Mekelle University
College of Business and Economics
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Assessment of Non-Farm Livelihood Diversification of Farmers In Enderta Woreda, Tigray

A Thesis Submitted in Partial Fulfillment of the Requirements for Degree of Masters of Art in Development Studies

By

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DECLARATION

I, **Weldebrhan Werede**, hereby declare that the thesis entitled "**Assessement of Non-farm Livelihood Diversificatioon of Farmers in Enderta Woreda, Tigray**" submitted in partial fulfillment of the requirements for the award of the degree of MA, in Development Studies to the College of Business and Economics, Mekelle University, through the Department of Management is my original work and the matter embodied in this thesis has not been submitted earlier for award of any degree or diploma to the best of my knowledge and belief.

Mr. Weldebrhan Werede Tesfay _____ _____

Signature date

CERTIFICATION

This is to certify that this thesis titled **"Assessement of Non-farm Livelihood Diversificatioon of Farmers in Enderta Woreda, Tigray"** done by **Mr. Weldebrhan Werede Tesfay** Id. No. CBE/PE056/03 is an authentic work carried out by him under my guidance. Who carried out the research under our guidance. Certified further, that to the best of our knowledge, the work reported here doesn't form part of any other project report or dissertation on the bases of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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Abstract

Although agriculture is the mainstay of the population in Ethiopia, introducing rural non-farm livelihood diversification is also important for improving the coping mechanisms of the farmers and providing additional income sources. In addition the non-farm activities are direct income sources for the landless people in the rural areas. This study aims to identify the types and reasons behind the selection of non-farm activities, investigate the constraints and opportunities of non-farm activities and finally come up with the institutional support needed to improve the development of non-farm activities in rural areas. The primary data is collected using a semi - structured questionnaire from 156 samples, selected with systematic random sampling method. And from FGD held at three levels. Data is analyzed using SPSS and described by descriptive statistics, cross-tabulation and charts. The study findings indicate that the participation of the farmers in non-farm income generating activities is informal, temporary and traditional. Besides the service sector – particularly petty trade, which account for 44 percent, is reported as the dominant non-farm activity in the woreda. The major constraints identified are lack of awareness, lack of credit access, lack of skill training and absence of marketing information. Availability of natural resources and interests of the farmers to participate in the non-farm activities are the existing major opportunities prioritized. With regard to the institutional support the respondents agreed on multi-institutional support provision to the rural non-farm participant in order to solve the constraints mentioned. The study also recommends the need for the prevalence of responsible institutions to improve rural people's access to non-farm livelihoods should be one of the priority issues in rural poverty reduction intervention or rural policy.

Key Words*: **Agriculture, Non-farm livelihood diversification, Institutions, Rural policy***

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Acronyms and Abbreviations

ADLI	Agricultural Development Led Industrialization
AgSS	Agricultural Sample Survey
CFI	Chronic Food Insecure
DA	Development Agent
DECSI	Dedbit Credit and Saving Institution
DPPC	Disaster Prevention and Preparedness Committee
FAO	Food and Agriculture Organization
FGD	Focus group discussion
FSP	Food Security Programme
HABP	Household Asset Building Program
IFAD	International Fund for Agricultural Development
IFSP	Integrated Food Security Programme
IGAs	Income Generating Activities
MARD	Ministry of Agriculture and Rural Development
MEDP	Micro Enterprise Development Programme
MSEDA	Federal Micro and Small Enterprise Development Agency
MSE	Micro and Small Enterprise
MFED	Ministry of Finance and Economic Development
MFI	Micro Finance Institutions

NFE	Non-farm economy
NF-IGAs	Non-farm income generating activities
NFSU	National Food Security Unit
NGO	Non-Governmental Organization
OFSP	Other Food Security Programs
PSNP	Productive Safety Net Program
RICS	Rural Investment Climate Survey
REMSEDA	Regional Micro and Small Enterprise Development Agency
RNFE	Rural Non-Farm Economy
TBoARD	Tigray Bureau of Agriculture and Rural Development
TBoPED	Tigray Bureau of Planning and Economic Development
TNRS	Tigray National Regional State
TGE	Transitional Government of Ethiopia
UNDP	United Nations Development Program
WFP	World Food Program

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Chapter one: Introduction

1.1 Background of the study

According to Davis, (2003) the rural non-farm economy (RNFE) is defined as comprising all those non-agricultural activities which generate income to rural households (including income in-kind and remittances), either through waged work or in self-employment. In some contexts, rural non-farm activities and off farm activities are considered as equal and the same. But in this study the term 'non-farm' should not be confused with 'off-farm'. The latter generally refers to activities undertaken away from the household's own farm, whereas non-farm is to mean any non-agricultural activities that can be undertaken on or away from the household's own land. This includes petty trading, construction works, manufacturing works, handcraft works/ hand tool works, commercial and service provision works.

According to Ellis, (2000b) diversification is a means by which individual reduce, or may alleviate, their risk exposure and vulnerability. And people usually diversify by adopting a range of activities in rural areas such as on-farm and non-farm income generating activities.

