

Indira Gandhi National Open University

**ANALYSIS OF LIVELIHOOD DIVERSIFICATION IN MIYO
PASTORAL COMMUNITY OF SOUTHERN ETHIOPIA:
IMPLICATION FOR ENHANCEMENT**

By

Moges Abebe Beyene

***NOVEMBER 2013
ADDIS ABABA, ETHIOPIA***

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MA Thesis

BY

Moges Abebe Beyene

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**Submitted in Partial Fulfilment of the Requirement for
Master's of Art Degree in "Rural Development"**

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DECLARATION

I, Moges Abebe Beyene, hereby certify that this dissertation entitled **Analysis of Livelihood Diversification in Miyo Pastoral Community of Southern Ethiopia: Implication for Enhancement** submitted in fulfilment of the requirement for the award of Master's degree in "Rural Development" to the Post Graduate Programmes in the School of Continuing Education, Rural Development Department at Indira Gandhi National Open University by Moges Abebe Beyene (Enrolment No. 099108801) is an authentic work carried out by him under our guidance. The matter embodied in this project work has not been submitted earlier for award of any degree or diploma to the best of our knowledge and belief.

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CERTIFICATION

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The thesis he submitted is his genuine and original work.

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To my beloved wife Mss. Woinshet Demissew and kids; Danawit and Yohana.

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Acronyms

ACCRA	Africa Climate change Resilience Alliance
ACORD	Agency for Cooperation and Research development
ASAL	Arid and Semi Arid Lands
CBA	Community-Based Adaptation
CBOs	Community based organizations
CCA	Climate Change Adaptation
CDF	Community development facilitators
CMDRR	Community managed disaster reduction
CORDAID	Catholic Organization for Relief and Development AID
CSA	Central Statistics Authority
DFID	Department For International Development
DPPC/O	Disaster Preparedness Prevention Commission/Office
DRMFSS	Disaster Risk Reduction Food security Sector
DRR	Disaster risk reduction
ETB	Ethiopian Birr
EPE	Environmental Policy of Ethiopia
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
HPG	Humanitarian Policy Group
LA	Livelihood Approach
MEDAC	Ministry of Economic Development and Co-operation
MORAD	Ministry of Rural Development and Agriculture
NGO	Non-Governmental Organization
NPA	Non Pastoral Activities
NPNF	Non-Pastoral and Non-Farm
NRM	Natural Resources Management
OCHA	United Nations Office for the Coordination of Humanitarian Assistance
ODI	Overseas Development Institute
PAs	Pastoral Associations

PASDEP	Plan of Accelerated Sustainable Development to end Poverty
PCDP	Pastoral Community Development Project
PDO	Pastoral Development Office – at district level
PFE	Pastoralist Forum Ethiopia
PSNP	Productive Safety Net Programme
PRA	Participatory Rural appraisal
SDPRP	Sustainable Development and Poverty Reduction Program
SLF	Sustainable livelihood framework
SPSS	Statistical Package for the Social Sciences
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program

ABSTRACT

This study was carried out to quantitatively analyze the livelihood diversification of Miyo pastoral communities in Southern Ethiopia. Although livelihood diversification is frequently viewed as a critical component of pastoral economies, quantitative analysis is missing. To fill this gap, this study was carried out using a questionnaire administered to 120 randomly selected respondents. Demographic, socioeconomic characteristics and livelihood asset endowments of the households analyzed by means of descriptive statistics, multinomial logit regression model, one way ANOVA and Chi-square. The study revealed the extent of diversification of pastoralists livelihood into crop production, petty trades combined with very limited wage, broker and aloe vera soap production (by women groups) opportunities next to remittance. The study also showed the factors influencing livelihood diversification of pastoral communities. The results had indicated that all households have diverse income sources. It is concluded that contemporary pastoral livelihoods were far from homogeneity. Thus, policy makers should avoid the one size fit all prescription and enhance diversification strategies that fit pastoralist's century old experiences. Specific areas of interventions including marketing linkage creation, enhancing access to education, and information centers are suggested and be provided to enable pastoralists actively engage in varied livelihood sources. Finally, it was therefore recommended that enabling environment in relation to appropriate land use planning for appropriate use of range resources and farming so as to increase their income sources and address their poverty situation in order to cope with the ecosystem vulnerability in a participatory manner.

Keywords: Pastoralism, wealth, multinomial logit, diversification, Ethiopia.

CHAPTER 1 INTRODUCTION

1.1 CONCEPTUAL BACKGROUND AND JUSTIFICATION

Pastoralism is a way of life for some 20 million people across the dry lands of the Greater Horn of Africa. Pastoralists – people who depend primarily on livestock or livestock products for income and food – typically graze their animals on communally-managed or open-access pastures, and move with them seasonally. Pastoralism developed out of the need to constantly adapt to the extreme climatic uncertainty and marginal landscapes of the dry lands, and has proved to be the most economically productive and environmentally sustainable use of these remote areas (PFE, 2002).

Yet in recent years the dry lands of the Greater Horn of Africa have become the most disaster prone areas in the world. This is due to decades of political and economic marginalization, which has led to an erosion of the pastoral asset base and disrupted migration routes and access to dry season grazing areas, severely curtailing pastoralists' abilities to cope with the most predominant risk – drought (Belachew, 2004).

Pastoralists constitute a minority, with an estimated 12–15 million of Ethiopia's population (PFE, 2006). Livestock in pastoral regions accounts for an estimated 40% of the country's total livestock population. The Ministry of Agriculture estimates that pastoralists use 60% of the country's land area (MoARD, 2005).

Livestock and livestock products provide about 12-17% of Ethiopia's foreign exchange earnings, out of which hides and skins contribute about 90%. It contributes about 33% to the agricultural GDP and 16% to the national GDP. It makes a significant contribution to the national economies both in terms of supporting their own households and export earnings. Moreover, the pastoral

areas are rich in biodiversities, mineral and water resources as well as energy resources, and untapped tourist attractions [PFE, 2002; Belachew, 2004 and PFE, 2008).

Similar to other sub Saharan countries the Ethiopian pastoralists have been subjected to political marginalization (HPG, 2009). Policies have favoured externally-imposed development schemes which often alienate and expropriate pastoral lands in favour of large-scale commercial activities (Eyasu, et.al, 2010). It is the most deprived area of the country in terms of access to development opportunities, infrastructure and services (Hailu, 2008 and Gebru. et.al, 2004). Pastoralists tend to be perpetual famine relief clients (Helland, 2004). Pastoralist livelihoods are increasingly under pressure and caught in a downward spiral of resource depletion, and diminishing resilience against drought (UNOCHA, 2007); loss of livestock and shrinking rangelands (PFE, 2010); break up of traditional governance; lack of market linkage, education, public health, veterinary services, and water, both for human and for livestock, and rural finance are the least developed (PFE,2002; Eysasu, 2008 and HPG, 2009). As a result of all such challenges Ethiopian pastoralists were forced to engage in diversified livelihoods. Thus, against this background the research will investigate to answer the core questions' "what livelihoods and to what extent diversified, and how can it be utilised to arrive at a more sustainable pastoral development process".

1.2 STATEMENT OF THE PROBLEM

Pastoralism is a subsistence (economic) pattern in which people make their living by tending herds of large numbers of animals. It is most often an adaptation to semi-arid open country in which farming cannot be easily sustained (Kandagor, 2005). According to Swift (1988), pastoralists are households or populations where more than 50% household income / consumption is derived from livestock or livestock related activities, either as a result of sales of livestock products or of direct consumption, and agro-pastoralists as deriving 25-50% income /

consumption from livestock produce (FAO, 1988). In addition to livestock-keeping, livelihood diversification has been essential to spread the risk of food insecurity and cope with the changing nature of hazards in pastoral areas (HPG, 2008).

Livelihood diversification is 'the processes by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standard of living' (ELLIS, 2007 and Scoones, 1998). Livelihood diversification, therefore, refers to attempts by individuals and households to find new ways to raise incomes and reduce environmental risk, which differ sharply by the degree of freedom of choice (to diversify or not), and the reversibility of the outcome. Income diversification is increasingly important means for herders to manage risk. Currently, the proportion of income from non-pastoral sources exceeds 20% for many pastoral locations (COMESA, 2009). According to Little et al (2006), livelihoods diversification in pastoral areas is: 'the pursuit of any non-pastoral income-earning activity, whether in rural or urban areas.

The existing gaps in poverty, unemployment and inequality between the urban and the rural sectors of the world have attracted the attention of social scientists to the study of rural livelihood (Grown and Sen, 1987). Butler and Mazur (2004) equally observed that the African rate of development, which is lagging significantly behind much of Global South despite decades of assorted development approaches, has been receiving increased attention as the United Nation's Millennium Development Goals (MDGs) provide the goal for international development effort through 2015.

The concern and attention shown on lagging areas have called for change from emphasis on development strategies that focus on problems identification and needs assessment to approaches that place priority on the livelihood systems of the poor, and ways in which rural

people adapt to maintain their livelihood under severe environmental, economic and political stress. The starting point is to understand the wealth' of the poor, which may be reflected in such assets as indigenous knowledge, special skills, individual and group resourcefulness and social support system, and the strategies that people use to cope with formidable hardships (Hussein and Nelson, 1998).

The rural poor have developed the capacity to cope with increasing vulnerability associated with agricultural production - diversification, intensification and migration or moving out of farming (Ellis, 1998). It is evident that rural households in Nigeria engage in multiple livelihood activities such as trading (marketing or adding value to commodities), small scale business enterprises (carpentry, radio and bicycle repairs), and processing of agricultural goods and arts and craft (weaving mats and basket making) in order to supplement earnings from agriculture (Edna et al., 2007); Ekong, 2003).

On the other hand, the profile of pastoral livelihood categorized into four dominant livelihood systems that had been identified for pastoral areas across the Horn of Africa (HPG, 2009) as follows:

- 1) Livestock-based livelihoods – the most common livelihood in the dry lands, based on rearing camels, cattle, sheep and goats. Mobility and the ability to access pasture and water are fundamental to the continuation of this livelihood;
- 2) Agro-pastoral livelihoods – these combine extensive livestock rearing and rain-fed cereal production (typically sorghum, wheat and barley) for household consumption. Mobility remains important for these households;

3) Sedentary farmers – practice mixed farming, cultivating food crops (sorghum, wheat or other cereals) along with modest sheep and goat herds.

4) Ex-pastoralists – these are households who have lost their livestock and now depend largely on human labour. They are usually settled on the peripheries of major urban centers.

These activities (livelihood diversification) are influenced by certain factors which operate at both internal and external environments of rural households (Kinsella et al., 2000; Bateman and Ray, 1994; Butler and Mazur, 2004).

The diversification of livelihoods can either offer opportunities for pastoralists or, if not properly managed, add to the pressures on them. Research shows that while some forms of diversification enhance welfare, others can increase risk (COMESA, 2009]. Pastoralists are diversifying, but their capacity is limited and reflective of their inherent pastoral skill base. In arid areas, livestock-based livelihoods remain critical as fewer diversification options exist.

Diversification of income sources, assets, and occupations is the norm for individuals or households in different economies, but for different reasons. Ellis (2000) divided the reasons for diversification of livelihoods between necessity and choice. Necessity refers to push or distress reasons that enforce households to diversity, such as, eviction from own land, natural or civil disasters, environmental deterioration. Choice by contrast refers to pull reasons which attract households to diversity, such as, searching for seasonal employment opportunity, educating children to improve their future prospect of obtaining non-farm jobs.

The reasons behind livelihood diversification in pastoral community are many. Currently, the resource-base of the production system cannot accommodate and absorb the human and livestock resources, and, consequently, calls for livelihood diversification. Increased human

population and urbanization, increased livestock marketing opportunities which stimulate diversification, pastoral households themselves continue to diversify to enjoy waged employment, participate in farming where this is feasible, and trading activities as supplements to livestock-based income. Small and medium-sized towns continue to grow in pastoral regions, outpacing the growth in rural populations, and will help to spur an increasingly diversified economy (Little et al. 2010). Traditional mobility within the pastoralist system is compromised by declining access to rangeland resources (PCDP, 2008; HPG, 2009 and ODI, 2010), unfavourable government policies towards traditional pastoralism are widespread (Morton, 2008), and pastoralists are moving from pure pastoralism to agro-pastoralism due to environmental conditions, poor pasture and livestock productivity, and population growth (Kejela et al, 2005). Demographic factors - size and composition also remain to be the decision variable for households to engage in off-farm activities (Adugna, 2005). At household level gender, household size, poverty status and access to credit were the determinants of livelihood diversification (Oluwatayo, 2009). Pastoralists' diversification profiles illustrate clear dualistic tendencies, i.e. the richest diversify in order to promote economic growth and accumulate additional wealth, whereas the poorest diversify in order to survive (Little et al, 2001).

The prevalence of livelihood diversification in pastoral areas in Ethiopia is well documented (PFE, 2002; UNOCHA, 2007; COMESA, 2007 and Kejela et al, 2005). However, in the face of recurrent drought and other climate related risks, few attempts have been made to investigate it in the changing context both in qualitative and quantitative approach. Therefore, the purpose of this research is to examine the extent of livelihood diversification of pastoral households, addition to factor enhancing and influencing it, using livelihood explanatory variables of the sustainable livelihood framework, participatory rural appraisal research tools and social analysis. In other words, this research is aimed mainly at analysing the livelihoods of the Miyo pastoral societies of Southern Ethiopia.

1.3 RESEARCH OBJECTIVES

The broad objective of this research is to study the livelihood diversification strategies of the pastoral communities in Miyo Woreda of Borena Zone, Southern Oromia in Ethiopia. It is anticipated that pastoralists might come out of the current level of livelihood insecurity and poverty. The specific objectives that contribute to the wider objectives include:

1. To examine demographic characteristics and resource endowment of the sample respondents;
2. To investigate different livelihood diversification strategies of pastoral communities, in comparison with how it constrained or supported them;
3. To explore people's perception about livelihood diversification and how it changed,

1.4 RESEARCH QUESTIONS

1. What individual household and situational characteristics determine the diversification of livelihood strategies?
2. What conditions of the livelihood strategies are diversified by pastoralists and what policy options generated for future improvement?
3. What are the challenges and opportunities for livelihood diversifications?
4. What externalities drive households in order to carry out different livelihood strategies?

1.5 UNIVERSE OF THE STUDY

The universe of the study is, therefore, focused on investigating the status of livelihoods diversification strategies in Miyo District pastoral communities of Borena Zone, Oromia Regional state of southern Ethiopia.

CHAPTER 2 LITERATURE REVIEW

2.1 PASTORALISM IN ETHIOPIA AND BORENA

Pastoralists in Ethiopia are mainly found in four lowland regions, Afar, Oromia, Somali and the Southern Nations, Nationalities and People's (SNNP) regional states. Pastoral groups are also found in Gambella and Benishangul areas. The main livelihoods systems include pastoralism, farming and ex-pastoralism – those who have dropped out of pastoralism and now survive on petty income-earning activities (Behnke et al., 2007).

Borena pastoral communities are well-endowed with livestock resources, although quality and productivity is very low. The pastoralist management system involves a complex set of elements that are linked together by a requirement for land and a responsibility to safeguard it. They include: Mobility, keeping or possessing large herds of livestock, herd diversification and splitting, and focused mutual assistance systems (PFE, 2010). Traditional range management practices have deteriorated, and indiscriminate water development has led to the degradation of some wet season grazing areas. Bush encroachment is also a serious problem. Grazing land has been taken away from pastoralists for other purposes, such as farming and settlement along pastoralist migratory routes (PFE, 2003).

The pastoral land is known for its harsh environment where communities strive to secure water and pasture on which their main livelihood source, livestock, depends. This makes them reliable on natural and climatic aspects especially rainfall, and vulnerable to weather variations such as heat and wind. Over thousands of years, pastoralists have managed their resources and livelihoods in the face of environmental challenges and difficult socio-economic conditions (Mortimore, 2001). They to large extent developed their own long term livelihood strategies and copying mechanisms in harmony with their environment. Recent decades show that pastoralists

are challenged in maintaining these livelihoods and coping mechanisms due to a range of ecological, demographic, economic, social, political and climatic causes. Consequently, they become impoverished, marginalized, vulnerable, and increasingly face both chronic and acute crisis (HPG, 2008)

2.2 CONCEPTUAL FRAMEWORK OF LIVELIHOOD APPROACH

A livelihood is defined as ‘the capabilities, assets and activities required for a means of living; a livelihood is sustainable when it can cope with, and recover from, stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihoods opportunities for the next generation’ (Chambers and Conway, 1992). The livelihoods approach provides a dynamic and holistic framework for understanding the interaction between the bundle of assets – human, natural, financial, social, physical, that people own, control or have access to, and broader systems of governance, to determine if and how people are able to use these assets to pursue their livelihood strategies to achieve positive livelihood outcomes (as illustrated in Figure 1, positive outcomes include more income, increased wellbeing and reduced vulnerability).

To attain positive livelihoods outcomes pastoralists rely on specific strategies to manage their livestock effectively. Their livelihoods strategies have evolved over centuries in response to the local environment and the hot and dry climate in which they live, with low and erratic rainfall typical of the arid and semi-arid lands (ASAL). Key strategies include accessing and managing natural resources, mainly grazing land and water sources, and maintaining high levels of mobility across large tracts of land to make the most effective use of scarce resources and in response to environmental conditions (Desta et al., 2008; Markakis, 2004). These sophisticated and dynamic strategies have allowed pastoralists to cope with the threats and risks that characterize their environment and to maintain a viable production and livelihoods system. Drought is a major external shock and a primary trigger of livelihoods crises in the HoA. Cyclical droughts are a

defining feature of pastoralists' way of life in this region, and 'local livelihoods are sensitively adapted to the certainty that drought will come and can be overcome' (UN OCHA, 2006).

A livelihoods analysis helps us to understand the livelihood options that people have over time by exploring the linkages between people's livelihood assets and strategies, and how these strategies are influenced by formal and informal institutions and processes within the 'vulnerability context' in which people operate. Employing this LA helps the researcher to analyze explanatory variables of the current patterns and portfolios of the livelihood diversification and its strategies options.

2.2.1 Objectives of Livelihoods Approaches

Sustainable Livelihood approaches/LAs have been central to development and poverty reduction policy and practice since the late 1990s, when it was recognized that effective poverty alleviation required action at community level in addition to government-level policy and services (Ashley and Carney, 1999). Emergency LAs originated in the 1980s following the drought-induced famines of that decade, emerging from a recognition of the need to protect livelihoods as part of humanitarian response in order to prevent future vulnerability. At its most basic, a LA is 'simply one that takes as its starting point the actual livelihoods strategies of people ... It looks at "where people are, what they have, and what their needs and interests are"' (Chambers, 1988, in Schafer, 2002).

2.2.2 Sustainable Livelihood: Definition, Concept and Principle

A sustainable livelihood framework is defined as follows: 'A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope

with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base' (Chambers and Conway, 1991).

Within livelihood perspectives, the term 'sustainable' entails two main issues. First, it tends to refer to coping with immediate and short-term shocks where local capacities and knowledge, if effectively supported, would be sufficient (Scoones, 2009). Second, it implies that livelihoods are stable, durable, resilient and robust in the face of both shocks and stresses, and do not undermine the livelihoods options of others.

The key elements of a Livelihood approach are the livelihoods principles and the sustainable livelihoods framework. The principles include taking a participatory and capacity-building approach and working at different levels (micro and macro, or national and international, as well as community) for maximum impact, learning from change and adaptation and promoting sustainability (Ashley and Carney, 1999; DFID, 1999). The livelihoods framework shows the key elements of livelihoods and how these interact. It includes assets, strategies, outcomes and policies, institutions and processes (DFID, 1999).

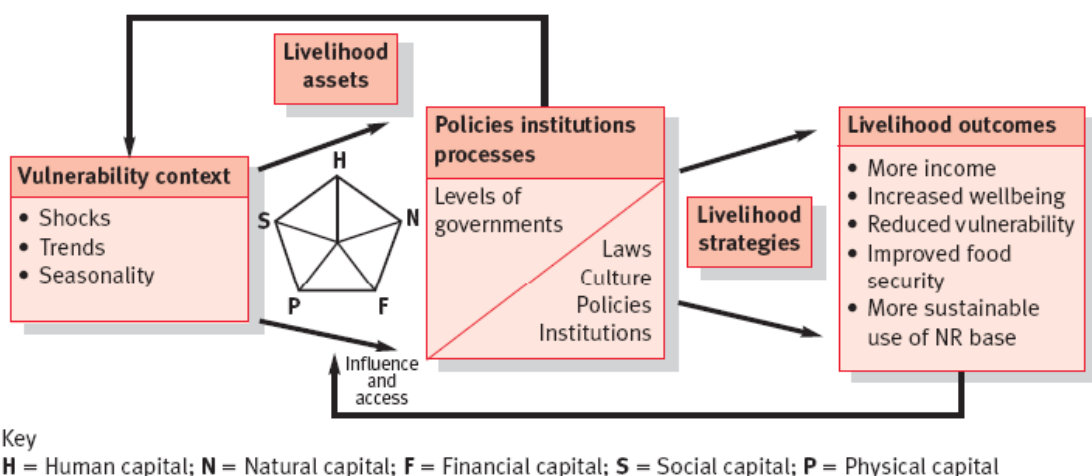


Figure 1: The sustainable livelihood framework

Source: DFID Sustainable Livelihoods Guidance Sheets: www.livelihoods.org/info/guidance_sheets_rtf/Sect2.rtf

Livelihood strategies are what people do to make a living in normal times, or what people do to meet their livelihood goals (Schafer, 2002). These may include agriculture and wage labour. Scoones (1998) divides (rural, agrarian) livelihood strategies into three clusters: intensification/intensification (more output per unit area or increased area under cultivation); diversification (the adoption of new strategies); and migration. On the other hand, as indicated in ODI (2010), there are four dominant livelihood systems in pastoral areas across the Horn of Africa: pastoralism; agro-pastoralism; farming; and Ex-pastoralists - these are households who have lost their livestock and now depend largely on human labour. In most societies, livelihoods are in competition, and therefore the livelihoods strategies of one group may involve weakening or destroying those of others (ODI, 2010).

