mean value of empowerment level across livelihood strategies/options the researcher used ANOVA techniques.
- **Chi square** test is an important test amongst the several tests of significance developed by statisticians, it is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance and as a non-parametric test, it “can be used to determine if categorical data shows dependency or the two classifications are independent (Kothari, 1990). To compare asset holdings of the households across livelihood choices, the researcher used chi-square test.

All methods analyzed based on the determined averages, percentages, ranges, and frequencies, which entered on SPSS version 16 software and STATA version 11.

CHAPTER FOUR

3. Results and Discussion

This chapter presents findings of the study. It contains two major sections, each divided further into two sub-sections. While, section one discusses the results of the descriptive analysis, section two, deals with the results of the econometric analysis.

4.1. Results of the Descriptive Analysis

Descriptive analysis deals with systematically summarizing and organizing of collected information in understandable form (Nachmias and Nachmias, 1992 cited in Mahmood (2010)). In order to achieve the objectives of the study, descriptive analysis of respondents' demographic and socio-economic backgrounds carried out.

4.1.1 Demographic Characteristics

4.1.1.1. Age

The results of the descriptive analysis showed that, average age of the respondents is 38 years, where the minimum and maximum age of respondents are 18 and 75, respectively. 91% of respondents' are in the productive age groups (18-64 years). The information obtained from household survey indicated that, 82 % of respondents' livelihood choices found in between age 18 to 49 groups. Of the total, 19% of farmer respondents are in between 36-49 age groups and 18% of traders are in 18 to 35 age groups. When the respondents' age is greater than 64 years, 3.1% of them involve to the other livelihood options like handcraft and traditional midwifery (Table 2).

Table 2: Cross tabulation of age and livelihood choices

Ranked Age	livelihood choices				Total
	Farming %	Trade %	Daily Labor %	Others %	
18-35	18.4	18.4	6.6	8.2	51.5
36-49	19.4	3.6	5.1	2.6	30.6
50-64	5.6	1.0	1.0	1.0	8.7
>64	5.6	.5	.0	3.1	9.2
Total	49.0	23.5	12.8	14.8	100
Min Age=18 , Max Age=75, Mean Age= 38.16 and Std.Diviation=13.295					

Source: Household survey result, January, 2012

4.1.1.2. Marital Status and Age at marriage

From the total sample respondents, 50% (98) are female-headed households (single, divorced, and widowed) and the remaining 50% (98) are wife of male-headed households. From them, the results also that 46 % of respondents got married when they were just 18 years old or even less than 18 years and 52% of the respondents got married in between age 18 to 25. From which, 25 % of female headed households and 21% of wife of male headed household respondents got married when they were just at the age of 18 and less than 18. The result further showed that, 23% of female-headed households and the majority of wife of male headed household respondents (29%) got married between ages 18 to 25, 2% of female headed respondents still not got married (single) (Table 3).

Table 3: Cross tabulation of age at marriage across marital status

Marital status	Age at Marriage			Total
	<18 years %	18-25 years %	Single %	
Single, Divorced and widow	25.0	23.0	2.0	50
Wife of male headed HHs	20.9	29.1	.0	50
Total	45.9	52.0	2.0	100

Source: Household survey result, January, 2012

4.1.1.3. Family Size

The majority of respondents (64.5%) have four to six family sizes, 32% of the respondents have one to three family sizes, and only 3.2% of respondents have seven or more family size. Among these, 39% of farmer respondents have a family size of four to six, 9.4% of traders have one to six family sizes, 6.5% of daily laborer respondents have a family size of four to six, and 19.4% of respondents on other the livelihood choices have one to three family sizes. The descriptive statistics also showed that, the average family size of the sampled respondents is 4.3 with minimum and maximum one and nine family sizes, respectively (Table 4). This average value is in line (almost equal) with the average household size of 4.4 persons of the Tigray region (CSA, 2007).

Table 4: Cross tabulation of livelihood choices across family size

Livelihood options	Total family size			Total (%)
	1-3 persons (%)	4-6 persons (%)	7-9 persons (%)	
Farming	3.2	38.7	3.2	45.2
Trade	9.7	9.7	.0	19.4
Daily laborer	.0	6.5	.0	6.5
Others	19.4	9.7	.0	29.0
Total	32.3	64.5	3.2	100.0
Mean=4.31, Min=1, Max=9 and Std.deviation=1.8				

Source: Household survey result, January 2012

4.1.1.4. Education level

According to Lange *et al.* (2009), Education is one of the important factors affecting the dynamics of change in a population and its purpose is to develop new knowledge in the society (cited in Rad *et al.*, 2010). Among the sampled households, 71% do not have formal education and only 9.7 were able to attend up to high school level. The rest 19.4% of the respondents attended primary school. According to Table 5, 29 % of female-headed households and 41.9 % of wife of male-headed household respondents had only informal education (able to read and write or less). None of the wife of male-headed household respondents had a high school education but 9.7% of the female-headed respondents had a high school education (Table 5). This result shows that, female-headed households have somehow access to education as compared to wife of male-headed households; this is why, the female-headed household respondents includes single or not married respondents who do not stopped their education due to marriage.

Table 5: Educational level across marital status of the Households

Marital status	Education Level			Total (%)
	Illiterate (%)	Primary & secondary (%)	High school & greater (%)	
Female-headed households	29.0	3.2	9.7	41.9
Wife of MHHs	41.9	16.1	.0	58.1
Total	71	19.4	9.7	100

Source: Household Survey Result, January 2012

Among the sampled households, 41.5% of farmers, 16.1% of traders, 6.5% of daily laborers, and 6.5% of respondents with other livelihood choices had no formal education. Only 3.2 % of farmers and 3.2% of trader respondents attended primary education. However, there are 12.9 % respondents with other livelihood choices had a primary education. None of the farmer, the trader, and the daily laborer respondents had a high school and greater education but 9.7 % of respondents with other livelihood choices attended a high school education. This result implies that large numbers of illiterate respondents choose farming as their livelihood choice than to engage on the other livelihood choices (Table 6).

Table 6: Education level across livelihood choices of the Households

Livelihood options	Illiterate (%)	Primary School (%)	High school and greater (%)	Total (%)
Farming	41.9	3.2	.0	45.2
Trade	16.1	3.2	.0	19.4
Daily laborer	6.5	.0	.0	6.5
Other	6.5	12.9	9.7	29
Total	71.0	19.4	9.7	100

Source: Household Survey Result, January 2012

4.1.2. Socio- economic Characteristics of Households

4.1.2.1. Income

Since, income is a sensitive variable, some households did not respond to the questions related to income in the questionnaire. Therefore, I used households' monthly expenditure as their monthly income. The result in the Table 7 shows that, the households expected average income is 6.17 with the minimum and maximum income level of five and seven, respectively. Among 196 respondents, 16% of the farmers and 16.1% of respondents with other livelihood choices are in 601 to 900 ETB incomes groups, 13% of traders and 6.4 % of daily laborers are in between 301 to 900 ETB income groups. None of the daily laborer respondents' income reaches to 900 ETB but 9.7% of farmer respondents gained 900 or greater ETB per month. This result indicated that, farming is the more income generating livelihood choice than the other livelihood choices.