In many rural areas, agriculture alone cannot provide sufficient livelihood opportunities and migration is not an option for everyone and even where migration is possible, policy-makers may in any case prefer to limit the worst extremes of urbanization with its associated social and environmental problems (IFPRI, 2009). On the other hand, the rural non-farm economy can play a potentially significant role in reducing rural poverty and rural-urban migration. However, the role of the rural non-farm sector had been the least understood component of the rural economy; its role in the broader development process was not well known and institutionalized. For example in the conventional two sector development models of Lewis, Fei and Ranis the importance of rural non-farm sector is not explicitly considered (Micael and Stephen, 2009).This knowledge gap had also been reflected in the policies of developing countries such as Ethiopia where there had not been development policy that identifies and includes the rural non-farm sector until two years ago(MARD, 2010).This can be explained as, Ethiopia is known for its

ultra-agriculture dependent economy—about 85 percent of its citizens derive their livelihoods from agriculture(which accounts for 85 per cent of employment)—which is entirely dependent on rainfall(FDRE,2010). And with agriculture so completely dependent on rainfall, rain rules the lives and well-being of many rural Ethiopians. It determines whether they will have enough to eat and whether they will be able to provide basic necessities and earn a living (Devereux, 2000). Welde-Selassie (2001) also reported that the average land holding is 1.3 hectares, with a range from 0.22 ha in the highlands and 2.6 ha in the low lands. This implies the need for livelihood diversification in rural areas.

Even though, the share of agriculture to GDP declined from 53 per cent to 43 per cent between 1995/96 and 2008/09, reflecting strong growth in other sectors of the national economy, the government of Ethiopia has made poverty reduction its top priorities by focusing much remains to be done in the agriculture sector to realize the vision to become a middle income country (FDRE, 2010).This implies that the less focus has been given to non-farm activities as poverty reduction tools in the country.

However, globally there has been an increasing recognition that the rural economy is not confined to the agricultural sector, but embraces the broad spectrum of needs of all rural people including social service provision, livelihood diversification, infrastructure and natural resources (Chikwama, 2004). Nowadays the RNFE has become an area of interest to governments, donor agencies, and NGOs because of its increasing relevance in both developing and transition economies. And these sets of circumstances put the spotlight on the RNFE as a potential vehicle for poverty reduction in rural areas (Davis, 2003).

As a result, the drive for achieving sustained development in rural areas has to revolve around expanding the base of non-farm activities. If such a comprehensive planning approach can be evolved it could provide the solution to the problems of rural areas such as poverty, unemployment and out-migration of the rural work force (Lanjouw and Lanjouw, 2001). For most rural people in developing and transitional economies, rural non-farm activities are part of a diversified livelihood portfolio. Hence, the rural population in developing countries derives

important income shares from rural non-farm activities. For example, the average non-farm income share of rural households in some countries is between 30 and 70 % (Davis, 2003).

1.2 Statement of the problem

Rural poverty is a key development challenge for Ethiopia in general and Tigray in particular. Even though agriculture is the backbone of Ethiopia's economy, accounting for almost 45% of GDP, and 85% of total employment (MoFED, 2010), it no longer provides sufficient employment for the growing rural labor force. For example, due to rapid population growth the average farm size has declined to less than one hectare (Mulat, 1997).Besides according to the MoFED(2010), the proportion of poor people (poverty headcount index) in the country is estimated to be 25.7% in urban areas and 30.4% in rural areas. The report also added that the proportion of food poor people (food poverty headcount index) in the country is estimated to be 34.7% in rural areas and 27.9% in urban areas. This implies the rural poverty is still a problem. Thus promotion of non-farm activities in addition to farm activities seems vital to alleviate poverty, unemployment, migration problems in the rural areas, and to enhance the coping mechanisms of farmers by diversifying their income sources.

In Ethiopia, policy makers were favoring agriculture as a means of rural economic development for a long time, which excludes rural non-farm activities from much attention and support, thereby ignoring an important source of livelihood. For example during Derg regime, diversification has been actively discouraged in Ethiopia. People were banned from having more than one occupation. And farmers were not allowed to engage in off-farm activities, hire of labor was restricted (Tassew, 2000).Besides a study titled Participatory Poverty Assessment (PPA) authored by Ellis and Tassew (2005) shows relative absence of rural non-farm enterprises had been the feature of the Ethiopian rural economy.They added that few households had been engaged in non-farm activities.

Since 2010 that the Ministry of Agriculture and Rural Development of the government of Ethiopia in collaboration with other stakeholders has decided to provide support to enhance the

non-farm economy in rural parts of the country. To do this the government has designed and launched a 5 year program (2010-2014) called Household Asset Building program. The major aim of this program is to diversify the livelihood opportunities of the rural people by provision of different income generating activities such as on farm and non-farm income generating activities (MARD, 2010).This means, households are to be engaged in diverse livelihood strategies away from purely crop and livestock production towards non-farm and off-farm activities that are undertaken to widen and generate additional income.