Assets encompass what people have, including their natural (e.g. land, forest products, water), physical (e.g. livestock, shelter, tools, materials), social (e.g. extended family and other social networks), financial (e.g. income, credit, savings) and human assets (e.g. education, skills, health). People's livelihood options are determined not only by their asset base but also by the wider governance environment, or 'policies, institutions and processes', which determines access to and control over assets by different population groups and thus their vulnerability or resilience (ODI, 2010). Policies can be taken to include any government, donor, UN and NGO policies, as well as private sector policy and behaviour. For example, a country's agriculture, land tenure or land use policies can be instrumental in increasing or reducing vulnerability. The effectiveness, in terms of accountability and reach, of civil, economic and political institutions will also play a large part in determining people's welfare. These include public services that deal with, for example, agricultural and livestock services, natural resource management, education, law enforcement and justice, as well as banks, systems for providing credit, communication systems and markets. It may also include community-based-organizations (CBOs), associations and unions, as well as informal institutions around social assistance, conflict resolution and land

tenure systems. Power relations are embedded within these institutions and are thus an essential component of a livelihoods analysis. Power relations are also reflected in long-term processes of social and political marginalization of certain population groups, and thus the creation of vulnerability (ODI, Working Paper 319, 2010).

2.1.3 Linking Rural Development and Sustainable Livelihood

Rural development has got its meaning and identity from what development meant and the goals it has tried to achieve in the different periods of time. When the concept and meanings of development changed overtime, the objectives, strategies and approaches of rural development were also changing.

In this study, the Singh definition of rural development is adapted. The term rural development connotes overall development of rural areas with a view to improve the quality of life of rural people among those focus has been given to poor women, men and their children. In this sense, it is a comprehensive and multidimensional concept, and encompasses the development of agriculture and allied activities, village and cottage industries and crafts, socio- economic infrastructures, community services and facilities, and, above all, the human resource in rural areas (Singh, 1999:358).

Therefore rural development is understood to be a strategy that enables a balanced and proportionate improvement of well-beings of rural people among those focus has been given to poor women, men and their children. It is directed to enable these groups to achieve sustainable pastoral livelihoods through promoting and maintaining livelihoods capital, and mediating access and control over these resources by erecting appropriate institutions (formal and non-formal). Rural development will be sustainable if it distributes benefit both within the present and future generation and enhances the capabilities and wealth of poor people. In the case of pastoralists

as a sub set of rural people, the study focuses on the sustainable pastoral development as part and parcel of the rural development.

2.3 PASTORALISM AND SUSTAINABLE PASTORAL DEVELOPMENT

Nowadays pastoralism and Sustainable Pastoral Development issues are attracting the attention of many. Ethiopia is characterized by extreme and pervasive poverty in all aspects – income, social and political. It is categorized as a highly indebted poor country, ranked 170th in the world. According to the World Bank data base, (World Bank 2006), close to 45 percent of the population earns less than US\$ 1 a day and the poverty gap is increasing.

Poverty in Ethiopia is largely a rural phenomena and the problem is more pronounced among drought prone and marginalized pastoral rural areas and people especially. In countries like Ethiopia the growing interest on pastoralism is due to the fact that millions of impoverished pastoralists citizens are living in large and fragile environment where there is no way to extricate themselves from poverty cycle. Pastoralists are victims of unusually large members of myths and misconceptions contributing commensally to the generation of, hostile development polices & contraventions which in-turn create major barriers for Sustainable Pastoral Development. Such myths are on mobility and service provision. Mobility was considered as backward, outdated & chaotic. But, Mobility is the key element in Pastoral way of life as a rational response toward the need for the effective & efficient utilization of scarce and scanty distributed natural resources. In other words, mobility is tied with the socio economic activities of pastoralists ranging from pastoralist family reunion / joint kinship for seasonal festival and information exchange to accessing distant markets. Thus, the impact of such myth has manifested itself through unfriendly strategies & interventions (PFE, 2003). Also, it was assumed that provision of service for mobile pastoral community was deemed impossible. Possibilities providing services for mobile pastoralists given the acceptance and acknowledgement of pastoralists and pastoralism

as a sustainable way of life, have been proven and put in to practice in Kazakhstan, Mongolia, Australia, Kenya and Iran. The existence of a dominant paradigm relating success of service provision at the expense of halting Mobility has left the pastoralists with the least service coverage.

Over recent years emphasis on pastoral areas development has increasingly taken the attention of government officials, researchers and development practitioners because of its never-ending crises. This crisis manifested, on one hand, by recurrent drought/recurrent famine condition and increased pastoral mobility which has led to conflicts over the ever diminishing resource and on the other, violence now defines social relations between different pastoral groups and between pastoralists and other resource users, cultivators with whom they have to compete for resources. This became evident after the devastating drought in the 1970's and 1980's, which in dramatic and unprecedented ways revealed how vulnerable the pastoral communities across dry lands of Africa had become (Helland, 2001). In the aftermath of the experience of the 1970s and 1980's, the outlook on pastoral development has changed. The main purpose of this development is to restore the capacity of the pastoral societies to feed them. Rather than addressing and manipulating the factors of production in the pastoral enterprise, with a view to increasing production and herd-off-take, development projects have become much more concerned with issues like local food security and local self-reliance. Great emphasis is attached to fostering popular participation and strengthening local institutions. This particular concern often takes on an aspect of restructuring the organizational capacities undermined or denied by previous administrative systems. Local communities are to an increasing extent expected to be responsible for their own welfare.

2.4 GOVERNMENT POLICY AND STRATEGIES FOR PASTORAL AREA DEVELOPMENT

Historically, the pastoralist areas have been sidelined in the development process: policies and programs have overlooked pastoralists' way of life and living conditions, and until recently they have experienced decades of socio-political exclusion. Because of all these factors, pastoralists have remained the poorest of the poor and become more vulnerable to a growing process of impoverishment. The SD-PRP launched a process to rectify this situation, and a number of initiatives are now underway, which will be deepened and strengthened under PASDEP to address the needs of pastoral populations. Major objectives of the policy and strategy include:

- Transforming the pastoral societies to agro-pastoral life complemented by urbanization.
- Promote integrated rural development and rural urban link by way of sustainable growth of agriculture-especially-livestock productivity geared to market needs to raise income and overall living standards of the pastoralists.
- Strategies to deal with these issues are discussed in more detail in the strategy documents of the various sectors, but include, among others:
 - Developing participatory drought management mechanisms: including community-based drought early warning systems, and mitigation measures;
 - Encouraging livelihoods/asset diversification (fishery, agro-pastoralism, herd diversification, mining, etc.).

2.5 UNDERSTANDING PASTORAL LIVELIHOOD AND RISK USING LIVELIHOOD ANALYSIS

Livelihoods analysis is a framework to understand how people with different assets obtain a living. This approach recognizes the importance of access to elements of livelihood such as food security, and the systematic inequalities that keep some people from obtaining this access. As indicated in ODI (2010), there are four dominant livelihood systems in pastoral areas across the Horn of Africa: Livestock-based livelihoods; agro-pastoral livelihoods – these combine extensive

livestock rearing and rain-fed cereal production; Sedentary farmers - practice mixed farming, cultivating food crops with modest sheep and goat herds; Ex-pastoralists - these are households who have lost their livestock and now depend largely on human labour.

Poorer households in the first three livelihood systems have a smaller productive asset base. They also tend to have to diversify their livelihood strategies to survive. However, diversification for poorer households usually entails combining meager agro-based activities with petty trade and low-value labour-based activities such as collecting and selling firewood. Given the high dependence on the unsustainable harvesting of natural bush products, environmental degradation ensues, threatening the viability of natural resource-based livelihoods.

Livelihood strategies among poorer households in livestock based, agro-pastoral and sedentary farming areas closely resemble each other. The similarity of the options available to these groups reflects the poor economic environment of the pastoral areas, the options available to them and the absence of alternative non-livestock livelihoods. The critical question with diversification as an effective strategy to spread risk of food insecurity is 'diversification to what?'. The range of livelihood systems and the variations within these groups illustrate the need to develop responses that address the underlying causes of the increasing vulnerability of agro-based livelihoods. It also demonstrates the urgent need to enable the growing proportion of poor households to pursue productive economic alternatives (HPG, 2009).

CHAPTER 3 RESEARCH METHODOLOGY

3.1 DESCRIPTION OF THE STUDY AREA

3.1.1 Location

Miyo District is located between 38°. 16' and 39°. 00' East and 3°33' and 4°10' North. It is situated in Borena Zone in the South-East part of Oromiya Regional State at a distance of 737 km south of the capital city, Addis Ababa.

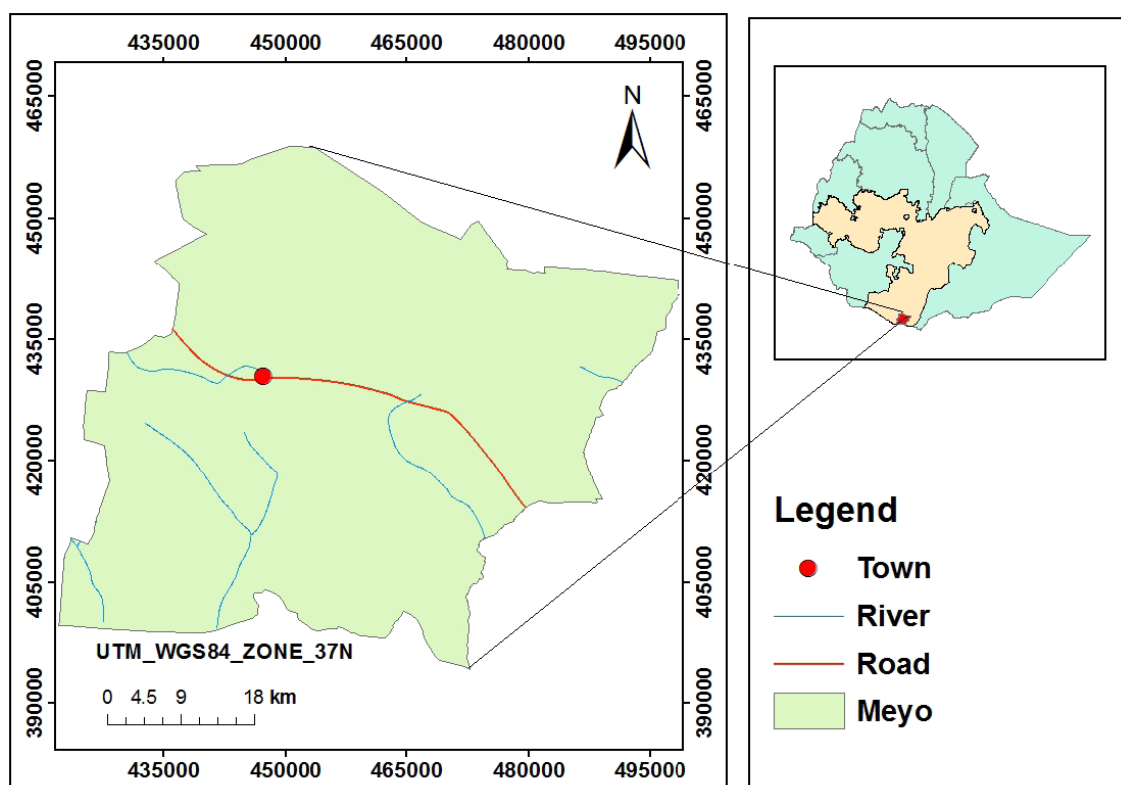


Figure 2. Map of the study area

Source: EMA (2008)

3.1.2 Climate and Landform

In Miyo district, the long years average annual precipitation ranges between 400 and 500 mm, with considerable spatial and temporal variability in quantities and distribution. There are four locally defined seasons, comprising two rainy seasons and two dry seasons. Almost 60% of the

rainfall is occurring in the long rainy season (Belg/Gaana), which is taking place from March to May, and the short rainy season (Hagaya) from September to November (Livelihood Integration Unit, 2008). The long dry season (Boona hagaya) occurs from December to February, and the short dry season (Adolessa) occurs from June to August (CORDAID and FSS, 2009). The average annual temperature ranges between 19 and 26°C. Variability in rainfall results in great inconsistency in crop and forage production. In general, Miyo district is considered as lowland or kola. The general physical feature is rolling plains with undulating hills found in few places. The vegetation is typical of lowlands, consisting mainly of acacia shrubs and grass (LIU, 2008).

3.1.3 Population

Miyo district has two livelihood zones i.e. the Borena – Guji cattle Pastoral Livelihood Zone and the Southern Agro-Pastoral Livelihood Zone. It has 17 kebeles. According to CSA (2007) census, the population of Miyo Woreda is around 48,217 of which, 27,189 are living in 12 kebeles and are engaged in cattle agro-pastoral livelihood; whereas, the remaining 21,028 living in five kebeles are pastorals. Those kebeles selected for this study are Cheriliche and Melbana kebeles from Borena-Guji cattle Pastoral livelihood zone, and Tesso and Hidi Babu kebeles from the Southern Agro-pastoral livelihood zone. The populations of Tesso and Hidi Babu Kebeles are estimated to be around 6496 and 11,200, respectively. They are engaged in farming side by side with livestock rearing. On the other hand, the population of Cheriliche and Melbana are estimated around 3500 and 9364, respectively. The main livestock reared in these two kebeles includes cattle, sheep and goats. The roads connecting Addis Ababa to Moyale pass through this livelihood zone.

3.1.4 Socio-economic Situation

The three largest ethnic groups reported in Miyo Woreda are the *Oromo* (93.9%), the *Burji* (2.9%), and the *Amhara* (1.3%). All other remaining ethnic groups made up 1.9% of the population. The major means of livelihood of the people are pastoralism. Livestock husbandry contributes the lion's share to the livelihood of the people. Crop production is recently introduced means of living in the study Woreda and expanding in all pastoral communities in Oromia. The role of other means of livelihood such as trade is also growing in the pastoral areas. Main types of livestock reared in the area are cattle, goats, sheep and camels (Riché et al, 2009). Most households have relatively large areas of communal grazing lands suitable for livestock production. About 59% of the Woredas' total farmers are agro-pastoralists. Average farmland and farm oxen holding sizes per farmer household were 1.5 ha and one ox. Maize, haricot bean, wheat and barley are the dominant crop produced in the area. Application of manure, chemical fertilizers, fallowing and crop rotation methods are commonly employed to maintain soil fertility. However, stalk borer, armyworm, African boll worm, grass hopper and rodent are the major crop pests affecting crop productivity. On the other hand, livestock productivity is also affected by the commonly prevalent livestock diseases such as Trypanosomiasis, Blackleg, internal and external parasites, and Anthrax.

As Borana pastoral society governed by the Gada System as a result all natural resources and any functional infrastructures are open to all members of the community. Pastoral communities are quite appreciated for their indigenous institutions and their management. Before they were weakened by external interventions, they used to serve the purpose of planning, enforcing and managing the rules of resource and land use, mobility and settlement patterns, disaster and risk mitigation, conflict management and resolution. In his recent book entitled 'Decisions in the

Shade” Marco Bassi (2005) described that among the Borana certain fields of human activity are strictly regulated.

These relate to the utilization of natural resources, in particular the traditional wells. Such areas of regulation are distinguished by traditional name such as addaa-seera bisaanii (laws of the water resources), in the case of Borana communities. These indigenous institutions and their knowledge base is valued for its contribution to the very survival of the pastoral system, adaptation, resilience, under difficult ecology and environment conditions. A study done by Save the Children Initiative in Ethiopia (2007) indicates that customary institutions exist at three levels. These are overall customary jurisdiction over the land, social and cultural issues; those in the middle with the critical responsibility of regulating seasonal access to grazing and water; and those at the local level of grazing and water management.

3.2 RESEARCH DESIGN

Three parts have been included in this section. The first one deals with sampling procedures employed to select the study area and respondent households, and source and data collection methods. In the second part key livelihood background and explanatory variables of SL framework that was adopted from Scoones (1998) will be introduced. In the last part, data analysis tools and methods will be described.

3.2.1 Sampling Strategy

The rationale for the choice of Miyo Woreda for the study was based mainly on past intervention. It has been one of the model districts in the region where pilot CMDRR project had been implemented in the year 2010, as well as, the new CPDRR 5 years programme being operational by at the site CORDAID and ACORD since 2011.

In addition, the area had experienced recurrent drought and the livelihood is predominantly pastoral. The explanatory variables of the livelihood framework for analysis intended to be employed in this study is of paramount importance since it provides researcher's with the ability to assess qualitative and quantitative differences in experiences with livelihood diversification strategies.

Out of the 8 project targeted PAs, from the total of 17 in the district, four PAs, namely Melbana and Cheriliche from pastoral, and Tesso and Hidi Babu from agro-pastoral PAs, were deliberately selected for the study and accordingly to conduct the household survey as per the timeframe. The selection of study kebeles were carried out in consultation with the project field office and relevant Woreda sector office experts and officials.

To keep the number of sample respondents to manageable size, vis-à-vis the available resources, a total of 120 households, 30 pastoral and agro-pastoral households from each PA, were selected for questionnaire interview by employing a simple random sampling method.

A household is used as the unit of analysis in the study. For the purpose of the study a household is defined as a basic social institution whose members shares the same hearth and roof and eats at least the evening meal together. A household head was approached and used as a source of information in this study, as he/she knows more than any member of the family about household resources, livelihood strategies and outcomes and their interaction to determine the current household position in the overall socio-economic condition of the study area.

In addition, 4 focus group discussions/FGDs/ were conducted separately with 8 men and 8 women, and 8 in-depth interviews with community members and leaders and 8 in-depth

interviews with key-informants from local government offices (Pastoral Development, Health and Disaster prevention and preparedness) and local NGOs.

The project community development facilitators/CDFs/ in their respective sites were employed to assist the researcher in administering the questionnaire interview. To familiarize them with the specific objective of the research, a half-day theoretical orientation and an additional half-day practical exercise by pre-testing the questionnaire on eight pastoralists was facilitated.

In the actual field survey the researcher with the field office coordinator and project officer facilitate supervision on the overall process by establishing a daily base checking mechanism. Any incomplete or wrongly filled questionnaires were returned back for proper completion.

3.2.2 Data Collection and Management

In the data collection process, both primary and secondary data sources were collected by applying formal and informal survey approaches. Primary data were collected using household survey with structured questionnaire, PRA tools, such as, in-depth focus group discussions (FGDs) with community representatives, key informant interviews, personal narratives (case summaries), and direct observations.

The primary data were collected through survey i.e. household survey using personal interview, focus group discussion, in-depth interview and observation methods. The reason for using this qualitative approach is because livelihood is contextual and holistic and it uses to collect in-depth holistic information on the perceptions and opinions of target populations of the study about extent of livelihood diversification and the different options of improving strategies. Moreover, it helps to understand multiple realities of individuals, households, communities, and related external factors like vulnerability contexts, structures and institutions. In this approach it is

possible to contact directly with the sample respondents in their environment so that it is possible to share their experiences and observations from situational contexts that they are living with. Moreover, it is possible to be flexible in collecting detail and in-depth information from small number sample groups depending on the availability of time and logistics during data collection. Qualitative tools are also appropriate for individualized outcome like gender and site specific implications of the problem and potential consequences of the targeted interventions.

The execution of the project was made to proceed on correct line; the data collected were made adequate and dependable. Since most of the data were collected through discussion and interviews, arrangement was made for proper selection of respondents. A careful watch was kept for unanticipated factors in order to keep the survey as more realistic as possible.

Furthermore, secondary data were collected from different sources. Intensive desk review, from published and unpublished literatures of theoretical nature, policy, strategy, and proclamations, documents either national or international were collected from different sectors, reviewed and used as a secondary data. Various activity reports of governmental and non-governmental institutions and other empirical studies on relevant topics were critically reviewed. Moreover, district and regional Pastoral Development Offices periodic reports, food security/early warning assessment, baseline survey and evaluation document; DRMFSS, MOA and MOFED leaflets and bulletins; CSA statistical bulletins and abstract, and publication from other organizations were used as a source of secondary information. Contexts indicate policy settings, politics, history, livelihood/agro-ecology and socio-economic conditions in which the wider development concept and practice is established. Livelihood assets endowment available to a household at any given time and space are influenced by this wider context in which development is defined.

The following brief definition was given for the different components of pastoralist livelihood assets to create a common understanding. For instance, for pastoralist communities' five livelihood assets can be identified.

1. Human: education, health, nutrition
2. Natural: grazing land, water sources
3. Financial: livestock, credit
4. Social: livestock, community social support
5. Physical: livestock herd, infrastructure.

Besides, direct observation method was employed as one among several data gathering tools. The main advantage of this method is to eliminate subjective bias. Secondly, the information obtained under this method relates to what is currently happening; it is not complicated by either the past behavior or future intentions or attitudes. Thirdly, this method is independent of respondents' willingness to respond and as such is relatively less demanding of active cooperation on the part of respondents as happens to be the case in the interview or the questionnaire method. This method is particularly suitable in studies which deal with subject (i.e. respondents) who are not capable of giving verbal reports of their feeling for one reason or the other. As a whole, the field information gathering mechanism was by participatory approach by conducting several field visits and focus group discussions.