Table 7: Cross tabulation of livelihood choices across Household income

Livelihood option	Income				Total (%)
	>300 birr/month (%)	301-600 birr/month (%)	601-900 birr/month (%)	>901 birr/month (%)	
Farming (%)	6.5	12.9	16.1	9.7	45.2
Trade (%)	3.2	6.5	6.5	3.2	19.4
Daily laborer (%)	.0	3.2	3.2	.0	6.5
Other (%)	6.5	16.1	3.2	3.2	29.0
Total (%)	16.1	38.7	29.0	16.1	100
Min In income = 5, Max In income = 7 and Mean for In income = 6.17					

Source: Household Survey Result, January 2012

When respondents were asked, whether they decide on their personal income or not, 4.6 % of female-headed households and 15.8 % of wife of male-headed household respondents do not have a decision making power on their personal income. 21.4 % of female-headed households and 21.4 % of wife of male-headed household respondents occasionally have a decision making power on their personal income, and 24 % of female-headed households and 13% of wife of male-headed household respondents always decide on their personal income (Table 8). Those who do not have a decision making power on their personal income have gave different reasons, all decisions especially concerning income are made by husband/child, not having a personal income to control and decision is made jointly by discussing with husband.

Table 8: Cross tabulation of decision making on personal income across marital status

Decision making on personal income	Marital Status		Total (%)
	Female headed households (%)	Wife of male-headed households (%)	
No	4.6	15.8	20.4
Occasional	21.4	21.4	42.9
Always	24.0	12.8	36.7
Total	50.0	50.0	100.0

Source: Household Survey Result, January 2012

Additionally, when respondents were asked about their decision whether they spend based on their own will or not, 19.9% of the respondents do not have decision making power on the family's expenditure (for food, cloth, inputs, for child education, purchase of house equipment and health). 40.3 % of the respondents occasionally have a decision making power on the households expenditure, and 39.8% of them always decide on households expenditure. Of the total, 3 % of female-headed households and 17% of wife of male-headed household respondents do not have a decision making power on their family's expenditure, 13 % of female-headed households and 28% of wife of male-headed household occasionally have a decision making power on the households expenditure. The rest, 35 % of female-headed households, and 5% of wife of male-headed household respondents always decide on their households' expenditure (Table 9). This implies that the female headed households have more decision making power on their monthly expenditure as compared to wife of male-headed households.

Table 9: Decision making on daily expenditure and across marital status

Decision making on daily expenditure	Marital Status		Total (%)
	Female-headed households (%)	Wife of male-headed household (%)	
No (%)	2.6	17.3	19.9
Occasional (%)	12.8	27.6	40.3
Always (%)	34.7	5.1	39.8
Total (%)	50.0	50.0	100.0

Source: Household survey result, January 2012

4.1.2.2. Land Holding

Out of the total sampled respondents, 62.8% of the respondents have arable land while the remaining 37.2% do not have land for cultivation. From them, 63% of female-headed households, and 62% of wife of male-headed household respondents have their own arable land and the other 37% of the female-headed households and 38% of wife of male-headed household respondents are landless. From the total 62.8% of respondents having arable land, 47% of respondents are engaged in farming, 6% of respondents engaged in petty trade, 4% of respondents are engaged on daily labor, and 6% of respondents are engaged on other livelihood choices like handicraft, livestock fattening, and beekeeping. On the other hand, from those landless respondents 2% of them are engaged in sharecropping, 17 % of respondents are engaged in petty trade, 9 % of respondents choose to engage in daily labor, and 9 % of respondents are engaged on other livelihood choices (Table 10). This implies that, landholder respondents chooses to engage more in farming than to other livelihood choices, and the landless respondents are more probable to engage in petty trade than to other livelihood choices.

Table 10: Land holding across livelihood choices of the HHS

Having land	livelihood choice				Total %
	Farming %	Trade %	daily laborer %	Others %	
No (%)	2.0	17.3	9.2	8.7	37.2
Yes (%)	46.9	6.1	3.6	6.1	62.8
Total (%)	49.0	23.5	12.8	14.8	100.0

Source: Household Survey Result, January 2012

Only 8% of wife of male-headed household respondents entered into a share cropping arrangement for various reasons including having excess land (25%), lack of oxen (13%), and need of additional income (25%). Even though 63% of female-headed household respondents have their own land, 51% of female-headed households shared out their land for various reasons. They stated that lack of work force (46%), lack of oxen (2%) and lack of both labor and oxen (52%) are the main reasons.

Decision making about rent in/out land is one of the indicators of economic empowerment. When respondents asked about their decision, whether they rent in or out land based on their own will or not, 62.8 % of the respondents respond that do not have a decision-making power on their own land. While, 14.3% of the respondents occasionally decide to rent in/out their own land the remaining 23% of the respondents always decide on their land. The information obtained from the survey result also showed that, 27 % of female-headed households and 36% of wife of male-headed household respondents do not have a decision making power on their own land. 4% of the female-headed households and 10% of wife of male-headed households occasionally decide to rent in/out land and 19% of Female-headed households and 4% of wife of male-headed

household respondents always decide on their land (Table 11). This result indicated that, the female headed households have more decision making power on their land as compared to wife of male-headed households. This is why; the wife of male-headed households is under the control of their husband.

Table 11: Decision making on own land across marital status

Decision on land	Marital Status		Total (%)
	Single, Divorced and widow (%)	Wife of male-headed household (%)	
No	27	35.7	62.8
Occasionally	4.1	10.2	14.3
Always	18.9	4.1	23
Total	50.0	50.0	100

Source: Household Survey Result, January 2012

4.2.2.3. Livestock

The major livestock reared in the area are cattle (ox and cow), sheep, goat, poultry, and donkey. The total livestock holding of the respondents is 307 Tropical livestock Units (TLUs), ranging from zero to 12.98. The mean livestock holding of the respondents are 1.56 (Table 12).

Table 12: Descriptive analysis for livestock holding (Using TLU)

	N	Minimum	Maximum	Mean	Std. Deviation
Livestock Asset	196	.00	12.98	1.5649	2.22484

Source: Household Survey Result, January 2012

In this connection, when respondents were asked about their decision making power on their animal product profit, 37.2% of the respondents do not have decision-making power on their own animal products profit, 31.6 % of the respondents occasionally decide, and 31% of the respondents always decide on their animal product profit. Of this, 20 % of female headed households and 19% of wife of male-headed household respondents do not have a decision making power on their profit gained from animal products. While, 11 % of the female-headed households and 20% of wife of male-headed household respondents occasionally have a decision making power on their products, the rest 21% of female-headed households and 10% of wife of male-headed household respondents always decide on their output (Table 13). Those who do not have a decision making power on their animal products reasoned out that, the output is under the control of their husband /children, the others said that they don't have sufficient output to control, and the decision is made jointly after discussing with husband /children. In this case, the study result indicated that, the female-headed households have a higher decision-making power on their own animal products as compared to wife of male-headed households. This is why; due to the female-headed households manage themselves without the control of another person.