3.2.3 Data Analysis

Combinations of qualitative and quantitative data analysis methods were used. Most of the variables in the questionnaire and used in the analysis are categorical, nominal or ordinal and the numeric or measurement variables are often not normally distributed..

Analytical tools:

1. Central tendency and dispersion: such as mean, mode, median, percentage, frequencies and dispersion variance and standard deviation were used. Background variables to livelihoods and the basic elements of explanatory variables of the SL framework were examined using this tool.

2. Statistical tests of association: test of significance particularly chi square test was used in order to validate if there was any statistical significant relationship between livelihood productive assets/household resource distribution and ownership, wealth status/income sources and livelihood diversification strategies between pastoral and agropastoral.

3. The analytical tests in many places were supported by descriptive statistics. This involves computation of percentages of single variables, the median and average outcomes. In order to analyze and interpret the quantitative data gathered through the household questionnaire survey, the SPSS statistical software (version 16) was used. Simple and multiple correlation and regression analysis was also computed. . The major data analysis methods used were descriptive and econometrics. The descriptive statistical tools like mean, standard deviation, and t and X2 tests, diversity index and one way ANOVA were used. Multinomial logit model was fitted, to identify status of livelihood diversification by wealth categories and share of income sources. Further, multinomial Logit Model specification employed in order to identify factors influencing livelihood diversification, in addition, used also to examine the extent of the pastoral household's diversify livelihoods.

CHAPTER 4 RESULTS AND DISCUSSION

SECTION ONE

The first section presents variables related to demographic (personal and household) characteristics and household livelihood asset endowments that were computed from different variables. The outcomes of this analysis were used to characterise the socio economic stance and trend of respondents in the study sites and in addition they also serve for further analysis as background variables in order to investigate different livelihood diversification strategies of pastoral communities, in comparison with how it constrained or supported them.

4.1 DEMOGRAPHIC CHARACTERISTICS AND LIVELIHOOD ASSET ENDOWMENT OF RESPONDENT

4.1.1 Demographic Characteristics of Sample Respondents

4.1.1.1 Gender and Marital Status of Respondents

Out of the total respondents (n=120) more than half (57.5%) were male. Women respondents (n=51) constituted 42.5 per cent. The number of female-headed households is comparatively high in the agro-pastoral areas. In Hidi Babu and Tesso community, for instance, the proportion of female-headed households reaches about 56.9 percent as compared to pastoral community of Melbana and Cheriliche 43.1 percent.

Table 4.1: Gender status of the respondent's

	Name of Kebeles				Total
	Melbana	Cheriliche	Tesso	Hidi Babu	
	No. (%) of respondents				
Female	9 (30.0)	13 (43.3)	14 (46.7)	15 (50.0)	51 (42.5)
Male	21 (70.0)	17 (56.7)	16 (53.3)	15 (50.0)	69 (57.5)
Total	30 (25.0)	30 (25.0)	30 (25.0)	30 (25.0)	120 (100)

Source: Miyo survey 2012

On the other hand, women mainly engaged in non-pastoral income generating activities as compared to male. For instance, of 34 respondents who diversified their livelihoods highly, 20(59%) were found women group and majority of them engaged in small business/petty trading, (Figure. 4). The majority (84%) of the respondents were married. The total number of female respondents interviewed was 51. Of which, 42 were married and the remaining 9 (18%) were widows, single and divorced females. During FGDs it was noted that polygamy is a common phenomenon in the zone.

Table 4.2: Age of the respondent HHs

Age	Name of Kebeles				Total
	Melbana	Cheriliche	Tesso	Hidi Babo	
No. (%) of respondents					
18-30	5 (17.9)	6 (21.4)	6 (21.4)	11 (39.3)	28 (100.0)
31-45	10 (27.0)	10 (27.0)	11 (29.7)	6 (16.2)	37 (100.0)
46-55	6 (26.1)	5 (21.7)	6 (26.1)	6 (26.1)	23 (100.0)
56-65	4 (26.7)	4 (26.7)	4 (26.7)	3 (20.0)	15 (100.0)
>66	5 (29.4)	5 (29.4)	3 (17.6)	4 (23.5)	17 (100.0)
Total	30 (25.0)	30 (25.0)	30 (25.0)	30 (25.0)	120 (100.0)

Source: Miyo survey 2012

4.1.1.2 Age of Respondents

The average age of the household head in the study area was 46.23 (sd=16.64). The youngest respondent was 18 while the oldest was 87 years of age. The age distribution shows that about 78 sample respondents (half of them were women) are under the age of forty nine while 17 of them were above 66 years of age (Table 4.2). Within pastoral and agro-pastoral communities, it was noted that the average age for the former was 44.85 (sd=16.17) while it was 47.61 (sd=17.39) for the later. In general, this indicates currently, the proportion of pastoral and agro pastoral women and men were in the age range of 18-49 years, reflecting higher young age structure of the household in Borena pastoralist community. Regarding the age composition, the majority (85.83%) of the respondents were below 65 years of age.

4.1.1.3 Educational Status

Out of the total respondents, the majority, 87%, were illiterate whereas only 2% were functionally literate (able to read and write). Only 11% had attended formal education (primary and secondary school). The highest number of household heads with no formal education was 45.8 percent, while in agro-pastoral subgroups, it was 41.7 percent. The remaining 4.2 percent of the respondents had attended informal and formal education. This shows that the proportion of literate respondents was also found to be higher among agro-pastoral community as compared to the pastoral one (Table 4.3).

Table 4.3: Educational status of respondents

Education status	All respondents (n=120)	Pastoral (n=60)	Agropastorals (n=60)
	No. (%)	No. (%)	No. (%)
Illiterate	105 (87.5)	55 (45.8)	50 (41.7)
Informal/adult education	2 (1.7)	-	2 (1.7)
Primary (1- 8)	9 (7.5)	3 (2.5)	6 (5.0)
Secondary (9 -10)	4 (3.3)	2 (1.6)	2 (1.6)

Source: Miyo survey, 2012

4.1.1.4 Family Size

The average family size for the whole sample was 6.28 (sd=2.85), which is greater than the average household size of the country that was 4.9 as indicated by Central Statistics Office (CSA, 2011). The minimum family size for the study respondents were a household with one person while the largest was 11 people. In both livelihood zones average family size for very poor and poor wealth groups was 5 -7; while, middle and better-off wealth groups have 7-9 and 9-11 family sizes, respectively (Table 4.6. and 4.7.). Out of the total household members (120) about 78 were economically active (in working age group).

4.1.1.5 Membership in Organizations'

All sample respondents were members of Pastoral association (PA), and 5 percent were its local administrators. Other (9) were members of community based and self-help organisations such as

service cooperatives; environmental protection, early warning system, and CMDRR/CCA committee in the study sites. With regard to traditional institutions about 3 percent of respondents were members of natural resource (rangeland and water) management committees.

The aforementioned demographic characteristics of respondent households, such as gender, age, educational status, family size, marital status have direct or indirect connection to livelihood diversifications. As capability of households is important factor to cope with cyclic nature of drought and other climate induced hazards, as these factors have contribution to the households' capability to take initiatives of different livelihood options in order to generate income and hence build their capacity as a cope strategies. In addition characterising the households is important in order to identify the most vulnerable groups and thus to develop realistic type of responsive intervention mechanisms to disaster to which they were exposed.

4.1.1.6 Food Security Status

Out of 120 respondents, only 21 (17.5%) of them had considered themselves as food secure, and the majority, 82.5%, put themselves as food insecure. To see more on the food security status, each kebele's status was disaggregated and accordingly, food insecurity is severe in Cheriliche and Hidi Babu where almost 54 (90%) of the respondents from these kebeles were food insecure. About 5.8% and 6.7% of Melbana and Tesso kebeles respondents were food secured, respectively (Table 4.4).

Discussion with those who reported that they are food insecure continued regarding the pattern of food in-security throughout the months of a year and the majorities remarked that all months but August, September, October, November, and December as months of severe food shortage in the household. Though months like January (47%), February (41%), March (25%), April (32%), and May (23%) are the least observed months of food insecurity; June, July August, September, October, November, and December are the peak food insecure season as pointed out by the respondents (Figure:3). This finding is similar with the Baseline survey unpublished report of Cordaid (2012) which depicted that food shortage was very common in the area for more than six months of a year.

Table 4.4: Food security status of the respondents

	Name of Kebele								Total	
	Melbana		Cheriliche		Tesso		Hidi Babu			
	n	%	N	%	N	%	n	%	n	%
No*	23	76.7%	27	90%	22	73.3%	27	90%	99	82.5%
Yes*	7	5.8%	3	3.3%	8	6.7%	3	2.5%	21	17.5%
Total	30	100	30	100	30	100	30	100	120	100

Source: Miyo survey, 2012 *No =not food secured; *yes = food secured

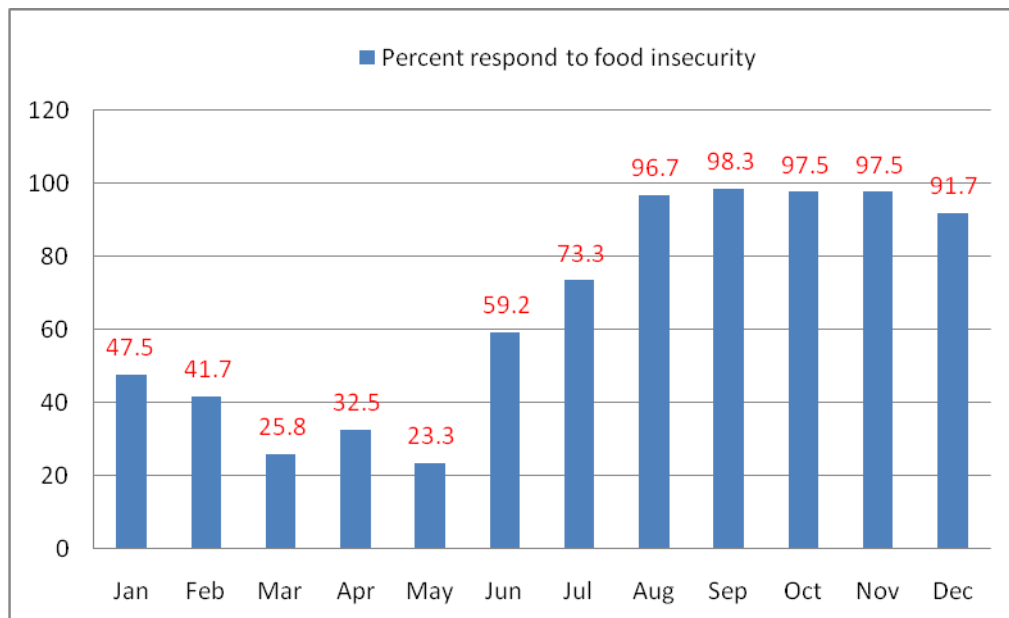


Figure 3: Percent of respondents for food insecurity, Miyo Survey 2012

Further the people who are food in-secured were asked their main source of food. The result showed that nearly half of the households interviewed (48%) relied on purchased food, 8% received some food aid, 10% on home grown and the remaining obtained their food from aid, self grown and purchase. This indicating decrease in crop yield and livestock productivity as a result of frequent drought leads the community to food insecurity.

According to the local elders, 3 decades before households had been self-sufficient, able to feed their children and provide for their other needs through the cash generated in the market (selling milk, hides, cattle, and shoats). The money that they earn is barely enough to meet their food needs. However, 99 (82.5%) (Table 4.4) of the respondents' were labelled themselves food

insecure irrespective of their wealth distribution and are in need of food for about several months of the year. Even though, crops and livestock benefited for the short term sporadic and light rainfall, crops are yielding from very low to none and livestock lost weight and die by lack of pasture, water and disease. Income diversification has taken place, at present, many pastoralists have resorted to daily labour, petty trade, selling firewood and household assets for subsistence, and mobility as coping strategies.

4.1.2 Livelihood Assets Endowment of Respondents

In the agro-pastoral livelihood context, households were endowed with immense potential assets. The potentials include the properly untapped natural, economic and social capitals that can be exploited for betterment and sustainable alternative to non-pastoral livelihoods. The natural capital includes indigenous livestock, vast rangelands with various economic importance's (gum and incense, honey, medicinal herbs, charcoal, ecotourism, timber, dry land farming, etc); the social and economic capitals can be described as traditional socio-cultural values, huge labour force, local innovations, conflict management mechanisms, etc. The pastoral human capital can be characterized by an in-depth knowledge of complex rangeland agro-ecological dynamics, critical in detecting resource availability to ensure livelihood strategies and coping mechanisms. Pastoralists' Indigenous Technical Knowledge includes familiarity with patchy range resources and understanding erratic climatic patterns; both relevant in tracking environmental conditions (Mulugeta T., 2013¹).

4.1.2.1 Household Resource Distribution and Ownership

In the pastoral livelihood context, the resource endowments at household level are different depending on livelihood and agro-ecological zones, historical; institutional; household and communal own conditions. For instance, access to land depends on the constitutions and land tenure system of the country; and socioeconomic situation and stratification of the household in a given pastoral community. Similarly households' access to education, market, credit etc. could not be the same for the above stated reasons. In this research a household resource endowment was computed from the variables below (on Table 4.5) to see if some of them have any relationship with their livelihood diversification. These include livestock, landholding, labour,

¹ On the Assessment to Identify New Areas of Livelihood Diversification in Livestock Based Economy of Pastoral Area of Oromia, Ethiopia

access to water, credit access, etc. Neshan (1998) also computed a household resource endowment from similar variables except for relative importance of small holder farm enterprises. Resources such as social network and physical resources considered by Scoones (1998) as household resources are excluded from computations since they are similarly distributed or missed within the sample households.

The survey result had revealed that about 98% of the respondents have livestock and enough labour required to perform livestock rearing and other activities. Significant number of the respondents (58%) of the total had owned farm land which had enabled them to perform both livestock rearing and crop cultivation as major livelihood activities. The problem of potable water for livestock and human was more severe in Melbana and Hidi Babu (36%). Farm land ownership and practices was becoming high in Hidi Babu, next to Tesso with 24 and 29 household respondents of the total sample, respectively, while 10 in Cheriliche and 8 in Melbana pastoral communities. As level of livestock ownership was regarded by the community as fundamental element for wealth status ranking, it varies among households and individuals respective location of livelihood zone. The availability of grazing land and water for livestock is a communal asset which is managed relatively by its customary institution though it shows a weakening trend in the four study kebeles.

Table 4.5: Resource distribution of the respondents

Asset	Frequency (n=120)*	Percent
Livestock	118	98.3
Water harvesting structure	36	30.0
Farm equipments	81	67.5
Land holding	70	58.3
Water access for livestock	43	36.0
Potable water access	18	15.0
Access road	58	48.3
Access to Credit	27	22.5
Training and Information centre	99	82.5
Labour	118	98.3

Source: Own survey * Multiple response

4.1.2.2 Wealth Status and Socio-economic Stratification

The wealth status is determined by sources of income and major occupations, which determine the livelihood of the household. Livestock production is the most important source of income. Hence, the number of cattle, camels, goats or sheep is a good indicator of the wealth status in the community. The nature of occupation such as trading and the income generated through such an employment is also an indicator of wealth group. The result of the present study discloses four wealth groups: better-off, medium groups, the poor and very poor groups. Very Poor wealth group own only few cattle, goats, and sheep, while the middle and better-off wealth groups possess much better number of livestock than their counter partners (Table 4.6). Nowadays, those pastoralists having 70 cattle falls under rich wealth category, 40 cattle, medium and poor, with five cattle, while very poor person is with one or no cattle. However, 15-20 years back the rich and medium categories were those with 150 and 70 cattle, respectively. This wealth status is supported by other studies conducted in the same Zone, among which Kejela Gemtessa et al (2005²) had indicated relatively proportional number. As per the interviewers view, this decreasing trend of livestock number per household was because of the worst drought incidence in the year 2007 and 2011. In view of the FGDs in Melbana and Cheriliche community, the drought was resulted unusual death of nearly 50% of cattle, 40% of goats and 45% of sheep. There was a trend of an increase in the person to herd ratio which clearly mean fewer livestock numbers per a household and, therefore, this situation makes the pastoral family more vulnerable to destitution in times of droughts.

The pastoralists buy grains from the local market which comes from the highland and some surrounding crop farming communities. The main source of food is livestock and livestock products since pastoralism is a mainstay of household economy. When there is a good amount of rainfall, water and pasture, milk production is high, the purchase of food grain is low, and the livestock stays around the homesteads. Conversely, during dry seasons, there is low availability of water and pasture, milk production decreases, the purchase of food grain increases, livestock mobility takes place far from homestead, and livestock sales are high. As the productivity of the animal declines due to drought and bush infestation, the community remains vulnerable to shocks. The poorest and poor wealth categories are more vulnerable than middle and rich groups. As elsewhere in the pastoral areas, the most vulnerable individuals are elderly and

² Livelihood Diversification in Borana Pastoral Communities of Ethiopia, Kejela Gemtessa et al 2005

children during food shortage. Therefore, any adverse factor which impacts negatively on livestock threatens the livelihood and life of pastoral communities (Ahmed, 2007).

Table 4.6: Productive assets holding in pastoral kebeles (Melbana and Cheriliche)

Wealth Group	Average Productive Assets Holding			Farm size (ha)	Family Size	Remark
	Cattle	Goats & Sheep	Donkey			
Better off	15 - 25	15 – 25	2 – 3	N/A	10	Those poor of poor have below land and livestock holding size are accounted 36.7 and 17.5% of the total very poor wealth groups of Tesso and Hidi Babu, respectively
Medium	10 - 15	13 – 15	1 – 2	N/A	9	
Poor	4 - 7	5 – 8	0 – 1	N/A	7	
Very Poor	1 - 3	3 - 6	0	N/A	6	

Source: Miyo survey, 2012

On the other hand, the agro-pastoralists livelihood zone of Tesso and Hidi Babu communities, wealth is determined normally by both livestock and cultivated land holdings (Table 4.7). Livestock production was also an essential means of living.

Table 4.7: Productive assets holding in Agropastoral kebeles (Tesso and Hidi Babu)

Wealth Group	Average Productive Assets Holding			Farm size (ha)	Family Size	Remark
	Cattle	Goats & Sheep	Donkey			
Better off	11 -20	15 – 20	1 – 2	2 – 2.5	10	Those poor of poor have below land and livestock holding size are accounted 36.7 and 17.5% of the total very poor wealth groups of Tesso and Hidi Babu, respectively
Medium	6 - 10	7 – 12	0 – 1	1 – 1.5	9	
Poor	3 - 5	4 – 6	0	0.5 - 1	7	
Very Poor	0 - 2	1 – 3	0	0.5	6	

Source: Miyo survey, 2012

In this livelihood zone, very poor wealth group holds maximum 5 cattle, 12 sheep, and goats, and 3 chickens and ≤ 0.5 ha of cultivable land (Table 4.7). Some of them have neither livestock nor cultivable land.

The finding of relative proportion of households by wealth groups (Figure 6) shows that the number of poor and very poor (destitute) households in the study Kebeles is much larger than those considered as rich and medium groups. The sum of poor and destitute reaches about 61%

of the total household population of the survey kebeles. Thus, this wealth classification reveals that the poor and very poor/destitute forms the largest proportion in of the pastoral communities in the district.

4.1.2.3 Major Livelihood Strategies and Income Source

Community in the study Kebeles have diverse livelihood activities though mainly depend on livestock herding. Respondents in the study Kebeles participate in different livelihood activities that mainly include: livestock rearing, crop cultivation, Non-Pastoral Activities (NPA) which includes small business/petty trade/ selling of local beverage, brokering, remittance, cash for work and food aid, wage labour, and in extreme cases, selling fuel wood.

The survey result revealed that the major livelihood activity practiced by the community in four pastoral and agropastoral Kebeles is livestock rearing that covers about 98% followed by crop cultivation (48%) mainly in Tesso and Hidi Babu with those 29 and 14 respondents' respectively. Twenty two percent of the participants mainly from both agropastoral Kebeles (11 and 4 respondents of Hidi Babu and Tesso, respectively) have involved in small business, while very poor wealth groups (12%) in Hidi Babu and Tesso engaged themselves with casual labour (Figure 4). In same manner, the share of remittance (11%) in both pastoral and agropastoral Kebeles account relatively same numbers except 4 respondents' from Cheriliche.