Table 13: Decision making on output across marital status

Decision making on out put	Marital Status		Total (%)
	Single, Divorced and widowed (%)	Wife of male-headed household (%)	
No (%)	17.9	19.4	37.2
Occasional (%)	11.2	20.4	31.6
Always (%)	20.9	10.2	31.1
Total	50	50.0	100

Source: Household Survey Result, January 2012

In addition, when respondents were asked about their decision in go to market by own will to sell their product, 28.6% of the respondents do not go to market by their own will , 30.6% of the respondents occasionally go to market by their own will and, 40.8% of the respondents always go market by their own will. Of this, 18% of female-headed households and 10% of wife of male-headed household respondents do not go to market by their own will. 9 % of female-headed households and 22% of wife of male-headed household respondents go to market occasionally and 23 % of female-headed households and 18% of wife of male-headed household respondents responds as always go to market by their own will (Table 14).

Table 14: Decision making to go to market by own will across marital status

Going market by own will	Marital Status		Total (%)
	Single, Divorced and widow (%)	Wife of male-headed household (%)	
No	18.4%	10.2%	28.6%
Occasional	8.7%	21.9%	30.6%
Always	23.0%	17.9%	40.8%
Total	50.0%	50.0%	100.0%

Source: Household Survey Result, January 2012

4.1.2.4. Livelihood Choices /Occupation/

Out of 196 respondents, 49% of the respondents are farmers, 23.5% of them are traders, 12.8 of the respondents are engaged in daily labor, and 12.2 respondents are engaged on other livelihood options (livestock fattening, traditional midwifery, handicraft, traditional hair beauty maker, beekeeping, poultry, and extra).

From this, 21.9 % of female-headed households and 27 % of wife of male-headed household respondents' are farmers, 13.8 % of female-headed households, and 9.7 % of wife of male-headed households engaged in petty trade, 8.7 % of female-headed households, and 4 % of wife of male-headed household respondents engaged in daily labor. The other 5.6% of female-headed households and 9.2% of wife of male-headed household respondents have other livelihood choices (Table 15). The respondents, reason behind to choose the above mentioned livelihood choices is; thinking their livelihood choice is more income generating and it needs less startup capital; lack of other choices, knowledge and livelihood assets to do other livelihood choices, adaptation and having the

experience on the current livelihood choice and assuming their occupation as their fate given from God.

Table 15: Cross tabulation of livelihood choices across marital status

Livelihood choices	Marital Status		Total (%)
	Single, Divorced and widowed (%)	Wife of male-headed household (%)	
Farming (%)	21.9	27.0	49.0
Petty trade (%)	13.8	9.7	23.5
Daily laborer (%)	8.7	4.1	12.8
Others (%)	5.6	9.2	12.2
Total (%)	50	50	100

Source: Household Survey Result, January 2012

In relation, when the respondents were also asked whether they changed their livelihood choice during the previous five years or not; out of the total sampled population, while, 38% of the female headed households and 37% of wife of male-headed household respondents did not changed their livelihood option during the previous five years. The remaining 12% of female-headed households and 13% of wife of male-headed household respondents changed their livelihood choice during the previous five years (Table 16). From respondents who changed their livelihood choice; 36% of the female-headed households and 34% of wife of male-headed household respondents changed their livelihood choice, due to the reason, low-income generated on the pervious occupation; 9% of female-headed households and 8% of wife of male-headed households changed their livelihood option due to lack of labor and age oldness, respectively. 2% of female-

Additionally, the respondents asked whether they made an asset like land and house equipment using their livelihood choice or not during the previous five years; the information obtained from the household survey result shows that, 34% of female-headed households and 25% of wife of male-headed households made different kinds of assets using their livelihood choice. The remaining 17% female-headed households and 25% of wife of male-headed households do not made an asset with the chosen livelihood choice. In addition, respondents asked whether the asset they had an impact on their political and community participation/acceptance or not; 59% of the respondents said as their political participation increased, 8% of the respondents' political participation decreased and 33% of them said no change happened on their political participation. On the other hand, 86 percentage of the respondent said as their community participation increased when their asset increased and 14% of the respondents said that there is no change in their community participation and acceptance when their asset holding changed (Table18)..

Table 18: Cross tabulation of asset with political and community participation

Asset holding with livelihood option	Asset and political participation			Total	Asset and community acceptance			Total
	Increased	Decreased	no change		Increased	Decreased	No change	
Yes								
Total	46	6	26	78	67	0.0	11	78
	59%	8%	33%	100%	85.9%	0%	14%	100%

Source: Household Survey Result, January 2012

4.1.2.5. Access to Credit Service and Saving

The information obtained from household survey result indicated that out of the total sample size, 35.5% of the respondents do not have an access to credit service and 64.5% of them have the access credit service. From this, 29% of farmers, 16.1% of traders, 19.4% of respondents on other livelihood choices have an access to credit service but the 16% of farmers, 3.2% traders, 6.5% of daily laborer, and 9.7% of respondents who engaged on other livelihood choices have no access to credit service (Table 19). Due to different reasons, most of the respondents do not borrow money from credit service. 56% of the respondents fear the repayment of the credit with interest rates, 20% of the respondent have a sufficient income, 13% of the respondents are restricted by their religion (especially in Muslim respondents) and 11% of the respondents lack asset for mortgage to borrow money from microfinance institutions. According to the key informant interview information from BoARD, the microfinance institutions and different non-governmental (NGOs) organizations serve credit service to all of the rural people in

headed households and 9% of wife of male-headed household respondents changed their livelihood option due to age oldness and change of place for residence, respectively.

Table 16: Marital status across change of livelihood choice

Marital Status	Change of Livelihood choice		Total (%)
	NO (%)	Yes (%)	
Single, Divorced and widow	38	12	50
Wife of male headed households	37	13	50
Total	75	25	100

Source: Household Survey Result, January 2012

When the respondents asked whether they have planned to change their livelihood choice for the future five years or not; Most of the respondents (168) said they do not have a plan to change their livelihood choice; whereas, 30 respondents said have a plan to change their livelihood choice. From those 30 respondents who have a plan, 23.3% have a plan to engage in trade, 10% of them need to engage in livestock fattening, 13.3% of the respondents want to engage in beekeeping, and 53.3% of them said they need to increase their performance in the activity they engaged currently (Table 17).

Table 17: Having plan to change livelihood choice across types of plan

Having Plan to change for the future	Type of plan				Total %
	to engage in trade %	to engage on fattening of livestock %	to engage on beekeeping %	to increase my performance on my occupation %	
Yes	23.3	10.0	13.3	53.3	100
Total	23.3	10.0	13.3	53.3	100

Source: Household Survey Result, January 2012

woreda. The rural people in the woreda have different types of credit service access like, money from microfinance institutions and from Relief Society of Tigray (REST). The other credit, such as, material (like hive), livestock (shoat and poultry), and agricultural input (like fertilizer) are gained from NGOs (like, REST, St. Marry, Orthodox and World vision).

Table 19: Access to credit service across livelihood choices

Access to credit service	Farming (%)	Trade (%)	Daily labor (%)	Others (%)	Total (%)
No	16.1%	3.2%	6.5%	9.7%	35.5%
Yes	29.0%	16.1%	.0%	19.4%	64.5%
Total	45.2%	19.4%	6.5%	29.0%	100.0%

Source: Household Survey Result, January 2012

The study also includes the participation of the respondents on self-help groups (traditional saving institutions like, *IQUB* and *IDDIR*). Among 196 respondents, 9.7% of the respondents do not participate on self-help groups and 90.3% of respondents participate on self-help groups. 41.9% of female-headed households and 48.4% of wife of male-headed household respondents have an access to participate on self-help groups. None of the Female-headed households do not participate on the self help groups but there are 9.7% of wife of male-headed households who do not have an access to participate on self help groups (Table 20). Most of the respondents participate on self-help groups to save their money and to get help (material & money) at time of marriage and death.

Table 20: Marital status across participation on self help group

Marital status	Participation on self help group		Total
	No	Yes	
Female-headed households	.0%	41.9%	41.9%
Wife of male-headed household	9.7%	48.4%	58.1%
Total	9.7%	90.3%	100%

Source: Household Survey Result, January 2012

Box 1: Case study about change of life due to access to credit

This case study is about a woman she lives in *Negash*. She is 34 years old and she attended religious school. Therefore, she can read and write. She got married at the age of 13. Currently, she has 6 children (2 male and 4 female) and she engaged in a petty trade (**selling local beer “sewa”**). Even though, she has 2 *tsimad* (0.50 hectare) land, she entered into share cropping arrangement due to lack of labor and her husband was dead during the Ethio - Eritrean war and lack of oxen. Thus, her income is still very low because the gain from the land is very low since the half output given to the farm laborer who shared her land. As a result, her monthly expenditure is greater than her gain. Especially, the expenditure for fertilizer is very expensive for her. After facing so many problems in her life, REST, one of the nongovernmental organizations in Tigray, gave her some sheep and goats as a credit and they train her about shoat production. Although, she still does not have a profit from the shoat production, this credit and training made her to plan change.

From the total respondents, 84.4% of the respondents do not have a bank account and only 15.8% of the respondents have bank account. Of this, 6.6% of female-headed households' respondent, and 9.2% of wife of male-headed household respondents save their money. The remaining 43.4% of female-headed households and 41% of wife of male-headed household respondents do not have saving account in bank (Table 21). The reason for the respondents who do not have bank account is; 75% of the respondents are

have low income, 10% of the respondents have no bank account because they participate in traditional self help group “*Iqub*”, 11% of the respondents do not gave attention due to lack of awareness, and 3% of the respondents have no access to banks. Besides, out of the 196 respondents, 45.2 % of the farmer respondents, 1.4% of traders, 6.5% of daily laborer, and 29% of respondents who engaged in other livelihood choices have saved money in bank. This implies that farming, as a livelihood choice is more preferable to save money as compared to other livelihood choices. This is why, in this study farming is more income generating livelihood choice as compare to the other livelihood choices.

Table 21: Bank account across marital status

Having bank account	Marital status		Total
	Female-headed households	Wife of MHHs	
No	43.4%	40.8%	84.2%
Yes	6.6%	9.2%	15.8%
Total	50.0%	50.0%	100.0%

Source: Household Survey Result, January 2012

4.1.2.6. Access to transport service, Agricultural Services, and Safety net

The observation result indicated that, there is transportation service in the two *tabia*. However, in Abreha Weatsbeha there is still a lack of transportation service (car and uncomfortable road). Respondents also asked whether they used transportation service (car) to sell their product or not; the household survey result shows that, out of the total sampled population, 41.9% of the respondents do not use transportation service and 58.1% of the respondents used transportation service to sell their product. Of which, 29%

of the female-headed households, and 12.9% of the wife of male-headed households not use transportation service and 12.9% of female-headed households and 45.2% of wife of male-headed household respondents use transportation service to sell their products (Table 22). The reasons of 41.5% of the respondents who not use transportation service indicated that, 7.7% of the respondents do not want to go because of live near the market and 92.3% of the respondents have no excess product to sell.

Table 22: Cross tabulation of using transportation across marital status

Using transport to sell products	Marital Status		Total
	Single, Divorced and widow	Wife of MHH	
No	29.0%	12.9%	41.9%
Yes	12.9%	45.2%	58.1%
Total	41.9%	58.1%	100%

Source: Household Survey Result, January 2012

Out of 196 respondents, 59% of them have an access to agricultural extension services and 41% of the respondents have no access to agricultural extension. on the other hand, 54 % of them have an access to agricultural input (seed and fertilizer) from BoARD; the other 46% of the respondents have no access to agricultural input (Table 23), because they don't have a farm land and they involve in agriculture indirectly (shared out their land). In contrast, Productive safety net provides the society with money, wheat, bean, and oil in return for their labor and social security (Source, KII, 2012). Out of the total

sampled population, 78% of the respondents have an access to the productive safety net and 22% of them have no access to the productive safety net (Table 23).

Table 23: Description of agricultural inputs and safety net

Response	Access to Agricultural input	Access to safety net
No	45.9%	21.9%
Yes	54.1%	78.1%
Total	100%	100%

Source: Household Survey Result, January 2012

4.1.2.7. Access to Media Exposure

In this study, the information obtained from the survey result showed that, 67% of respondents have an access to media exposure while 32.3% of them do not have. From those who have exposure to media, 48.4% of illiterate respondents, 9.7% of respondents have primary school education, 9.7% of respondents completed high school, and greater have media access like radio, newspapers, and TV. On the other hand, 22.6% of illiterate respondents and 9.7% of respondents with primary and secondary education have no media access (Table 24). Those respondents who have no access to media exposure reason out that; access to media exposure putted different reason for not able to be exposed; 88% of the respondents said they can't afford to buy radio and TV, 8% of the respondents have no sufficient time, 4% of the respondents lack education to read newspapers.

Table 24: Educational level across media exposure

Educational level	Media exposure		Total
	No	Yes	
Illiterate	22.6%	48.4%	71.0%
Primary and secondary	9.7%	9.7%	19.4%
High school and greater	.0%	9.7%	9.7%
Total	32.3%	67.7%	100%

Source: Household Survey Result, January 2012

4.1.2.8. Participation on Women Association

The key informant interview with the *woreda*'s women association shows that, out of the total 6,180 female headed households in women association participants, 5,722 of them participate in agricultural package, 4,492 participate in irrigation development, 1,836 in beekeeping, 4,637 in livestock fattening, 5074 and 3463 beneficiaries of micro credit service and saving, respectively. The goal of women's association in the *Woreda* is to courage FHHs in terms of different economic development spheres, to make them model for other *Woredas* and economically self-reliant. The association does this in association with different NGOs such as REST, St.Marry, Orthodox, and World vision. The household survey result also shows that, 89.8% of the respondents have an access to women's association service and the remaining 10.2% of the respondents do not have access to women's association (Table 25). Even though, 89.8% of the respondents have an access to women's association, only 75% respondents participate on women's association the other 25 % of them do not participate in women's association due to, age

oldness and sickness, lack of time, lack of awareness and they not selected by the administrations.