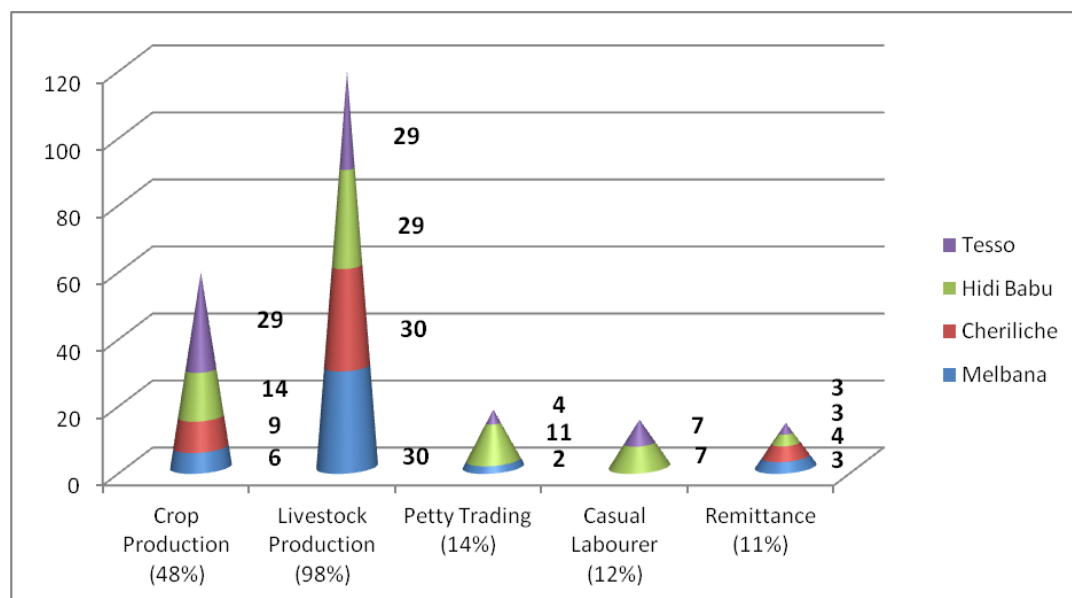


Figure 4: Livelihood activities by major income source of the respondents'

Coverage for these major livelihood activities also varies in pastoral and agropastoral sample four Kebeles. For instance, 53 percent of the surveyed population ranked livestock rearing like

cattle, camel, goat and sheep, donkey and poultry as their first source of income, 23.4 % of all put livestock rearing and crop cultivation, such as field crops, horticulture, coffee and khat as their second ranked source of income while 31.6% put other types of Non Pastoral Activities/NPA such as petty trading/small business, wage labour/Cash for work, government food aid and remittance as their third ranked income source (Figure 6).

From this analysis, it is possible to understand that in pastoralist community, the rich devotes only limited time for non pastoral activities such as trading. While the poor and the destitute, on the other hand, involved in labour work, cash for work, sell of local beverage, herding, brokering, food aid (food for work) and remittance, and other non pastoral works rather than trading. Wage labour involvement is an indicator of poorness in the study community.

As part of small business, during field observation, it was found that an encouraging initiatives practiced by self help women groups who have engaged in the production and supply of Aloe soap which is mainly recognized for its medicinal value and detergent effect. These women groups in Melbana have been financially and technically supported by NGOs called ACORD and CORDID.

4.1.3 Livelihood Context of the Area

4.1.3.1 Trend in Livestock Production and Marketing System

Trends in Livestock Production

In view of the fact that the potential of livestock production is constrained by many factors, pastoralists have predisposed to diversify their traditional livelihoods into other income sources within the pastoral system or out of it. The majority of the study communities diversified their livelihood within the traditional system by participating in marketing/trading mainly their own live animals and animal products such as milk, meat, skins and hides, including some specialized forms of livestock production, such as fattening of bulls, sheep and goats. On the other hand, diversification outside the system can be in the form of crop farming, petty trade, wage labour, brokering, and sale of local drinks, fire wood and charcoal (undesirable). In some case, the sample respondents diversify in the form of honey collection, public works under PSNP and NGOs. Relief food aid and other food security programs /PSNP/ were also becoming a source of livelihood for many households during drought period and long dry season. This is in line with finding of Mulugeta (2013) for most Borena Zone districts.

The main factors causing poor performance of the pastoral system include drought, bush encroachment, livestock disease and livestock marketing, population increase, shrinkage of key dry season grazing areas, etc. Drought is a common phenomenon in Miyo District. The effect of recent drought disasters (in 2011 next to 2007) is still fresh in the mind of FGD participants. The disaster caused by recurrent drought was witnessed from various reports. According to the Early Warning information and District level contingency planning group analysis (Miyo District Disaster Management Committee, 2012), moderate drought was always expected in months of July to September (Adolesa, Hagaya, and Bona) seasons.

Livestock disease is the major problem and a threat to pastoral livelihood through low productivity and production of the animals. The local respondents had clearly stated their view by stating that lack of grazing land, pasture and water due to the recurrent drought aggravated incidence of livestock diseases and continuous degradation of rangelands. The disease mapping in Districts revealed that most of the disease are prevalent during Bona (long Dry Season) and Ganna (main Rainy season). As it was noticed, many livestock diseases are prevalent in the study kebeles including foot-and-mouth disease (29%), Faculiasis (21 out of 120 respondents), Anthrax (19 out of 120 respondents), and Contagious Caprine Pleuropneumonia (17 out of 120 respondents), were the top four diseases reported by respondents (Own Survey, 2012). Disease and pest outbreak was mentioned as important hazards almost in all four kebeles. The type of livestock diseases prevalent in the study area were identified by the respondents during household interview, as well verified by relevant expert of Miyo district Pastoral Development Buerau. The availability of salt in rangelands of Miyo is uneven so pastoralists from the surveyed kebeles have to go with their animals or purchase salt from Hidi Lola Town or Dire District, Mega Town.

The FGD and KII at each survey kebeles have pointed out their view about the rangeland that mainly used for livestock husbandry as the inhabitants are predominantly pastoralist and only crop based livelihood is almost very limited. There are two types of use categories of rangelands. The first is open grazing area most commonly accessible to all members of the community and other mobile communities in any seasons. The second category of rangeland is Kalo means reserved rangeland, which is managed at Seera level by the community. The reserve is decided by the community and often fenced with thorny woods putting a confined area of land out of free grazing. Kalo is used for dry season and made available to breeding animals, such as, calves,

lactating animals, weak animals and oxen, that cannot go far (those managed at home base). Access to the reserve is discussed and decided by Jarsa Seera (the community elders).

Despite the recurrent drought in the area, the communities perceive that the livestock population increased over the past few years. On top of this, the declining rangeland productivity reduced the carrying capacity. According to the survey result and FGDs about 97% of the households indicated that the condition of rangelands is deteriorating over time and its productivity was poor. They had indicated different reasons for the worsening situation (Table 4.8). This was also agreed with KII and expert's opinion (from Miyo district Pastoral Development office) that bush encroachment is a single most important factor degrading rangeland resources. This finding corroborates those of Cossins and Upton (1988), Oba et al. (2000b) and Angassa and Baars (2000) who's studies shows that Borena rangeland system is experiencing a decline in productivity, associated with periodic losses in cattle populations; changes in land use; and suppression of fire that have resulted in the proliferation of bush encroachment and a general decline in forage production In the example of Borena rangelands, bush encroachment has now become a serious problem for management. Invasive bush species has fundamentally changed the communal rangelands from open savanna grasslands to bush thickets. The problem appeared to be beyond their control and has become a serious threat to livelihoods.

Table 4.8: Respondents' reason for poor Rangeland Productivity

Reasons for poor productivity of rangeland	Frequency	Percent
Increased livestock population	60	50
Drought and extreme weather event	31	26
Declining traditional range management system	29	24
Total	120	100

Source: Survey in Miyo Woreda (2012)

Another critical challenge on rangeland productivity is expansion of termites. During the FGDs with four Kebele communities, the issues of how to improve rangeland productivity was raised. The consensus builds on the knowledge of proper rangeland management that reduces degradation and increases plants growth during certain period of the year.

Livestock Marketing System

The presence of sufficient infrastructure is very important for efficient marketing of livestock, as they link pastoralist/producers with consumers, processors and exporters. However, in Miyo district there is no as such market infrastructures and market facilities such as roads, stock routes, resting places, quarantine stations. Standard market is virtually absent in this district. Majority of the pastoralist move their animals to other bigger markets expecting better price. Consequently, pastoralist moved long distance for days to sell their livestock at very distant markets: Dubluk, Harobeke and Mega markets (primary markets), which fall on Friday, Sunday and Saturday market days, respectively. During the FGDs the participants hinted out that there are also brokers/traders who came to Kebele or the community to purchase live animals with relatively smaller price compare to that of the three primary markets.

Although the government considers the cross border trade and livestock marketing to Kenya as illegal, the pastoralists have access to exporting livestock through Moyalle to Kenya as they earn better prices from such markets. However, such an export is not formally allowed. The FGD respondents feel that they would prefer to use the Kenyan market for their livestock after fulfilling custom regulations. The terms of trade for livestock and other commodities are not in favour of the pastoral communities.

4.1.3.2 Trend in Mobility Pattern

Agro-ecological conditions and physical characteristics of range resources are critical in shaping the socio-economic livelihood patterns of pastoral communities, as they are characterized by highly variable and unpredictable resource endowment. As a result there are strong communalities in livelihood strategies of pastoral groups inhabiting and exploiting distant and diverse dry lands or highlands of the neighbouring community.

The participants of FGDs disclosed that herd mobility is declining through time (Table 4.9). They have given different reasons for the decline in the distance migration where herds' move from the semi-permanent settlement in search of pasture. With the below constraints on the mobility, and absence of a viable alternative production system that can fit to the ecology of pastoral system, the cyclic nature of drought incidence that might affect the pastoral/agropastoral means of living system could be serious.

Table 4.9: Respondent's perception on the effect of mobility

Type of Effect	Frequency	Percent
Competition on grass and water	60	50
Natural resources degradation	36	30
Livestock disease transmitted	13	11
Conflict over resources	9	8
Supplied livestock and livestock products	2	1
Total	120	100.

Source: Survey in Miyo Woreda (2012)

Cropland is expanding in the studied pastoral communities. Due to the opportunities crop production provides to the households in terms of employment, income generation, food supply, etc., several pastoralists have started tilling land. According to the information obtained from key informants, there is divergence in needs over plots of land for crop production and for livestock husbandry. This relationship between the demand for pasture and crop production among wealth groups in Borena pastoral community is in line with finding of Cossins and Upton (1988).

As shown on Figure 5, the controversial view on expansion of cropland is a matter of equity. The rich who have large herd size wishes to have larger rangeland size to feed the livestock. On the other hand, the poor who in most cases lost their animals due to drought would like to increase their income portfolio by expanding cropland. Some other members provide economic and ecological reasons of refuting the expansion of crop farming in the pastoral areas. They argue that crop production is a risky undertaking in the pastoral area due to recurrent rainfall.

There is negative relationship between the two wealth classes on land use system in the rural pastoral area (Figure 5). This is in line with other studies among others the below figure by Kejela Gemtessa et al (2005) reinforce the above finding with regard to negative relationship between the two wealth groups.

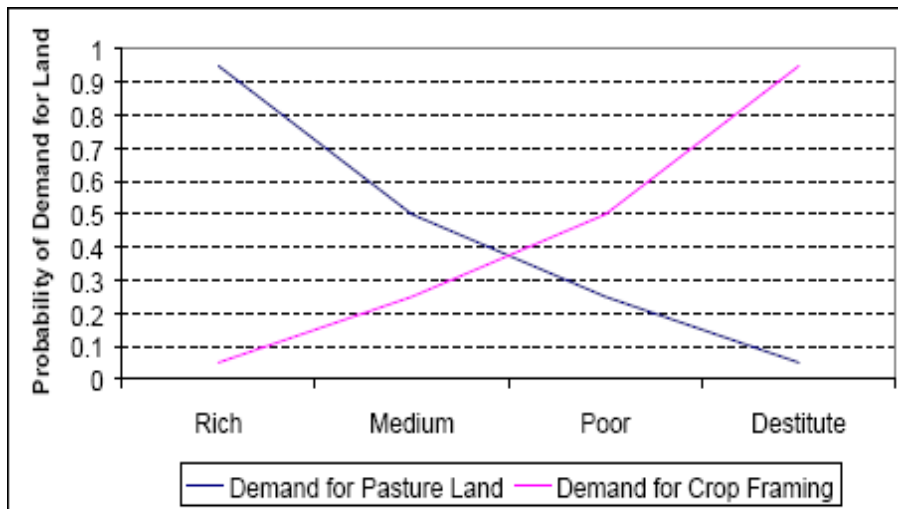


Figure 5: Relationships between the Demand for Pasture and Crop Production among Wealth Groups in Borana Pastoral Area, by Kejela Gemtessa et al (2005)

The survey result shows that about 2 to 2.5 hectares of land owned better-off agro pastoralists while the middle and poor average land holding was one to one and half hectares. The very poor agro-pastoralists which constitute about 18%, held less than one hectare of cultivable land. However, in some cases there were only 3% who had five hectares of land, which was the maximum size reported in the survey.

Despite these challenges, in the study area, crop production was chosen as one of the main livelihood diversification strategies next to livestock production that comprises 23.4% share of annual income for 43 poor and very poor pastoral and agropastoral households while a means of living for 15 middle and rich pastoral and agropastoral respondents, respectively. Additionally, in the categorization of livelihood diversification, under crop production as sources of income about 15 falls in highly diversified sub groups while 10 falls in moderately diversified sub groups from the total 60 agropastoral respondents.

SECTION TWO

This section presents the range of livelihood diversification strategies. In this section the status and extent of livelihood diversification that constrained and supported households in their effort to build decent livelihood and their responses was also determined using the questionnaire survey data and group discussion feedback. Moreover, the descriptive statistical tools like mean, standard deviation, and t and X² tests, diversity index and one way ANOVA were used. To identify the extent of livelihood diversification multinomial logit model was fitted. The data analysis was conducted using SPSS soft ware version 16. By so doing status of different livelihood diversification, wealth group by income sources examined, and explicit emphasis was given to the challenges and opportunities based on the forwarded opinions of the community and other stakeholders taking the existing context into consideration for different livelihood zones of (agro) pastoralists' were assessed.

4.2 PASTORAL COMMUNITY LIVELIHOOD DIVERSIFICATION

Although most people in rural Ethiopia generate their livelihoods from a variety of livelihood sources though almost all the study respondents mainly depend on livestock herding. Sample household respondents in the study Kebeles participated in different livelihood activities that mainly include: livestock rearing, crop production, combined with non-pastoral activities such as petty trade, wage labour in few cases and in extreme cases, selling of charcoal and fuel wood.

4.2.1 Livelihood Diversification Status by Level of Diversifying Income Source

Income diversification is a key for risk management and will help vulnerable pastoral households to meet and modify consumption, social and labour needs and develop other income source. In this study, in order to stratify sample households into distinct diversification strategies; the level of diversifying income source is compared by the share of livestock income in total household income. Literature conforms that a household with more than 50% income share from livestock is considered to be a pastoralist (Swift J., 1988), while households with annual income share of less than 50% from livestock is considered as diversifying income. Accordingly, a household with less than 25%, between 26%-75% and greater than 76% income share from livestock is respectively grouped under highly, moderately and less diversified households. Thus, 28.3%,

15.0%, and 56.7% households had respectively highly, moderately and less diversified status (Table 4.10). Comparison of diversification status by study sites indicated that in Cheriliche pastoral communities, over 96% of the sample households had less diversified status. This indicates that despite the apparent difficulties, pastoralism still remains the single most important source of livelihoods. Contrarily, 63.3% of the households in Tesso had highly diversified status and this difference with respect to livelihood diversification between the two sites is statistically significant at less than 1% probability level (Table 4.11).

Table 4.10. Diversification status of sample households.

Share livestock income	Diversification status	Code	N	Percent
<25%	Highly diversified	1	34	28.3
26-75%	Moderately diversified	2	18	15.0
>76%	Less diversified	3	68	56.7
Total			120	100

Source: Miyo survey (2012)

Table 4.11. Livelihood diversification by wealth status.

Diversification status (%)	Sample Kebele				Wealth Status			
	M*	C*	T*	HB*	Rich	Middle	Poor	V. Poor
Highly diversified	3.3	0	63.3	46.7	33.3	28.1	25	30.3
Moderately diversified	6.7	3.3	33.3	16.7	26.7	6.2	12.5	21.2
Less diversified	90	96.7	3.3	36.7	40	65.6	62.5	48.5
X ² / P value	74.065/ 0.000***				6.164 /0.005***			

*** Significant at less than 1% probability levels. M*, C*, T*, and HB* for Melbana, Cheriliche, Tesso and Hidi Babu

Diversification across wealth status has also ensured statistical difference at less than 1% probability level. The majorities of very poor and poor households were highly diversified, whereas, the majority of the better off households have less diversified (Table 4.11). The implication is, as a natural response to the decreasing returns of pastoral production in the area the poor are beginning to diversify their income source portfolios in an attempt to avoid or alleviate poverty as well as to spread the risks associated with the increasingly vulnerable pastoral livelihood. Thus, diversification is pursued as a risk coping strategy not for accumulation.

4.2.2 Pastoral Livelihood Diversity Indices

Diversity refers to the existence, at a point in time, of many different income sources. The extent of such diversification within or away from pastoralism may be an indicator of the degree to which pastoralism alone provides a secure livelihoods. Thus, where diversification is widespread and the share of livelihood portfolios to which it corresponds is considerable, it may be supposed that pastoralism is for one reason or another unable to satisfy those basic requirements. For this propose, diversity indices were used to come up with participation and income shares of each household from each livelihood activity.

Table 4.12: Diversity indices and number of income sources.

	Wealth category			
	Rich	Middle	Poor	V. Poor
Diversity index	3.92	1.76	1.54	1.5
Mean	1.26	1.89	1.72	1.53
SD	1.97	1.66	1.09	1.05
Number of income sources				
Mean	1.32	0.97	1.03	1.19
SD	0.89	0.88	0.84	1.01
Minimum	0.333	0.333	0.333	0.333
Maximum	3	3	3	4
F	2.83833			
P value	0.067*			

*Significant at less than 10% probability level

The diversity score for the better off, middle, poor and very poor households respectively, was found to be 3.92, 1.76, 1.54, and 1.5 and this is in line with finding of Ellis (2000) for most sub Saharan African countries. The diversification index summarized in Table 4.12 indicates that out of the total sample households the poor wealth category has the lowest diversity.

4.2.2.1 Number of Income Sources

The sampled households reported that they were engaging in at least four income generating activities along with livestock rearing: crop, petty trade, wage labour, and remittance. The

average number of income generating activities or sources per household for the whole sample was found to be 1.74. The corresponding figure for better off, average, very poor and poor households was found to be 1.97, 1.66, 1.09 and 1.05, respectively (Table 4.12). The mean value is statistically different at less than 10% probability level. This implies that the well-off households had more opportunity to diversify income sources than the poor and average households in the study area, while diversifying income source is important to reduce risk in pastoral areas especially for poor households.

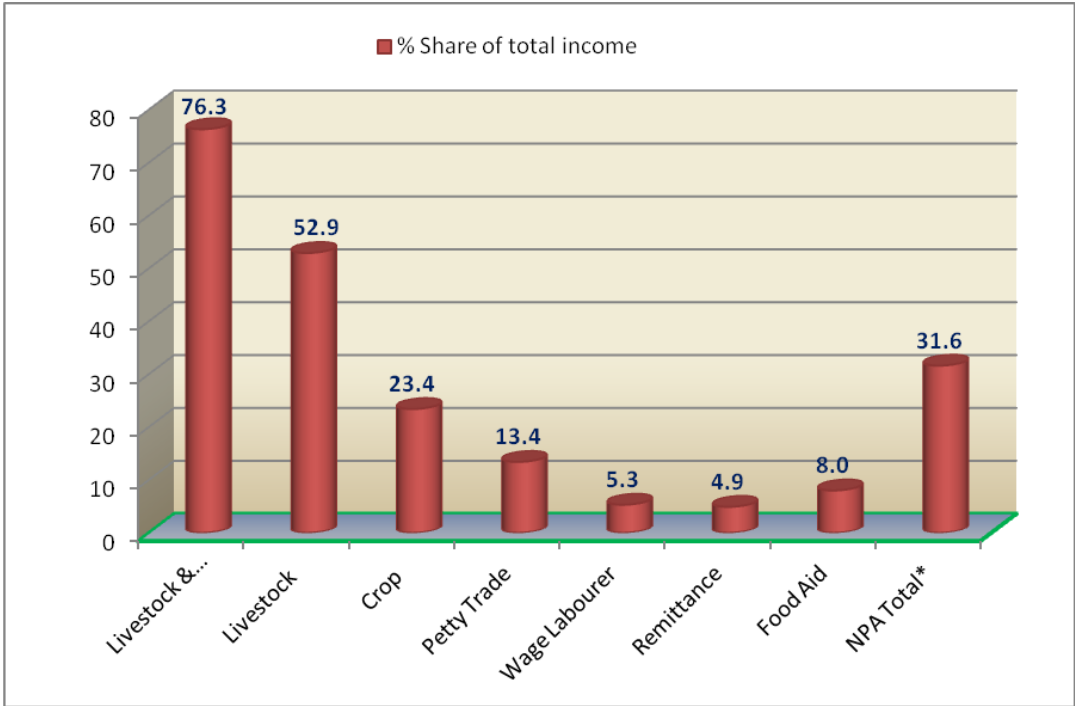


Figure 6: Share of households' income by source

4.2.2.2 Composition of Household Income Shares

Most commonly, economists group households by shares of income earned in different sectors of the rural economy in order to understand livelihood diversification. Similarly, this study considered income shares of each livelihood activity as a means to conceptualize pastoral livelihoods diversification.

Employment in off-farm income was highly scarce. About 63.3 percent of households were not employed in any of the off-farm sectors. In general, the poor received more mean income from off-farm sources than the average and better-off households. Among the four wealth groups, petty trade was the dominant non-pastoral/off- farm sector. Accordingly, the shares of

pastoralism / agro-pastoralism and off-farm /non pastoral sectors accounts for about 76.3% and 31.6%, respectively. This figure is lower by more than half than that for rural households in sub-Saharan Africa (Ellis, 2000). The most impressive figure of non pastoral activities was petty trading (13.4%) which was based on sale of food grains, consumable goods, local beverage, small number in aloe soap production, and a very few wage labour workers which were mainly performed by women (Figure 6). This result leads to the understanding that there are challenges which prevent pastoralists to insulate themselves from environmental and economic shocks, trends and seasonality and improve livelihoods.