Table 25: Access to women association across participation of HHs

Access to women association	participation on women association		Total
	No	Yes	
No	10.2%	.0%	10.2%
Yes	15.3%	74.5%	89.8%
Total	25.5%	74.5%	100.0%

Source: Household Survey Result, January 2012

4.1.2.9. Access to Job Training

Out of the total sampled population, 90.5 % of the respondents have an access to a different type of job training (such as, farm improvement, beekeeping, irrigation techniques, profit making through trade) and the other 9.5 % of the respondents have no access to job training. Out of this, 28.6% of the respondents have an access to beekeeping training, 23.8% of the respondents have an access to irrigation training, 14.3% of the respondents have training about trade, and 23.8% of the respondents have an access to farm improvement training. None of the respondents have no access to irrigation, trade and farm training and 9.5% of the respondents did not receive beekeeping training (Table 26).

Table 26: Type of job training across access to job training

Type of training	Access to train		Total
	No	Yes	
Beekeeping	9.5%	28.6%	38.1%
Irrigation	.0%	23.8%	23.8%
Trade	.0%	14.3%	14.3%
Farming	.0%	23.8%	23.8%
Total	9.5%	90.5%	100%

Source: Household Survey Result, January 2012

Box 2: Case study about situation of wife of male-headed household

She is a 35years old housewife and she is from *Abreha Weatsbeha*. She has 7 family members with 5 children (3 male and 2 female children). Her family's main source of income is farming and beekeeping but her husband does all. They earned more than 1000 Birr per month. They have assets like, 0.5-hectarc land, 3 Oxen, 2 cow, 2 heifer, 2 calf, 3 sheep, 2 goat and 6 modern hives. They take a credit from microfinance and have an access to media (they have TV and Radio) but due to lack of time she exposed to media occasionally and she got job training about beekeeping indirectly through her husband. The family participates in self-help groups (Equb and Iddir) to get help in case of marriage and death in terms of material and money. She participates occasionally in elders meeting but she fears to talk all her opinions and problems to them. She sometimes has a decision making power on the family daily expenditure, occasionally participate in women's association (to get gender equality and over all development trainings) and decide to go to market by her own will.

4.1.2.10. Environmental Externalities

From the direct observation result, I saw high flooding and land degradation in one of the study tabia *Abraha Weatsbeha*. When the respondents were asked about the crop failure problem by flooding and land degradation in the last year, 83.9% of the respondents not suffered by crop failure and 16.1% of the respondents have experienced a crop failure last year (Table 27).

Table 27: Exposure to Crop Failure

Crop failure	Percent
No	83.9
Yes	16.1
Total	100.0

Source: Household survey result, January 2012

4.2. Econometric Analysis

In this section, this paper contains a multinomial logistic regression of livelihood choices, Tobit model for economic empowerment and statistical tests to show the relationship of independent variables with the dependent variable.

4.2.1. Factors affecting livelihood choices

Table 28 gives the estimates of multiple logistic regression coefficients (β) and relative odds calculated for each category based on corresponding independent variables of the livelihood choices.

4.2.1.1. Farming

When age of respondents increases their choice to engage in farming declined. Higher age respondents have at least 0.99 times less probability to engage in farming. The same result observed in case of family size. Respondents with less number of family sizes have at least 0.86 times more likely to engage in farming. The result also shows that increase in livestock asset as increases choice of engaging in farming. Having a high number of livestock asset at least 1.25 times more to engage in farming than in other livelihood options. The same result observed in case of monthly expenditure. Respondents with higher monthly expenditure level at least 2.72 times more to engage in farming than in other livelihood options.

The multinomial logistic regression estimates further indicated that, respondents' landlessness, decline their choice to engage in farming. Those households with no land holding at least 0.675 less likely to choice engagement in farming as compared to landholders. The same result observed in the case of education. Respondents do not have a high school schooling at least 2.32 more likely to choice farming as compared to high school educated and not having primary education is at least 3.84 times more to choice farming.

Being FHH is one of the important factors that have a positive significant effect on choice of farming as livelihood option. Being FHH is at least 4.717 times more likely to choice engagement in farming as compared to wife of male-headed households. Not having job training is also an important factor that has negative significant effect on

choice of farming. Respondents do not have access to job training are at least 0.17 times more likely to choose farming as their livelihood option.

The result of multinomial logistic regression indicated that, not having credit access is one of the variables with a significant positive relationship with choice of farming as a livelihood choice. Respondents with haven't access to credit service are at least 4.574 times less likely to choose farming as compared to those who have an access to credit service. Respondents' do not have mass media exposure in the household is an important variable. The relative odds ratio found to be 0.925 times indicating the higher prevalence of farming livelihood choice. Not having access to agricultural input and choosing farming as a livelihood choice has a significant positive relationship. Households with not having access to agricultural input are at least 0.09 times less likely to choose farming. Access to transport to sell a product is one of an important negative variable. Not having access to transport is at least 0.027 times more likely to choose farming as a livelihood choice.

The multinomial logistic regression result also shows that, participation on self-help groups and access to safety net are important variables with negative and positive effect on choice of farming as a livelihood option, respectively. Households do not participate on self help group is at least 0.2 times more likely to engage in farming as compared to these participants and Households who do not have an access to safety net are at least 1.628 times less likely to choose farming as compared to HHs who have no access to safety net.

4.2.1.2. Trade

When the respondents age increases, there is a significant negative effect to choice trade as a livelihood choice. Higher age respondents have at least 0.909 times less probability to engage in trade. Family size is an important positive effect variable to choose trade as livelihood choice. Respondents with higher number of family size have at least 1.76 times more likely to engage in trade. The result also shows that significant increase in livestock asset as increases choice of engaging in trade. Respondents' have high number of a livestock asset at least 1.368 times more to engage in trade than in the other livelihood choices. The opposite result observed in case of monthly expenditure. Respondents with higher monthly expenditure level at least 0.4 times less to engage in trade than in other livelihood choices.

The information obtained from multinomial logistic regression shows that, when respondents are being landless their choice to engage in trade is increasing significantly. Those households with have no land holding at least 9.693 times more likely to choice engagement in trade as compared to landholder respondents. The opposite result observed in the case of education. Households do not have high school education at least 3.99 less likely to choice trade as compared to high school educated, and households do not have primary education is at least 9.09 times less likely to choice trade. Being female-headed household is one of the important factors that have a positive significant effect on choice of trade as livelihood choice. Female-headed households have at least 14.744 times more likely to choice trade as their livelihood choice than wife of male-headed household. Not having job training is also an important factor that has negative significant effect on

choice of trade. Respondents do not have an access to job training are at least 0.36 times less to choice trade as their livelihood choice.

The result of multinomial logistic regression also shows that, having credit access is one of an important variable of livelihood choices, which have a positive relationship with choice of involvement in trade. Respondents with haven't access to credit service are at least 2.683 times less likely to choice trade as livelihood choice than those who have an access to credit service. Having mass media exposure in the household is also an important variable. The relative odds ratio found to be 0.561 times indicating the more prevalence of trade as a livelihood choice for those who do not have mass media exposure households as compared with those having the exposure. Not having access to agricultural input and choosing trade as a livelihood choice have a negative relationship. Households with not having access to agricultural input are at least 0.514 times more likely to choose involvement in trade. Access to transport to sell a product is one of an important variable with negative significant effect. Not having access to transport is at least 0.134 times more likely to choose trade as livelihood option. This is why, due to the respondents have nearest market in two villages.

Additionally, the multinomial logistic regression result shows that; participation on self-help groups and access to safety net are important variables with significant negative and positive effect in choice of trade as livelihood choice, respectively. Households who do not participate in the self-help group are at least 0.243 times more likely to engage in trade as compared to those participants. Households who do not have an access to safety

net are at least 2.999 times less likely to choose trade as compared to households who have an access to safety net.

Table-28: Multinomial Logistic regression estimates of farming and trade

Determining Variables		Farming			Trade		
		B	Std. Error	Exp(B)	B	Std. Error	Exp(B)
Intercept		16.661	2601.30		30.739	6.039	
Age		-0.007	0.033	0.993	-0.096	0.037	0.909**
Total family size		-0.142	0.277	0.868	0.162	0.291	1.176
Livestock Asset		0.224	0.192	1.251	0.313	0.191	1.368*
Expenditure		0.999	1.056	2.715	-0.916	0.946	0.4
Land				0.675	2.271	1.041	
		-0.393	1.105				9.693**
Education	high school	-17.58	2601.29	2.32	-21.643	0.974	3.99
	primary school	-19.377	2601.29	3.84	-23.121	0	9.09
Marital status		1.551	0.875	4.717*	2.691		14.74**
					0.854		
Job training		-1.744	0.984	-1.744*	-1.02	1.033	0.361
Access to credit		1.52	0.918	4.574*	0.987	0.867	2.683
Media Exposure		-0.078	0.783	0.925	-0.578	0.776	0.561
Access to agricultural input		2.409	0.99	0.09**	-0.666	1.058	0.514
Self help group		-1.603	0.964	0.201	-1.413	0.85	0.243*
Safety net		0.487	0.907	1.628	1.098	0.857	2.999
Transportation		-3.623	0.926	0.027	-2.009	0.911	0.134**

Note: * and ** indicates significant at 10 percent ($p < 0.1$) and significant at 5 percent ($p < 0.05$)

4.2.1.3. Daily Labor

When the age of respondents increases their choice to engage as daily laborer significantly decreases. Higher age respondents have at least 0.915 times less likely to engage in daily labor. The opposite result observed in case of family size. Respondents with higher member of family size have at least 1.163 times more likely to engage in daily labor. The result also shows that, increase in number of livestock asset as increases choice of involvement in daily labor. Having a high number of livestock asset at least 1.28 times more to engage in daily labor than in other livelihood choices. The opposite result observed in the case of households monthly expenditure. Respondents have low monthly expenditure, at least 0.205 times more likely to choose involvement in daily labor than involvement to other livelihood choices.

The information obtained from multinomial logistic regression indicates that, when respondents are landless their choice to engage in daily laborer shows significant decrease. Those households who have not land holding at least 8.946 times less likely to choice daily labor as compared to those landholders. The opposite result observed in the case of education. Education in this case is highly significant variable. Respondents do not high school education at least 0.002 times less likely to choice daily labor as compared to high school educated, and respondents do not have primary education are less likely to choice daily laborer as compared to primary educated . Being female-headed household is one of the important factors that have a positive significant effect on choice of daily laborer as a livelihood choice. Being female-headed household is at least 8.437 times more likely to choice involvement in daily labor than the wife of male-

headed household respondents. Not having job training is also an important factor that has a negative effect on choice of daily labor. Respondents do not have an access to job training are at least 0.716 times more likely to choose daily laborer as their livelihood choice.

The result of multinomial logistic regression also shows that, having credit access is one of the variables with a significant positive relationship with choice of the daily labor as a livelihood choice. Respondents do not have an access to credit service are at least 3.205 times more likely to choose daily labor as compared to those who have an access to credit service. Having mass media exposure is also an important variable. The relative odds ratio found to be 1.803 times indicating a higher prevalence of daily labor as a livelihood choice in those households who have a mass media exposure as compared to those have no such facility. Not having access to agricultural input and choosing a daily labor as livelihood choice has a negative relationship. The households not have the access to agricultural input are at least 0.191 times more likely to choose daily labor as their livelihood choice. Access of transport service to sell a product is also one of important variables. Respondents do not have access to transport is at least 0.229 times more likely to choose daily labor as their livelihood choice as compared to households who have an access to transportation service.

The multinomial logistic regression result also shows that, participation on self-help groups and access to safety net are important variables with negative effect on choice of daily labor as a livelihood choice. Households do not have an access to participate in the self help group is at least 0.226 times more likely to engage on daily labor as compared to

those participants in self help group. Households who do not have an access to safety net are at least 1.65 times more likely to choose daily labor as compared to households who have an access to safety net (all results are available in Table 29).

Table-29: Multinomial Logistic Regression estimate of daily labor

Determining Variables		Daily labor		
		Coefficient (β)	Std. Error	Exp(B)
Intercept		19.307	6.793	
Age		-0.088	0.039	0.915**
Total family size		0.151	0.322	1.163
Livestock Asset		0.12	0.216	1.128
Expenditure		-1.583	1.027	0.205
Land		2.191	1.29	8.946*
Education	High school	-6.476	1.079	0.002**
	Primary school educated	-8.449	0	0
Marital status		2.133	0.963	8.437**
Job training		-0.335	1.156	0.716
Credit		1.165	0.943	3.205
Media Exposure		0.59	0.873	1.803
Agricultural input		-1.656	1.267	0.191
Self help group		-1.486	0.944	0.226
Safety net		-13.316	327.156	1.65
Transportation		-1.475	1.016	0.229

Note: * and ** indicates significant at 10 percent ($p < 0.1$) and significant at 5 percent ($p < 0.05$)

4.2. 2. Determinants of Economic Empowerment

This section presents about the determinants of women economic empowerment based on the result of the Tobit model analysis. The Tobit model results based on the total sample presented in table 30. It suggests that almost more than half of the variables are significant and 60 percent variation in women economic empowerment explained by the explanatory variables. The slope estimates of families' per capita income, educational level of the household, livelihood option, media exposure, access to credit service, access to job training, land holding, livestock assets, participation in women's association and participation in self help groups are variables which have the positive signs except marital status, family size and age of the respondent that have negative signs. However, marital status has a negative relationship with economic empowerment; the variables like per capita income, livelihood options, land holding, and marital status are statistically significant at the 5 percent levels and have a positive impact on women economic empowerment. Similarly, participation in self-help groups, family size, and livestock assets are statistically significant variables at the 10 percent confidence level (Table 30).