Table 4.13: Livelihood diversification by income source.

Income source	Highly diversified		Moderately diversified		Less diversified		F	Sig.
	Mean	SD	Mean	SD	Mean	SD		
Crop	5899.52	5053.48	3022.71	2993.26	4850.06	330.55	28.279	0.000***
Livestock	6593.86	1025.86	3382.23	3148.20	4702.80	2811.98	20.977	0.000***
NPA*	5730.20	4335.71	2950.07	1577.70	2350.03	1657.18	2.737	0.067*
Total income	6074.52	4868.26	4554.39	3597.97	3967.63	2768.58	4.944	0.008***

**** significant at less than 10 and 1% probability levels. *NPA = non pastoral activities.

4.2.2.3 Diversification Status by Income Pattern

The one-way ANOVA results confirm that the variation in mean household income is significantly different among the diversification levels. The mean income for highly diversified, moderately diversified and less diversified households was Ethiopia Birr/ETB 6074.52, 4554.39 and 3967.63, respectively (Table 4.13). The less diversified livelihood stream seems to be inferior to the rest in terms of income earned. Low-return combinations of activities in less diversified livelihoods yield little income, while low income does not allow households to move out of the vicious cycle of poverty traps. It is, therefore, evident that poverty reduction strategies need to pay attention to livelihood diversification strategies than conserving pastoralism.

4.2.3 Livelihood Diversification Status by Wealth Groups

As mentioned in the figure below, the result of the present study discloses four wealth groups: better-off, medium groups, the poor and very poor groups. The rich devotes only limited time for trading although the business of relatively larger capital used for buying and selling livestock for making profit. The poor and the destitute, on the other hand, have limited capital to run business. As a result, they involve in brokering rather than direct trading. Wage labour involvement is an indicator of poorness in the study community.

The number of poor and very poor households in this district was much larger than those considered as better-off and medium groups (Figure.7). The sum of very poor and poor reaches about 61% of the total household population of the survey kebeles. Thus, this wealth classification reveals that the poor and very poor forms the largest proportion in of the pastoral communities in the district.

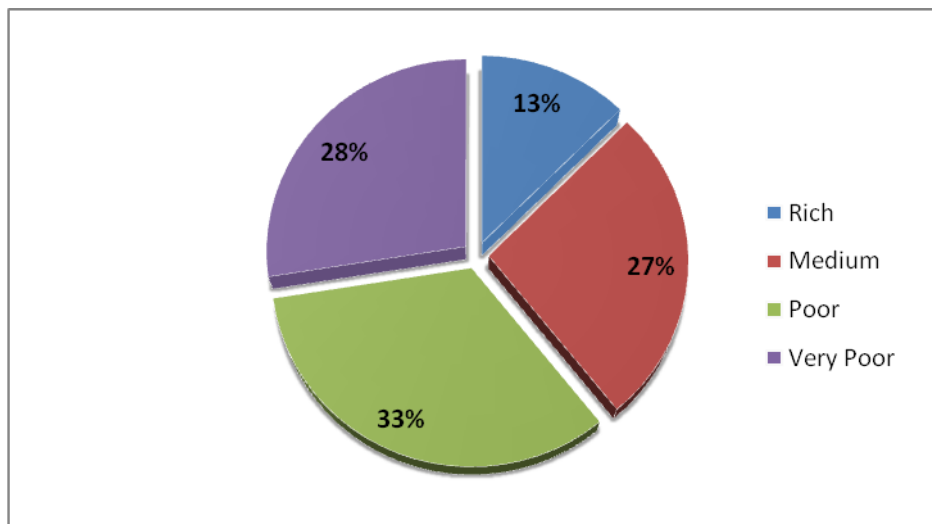


Figure 7: Relative Proportion of Households by Wealth groups

According to the survey result for Melbana community, about 6.7 percent of the households were rich, 40 percent medium, 25 percent poor, 20 percent were very poor (Table 4.14). The magnitude of poverty in the pastoral area was high. In sample Kebeles, for instance, Melbana and Tesso, about 33 and 43 percent of the respondents were identified as poor, respectively.

The number of female-headed households was comparatively high in the pastoral areas. In Hidi Babu and Tesso community, for instance, the proportion of female-headed households reaches about 50 and 47% of the sample respondents, respectively.

Compared to the wealth classes in the agro-pastoral community of Tesso, the proportion of households falling in the medium wealth category in pastoral community was high, i.e. the largest share within the pastoral community. It was the very poor/destitute which forms the largest proportion in the agro-pastoral communities. This clearly indicates that those involved in farming were relatively poorer than the pure pastoralists.

On the other hand, in Cheriliche pastoral community, the rich households on average own up to 35 cattle, 2 camels, 30 goats, 2 donkeys and 2 hectare of farmland whereas, the medium households own up to 15 cattle, a camel, 10 goats, a donkey, and 0.5 hectare of farmland. The poor households own up to 7 cattle, 5 goats, 2 chicken, and 0.25 hectare of farmland. The very poor households own a goat and up to 5 chicken. Camels are introduced in the production system and only 20% of the households own them. Increasing the number of camels is a response of the pastoral communities to changing ecology and feed availability. It seems logical to rely more on browsing animals as the rangeland is often covered by bushes and trees and make economic use of them. Since bush clearing is expensive in terms of capital and labour requirement, combined efforts of bush control and livestock species adapted to the ecology would help in improving the livelihood of the community.

Over one-third of the households were classified as very poor in Hidi Babu agro-pastoral community. From the total of 30 household respondents, about thirteen percent considered as rich, 20 percent medium, 27 percent poor, and 40 percent as very poor (Table 4.14). The rich households in Hidi Babu agro-pastoral community own up to 15 cattle, 20 goats, 3 camels, 2 donkeys, and 5 hectare of farmland. The medium households in the same community own up to ten cattle, four goats, a camel, a donkeys, and two and half hectares of farmland. The poor households own less than five cattle, ten goats, and less than half hectares of land. The very poor households own no livestock.

Table 4.14: Wealth groups by source of income

Livelihood Zone	Kebele	No.(%) of Respondents by Wealth groups				Total
		Rich	Middle	Poor	Very Poor	
Pastoral	Melbana	2 (6.7)*	12 (40.0)	10 (33.3)	6 (20.0)	30 (100)
	Cheriliche	5 (16.7)	11 (36.7)	9 (30.0)	5 (16.7)	30 (100)
Agropastoral	Tesso	4 (13.3)	3 (10.0)	13 (43.3)	10 (33.3)	30 (100)
	Hidi Babo	4 (13.3)	6 (20.0)	8 (26.7)	12 (40.0)	30 (100)
Total		15 (12.5)	32 (26.7)	40 (33.3)	33 (27.5)	120 (100)

Source: Miyo survey 2012 *() = percent

4.2.4 Coping Strategies

The different wealth groups have different coping strategies and priorities. The first option available to the poor and the destitute was wild food, which was consumed only under crisis situation. They desperately look for alternative coping strategies such as social supports from their communities, food aid from external sources. For such social groups, cutting of meal frequency from the current level puts them to a level of starvation and hence considered not as better option. Hence, further cutting of meal frequencies and then migration were taken as a last resort (Table 4.15). On the other hand, the medium and rich categories of the society have the options of selling small ruminants, sell their cattle. The opportunities of asking for social support and food aid were not indicated. This makes the information given credible and reliable, as the communities were not biased toward seeking outside benefits.

Food insecurity is severe in Cheriliche and Hidi Babu where almost 54 (90%) of the total 60 respondents from these kebeles labelled themselves as food insecure (Table 4.4). In Hidi Babu agro pastoral community, the main source of food for the rich and the medium wealth classes were own production and purchased food for three and nine month in the year 2012, respectively. This implies that they sold part of their livestock and purchased food items.

According to the FGDs, because of poor productivity for various reasons to cover family food demand, they forced to fill their food gap through purchasing food for the whole months in the year.

Table 4.15: Coping Strategies of Different Wealth Groups in Melbana

Coping strategies	Rich	Medium	Poor	Destitute
Income sharing/mutual support	1st	1st	2nd	2nd
Selling of sheep and goats	2nd 3rd	2nd	4th	4th
Selling of cattle		3rd	1st	1st
Reduced meal frequency			3rd	3rd
Eat wild root (Buri)			5th	5th
Food aid Migration				

Source: Fieldwork on Ranking coping strategies in Miyo Woreda (2012)

On the other hand, the poor and the destitute had access to food for four and three months, respectively. In some FGDs carried out at Hidi Babu community, the poor and the destitute households had food shortage for eight and nine months, respectively. For the poor and the destitute households, working as labourer in the neighbouring towns, reduction of meal frequency to one time a day, and in extreme case producing and selling charcoal and firewood are the major coping strategies exercised.

4.2.5 Factors Enhancing and Influencing Livelihood Diversification

The top risk factors are drought, bush infestation (encroachment), livestock disease, and poor livestock marketing. Conflict was not considered as risk in this district. The effect of last drought is visible and it has got a fresh memory in the sample Kebele community. According to the expert from Miyo district Pastoral Development office, more than 90% of the community in Miyo was hit by the recent drought (2007 and 2011) and left about 46% of population to receive food aid in various forms from the government and NGOs. In view of the FGDs in Melbana and Cheriliche community, the drought was resulted unusual death of nearly 50% of cattle, 40% of goats and 45% of sheep.

This part identifies factors that condition household's livelihood diversification with a particular focus on livelihood assets. For this, Multinomial Logit (MNL) regression on asset based

explanatory variables was run to identify main factors influencing households' livelihood diversification. The model classification (Tables 4.16) indicates the goodness of fit of the model, 100% of pastoralists were correctly classified by the model. The maximum likelihood ratio test shows that the estimated model including a constant and the set of explanatory variable fit the data better compared with the model containing the constant only. Dependent variable of the model is livelihood diversification status. The independent variables were chosen based on theoretical assumptions and a total of 9 explanatory variables were entered into the model.

Model fitness

The maximum likelihood method of estimation was employed to estimate the parameter estimates of the multinomial logit model and statistically significant variables were identified in order to measure their relative importance on households' diversification level. The suitability of the model was tested by 2 Log Likelihood which is 171.23 and significant at less than 1 % probability level. The classification table correctly predicted nearly 68.8% of all observations correctly.

Table 4.16 shows multinomial logit results of highly and moderately diversified households as compared to less diversified. Of the nine examined explanatory variables, five were statistically significant at the 10% confidence levels. They included level of Age and Sex of Head, education of head (Education Level), livestock holding (Livestock no.), distance to market center (Market Distance.), access to credit (Credit Access), membership of organization (Organization Membership.) and total family size (Family Size).

Interpretation of significant variables

Education of head of the household was found to have a significant ($P < 0.01$ and $P < 0.1$) positive correlation with livelihood diversification. This indicates that with increase in education level of head the likelihood of diversifying highly increases keeping other factors constant. The odds ratio for education level conforms that a unit increase in education level of head will increase the likelihood of being in highly and moderately diversified by a factor of 2.2 and by 1.4 respectively compared to the probability of being in less diversified strategy. This meant for, education contributes 0.77 prediction of influence into diversification. This finding is in agreement with that of Ng'ang'a, et al.(2011). Livestock holding was found to have a significant (at $P < 0.01$ and

$P < 0.05$ respectively) negative correlation reducing the probability of being in livelihood diversified household. This implies that the likelihood of a household's diversification decreases with the size of livestock holding. This further indicates that diversification is a response to cope livestock loss as a result of climate shocks and natural hazards.

Distance to market was found to have a significant ($P < 0.01$) negative correlation with reducing the probability of being diversified household livelihood. This negative relationship tells us that the larger the distance the lesser the tendency of households to diversify and vice versa. The possible justification could be households who are closer to the market centres do not have much cost to access market incentive for diversification of livelihoods. The coefficient of the variable also confirms that when a household is near to market centre by one kilometre, diversification level increases by a factor of 8.9. This finding is in agreement with that of Ibrahim et al.(2009).

Family size has the effect of reducing the probability of being in the highly diversified category at ($P < 0.05$); implying that a unit increase in family size reduces the probability of being a highly diversified household compared to the probability of being a less diversified household. This tendency however does not hold significant for moderately diversified livelihood strategy.

Credit access: Amount of credit received by household has a positive influence on pastoralists' livelihood diversification. The result shows that a unit change in the amount of money obtained by pastoral households would result in an increase of household's engagement in livelihood diversification by 0.657. This means that the entire model was able to explain that credit contributes 0.66 prediction of influence into livelihood diversification. This is an indication that farmers who obtain credit are more likely to engage in livelihood diversification activities.

Membership of the organization: a unit change in number of membership to pastoral association or community organizations will raise the probability of pastoralists' engagement in livelihood diversification by 0.842. The implication of this finding suggest that belonging to pastoral organization would significantly influence pastoralists into livelihood diversification activities besides livestock rearing or mixed farming, because the experience of working and sharing ideas and common problems in groups would educate the pastoralists and also enable them to learn more about other opportunities which may exists outside his immediate engagement and environmental (Table 4.16).

Table 4.16: Multinomial logit result for factors influencing of livelihood diversification.

Independent Variables	B	Std. Error	Wald	Exp(B)
Intercept	2.069	1.156	3.203	
Age	1.196	0.027	0.014	1.003
Sex of Head	-1.093	0.573	0.795	0.600
Family Size	-0.343	0.148	5.331**	0.710
Education Level	0.778	0.176	19.554***	2.177
Credit Access	-0.657	0.167	0.533	0.594
Land Size	0.023	0.190	0.015	1.023
Livestock no.	-0.020	0.007	7.192***	0.980
Market Distance.	-0.121	0.031	15.656***	0.886
Organization Membership.	-0.842	0.059	14.27	0.0001
-2 Log Likelihood		171.277		
Chi-Square		102.432***		
Cox and Snell		0.574		
Nagelkerke R-Square		0.672		
Sample size		120		

*, **, *** significant at less than 10, 5 and 1% probability levels

4.2.6 Major Challenges and Opportunities to the Pastoral Livelihood

Reduction in rangeland productivity is the most important negative change the community members recognize. Due to increased bush encroachment, reduced rainfall, termite infestation, and expansion of cropland, pasture production is getting smaller and smaller over years. As a result of the loss of livestock, household income declined drastically and they became vulnerable to food insecurity. This led the vulnerable households to cutting trees as an alternative source of income affecting also the environment.

On the other hand, due to frequent drought in the pastoral communities, livestock productivity declined in the past decade. Milk and meat production and productivity reduced due to the decline in rangeland productivity. In Cheriliche community, due to reduced rangeland productivity, for instance, the daily milk yield declined from about four liters to 0.75 liters per cow. This finding is in line with Cossin (1987).

Productivity of cropland declined over the last ten years despite the increased area under cultivation. For instance, maize yield declined from about 20 qt per ha before 10 years to 7qt per ha to-day owing to erratic and inadequate rainfall (Kejela Gemtessa et al., 2005). Hence, the

income from livestock and crop production declined over the last ten years. This also contributed to household food insecurity. This is agreed with Kidane's et al., (2009) report that increase in temperature is leading to high evapo-transpiration rates and heat stress to crops limiting their yield potential.

Because of the decline in livestock productivity and crop yield, the community feels that their food security declined. Changes in the food security situations and household incomes were perceived differently by different communities and social groups. The survey result from Kebeles of Miyo Woreda indicates that 79% of the respondents said that their income had reduced during the last seven to ten years. The income diversification considered as a positive change was also in response to this decline in income level. Thus, because of increased living expenses and increased population, and reduced income, the community has perceived that they are less food secure than they were before 10 years. Major challenges and opportunities for livelihood diversifications which need to be considered include the following:

4.2.6.1 The Possible Challenges and Constraints:

- Recurrent drought: Will affect the potential livelihood options like crop production options, affect the purchasing capacity of the pastoral community as it also affects livestock and products , in turn affect the income from the livestock, create also instability among the community,
- Critical shortage of water: water is one of the important resource for livestock fattening/production, for business activities (for mini restaurant, tea, coffee shops, etc).
- Low level of awareness of the community: Awareness, capacity and appropriate skill is very crucial on how to utilize various types of assets (capital, human, physical etc.) including the use of natural resources (range land, water, forest etc.) in sustainable manner.
- Impact of Climate Change: difficult to predict and forecast the upcoming condition,
- Population increase: as the case in most parts of country increase of population would be put pressure on the land/rangeland.
- Lack of facilities and infrastructures: The district has critical shortage of various basic services such as grain mills, shops, market center for livestock, etc. create another burden on women in terms of time taking and work load.

- Gender Specificity: Livelihood diversification has gendered nature, however, there is little understanding among stakeholders on the gender and their role in various activities and risk management.

4.2.6.2 Opportunities:

- Government development strategies including GTP committed to provide support to improve food insecurity and livelihood diversification options in all pastoral areas of the country through various development endeavors,
- The ongoing ACORD/CORDAID and other development actors humanitarian and development program especially building resilience to risk of hazards and enable to adapt new areas of livelihoods;
- The ongoing government program, such as; availability of PSNP, PCDP resources, public works activities, and support by other development actors (ACORD/ CORDAID and other) would be an important asset for natural resource management/ rangeland conservation/ watershed management and climate issues, such as; Rangeland management, pond construction, soil and water conservation etc.
- Experience of the community and potential of the areas especially in areas of crop production, small scale irrigation development, rangeland products marketing (women group also soap marketing), Beekeeping (traditional), livestock fattening, goat and sheep trade, etc
- The rapid growth in small and medium towns and markets in and around the study areas reflects the increased importance of NP activities.
- Mapping of the resource is now much easier and more accurate using modern technologies such as GIS and remote sensing technologies.
- Opportunities for product diversification and more income generating activities is also low cost and simple,
- Women group have special concern and readiness to start the business in group if they are given an opportunity.
- Moreover, positive changes were also observed in terms of infrastructure development including 'mega' Borena water network construction, feeder road, telecommunication and rural electrification. With the growing access to education (current education sector program) and more access to employment brings more remittance re investments both in pastoral and non-pastoral activities.

4.2.7 Potential Livelihood Diversification Strategies and Ways Forward

Increase in human population, resource degradation and shrinkage of rangeland, restricted mobility, drought and conflict put the pastoral production system at risk. Same is true in Miyo district as elsewhere in many pastoral areas of the country. Currently, the district's resource-base of the production system cannot accommodate and absorb the human and livestock population, and consequently, calls for support to the already ongoing livelihood diversification both within and outside the system.

On the other hand, as it was mentioned time and again, the increased human population, increased in marketing and price opportunities which stimulate diversification, waged employment, dry land agriculture, various petty trading, vending of non-timber forest products and other non-pastoral and non-farm (NPNF) activities are contributed to continuous livelihood diversification of pastoral households (Mulugeta T., 2012). As a result, although most of the livelihood potentials outside of pastoralism considered as poor person's business and practiced mainly in time of high stress (drought), there are quite number of existing and potential livelihood options specially, in areas of high potential rangeland products (herbal supplements and plant with other medicinal values) in the district (for instance, aloe vera plant species) and many parts of Borana zone.

Small-scale enterprises that could serve as income generating were suggested by the FGDs and key informants from the community and district PDO, DPP, Women affaire, and Cooperative promotion offices. These were small scale irrigation scheme development; petty trade such as marketing grain and industrial products marketing, marketing aloe vera soap products; beekeeping; and pasture development. However, it requires training in business development and entrepreneurship along provision of credit service. According to other similar assessments and studies conducted by a number of researchers in Borena zone including Miyo district had also indicate the existence of huge rangeland potential implying the availability of new areas of livelihood diversification options for future interventions including the aforementioned suggested by key informants.

To assist pastoral communities to improve their ability to adapt to the changing environmental and social conditions in the rangelands, the NGO or Government driven programmes need to

incorporate income diversification strategies and activities based firmly on market oriented commercial grounds. To support the creation of food secure and resilient pastoral communities in the study districts, development partners operating in the area should provide demanding and reliable information and with practical experience to enable these communities to understand, evaluate the cost-benefits of the alternatives, additional and complimentary livelihood options.

Subsequently, to enable communities to move forward with the potential diversification options it is necessary to provide locally acceptable and appropriate packages of income generation interventions with the required facilities. Besides, full capacity building and skill training should be cascaded and sufficiently addressed to producer groups (pastoral community), extension staff and operators. Technical assistance and management advice throughout the intervention pilot period should be given locally to all pertinent stakeholders.

Due to the largely unviable investment conditions of these areas it is necessary that there is a certain level of development or government driven assistance applied to these opportunity cost areas in order to raise the business potential sufficiently to attract private sector partnerships. In the absence of private sector investment, support to these initial opportunity cost areas is likely to make the difference between success and failure of any new livelihood type, and can be seen as a highly valid application of development funding. Once the conditions are achieved to engage commercial partnerships, care should be taken to ensure that partnership are based on transparent and equitable agreements.

SECTION THREE

This section presents the perception of the pastoral community in the process of diversifying their livelihood and its trend and implication for sustainable livelihoods.

4.3 LOCAL COMMUNITY PERCEPTION ABOUT LIVELIHOOD DIVERSIFICATION

Almost 100% of the respondents perceived that trends of the livelihood diversification of the study area have significantly increased for the last few years. Furthermore, 97% of the respondents perceived that the most considerable negative change affecting the livelihoods of the pastoral communities is the decline in rangeland productivity. The continued reduction in the rangeland productivity was due to the recurrent drought. Bush encroachment that destroyed useful grasses has now become a serious problem for management and another important reason for the decline of rangeland productivity. The decline resulted in death of animals and reduced animal productivity. Consequently, the community's food security was seriously affected due to the drastic reduction in meat and milk production and reduced household income. The remaining 3% responded that there were some rehabilitation initiatives started by local government office and development actors. They also perceived that the initiative improved the rangeland though very limited as compared to the demand and vast geographical areas.

According to the survey result, 94% of respondents believed that the number of livestock at the study area was alarmingly decreased from time to time due to various reasons among which animal diseases and drought incidences are worthy to mention. The drought during the year 2007 and 2011 severely affected the pastoral communities. For instance, among the key informants from and FGDs in Melbana communities indicated that it depleted the livestock assets of the pastoralists. Death of large number of livestock also occurred in the past three years due to livestock diseases. Restrictive mobility and poor term of trade also aggravated the negative impact of drought and animal diseases considerably in the pastoral communities. This phenomenon highly contributed for pastoralists to engage in optional livelihoods to generate cash income, to fulfill household basic needs and to avert risk of recurrent drought incidence.

CHAPTER 5 CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

The result of this study has revealed that livelihood diversification was the daily reality of pastoral community in order to cope risks. The share of non-pastoral and non-farm income in pastoral areas was however by far lower than rural communities. Livelihoods dominated by livestock income can be considered 'inferior' in terms of average income. Generally, the study concludes the followings:

- The major sources of food and income for the communities were livestock and Livestock products. This shows that livestock husbandry plays the greatest role in the livelihood across the wealth groups in the pastoral communities. However, livestock and livestock products' contribution to the livelihood of the poor households is insignificant. The general trends of livestock production in the study areas showing a decreasing trend except poultry. In fact the proportion of change is different by livestock types with the big proportion of reduction is number of cattle ownership and small proportion is goat (the number of goat reducing due to high sale/off-take, good price).
- Crop production is getting momentum as a means of livelihood diversification especially in the agropastoral sample Kebeles of Miyo district. Besides, pastoral communities are involving in trading (live animals, small business, and grain) and petty trading (mostly by women). According to FGD these practices have increased over the last ten years. Apparently, depending just on livestock production was no more the sole means of livelihood for the pastoral communities in the study areas. The very poor and poor groups of the community have found an alternative livelihood as means of coping strategy. Crop production is expanding on plain areas with higher moisture content and more of fertile soils. This is the major cause for strong competition between livestock and crop production. According to key informants in Tesso communities' (where three of them were involved), irrigation development could lead to substantial change in pastoral livelihoods. The key informants mentioned that there was great potential for fruits and vegetable production through irrigation. This holds true in many other Kebeles of Miyo district. However, according to the FGD the income from crop production is unreliable due to the unreliability of rainfall in the pastoral communities and crop production is even more vulnerable than the livestock.

- Involvement in trade of different types was also the other most important means of livelihood for few rich and medium groups of the community. The poor wealth groups rely more on income generation activities (casual labour, marketing aloe soap products, cash for work, broker, small business, sell of local beverage, in extreme case, fire wood and beekeeping) other than farming and pastoralism. The implications of such diversified income source are the existence of different intervention scenarios to improve the livelihood of the pastoral communities besides livestock production. However, the poor were constrained by lack of capital to engage in trade (live animal, petty trading). It can be learned from this that asset ownership could lead to developing self-confidence for the households to diversify their sources of income. Women were also involved in the petty trade (retailing of oil, sugar, salt, etc) activity but at a smaller scale and at preliminary level in rural villages.
- It was also evidenced that some of the poor and very poor households in the agro-pastoral communities earn additional income from agricultural labour when there is better production performance of crop. Besides, they also earn income from labour migration mostly to the neighbouring districts during coffee harvesting season. Generally, poor households get employed in livestock keeping, agricultural works, involved in house construction, and other similar activities for the rich and medium households. Labour opportunities in the nearby towns and at the villages are very limited. The earning could be in cash or in kind depending on the types of work and location, the earnings is in cash mostly at the towns.
- It give the impression that there is a need for paradigm shift from more focusing on pastoral limitations (conflict, drought, degradation, food insecurity, etc) to pastoral potential (presence of huge fauna and flora resources, Carbon credit, range products, productive labour force, etc). In line with this, on the other hand, the pastoralists were aware of the need for diversification, but less support to tap more of their resources (rangeland), thus tailor-made and participatory research is necessary to assess the real potential of the rangeland to support livelihood diversification, classify the options and develop program/project in the target districts.
- This study concludes that contemporary pastoral livelihoods are far from homogeneity. Thus, policy makers should avoid the one-size-fit-all prescription and enhance diversification strategies that fit pastoralist's century's experiences. Specific areas of intervention are market linkage creation, and enhancing access to education and family planning services.

- There are many reasons for increasing vulnerability, since the “capacity to anticipate, cope with, resist, and recover from the impact of” drought is determined at the level of communities and regions by socio-economic trends, policies, markets and institutions, and at the level of household by wealth, labour availability, knowledge and networks. The changes imposed on the system through monetization, market integration and nation state building have made those strategies less effective, for instance, sell of fire wood and charcoal.
- There are traditional social organizations that enhance decision-making and enforcement of resource use rules through traditional political authority though under weaken trend from time to time. The traditional leadership reinforces and assures cooperation and social solidarity for critical natural resource management, utilization and related conflict resolutions for the betterment of their communities. It needs to be further strengthened as it can play pivotal roles for smooth functioning of the pastoral livelihoods and, fosters peaceful resource sharing between and within communities and conflict resolution.
- Involving the traditional leaders in the formal Woreda and Kebele administration is a positive effort although the nomination and functions they play is not to the satisfaction of the communities. Harmonious relationships between the traditional and formal institutions help implementation of the pastoral development policies. Involving the traditional and religious leaders will be instrumental to bring about social changes including gender equality and women’s right.
- Tailor made and participatory research is necessary to assess the real potential of the rangeland to support livelihood diversification, classify the options and develop program/project.

5.2 RECOMMENDATIONS

Generally, the study concluded that the contemporary pastoral livelihoods are far from homogeneity and unable to fully support the livelihoods of the households. Thus, policy makers, development partners, government institutions and community should involve in identification, selection and appraisal of the most viable livelihood portfolio to enhance the implementation of diversification strategies that fit pastoralist’s century’s experiences and local contexts. Specific areas of intervention and support are market linkage creation, and enhancing access to education, capacity building and skill enhancing services.

- Based on the recommendation of this study and the local context and potential of the district, government and other development partners ought to support the most feasible and sustainable livelihood diversification strategies that could be locally be acceptable and employed by pastoralists and/or agro-pastoralists.
- Policies that reduce constraints to diversification and widen its possibilities are in general desirable. Enabling and facilitating environment for the spread of diverse non-pastoral income-generating activities can be a solution specially for poor households.
- Access to education is very limited in the areas. A powerful way of coming up with new strategies is to expand education facilities and educate young pastoralists. Complementary investment on community level basic skills training programmes will have a substantial reward in this respect.
- Market distance and related transport costs are the major factors deterring pastoralists from using markets. Focus should be paid on improving marketing access to pastoralists. Special attention in this regard should be given to establishing pastoral cooperatives and creating linkages with urban areas as well as international market.
- The fact that family size inhibits chance of highly diversifying indicate that population pressure is of important concern in the area. In this regard, awareness creation and provision of family planning services are mandatory.
- Petty trade was found to be the major in the off farm incomes share of households. Provision of technical support and developing linkages to mainstream financial institutions is necessary to initiate an entrepreneurial culture and business.
- Specific to the better off households, pastoral livelihoods should be enhanced through activities that keep value added in the pastoral sector like; fattening, meat and dairy processing either by organizing local community or encouraging investment. Since the area has a good potential for irrigated agriculture development, small scale locally owned irrigation scheme development needs to be emphasized for enhanced livelihood diversification.
- Pastoral livelihoods are diverse and far from homogeneity. For instance, youngsters and literate households are more diversifying than old one; women were participating in petty trades, the poor are getting more of their income from non pastoral livelihoods than the better off households. Therefore, policy makers need to devise different strategy for different

groups of pastoral society. They must be governed with ``one size does not fit all`` philosophy.

- Supporting recommended livelihood diversification options in new areas of NFNP livelihoods need to be based on a realistic (feasible) appraisal of the current livelihood context within the selected rural areas or kebeles. In terms of sustainability this should include an analysis of the motives and good practices of the communities, as well as identifying challenges and exploit opportunities of the envisages livelihood strategies. Such a new interventions need to recognize the human capital, physical capital and financial capital dimensions of livelihood diversifications. In other words, as appropriate, development partners should address the training, infrastructural and credit constraints on diversification. They should also: to the extent that they promote specific livelihoods, be based on a sound market analysis for the good or service promoted.
- Some of the recommended supports to realize the above mentioned options should focus on the following:

Crop Production: People are exercising an opportunistic farming/crop production in study areas. However, this sector has been challenged due to the combined effects of recurrent drought, poor farming practices and inappropriate/inadequate extension services. The FGD informed that crop production is more sensitive and risky than even the livestock as it's depend on the condition of rainfall which is almost not promising. Therefore, crop production based on small scale irrigation (as suggested by the key informants and experiences of irrigation in Tesso community) has to be focused on fruits and vegetables and introduction of moisture stress crops compelled with an appropriate extension (arid land farming practices) services. This holds true for some other Kebeles of Miyo district.

Rangeland management: Range lands in the study areas are degraded and poor in productivity due to mainly the effect of recurrent drought, inappropriate utilization/RL management and low awareness level of the community. However, according to the FGD properly managing the rangeland in a form of "kallo" is becoming as one of newly emerged income source on top of feeding livestock during dry season. Therefore, rangeland development also has to be given an attention as it could be a source of income for the ex-pastoralist/poor, general environmental protection, maintaining the eco-system, source of feed for livestock. Resources like Food for Work (FFW) and or Cash For Work (CFW) will required for the successful implementation.

Beekeeping using improved/modern beehives: there is an experience of honey production using traditional beehives in the area. But it has been challenged due to recurrent drought and poor management practices. However, according to FGD much better honey production/yield has been obtained by using modern hives and still there is a potential for honey production with improved management practices. So provision of improved/modern beehives would be sound as new areas of livelihood diversification with an intensive training for the target beneficiaries and relevant technical staff from government and NGO partners.

Aloe Species: In the southern Ethiopia, including the Miyo districts, wild aloe species can be observed growing over vast areas. However, there is very little awareness of the commercialization of this ample resource by the pastoralist in the area and transient communities. Apart from a small part of CMDRR project instigated by ACORD/CORDAID and SOS Sahel that focused on aloe commercialization and product development, currently there is no commercial harvesting, production, handling and processing of indigenous aloe species in the study areas, except model experiences of a women cooperatives in Melbana community who engaged in Marketing aloe soap products and which will be a good practice for other development actors for sharing learning and scale up the enterprise further.

Trade: Involvement in Trade of different types is also considered as source of income/livelihood diversification options for the better off and medium groups of the community. However, the poor involvement in this sector has been constrained due to lack of start-up money. Some small shops are newly opened at small rural villages, petty trading by mostly women (oil, sugar, salt etc) retailing of commodities at the local market. Therefore, provision of credit services for the poor (ex-pastoralist) and training for the target groups in an organized manner would be crucial.

Livestock fattening: Livestock fattening especially goat fattening has also a new areas of livelihood option in the areas. This activity similar to trading has also dominated by especially middle wealth groups with small proportion of the poor (v. poor & poor groups) involvement of the community due to lack of initial capital. Provision of credit services and training would also crucial.

Saving and credit services: According to FGD almost no credit and saving services in the study areas especially in rural pastoral parts. Therefore, credit and saving services would be a must especially to address the problems of the most needy, poor pastoralist and ex-pastoralist as contributing factor towards building resilient community to disaster risk in the study areas.

Market infrastructures: Market is a very crucial place for both those sell and buy (a place for the business interaction). However, no market access in the study area especially for livestock marketing. People are forced to trek livestock at very distant markets: Dubluk, Harobeke and Mega markets (primary markets), at very distant markets: that is the main cause for livestock body weight loss and in turn significant decrease of livestock price. According to FGD and KII water and access road are the main problems in the process of establishing livestock market at the Woreda town. Therefore, very crucial to support the government efforts in establishing market at the Woreda center especially by developing water scheme to be used by livestock and humans.

Skill training: According to the info from FGD some ex-pastoralist are starting engaged in activities like house construction, and some are need to be involved but at low level of skill and knowledge about the activities. So if supported by intensive skill training this also would be other sources of income diversification options for the poor and ex-pastoralists.

Water Development and other infrastructures: As it is known, "water is life" and it is the base for development and business activists especially in the pastoral areas. Water shortage is found critical for both human and livestock in the study areas. Therefore, water schemes development has also to given equal attention so that the income diversification options would be successful and sustainable. The undergoing infrastructure development (in the district including the 'mega' Borena water network project, road and telecommunication, health and education institutions etc.) will give great opportunity to develop the pastoralists and halt food aid dependency.

Milk collection and Selling: The Woreda is a potential for milk production (from camel and cattle). However, most proportion of the milk is sold to local community or freely given to neighbor or consumed at home. However, there is an experience of the community (women in Melbana) to collect milk from the near-by Kebeles and sell at road side on 'Miyo megenteya' and 'meto arba' small village town (these are a place located) on the main highway Asphalt road from Yabello to Moyalle). Therefore, this can be one of the livelihood diversification options for poor women/ex-pastoralist through organizing into women milk collection and selling cooperatives, providing access to credit & saving services.

Capacity Building: the overall capacity building activities for the target communities, relevant government bodies and partner NGOs would be very crucial.

- Finally, the above mentioned potential diversification options (enterprises) should then be developed as commercial pilots and monitored over a given period. At the end of the pilot exercise periods, the initial trials information can be built on (scale up) and adjusted to provide sound data for the drafting of project proposals (full business plans) for the target communities and private investors (if at all) to assist the scaling up of the successful enterprises. Throughout the pilot period, training, management assistance and organization support will need to be provided to the communities engaged with the targeted enterprises.
- Supporting recommended livelihood diversification options in new areas of NFNP livelihoods need to be based on a realistic (feasible) appraisal of the current livelihood context within the selected rural areas or kebeles. In terms of sustainability this should include an analysis of the motives and good practices of the communities, as well as identifying challenges and exploit opportunities of the envisaged livelihood strategies. Such a new interventions need to recognize the human capital, physical capital and financial capital dimensions of livelihood diversifications. In other words, as appropriate, development partners should address the training, infrastructural and credit constraints on diversification. They should also: to the extent that they promote specific livelihoods, be based on a sound market analysis for the good or service promoted.
- As it was suggested by Susan Wren and Getachew Mamo (2009¹), on-going support will be needed after the pilot phase, i.e. for at least for 5 years, to enable effective building and strengthening of the organizational structure of the participating community members and sound develop the value chain to maximize economic returns to community groups, product development and marketing.

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APPENDIX I. PROFORMA FOR THE APPROVAL AND SUBMISSION OF PROPOSAL

PROFORMA FOR SUBMISSION OF M.A.(RD) PROPOSAL

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Title of The Project	:	<i>ANALYSIS OF LIVELIHOOD DIVERSIFICATION IN MIYO PASTORAL COMMUNITIES OF SOUTHERN ETHIOPIA: IMPLICATION FOR ITS ENHANCEMENT</i>
Signature of Student	:	
Approval Status	:	Approved
Date	:	March 16, 2013

APPENDIX II. A DISSERTATION PROPOSAL

**ANALYSIS OF LIVELIHOOD DIVERSIFICATION IN MIYO
PASTORAL COMMUNITY OF SOUTHERN ETHIOPIA:
IMPLICATION FOR ENHANCEMENT**

BY

Moges Abebe Beyene
Enrolment No. 099108801

A Dissertation Proposal Submitted in partial fulfilment of the
requirements for

MASTER'S DEGREE IN RURAL DEVELOPMENT

In the

Indira Gandhi National Open University
Department of Rural Development

March 2013
Addis Ababa, Ethiopia

Indira Gandhi National Open University

Research Proposal

On

**ANALYSIS OF LIVELIHOOD DIVERSIFICATION IN MIYO
PASTORAL COMMUNITY OF SOUTHERN ETHIOPIA:
IMPLICATION FOR ENHANCEMENT**

**Submitted to: Rural Development Department, SCE, IGNOU
New Delhi, India**

**Submitted by: Moges Abebe Beyene, Addis Ababa, Ethiopia
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Acronyms

ACCRA	Africa Climate change Resilience Alliance
ASAL	Arid and Semi Arid Lands
CBA	Community-Based Adaptation
CBOs	Community based organizations
CCA	Climate Change Adaptation
CDF	Community development facilitators
CSA	Central Statistics Authority
DFID	Department For International Development
CMDRR	Community managed disaster reduction
DRMFSS	Disaster Risk Reduction Food security Sector
DRR	Disaster risk reduction
EPE	Environmental Policy of Ethiopia
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GDP	Gross Domestic Product
HPG	Humanitarian Policy Group
LA	Livelihoods Approach
MEDAC	Ministry of Economic Development and Co-operation
MORAD	Ministry of Rural Development and Agriculture
NGO	Non-Governmental Organization
NRM	Natural Resources Management
OCHA	United Nations Office for the Coordination of Humanitarian Assistance
ODI	Overseas Development Institute
PAs	Pastoral Associations
PASDEP	Plan of Accelerated Sustainable Development to end Poverty
PCDP	Pastoral Community Development Project
PRA	Participatory Rural appraisal
PFE	Pastoralist Forum Ethiopia
SDPRP	Sustainable Development and Poverty Reduction Program
SLF	Sustainable livelihood framework
SPSS	Statistical Package for the Social Sciences
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
USAID	United States Agency for International Development
UNISDR	United Nations International Strategy for Disaster Reduction
WB	World bank

1. INTRODUCTION

1.1. CONCEPTUAL BACKGROUND AND JUSTIFICATION

Pastoralism is a way of life for some 20 million people across the dry lands of the Greater Horn of Africa. Pastoralists – people who depend primarily on livestock or livestock products for income and food – typically graze their animals on communally-managed or open-access pastures, and move with them seasonally. Pastoralism developed out of the need to constantly adapt to the extreme climatic uncertainty and marginal landscapes of the dry lands, and has proved to be the most economically productive and environmentally sustainable use of these remote areas (PFE, 2002).

Yet in recent years the dry lands of the Greater Horn of Africa have become some of the most disaster prone areas in the world. This is due to decades of political and economic marginalization, which has led to an erosion of the pastoral asset base and disrupted migration routes and access to dry season grazing areas, severely curtailing pastoralists' abilities to cope with the most predominant risk – drought (Belachew, 2004).

Pastoralists constitute a minority, with an estimated 12–15 million of Ethiopia's population (PFE, 2006). Livestock in pastoral regions accounts for an estimated 40% of the country's total livestock population. The Ministry of Agriculture estimates that pastoralists use 60% of the country's land area (MoARD, 2005).

Livestock and livestock products provide about 12-17% of Ethiopia's foreign exchange earnings, out of which hides and skins contribute about 90%. It contributes about 33% to the agricultural GDP and 16% to the national GDP. It makes a significant contribution to the national economies both in terms of supporting their own households and export earnings. Moreover, the pastoral

areas are rich in biodiversities, mineral and water resources as well as energy resources, and untapped tourist attractions [PFE, 2002; Belachew, 2004 and PFE, 2008).

Similar to other sub Saharan countries the Ethiopian pastoralists have been subjected to political marginalization (HPG, 2009). Policies have favored externally-imposed development schemes which often alienate and expropriate pastoral lands in favor of large-scale commercial activities (Eyasu, et.al, 2010). It is the most deprived area of the country in terms of access to development opportunities, infrastructure and services (Hailu, 2008 and Gebru. et.al, 2004). Pastoralists tend to be perpetual famine relief clients (Helland, 2004). Pastoralist livelihoods are increasingly under pressure and caught in a downward spiral of resource depletion, and diminishing resilience against drought (UNOCHA, 2007); loss of livestock and shrinking rangelands (PFE, 2010); break up of traditional governance; lack of market linkage, education, public health, veterinary services, and water, both for human and for livestock, and rural finance are the least developed (PFE,2002; Eysasu, 2008 and HPG, 2009). As a result of all such challenges Ethiopian pastoralists were forced to engage in diversified livelihoods. Thus, against this background the research will investigate to answer the core questions' "what livelihoods and to what extent diversified, and how can it be utilised to arrive at a more sustainable pastoral development process".

1.2 STATEMENT OF THE PROBLEM

Pastoralism is a subsistence (economic) pattern in which people make their living by tending herds of large numbers of animals. It is most often an adaptation to semi-arid open country in which farming cannot be easily sustained (Kandagor, 2005). According to Swift (1988) pastoralists are households or populations where more than 50% household income / consumption is derived from livestock or livestock related activities, either as a result of sales of livestock products or of direct consumption, and agro-pastoralists as deriving 25-50% income /

consumption from livestock produce (FAO, 1988). In addition to livestock-keeping, livelihood diversification has been essential to spread the risk of food insecurity and cope with the changing nature of hazards in pastoral areas (HPG, 2008).