Table 30: Determinant of Economic Empowerment

Variables		Coefficient(β)	Std.err	t-value	P -value
Log for Income		1.906672	0.21274	8.96	0.0**
Education level	Primary & secondary	0.633115	0.696328	0.91	0.364
	High school & greater	0.543448	0.673085	0.81	0.42
Livelihood choice		0.615497	0.26008	2.37	0.019**
Participation in women association		0.111801	0.258923	0.43	0.666
Participation in self help group		0.482463	0.252186	1.91	0.057*
Media exposure		0.0924	0.204492	0.45	0.652
Access to credit		0.282355	0.208941	1.35	0.178
Access to job training		0.268536	0.216144	1.24	0.216
Livestock asset		0.071107	0.041175	1.73	0.086*
Land holding		0.51937	0.261731	1.98	0.049**
Family size		-0.11451	0.064823	-1.77	0.079*
Age of respondent		-0.01147	0.009449	-1.21	0.227
Marital status		-1.69708	0.213062	-7.97	0.0**
Number of observation=196					

Note: * and ** indicates significant at 10 percent ($p < 0.1$) and significant at 5 percent ($p < 0.05$)

4.2.3. Mean comparison between Empowerment level and livelihood option

Before the F-test result, I assumed that;

Null hypothesis = economic empowerment is similar across different livelihood choices

Alternative hypothesis = economic empowerment is different across different livelihood choices

The significance value of the F test in the ANOVA table below is significant at less than 5% confidence level. Thus, I rejected the null hypothesis because the mean economic empowerment level is not equal across livelihood choices. This implies that different livelihood choices provide different economic empowerment level.

Table – 31: Mean comparison economic empowerment level across livelihood choices (using ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	156.783	3	52.261	17.536	.000
Within Groups	572.207	192	2.980		
Total	728.989	195			

4.2.4. Comparison of asset holdings across livelihood option (using chi square test)

This section discusses about the comparison of asset holdings of the households across their livelihood choices using the chi-square test. Before the chi square test; I put the null hypothesis, which is a livelihood choice cannot provide the households with asset

holding. As a result, the chi-square result for land holding and saving is significant at less than 5% and 10% confidence level, respectively. This implies that the livelihood choices provide the households with land and saving. Therefore, the researcher rejected the null hypothesis. On the other hand, the chi-square result for livestock holding is not significant at both 5% and 10% confidence level. This implies that livelihood choices cannot provide the households with livestock assets. Therefore, the researcher accepted the null hypothesis.

Table – 32: comparison of asset holding across livelihood choices (using Chi square)

Livelihood option	Land holding			Livestock holding			Saving		
	No	Yes	Total	No	Yes	Total	No	Yes	Total
Farming	4	92	96	40	56	96	82	14	96
Trade	34	12	46	16	30	46	40	6	46
Daily laborer	18	7	25	11	14	25	23	2	25
other	17	12	29	12	17	29	20	9	29
Total	73	123	196	79	117	196	165	31	196
	Chi square (3) = 89.9918 Pr = 0.000			Chi square(3) = 0.8128 Pr = 0.846			Chi square (3)=6.566 pr= 0.087		

CHAPTER: FIVE

5.1. Conclusion

The general objective of this study was to explore the role of livelihood choice on women economic empowerment level using Tobit model analysis based on primary data collected from Kilte Awlalelo woreda. The Index for women economic empowerment was constructed, consisting decision making power on daily expenditure, health expenditure, on purchase of house equipment, on personal and family income, on output, decision making to rent in /out land and going out to home to market by own will. The determinant variables of the livelihood choices estimated using a multinomial logistic regression analysis method. The study also compared the mean value of economic empowerment level across different livelihood choices using analysis of variance (ANOVA), and the chi square test used to test the independency of livelihood choices across livelihood assets used.

The specific objective of this study was to identify the factors constraining livelihood choices in the study area. The study included different livelihood choices like, farming, petty trade, daily laborer and other livelihood options (livestock fattening, traditional midwifery, handicraft, traditional hair beauty maker, beekeeping, poultry, and extra). The result showed that, age, family size, asset holding, expenditure level, educational level, marital status, access to job training, media exposure, access to credit service, inputs, transport service, safety net and self help group are among the major factors which affected the livelihood choices.

In order to answer the general objective; the variables like; age, marital status ,family size, the households per capita income, educational level of the household, farming livelihood choice, media exposure, access to credit service, job training, households land holding, livestock assets, participation in the women association and in the self help groups were used. The per capita income, livelihood option choice, households land holding, and marital status were statistically significant at 5 percent confidence level and have positive impact on women economic empowerment, except marital status that have a negative relationship with economic empowerment. Similarly, participation in self-help group, family size, and livestock assets are statistically significant variables at 10 percent confidence level.

The study found that, economic empowerment increased with the increase in a per capita income, educational level of the household, farming livelihood option, media exposure, access to credit service, job training, households land holding, livestock assets, participation in the women group and in the self help groups. The study also showed that, woman economic empowerment decreased with marital status, family size, and age of the respondent. The wife of male-headed household was less economically empowered as compared to the female-headed households. The households with high number of family size were less economically empowered than those households have small number of family size. The result also investigated that the older age households were less economically empowered than those younger age households were.

5.2. Recommendation

- Since, there is poor quality infrastructure especially in Abreha Weatsbeha; the government should provide quality infrastructure services to the community.
- Access to Job training creates awareness, job incentive, and motivation to poor society in the woreda. Even though, there is job training in both *tabias* (from government and different NGOs) but it is selective to those who have high income and relative of trainer. Therefore, the government officials should consider such discrimination of the poor.
- Since, fertilizer price increased from time to time; the poor female-headed households and farmers in general cannot afford the price. Therefore, availability of fertilizer and improved seed with low cost is highly important to poor farmers, thus the concerned body should provide subsidy as well as provision of this inputs with minimum cost to the poor is highly essential.
- In this study, it observed that, there is a negative environmental externality in Abreha Weatsbeha, like, flooding and land degradation. This reduces the productivity of the community in this *tabia*. Therefore, the concerned body should provide food subsidy to those vulnerable peoples.
- Almost more than half of the female-headed households have land but none of them can farm their land by their own (entered to share cropping arrangement with male

farmers) due to they are highly restricted by culture. Therefore, those concerned body should transform the culture to support them.

- Since, female-headed households have no labor force, technological innovation is much more important to empower those women economically. Therefore, the concerned body should provide improved technology innovation in both study areas.
- Even though, the married women have different asset and property, they had no power on their family asset. Therefore, the government and other concerned body should create awareness about equal property right for both male and women.
- The availability of credit facility in the communities is also important in reducing capital constraints of poor female-headed households' to access agricultural inputs and engaged in trade. It is also important for both Muslim and Christian religion. Thus, the woredas' micro finance institution should focus its attention in facilitating and credit provision in heterogeneous way for both religions.
- Most of the respondents fear to take credit from microfinance. Therefore, those concerned body should create awareness about importance of credit.
- Having high number of family size was one of negatively affecting variables of women economic empowerment. Therefore, family planning institutions should provide appropriate service to household.

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Appendix 1: Conversion factors to compute tropical livestock units' equivalents

Animal Category	TLU
Calf	0.25
Weaned Calf	0.34
Heifer	0.75
Cow and Ox	1.00
Horse	1.10
Donkey (adult)	0.70
Donkey (young)	0.35
Camel	1.25
Sheep and Goat (adult)	0.13
Sheep and Goat (young)	0.06
Chicken	0.013

Source: Storck *et al.* (1991) in Worknhe (2007)

Appendix 2: Economic Empowerment Index

EE= (Decision making on purchase of house equipment* Decision making on land* Decision making on output* Decision making on personal income* Decision making on expenditure*Going market by own will* Decision making on health expenditure)	
Economic empowerment Index	3= Always 2= Occasionally 1=No
Decision making on buying house equipment	
Decision making to rent in/out land	
Decision making on medical treatment expense	
Decision making on personal income	
Decision making on daily expenditure	
Decision making to go market by own will	

Source: Own Source, March 2012

Appendix 3: Household Questionnaire

This questionnaire administered to collect data for the study titled the role of livelihood Option choice on economic empowerment level of female-headed household, In Tigray Region the case of Kilde Awlaelo Woreda.

Tabia code----- 01= Abreha Weatsbeha 02= Negash

Name of enumerator-----Signature-----Date-----

Part 1: Household Profile

1. Name of the Respondents _____

2. Age _____

3. Educational status of the household

1= read and write or illiterate 2= primary and secondary cycle education

3= high school and greater

4. Marital status

01= Single, divorced and widowed 02= Married

5. Age at marriage _____.

6. Profile of household members (including the head)

S. no	Name	Sex	Age	Level of education	Relationship with the head
1					
2					
3					
4					
5					
6					
7					

8					
9					

7. Monthly income _____

8. Do you have a bank account or saving? 0= No 1= Yes;

If your answer is No, why?

9. How money Birr you spend per month for the following things?

A= for the household Food _____

B= for clothing (Adult and children) _____

C= for child education _____

D=for the household health _____

E = for labor _____

F= Agricultural input (fertilizer, seed and pesticide) _____

G= for rented land and oxen _____

10. Did your expenditure exceed your income during the previous 12 months?

0= No 1= Yes; If yes, what is your response/ coping mechanism to this imbalance

Part 2: Asset holdings of the household

11. Do you have your own arable land? 0= No 1= Yes

if yes, how many in Hectare _____

12. If the Answer for Q.11 is No, Reason for not having

13. Do you have a share cropping arrangement? 0= No 1= Yes, If the answer is yes,

why? _____

14. Respondents livestock asset holding

Animal	Number	If you were to sell this livestock how much would you get for them in Birr?
Ox		
Cow (local + Exotic)		
Heifer		
Calves		
Sheep		
Goats		
Equines		
Poultry(local+ exotic)		
Total		

15. Do you have access to job training? 0=No 1=Yes

16. If the Answer for Q.15 is No, Reason

17. If your Answer for Q. 16 is yes, what kind of training you got

18. Do you have an access to credit institutions? 0=No 1=Yes

19. If the Answer for Q.18 is No, Reason

20. If your Answer for Q. 18 yes, what kind of credit you got

21. Do you have an access to transportation service to sell your product? 0=No 1= Yes

22. If the Answer for Q.21 is No, Reason

23. Do you have an access to media exposure (Radio, TV and newspapers)?

0=No 1= Yes

24. If the Answer for Q.23 is No, Reason

25. Do you have an access to agricultural extension services (DA)? 0=No 1= Yes

26. If the answer for Q.25 is No, Reason

27. Do you have an access to Agricultural inputs (fertilizer and improved seed)?

0=No 1= Yes

28. If the answer for Q.27 is No, Reason

29. Do you have an access to self help groups (Iqub and Iddir)? 0=No 1= Yes

30. If the answer for Q.29 is No, Reason

31. If Answer to Q.29 is yes, what service you got from it?

32. Do you have an access to productive safety net program? 0=No 1= Yes

33. If the Answer for Q.32 is No, Reason

34. If Answer to Q.32 is yes, what service you got from it?

35. Do you have an access to women's association? 0=No 1= Yes

36. If the Answer for Q.35 is No, Reason

37. If Answer to Q.26 is yes, what service you got from it?

38. Have you experienced crop failure problem during the previous year? 0=No 1=Yes

39. If the Answer for Q.38 is yes, what was the reason? _____

Part 3: Empowerment aspects of the Household

40. What are your livelihood choice/ occupation? _____

41. Why you choose this livelihood choice? _____

42. Do you have an asset with this livelihood choice? 0=No 1= Yes

43. If Answer for Q.42 is No, what is the reason?

44. If Answer for Q.43 is yes, what is the participation in political and community level?

A= political participation, 1= increased 2= decreased 3= no change

B= community acceptance. 1=increased 2= decreased 3= no change

45. Do you have a plan to change your life for the next five years? 0= No 1= Yes

46. If your Answer for Q.45 is yes, what is your plan of change?

47. Do you go market to sell your product by your own will?

1=NO 2=Occasionally 3= Always

48. If your Answer for Q.47 is No, what is the reason?

49. Do you decide on your personal income? 1=NO 2=Occasionally 3= Always

50. If your Answer for Q.49 is No, what is the reason?

51. Do you decide on your family monthly expenditure? 1=NO 2=Occasionally 3= Always

52. If your Answer for Q.51 is No, what is the reason?

53. Do you decide on your output? 1=NO 2=Occasionally 3= Always

54. If your Answer for Q.53 is No, what is the reason?

55. Do you purchase house equipment based on your personal will?

1=NO 2=Occasionally 3= Always

56. If your Answer for Q.55 is No, what is the reason?

57. Do you decide to rent in/out your land? 1=NO 2=Occasionally 3= Always

58. If your Answer for Q.57 is No, what is the reason?

Appendix 4: Questions for Key Informant Interviews

1. What is the overall profile of the woreda (Demographic, location and environmental situation of the woreda)? (Question for natural resource officers)
2. What is the purpose and goal of productive safety net program?(Question for food security officer)
3. What is the goal of women association? How many women's participate there? (Question for women association administration)
4. What is the goal and purposes of different NGOs in the woreda? How much budget they allocated to support poor women? (Question for women association administration)