Livelihood diversification is 'the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standard of living' (ELLIS, 2007 and Scoones, 1998). Livelihood diversification therefore refers to attempts by individuals and households to find new ways to raise incomes and reduce environmental risk, which differ sharply by the degree of freedom of choice (to diversify or not), and the reversibility of the outcome. Income diversification is increasingly important means for herders to manage risk. Currently, the proportion of income from non pastoral sources exceeds 20% for many pastoral locations (COMESA, 2009).

According to Little et al, (2006), livelihoods diversification in pastoral areas is: 'the pursuit of any non-pastoral income-earning activity, whether in rural or urban areas.

PROFILES OF PASTORAL LIVELIHOODS:

Four dominant livelihood systems have been identified for pastoral areas across the Horn of Africa (HPG, 2009).

1) Livestock-based livelihoods – the most common livelihood in the dry lands, based on rearing camels, cattle, sheep and goats. Mobility and the ability to access pasture and water are fundamental to the continuation of this livelihood;

2) Agro-pastoral livelihoods – these combine extensive livestock rearing and rain-fed cereal production (typically sorghum, wheat and barley) for household consumption. Mobility remains important for these households;

3) Sedentary farmers – practice mixed farming, cultivating food crops (sorghum, wheat or other cereals) along with modest sheep and goat herds.

4) Ex-pastoralists – these are households who have lost their livestock and now depend largely on human labour. They are usually settled on the peripheries of major urban centers.

The diversification of livelihoods can either offer opportunities for pastoralists or, if not properly managed, add to the pressures on them. Research shows that while some forms of diversification enhance welfare, others can increase risk (COMESA, 2009]. Pastoralists are diversifying, but their capacity is limited and reflective of their inherent pastoral skill base. In arid areas, livestock-based livelihoods remain critical as fewer diversification options exist.

Diversification of income sources, assets, and occupations is the norm for individuals or households in different economies, but for different reasons. Ellis (2000) divided the reasons for diversification of livelihoods between necessity and choice. Necessity refers to push or distress reasons that enforce households to diversity, such as, eviction from own land, natural or civil disasters, environmental deterioration. Choice by contrast refers to pull reasons which attract households to diversity, such as, searching for seasonal employment opportunity, educating children to improve their future prospect of obtaining non-farm jobs.

The reasons behind livelihood diversification in pastoral community are many. Currently, the resource-base of the production system cannot accommodate and absorb the human and livestock resources, and, consequently, calls for livelihood diversification. Increased human population and urbanization, increased livestock marketing opportunities which stimulate diversification, pastoral households themselves continue to diversify to enjoy waged employment, participate in farming where this is feasible, and trading activities as supplements to livestock-based income. Small and medium-sized towns continue to grow in pastoral regions, outpacing the growth in rural populations, and will help to spur an increasingly diversified

economy (Little et al. 2010). Traditional mobility within the pastoralist system is compromised by declining access to rangeland resources (PCDP, 2008; HPG, 2009 and ODI, 2010), unfavourable government policies towards traditional pastoralism are widespread (Morton, 2008), and pastoralists are moving from pure pastoralism to agro-pastoralism due to environmental conditions, poor pasture and livestock productivity, and population growth (Kejela et al, 2005). Demographic factors - size and composition also remain to be the decision variable for households to engage in off-farm activities (Adugna, 2005). At household level gender, household size, poverty status and access to credit were the determinants of livelihood diversification (Oluwatayo, 2009). Pastoralists' diversification profiles illustrate clear dualistic tendencies, i.e. the richest diversify in order to promote economic growth and accumulate additional wealth, whereas the poorest diversify in order to survive (Little et al, 2001).

The prevalence of livelihood diversification in pastoral areas in Ethiopia is well documented (PFE, 2002; UNOCHA, 2007; COMESA, 2007 and Kejela et al, 2005). However, in the face of recurrent drought and other climate related risks, few attempts have been made to investigate it in the changing context both in qualitative and quantitative approach. Therefore, the purpose of this research is to examine the extent of livelihood diversification of pastoral households, addition to factor enhancing and influencing it, using livelihood explanatory variables of the sustainable livelihood framework, participatory rural appraisal research tools and social analysis. In other words, this research is aimed mainly at analysing the livelihoods of the Miyo pastoral societies of Southern Ethiopia.

1.3 RESEARCH OBJECTIVES

The broad objective of this research is to study the livelihood diversification strategies of the pastoral communities in Miyo Woreda of Borena Zone, Southern Oromiya in Ethiopia. The specific objectives that contribute to the wider objectives include:

1. To examine personal, household and situational characteristics of the sample respondents;
2. To investigate different livelihood diversification strategies of pastoral communities, in comparison with how it constrained or supported them;
3. To explore people's perception about livelihood diversification and how it changed,

1.4 RESEARCH QUESTIONS

1. What individual, household and situational characteristics determine the diversification of livelihood strategies?
2. What conditions of the livelihood strategies are diversified by pastoralists and what policy options generated for future improvement?
3. What are the challenges and opportunities for livelihood diversifications?
4. What externalities households drive in order to carry out different livelihood strategies?

1.5 UNIVERSE OF THE STUDY

The universe of the study is, therefore, focused on investigating the status of livelihoods diversification strategies in Miyo District pastoral communities of Borena Zone, Oromia Regional state of southern Ethiopia. However, the sample kebeles (Pastoralist associations) will not cover the whole Woreda due to time, infrastructure and financial constraints.

2 LITERATURE REVIEW

2.1 PASTORALISM IN ETHIOPIA AND BORANA

Pastoralists in Ethiopia are mainly found in four lowland regions, Afar, Oromiya, Somali and the Southern Nations, Nationalities and People's (SNNP) regional states. Pastoral groups are also found in Gambella and Benishangul areas. The main livelihoods systems include pastoralism, farming and ex-pastoralism – those who have dropped out of pastoralism and now survive on petty income-earning activities (Behnke et al., 2007).

Borena pastoral communities are well-endowed with livestock resources, although quality and productivity is very low. The pastoralist management system involves a complex set of elements that are linked together by a requirement for land and a responsibility to safeguard it. They include: Mobility, keeping or possessing large herds of livestock, herd diversification and splitting, and focused mutual assistance systems (PFE, 2010). Traditional range management practices have deteriorated, and indiscriminate water development has led to the degradation of some wet season grazing areas. Bush encroachment is also a serious problem. Grazing land has been taken away from pastoralists for other purposes, such as farming and settlement along pastoralist migratory routes (PFE, 2003).

The pastoral land is known for its harsh environment where communities strive to secure water and pasture on which their main livelihood source, livestock, depends. This makes them reliable on natural and climatic aspects especially rainfall, and vulnerable to weather variations such as heat and wind. Over thousands of years, pastoralists have managed their resources and livelihoods in the face of environmental challenges and difficult socio-economic conditions (Mortimore, 2001). They to large extent developed their own long term livelihood strategies and

copying mechanisms in harmony with their environment. Recent decades show that pastoralists are challenged in maintaining these livelihoods and coping mechanisms due to a range of ecological, demographic, economic, social, political and climatic causes. Consequently, they become impoverished, marginalized, vulnerable, and increasingly face both chronic and acute crisis (HPG, 2008)

2.2 CONCEPTUAL FRAMEWORK OF LIVELIHOOD APPROACH

A livelihood is defined as 'the capabilities, assets and activities required for a means of living; a livelihood is sustainable when it can cope with, and recover from, stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihoods opportunities for the next generation' (Chambers and Conway, 1992). The livelihoods approach provides a dynamic and holistic framework for understanding the interaction between the bundle of assets – human, natural, financial, social, physical, that people own, control or have access to, and broader systems of governance, to determine if and how people are able to use these assets to pursue their livelihood strategies to achieve positive livelihood outcomes (as illustrated in Figure 1, page 9 below, positive outcomes include more income, increased wellbeing and reduced vulnerability).

To attain positive livelihoods outcomes pastoralists rely on specific strategies to manage their livestock effectively. Their livelihoods strategies have evolved over centuries in response to the local environment and the hot and dry climate in which they live, with low and erratic rainfall typical of the arid and semi-arid lands (ASAL). Key strategies include accessing and managing natural resources, mainly grazing land and water sources, and maintaining high levels of mobility across large tracts of land to make the most effective use of scarce resources and in response to environmental conditions (Desta et al., 2008; Markakis, 2004). These sophisticated and dynamic strategies have allowed pastoralists to cope with the threats and risks that characterize their

environment and to maintain a viable production and livelihoods system. Drought is a major external shock and a primary trigger of livelihoods crises in the HoA. Cyclical droughts are a defining feature of pastoralists' way of life in this region, and 'local livelihoods are sensitively adapted to the certainty that drought will come and can be overcome' (UN OCHA, 2006).

A livelihoods analysis helps us to understand the livelihood options that people have over time by exploring the linkages between people's livelihood assets and strategies, and how these strategies are influenced by formal and informal institutions and processes within the 'vulnerability context' in which people operate. Employing this LA helps the researcher to analyze explanatory variables of the current patterns and portfolios of the livelihood diversification and its strategies options.

2.2.1 OBJECTIVES OF LIVELIHOODS APPROACHES

Sustainable Livelihood Approaches/SLAs have been central to development and poverty reduction policy and practice since the late 1990s, when it was recognized that effective poverty alleviation required action at community level in addition to government-level policy and services (Ashley and Carney, 1999). Emergency Livelihood Approaches/LAs originated in the 1980s following the drought-induced famines of that decade, emerging from a recognition of the need to protect livelihoods as part of humanitarian response in order to prevent future vulnerability. At its most basic, a LA is 'simply one that takes as its starting point the actual livelihoods strategies of people ... It looks at "where people are, what they have, and what their needs and interests are"' (Chambers, 1988, in Schafer, 2002).

2.2.2 SUSTAINABLE LIVELIHOOD: DEFINITION, CONCEPT AND PRINCIPLE

A sustainable livelihood framework is defined as follows: 'A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base' (Chambers and Conway, 1991).

Within livelihood perspectives, the term 'sustainable' entails two main issues. First, it tends to refer to coping with immediate and short-term shocks where local capacities and knowledge, if effectively supported, would be sufficient (Scoones, 2009). Second, it implies that livelihoods are stable, durable, resilient and robust in the face of both shocks and stresses, and do not undermine the livelihoods options of others.

The key elements of a LA are the livelihoods principles and the sustainable livelihoods framework. The principles include taking a participatory and capacity-building approach and working at different levels (micro and macro, or national and international, as well as community) for maximum impact, learning from change and adaptation and promoting sustainability (Ashley and Carney, 1999; DFID, 1999). The livelihoods framework shows the key elements of livelihoods and how these interact. It includes assets, strategies, outcomes and policies, institutions and processes (DFID, 1999).

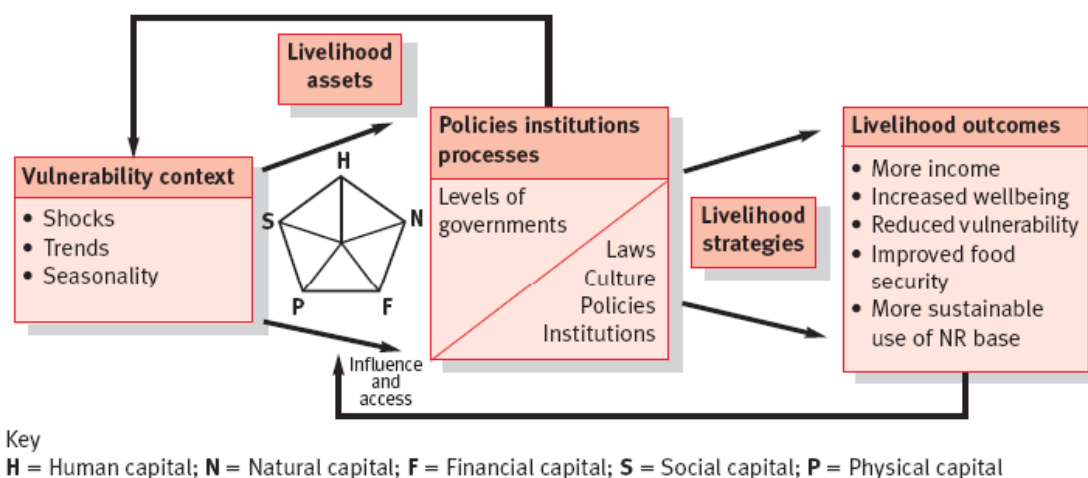


Figure 1: The sustainable livelihood framework

Livelihood strategies are what people do to make a living in normal times, or what people do to meet their livelihood goals (Schafer, 2002). These may include agriculture and wage labour. Scoones (1998) divides (rural, agrarian) livelihood strategies into three clusters: intensification/intensification (more output per unit area or increased area under cultivation); diversification (the adoption of new strategies); and migration. In most societies, livelihoods are in competition, and therefore the livelihoods strategies of one group may involve weakening or destroying those of others (ODI, 2010)

Assets encompass what people have, including their natural (e.g. land, forest products, water), physical (e.g. livestock, shelter, tools, materials), social (e.g. extended family and other social networks), financial (e.g. income, credit, savings) and human assets (e.g. education, skills, health). People's livelihood options are determined not only by their asset base but also by the wider governance environment, or 'policies, institutions and processes', which determines access to and control over assets by different population groups and thus their vulnerability or resilience (ODI, 2010). Policies can be taken to include any government, donor, UN and NGO policies, as well as private sector policy and behaviour. For example, a country's agriculture, land tenure or land use policies can be instrumental in increasing or reducing vulnerability. The effectiveness, in terms of accountability and reach, of civil, economic and political institutions will also play a large part in determining people's welfare. These include public services that deal with, for example, agricultural and livestock services, natural resource management, education, law enforcement and justice, as well as banks, systems for providing credit, communication systems and markets. It may also include community-based-organizations (CBOs), associations and unions, as well as informal institutions around social assistance, conflict resolution and land tenure systems. Power relations are embedded within these institutions and are thus an

essential component of a livelihoods analysis. Power relations are also reflected in long-term processes of social and political marginalization of certain population groups, and thus the creation of vulnerability (ODI, Working Paper 319, 2010).

2.2.3 LINKING RURAL DEVELOPMENT AND SUSTAINABLE LIVELIHOOD

Rural development has got its meaning and identity from what development meant and the goals it has tried to achieve in the different periods of time. As a result, when the concept and meanings of development changed overtime, the objectives, strategies and approaches of rural development also changing.

In this study the Singh definition of rural development is adapted. The term rural development connotes overall development of rural areas with a view to improve the quality of life of rural people among those focus has been given to poor women, men and their children. In this sense, it is a comprehensive and multidimensional concept, and encompasses the development of agriculture and allied activities, village and cottage industries and crafts, socio- economic infrastructures, community services and facilities, and, above all, the human resource in rural areas (Singh, 1999:358).

Therefore rural development is understood to be a strategy that enables a balanced and proportionate improvement of well-beings of rural people among those focus has been given to poor women, men and their children. It is directed to enable these groups to achieve sustainable pastoral livelihoods through promoting and maintaining livelihoods capital, and mediating access and control over these resources by erecting appropriate institutions (formal and non-formal). Rural development will be sustainable if it distributes benefit both within the present and future generation and enhances the capabilities and wealth of poor people. In the case of pastoralists

as a sub set of rural people, the study focuses on the sustainable pastoral development as part and parcel of the rural development.

2.3 PASTORALISM AND SUSTAINABLE PASTORAL DEVELOPMENT

Nowadays pastoralism and Sustainable Pastoral Development issues are attracting the attention of many. Ethiopia is characterized by extreme and pervasive poverty in all aspects – income, social and political. It is categorized as a highly indebted poor country, ranked 170th in the world. According to the World Bank data base, (World Bank 2006), close to 45 percent of the population earns less than US\$ 1 a day and the poverty gap is increasing.

Poverty in Ethiopia is largely a rural phenomena and the problem is more pronounced among drought prone and marginalized pastoral rural areas and people especially. In countries like Ethiopia the growing interest on pastoralism is due to the fact that millions of impoverished pastoralists citizens are living in large and fragile environment where there is no way to extricate themselves from poverty cycle. Pastoralists are victims of unusually large members of myths and misconceptions contributing commensally to the generation of, hostile development polices & contraventions which in-turn create major barriers for Sustainable Pastoral Development. Such myths are on mobility and service provision. Mobility was considered as backward, outdated & chaotic. But, Mobility is the key element in Pastoral way of life as a rational response toward the need for the effective & efficient utilization of scarce and scantily distributed natural resources. In other words, mobility is tied with the socio economic activities of pastoralists ranging from pastoralist family reunion / joint kinship for seasonal festival and information exchange to accessing distant markets. Thus, the impact of such myth has manifested itself through unfriendly strategies & interventions (PFE, 2003). Also, it was assumed that provision of service for mobile pastoral community was deemed impossible. Possibilities providing services for

mobile pastoralists given the acceptance and acknowledgement of pastoralists and pastoralism as a sustainable way of life, have been proven and put in to practice in Kazakhstan, Mongolia, Australia, Kenya and Iran. The existence of a dominant paradigm relating success of service provision at the expense of halting Mobility has left the pastoralists with the last service coverage.

Over recent years emphasis on pastoral areas development has increasingly taken the attention of government officials, researchers and development practitioner because of its never-ending crises. This crisis manifested, on one hand, by recurrent drought/recurrent famine condition and increased pastoral mobility which has led to conflicts over the ever diminishing resource and on the other, violence now defines social relations between different pastoral group and between pastoralists and other resource users, cultivators with whom they have to compete for resources. This became evident after the devastating drought in the 1970's and 1980's, which in dramatic and unprecedented ways revealed how vulnerable the pastoral communities across dry lands of Africa had become (Helland, 2001). In the aftermath of the experience of the 1970s and 1980's, the outlook on pastoral development has changed. The main purpose of this development is to restore the capacity of the pastoral societies to feed them. Rather than addressing and manipulating the factors of production in the pastoral enterprise, with a view to increasing production and herd-off-take, development projects have become much more concerned with issues like local food security and local self-reliance. Great emphasis is attached to fostering popular participation and strengthening local institutions. This particular concern often takes on an aspect of restructuring the organizational capacities undermined or denied by previous administrative system. Local communities are to an increasing extent expected to be responsible for their own welfare.

2.4 GOVERNEMENT POLICY AND STRATEGIES FOR PASTORAL AREA DEVELOPMENT

Historically, the pastoralist areas have been sidelined in the development process: policies and programs have overlooked pastoralists' way of life and living conditions, and until recently they have experienced decades of socio-political exclusion. Because of all these factors, pastoralists have remained the poorest of the poor and become more vulnerable to a growing process of impoverishment. The SD-PRP launched a process to rectify this situation, and a number of initiatives are now underway, which will be deepened and strengthened under PASDEP to address the needs of pastoral populations. Major objectives of the policy and strategy include:

- Transforming the pastoral societies to agro-pastoral life complemented by urbanization.
- Promote integrated rural development and rural urban link by way of sustainable growth of agriculture-especially-livestock productivity geared to market needs to raise income and overall living standards of the pastoralists.
- Strategies to deal with these issues are discussed in more detail in the strategy documents of the various sectors, but include, among others:
- Developing participatory drought management mechanisms: including community-based drought early warning systems, and mitigation measures;
- Encouraging livelihoods/asset diversification (fishery, agro-pastoralism, herd diversification, mining, etc.).

2.5 UNDERSTANDING PASTORAL LIVELIHOOD AND RISK USING LIVELIHOOD ANALYSIS

Livelihoods analysis is a framework to understand how people with different assets obtain a living. This approach recognizes the importance of access to elements of livelihood such as food security, and the systematic inequalities that keep some people from obtaining this access. As indicated in ODI (2010), there are four dominant livelihood systems in pastoral areas across the Horn of Africa: Livestock-based livelihoods; agro-pastoral livelihoods – these combine extensive livestock rearing and rain-fed cereal production; Sedentary farmers - practice mixed farming, cultivating food crops with modest sheep and goat herds; Ex-pastoralists - these are households who have lost their livestock and now depend largely on human labour.

Poorer households in the first three livelihood systems have a smaller productive asset base. They also tend to have to diversify their livelihood strategies to survive. However, diversification for poorer households usually entails combining meager agro-based activities with petty trade and low-value labour-based activities such as collecting and selling firewood. Given the high dependence on the unsustainable harvesting of natural bush products, environmental degradation ensues, threatening the viability of natural resource-based livelihoods.

Livelihood strategies among poorer households in livestock based, agro-pastoral and sedentary farming areas closely resemble each other. The similarity of the options available to these groups reflects the poor economic environment of the pastoral areas, the options available to them and the absence of alternative non-livestock livelihoods. The critical question with diversification as an effective strategy to spread risk of food insecurity is 'diversification to what?'. The range of livelihood systems and the variations within these groups illustrate the need to develop responses that address the underlying causes of the increasing vulnerability of agro-based livelihoods. It also demonstrates the urgent need to enable the growing proportion of poor households to pursue productive economic alternatives (HPG, 2009).

3 RESEARCH METHODOLOGY

3.1 DESCRIPTION OF THE STUDY AREA

3.1.1 LOCATION

Miyo District is located between $38^{\circ}. 16^1 - 39^{\circ}. 00^1$ East and $3^{\circ}33^1 - 4^{\circ}10^1$ North. It is situated in Borena Zone in the South-East part of Oromiya Regional State at a distance of 737 km south of the capital city, Addis Ababa.

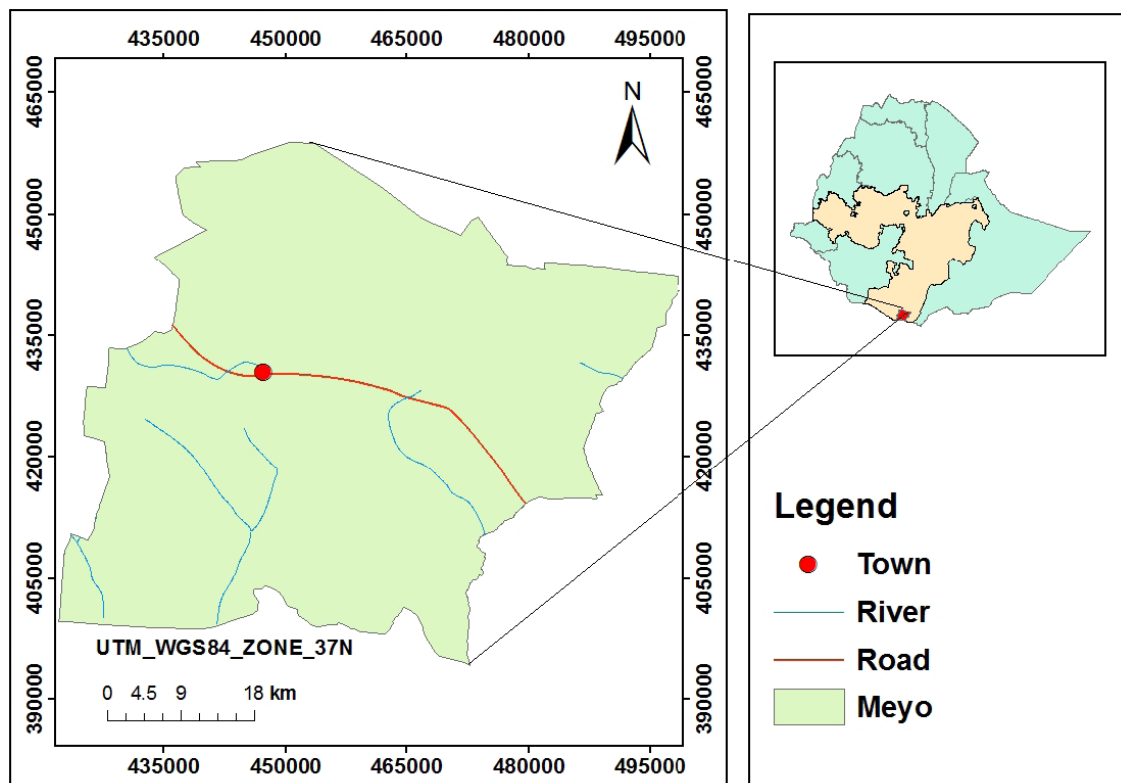


Figure 2. Map of study area

Source: EMA (2008)

3.1.2 CLIMATE AND LANDFORM

In Miyo district, the long years average annual precipitation ranges between 400 and 500 mm, with considerable spatial and temporal variability in quantities and distribution. There are four

locally defined seasons, comprising two rainy seasons and two dry seasons. Almost 60% of the rainfall is occurring in the long rainy season (Belg/Gaana), which is taking place from March to May, and the short rainy season (Hagaya) from September to November (Livelihood Integration Unit, 2008). The long dry season (Boona hagaya) occurs from December to February, and the short dry season (Adolessa) occurs from June to August (CORDAID and FSS, 2009). The average annual temperature ranges between 19 and 26°C. Variability in rainfall results in great inconsistency in crop and forage production. In general, Miyo district is considered as lowland or kola. The general physical feature is rolling plains with undulating hills found in few places. The vegetation is typical of lowlands, consisting mainly of acacia shrubs and grass (LIU, 2008).

3.1.3 POPULATION

Miyo district has two livelihood zones i.e. the Borena – Guji cattle Pastoral Livelihood Zone and the Southern Agro-Pastoral Livelihood Zone. It has 17 kebeles. According to CSA (2007) census, the population of Miyo Woreda is around 48,217 of which, 27,189 are living in 12 kebeles and are engaged in cattle agro-pastoral livelihood; whereas, the remaining 21,028 living in five kebeles are pastorals. Those kebeles selected for this study are Cheriliche and Melbana kebeles from Borena-Guji cattle Pastoral livelihood zone, and Tesso and Hidi Babu Kebeles from the Southern Agro-pastoral livelihood zone. The populations of Tesso and Hidi Babu Kebeles are estimated to be around 6496 and 11,200, respectively. They are engaged in farming side by side with livestock rearing. On the other hand, the population of Cheriliche and Melbana are estimated around 3500 and 9364, respectively. The main livestock reared in these two kebeles includes cattle, sheep and goats. The roads connecting Addis Ababa to Moyale pass through this livelihood zone.

3.2 RESEARCH DESIGN

Three parts have been included in this section. The first one deals with sampling procedures employed to select the study area and respondent households, and source and data collection methods. In the second part key livelihood back ground and explanatory variables of SL framework that was adopted from Scoones (1998) will be introduced. In the last part, data analysis tools and methods will be described.

3.2.1 SAMPLING STRATEGY

The rationale for the choice of Miyo Woreda for the study is based mainly on past intervention. It has been one of the model districts in the region where pilot CMDRR project had been implemented in the year 2010, as well as, the new CPDRR 5 years programme being operational by at the site CORDAID and ACORD since 2011.

In addition, the area had experienced recurrent drought and the livelihood is predominantly pastoral. The explanatory variables of the livelihood frame work for analysis intended to be employed in this study is of paramount importance since it provides researcher's with the ability to assess qualitative and quantitative differences in experiences with livelihood diversification strategies.

Out of the 8 project targeted PAs, from the total of 17 in the district, four PAs, namely Melbana and Cheriliche from pastoral, and Tesso and Hidi Babu from agro-pastoral PAs, are deliberately selected for the study and accordingly to conduct the household survey as per the timeframe.

The selection study kebeles will be carried out in consultation with the project field office and relevant Woreda sector office experts and officials.

To keep the number of sample respondents to manageable size, vis-à-vis the available resources, a total of 120 households, 30 pastoral and agro-pastoral households from each PA, will be selected for questionnaire interview by employing a simple random sampling method.

A household is used as the unit of analysis in the study. For the purpose of the study a household is defined as a basic social institution whose members shares the same hearth and roof and eats at least the evening meal together. A household head will be approached and used as a source of information in this study, as he/she knows more than any member of the family about household resources, livelihood strategies and outcomes and their interaction to determine the current household position in the overall socio-economic condition of the study area.

It will be made to include 4 focus group discussions/FGDs/ which will be conducted separately with 8 men and 8 women, 8 in-depth interviews with community members and leaders and 8 in-depth interviews with key-informants from local government offices (Pastoral Development, Health and Disaster prevention and preparedness) and local NGOs.

The project community development facilitators/CDFs/ in their respective sites will be employed to assist the researcher in administering the questionnaire interview. To familiarize them with the specific objective of the research, a half-day theoretical orientation and an additional half-day practical exercise by pre-testing the questionnaire on eight pastoralists will be facilitated.

In the actual field survey the researcher with the field office coordinator and project officer facilitate supervision on the overall process by establishing a daily base checking mechanism. Any incomplete or wrongly filled questionnaires will be returned back for proper completion.

3.2.2 DATA COLLECTION AND MANAGEMENT

In the data collection process, both primary and secondary data sources will be collected by applying formal and informal survey approaches. Primary data will be collected using household survey with structured questionnaire, PRA tools, such as, in-depth focus group discussions (FGDs) with community representatives, key informant interviews, personal narratives (case summaries), and direct observations.

The primary data will be collected through survey i.e. household survey using personal interview, focus group discussion, in-depth interview and observation methods. The reason for using this qualitative approach is because livelihood is contextual and holistic and it uses to collect in-depth holistic information on the perceptions and opinions of target populations of the study about extent of livelihood diversification and the different options of improving strategies. Moreover, it helps to understand multiple realities of individuals, households, communities, and related external factors like vulnerability contexts, structures and institutions (the livelihood framework components). In this approach it is possible to contact directly with the sample respondents in their environment so that it is possible to share their experiences and observations from situational contexts that they are living with. Moreover, it is possible to be flexible in collecting detail and in-depth information from small number sample groups depending on the availability of time and logistics during data collection. Qualitative tools are also appropriate for individualized outcome like gender and site specific implications of the problem and potential consequences of the targeted interventions.

The execution of the project will be made to proceed on correct line; the data to be collected will also be made adequate and dependable. Since most of the data will be collected through discussion and interviews, arrangement will be made for proper selection of respondents. A careful watch will be kept for unanticipated factors in order to keep the survey as more realistic as possible.

Furthermore, secondary data will be collected from different sources. Intensive desk review, from published and unpublished literatures of theoretical nature, policy, strategy, and proclamations documents either national or international will be collected from different sectors, reviewed and used as a secondary data. Various activity reports of governmental and non-governmental institutions and other empirical studies on relevant topics will be critically reviewed. Moreover, district and regional Pastoral Development Offices periodic reports and evaluation document; DRMFSS, MOA and MOFED leaflet and bulletins; CSA statistical bulletins and abstract, and publication from other organization will be used as a source of secondary information.

Besides, direct observation method will be employed as one among data gathering tools. The main advantage of this method is to eliminate subjective bias. Secondly, the information obtained under this method relates to what is currently happening; it is not complicated by either the past behavior or future intentions or attitudes. Thirdly, this method is independent of respondents' willingness to respond and as such is relatively less demanding of active cooperation on the part of respondents as happens to be the case in the interview or the questionnaire method. This method is particularly suitable in studies which deal with subject (i.e. respondents) who are not capable of giving verbal reports of their feeling for one reason or the other. As a whole, the field information gathering will be made to be followed by participatory approach by conducting several field visits and focus group discussions.

3.2.3 DATA ANALYSIS

A combination of qualitative and quantitative data analysis methods will be used. Most of the variables in the questionnaire and used in the analysis are categorical, nominal or ordinal and the numeric or measurement variables are often not normally distributed..

Analytical tools:

1. Central tendency and dispersion: such as mean, mode, median, percentage, frequencies and dispersion variance and standard deviation were used. Background variables to livelihoods and the basic elements of explanatory variables of the SL framework were examined using this tool.

2. Statistical tests of association: test of significance particularly chi square test was used in order to validate if there was any statistical significant relationship between livelihood capitals and livelihood diversification strategies between pastoral and agropastoral.

3. The analytical tests in many places were supported by descriptive statistics. This involves computation of percentages of single variables, the median and average outcomes. In order to analyze and interpret the quantitative data gathered through the household questionnaire survey, the latest SPSS statistical software was used. Simple and multiple correlation and regression analysis was also computed. . The major data analysis methods used were descriptive and econometrics. The descriptive statistical tools like mean, standard deviation, and t and X2 tests, diversity index and one way ANOVA were used. To identify the determinants of livelihood diversification multinomial logit model was fitted. The data analysis was conducted using SPSS software version 16. Multinomial Logit Model specification employed in order to identify factors

influencing livelihood diversification, and also the status and to what extent the pastoral household's diversify livelihoods.

3.3 ORGANIZATION AND PRESENTATION OF THE THESIS

The thesis is organized under 5 Chapters. The first chapter introduces the background of the study, problem statement, specifies the objectives and defines the research questions. Chapter two presents relevant literature related to livelihood diversification in pastoral/agro-pastoral communities and small holder farmers of Ethiopia, horn of Africa and other parts of the world. Chapter three explains the research methods comprised of the study area description, research approach and methodology used for data collection and data analysis. Chapter four presents and discusses the main results of the study and is the central part of the thesis. Finally, Chapter five presents conclusions and recommendation for future development of small-scale irrigation schemes in the study area.

4 RESEARCH PLAN AND BUDGET

4.1 ACTION PLAN

The study period is planned to conduct between October 2012 – June 2013 and one round trips are expected for the collections and validation of all necessary data in addition to facilitation of field observation on the selected Woreda. If budget is secured, the validation workshop will try to bring all actors in the finding of the research to check what is missed in their relationship, and its difference from the conventional approach.

Table 1: Time Frame

Activities	2012/13									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
Literature Review										
Research Proposal Development										
Secondary data collection										
Site and respondent selection										
Field survey and data collection										
Data organization, processing and analysis										
Research Report Write up										
Research report submission										

4.2 BUDGET BREAK DOWN

Table 2: Budget Summary

S/N	Description	Unit Cost	Total (ETB)	Remark
1	Personnel cost			
	- Enumerators/CDF/ (4)	4*10 days*250 ETB	10,000.00	
	- Research Assistant	10 days*400ETB	4,000.00	For data collection, raw data entry and processing
	- Researcher	20 days*1000ETB	20,000.00	
	- Driver	20 days*300ETB	6,000.00	For contract driver
2	Transportation/Fuel	Lump sum	6,500.00	Use project car
3	Stationary cost	„	2,000.00	
4	Refreshment for interviewees	190persons *40ETB	7,600.00	Including group discussions
5	Validation workshop	15 half day*200.00	3,000.00	For key partners
6	Miscellaneous expenses	Lump sum	2,600.00	Local publication/lamination
Grand Total			61,700.00	

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APPENDIX III: STUDY QUESTIONNAIRE

Indira Gandhi Open University/IGNOU, Department of Rural Development A Questionnaire for Thesis Work in Partial Fulfilment of MA in Rural Development

Purpose: The main objective of this questionnaire is to collect data that will enable to assess the status of livelihoods diversification strategies among households in Miyo Woreda and to identify the sustainable livelihood improvement mechanisms for the community.

General Instruction

Dear participants,

I would like to thank you all in advance for your willingness to fill in the questionnaire representing your respective families. The anonymity of all of your responses is fully guaranteed. For the successful accomplishment of the study the role of your honest and complete information is really immense. However, if you have no willingness to do so, you have a full and untouchable right to abandon before or even after you have started to fill in the questionnaire.

Thank you!

I. Interview Questions for Respondent from head of household

1. Respondent profile

1.1 Name: head of the household: _____

1.2 Age of the household head: _____

1.3 Sex (M/F): _____

1.4 Educational level (Select *by ticking) that which applies to HH head):

1 = None	2 = Adult/informal education	3 = Primary	4 = Secondary	5 = Post- secondary	6 = Other, specify
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1.5 Name of kebele _____ Name of
woreda _____

1.6 Name of Zone _____ Name of the
Region _____

2. Livelihood diversification

2.1 What are your means of on-farm livelihood?

Income source	Select (Tick) and Rank (1 st , 2 nd , 3 rd , etc.) in order of importance	Estimate household income generated by the identified on-farm livelihood activity	
		ETB per month	OR ETB per year
Field crops (grains and pulses)			
Horticultural crops (vegetables and fruits)			
Poultry			
Goats and sheep			
Cattle			
Camel			
Equines			
Coffee			
Labor on other farms			
Remittances			
Other			

2.2 HH off-farm income activities

List types of off-farm activities you household is engaged in	Give estimated household income from identified off-farm activity	
	ETB per month	OR ETB per year

3. Food security

3.1. Is your household is food secure (i.e. you can feed your household throughout the year without relying on external help, aid) 1.Yes 2.no

3.2 If 'NO', ... in which months of the year are you (or your families) is food insecure? (Select *by ticking the months when you are FOOD INSECURE.

JAN	FEB	MAR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

4. Access to credit service

4.1 Do you have access to a credit scheme? 1= YES, 2 = NO

4.2 If yes, have you used the credit scheme? 1= YES, 2 = NO

4.3 If yes, what is/are source of the credit? 1. Relative 2.friends 3. Moneylenders 4. Micro-finance institution 5. Banks 6. Others, specify _____

4.4 For what purpose did you use the credit obtained? _____ - _____

5. Access to Water

5.1. Is or ARE there any water facilities (ponds, traditional wells, hand-dug wells, boreholes) 1= YES, 2 = NO

5.1.1. If yes fill the following table

Types of water facility	Number	Use/purpose	Status(functionality)

5.2. Are you using an irrigation scheme? 1=yes 2=no

5.2.1. If YES, what are the sources of water for the irrigation scheme you use? 1 = River, 2 = pond, 3 = other(specify): _____

5.2.2. How do you get the water from these sources to your farm? 1. River diversion, 2 = Motorized pump, 3 = Drip irrigation, 4 = other, specify _____

6. Access to and use of inputs

6.1. Have you obtained inputs last year? 1=yes 2= no

6.1.1. If yes fill the table below for the last one year as reference point):

Type inputs	Amount obtained	Amount used	Remark
Crops input			
Improved seed			
Inorganic fertilizer			
Herbicide			
Others(specify)			
Livestock			
Vet health Services(like drugs/treatment etc)			
AI/Improved breeds			
Feeds(forage, fodder,			

Type inputs	Amount obtained	Amount used	Remark
concentrate etc)			
Others(specify)			
NRM			
Tree seedlings			
Fruit seedlings			
Farm tools			
Others(specify)			

7. Training and its application on DRR/CCA and EMR

7.1. Have you ever been trained in any development activities? 1. Yes 2. No

7.1.1. If yes on what topics of training you have been attended? _____

7.2 Have you ever been trained on disaster risk reduction/ climate change adaptation / ecosystem management to implement risk reduction measures 1= YES, 2 = NO

7.2.1. If yes, on what topics have you been trained? _____

7.3 Are you member of local level DRR/NRM/water etc committees? 1= YES, 2 = NO

7.3.1 If yes, in which management committee have you been involved? _____

7.3.2. If yes, what is the role of the committee? _____

II. Interview Checklist for FGD

Respondents:

- Group of agro/pastoralists (at least one FGD per community)
- The group consist of 10-16 HH (gender inclusive)

Date of FGD: _____

Location: _____

Kebele _____ woreda _____ zone _____ region

Number of participants: Male _____ Female: _____

Checklist:

1. What are the major livelihoods (on-farm/pastoral activities) in the community? _____
2. What are the common off-farm/pastoral sources of income? _____
3. Have you observed any signs of extreme weather events/? What effects (like recurrent drought, flooding etc?) do you associate with these changes?

4. What were the communities-actions to cope up those risks/extreme weather events and become resilient in the face of possible continuation? _____
5. Have you ever conducted any disaster risk assessment? 1. Yes 2.no
- 5.1 If yes how have you done the assessments? _____
6. What are collective risk reduction plans that have been developed in the community? _____
7. Have there been trainings in DRR/CCA/ecosystem based livelihood approaches in this community?
1. YES 2.NO
- 7.1 If yes what were the content/topics? _____
8. What institutions/actors (like NGOs, GO office etc) are involved in supporting resilience to extreme weather events/ risks? And what are their exact roles or contributions, List and describe for each.

9. Are there any local/indigenous by laws or rules and regulations that the community is using to cope up with those risks and become resilient? Describe how do they practice? _____
10. In connection with the question above, what are the roles of local/indigenous leaders in reducing the effects of those risks? _____

III. Key informant interview check-list

Respondents:

1. Woreda level representatives/DA
2. Non-PfR Partners for certain questions

1. Identity

1. Name: _____
2. Organization:

3. Woreda _____ Zone _____
Region _____

2. Introductory Information

1. How do you describe extreme weather events/hazards? _____
2. Describe the effects of those events, like droughts, flooding etc affecting the communities in your woreda? _____
3. How are the communities coping with these risks? Are they (the communities) resilient enough?

4. How are the government, NGOS and civil society working to support the communities' resilience to those risks? _____
5. What is your/your organization role in reversing the situation? _____

3. PME Questions (for baseline and monitoring later). Give your best estimate in the response column based on your knowledge of the area

	Indicator Question			Response
1	Are there any beneficiaries reached by any development programme in your kebele?			YES/NO
1.1	If YES, estimate number of beneficiaries reached			
1.2	If YES, estimate number of females			
2	Do you have any risk reduction measures in place in your kebele?			YES/NO
2.1	If YES, list, list below the types of measures(could you state its functional status)	Give no. by NGOs	Give no. by GOs	Status(1=poor 2=medium 3=good)
2.1.1.				
2.1.2				
2.2	Could you estimate the coverage (like land size covered by afforestation) of the measures		Give size. by NGOs	Give size. by GOs
3	List below type of on-farm/pastoral livelihoods		Proportion of HHs practicing	Estimate Annual income per HH
3.1				
3.2				
3.7				
4	% (proportion) of HHs that are food secure			
5	List below types of off-farm income activities:		Proportion of HHs getting this off-farm income	Estimate Annual off-farm income per HH
5.1				
5.2				
6	1.1. a. Have PAs ever conducted extreme weather events/disaster risk assessments?			YES/NO

	Indicator Question	Response
6.1	If YES, estimate number of PAs	
7	1.1.b. Estimate number of PAs that developed collective risk reduction plans based on the assessment	
8	1.1.c. Estimate number # of community members covered by risk plans	
9	1.2.a. Have community members been trained in DRR/CCA/Ecosystem based livelihood approaches	YES/NO
9.1	If YES, estimate number of communities members	
10	# Go/NGO/CBOs partners staff trained on DRR/CCA/Ecosystem	
11	1.2. b. Have community members undertaken actions to cope those risks/to adapt to their livelihoods?	YES/NO
11.1	If YES, estimate community members number that have undertaken actions to cope up those risks/to adapt to their livelihoods?	
12	Give a score of the extent to which the target group is involved in decision making (score 1 = Not involved at all 2=limited involvement 3=partially involved ; 4 = Fully involved)	
13	How many water facilities/structures are available in the kebele(boreholes, pond, traditional wells ,hand dug wells etc)	
14	Is there any range land management practice ((bush clearing, enclosure etc) in your woreda?	Yes/no
14.1	If yes, size of land enclosed from bush encroachment	
15	Do you have local level resource management committee practices in place?	Yes/no
15.1	If yes, list down type of committees	Number