Even though the recent program has given a focus on diversifying the rural income into on-farm and non-farm income sources, still the coverage and diversification of income sources to non-farm activities are not as such a promising to improve the rural poverty. That is, the rural residents across the developing world earn a large share of their income—35–50 percent— from non-farm activities (IFPRI, 2009), the empirical evidence on the size and trends of non-farm diversification in Tigray, Enderta included is very limited, and largely there is little diversification beyond agriculture in the rural areas.

For example in the year 2012 only 17.6 %(11787) farmers were participating in non-farm IGAs as a means of additional income source. Similarly in Endertaworeda the participation of the rural households in non-farm income generating activities is at its lowest level and is dominated by service oriented non-farm activities (BoARD, 2012).

The purpose of this study is to uncover the reasons behind the low participation and traditional service sector dominated non-farm activities of farmers, to identify the patterns of non-farm activities, and to assess the opportunities and constraints in intensifying non-farm activities in the locality.

1.3 Research Objective

1.3.1 General objective of the study

The overall objective of this research is to examine the size, dominant patterns, influencing factors, constraints and opportunities of non-farm livelihood diversification in EndertaWoreda.

1.3.2 Specific objectives

The specific objectives are:

1. To examine the number and dominant patterns of non-farm livelihood diversification in the study area
2. To identify the factors that influence the household's choice among the non-farm income generating activities
3. To identify and analyze the key constraints and opportunities for non-farm livelihood diversification
4. To assess the institutional support needed to improve non-farm livelihood diversification in the woreda

1.3 Research Questions

In line with the above reality stated in the statement of the problem, much of the current interest in the RNF IGAs by the researcher can be summed up in one central question: how to foster the development of the RNF IGAs such that it benefits the households to have a diversified livelihood. In addition, the study gave due emphasis to answer the following research questions to come up with possible solutions and recommendations.

- What are the dominant patterns of non-farm activities in the area?
- What are the influencing factors to the household's choice among the different non-farm IGAs?
- What are the constraints and opportunities for the development of non-farm IGAs?
- What kinds of institutional support are necessary to alleviate the constraints of rural non-farm diversification?

1.5 Significant of the study

Although most studies have been concentrating on dynamics of agriculture, and off farm activities, this study gives a broad focus to non-farm activities. This study contributes to the understanding of the different rural non-farm income generating activities in providing alternative income sources and improving the coping mechanisms of farmers.

The study also provides the basic information about the existing constraints in the development of non- farm income generating activities to the decision makers at woreda and regional level, so that an alternative intervention could be developed.

Besides institutions or individuals who are interested to know about rural non-farm livelihood diversification in the study district can use the document as a reference. Hopefully, the results from this study also have practical use mainly to the study area and similar other areas.

1.6 Scope and limitation of the study

Given the time and budget constraints, the scope of the study area is limited to Enderta woreda and the focus of the study is on non-farm livelihood diversification opportunities, constraints, influencing factors and dominant practices at the woreda by critically assessing the non-farm diversification trends. Thus, the income share of non-farm activities to the total household's income, and linkages of non-farm and on-farm activities are beyond the scope of the study.

1.7 Structure of the thesis proposal

The structure of the study is divided into five chapters: Chapter 1 provides the general introduction, basic general information, statement of the problem, the objectives , significant of the study; Chapter 2 reviews international, national theories and previous researches on non-farm rural Livelihood diversification; Chapter 3 describes the methodology, including how the study Kebeles and unit of analysis will be selected, and the field work data collection methods; Chapter 4- Study results and discussion, and finally the conclusion and recommendation part has stated in chapter 5.

Chapter two: Literature review

2.1 Theoretical reviews

The rural non-farm activities are defined differently by different authors, and there are also some authors that make no distinction between off-farm and non-farm activities. However in this study the focus is non-farm activities.

2.1.1 Basic concepts and Definitions

Definitions of the term "rural" and "non-farm" vary across countries, and are usually based on settlement or locality sizes. Gordon and Craig (1998) as cited in Davis (2004) observed that: the term 'rural' is subject to a large amount of debate, depending on three particular aspects: whether rural towns are rural or urban, at what size does a rural settlement become urban, and the treatment of migration and commuting between rural areas and towns. They added that, there is no firm rule that resolves these issues, and the only practical solution is for the researchers to make sure what they have adopted is clearly stated.

According to Anit,M. and Xiaobo,Z.(2005) "rural" in India is defined as all settlements of fewer than 5,000 people. On the other hand Abdulmalek (2010), defined rural as any locality that exists primarily to serve as agricultural hinterland. In contrast, urban economies are driven by manufacturing, government or some other economic base independent of agriculture. Given this view, rural areas include all the rural settlements that are connected together through economic transactions related to the agricultural economy.

With regard to what constitutes 'non-farm activities' too, different researchers and investigators follow different conventions. Bryceson (1999) for instance, observes that "non-farm activity is a term that many equate with non-agricultural activities where as according to the study titled the

Deagrarianisation and Rural Employment (DARE), non-farm comprises agricultural waged labor on farms not belonging to the individual producer or his/ her household, in other words, off-farm work. Davis (2003) also observed that the "rural non-farm economy" includes all rural economic activity, rather than agriculture, that can take place at home or in factories or be implemented by traveling traders. It includes small-and large-scale activities of widely varying technical complexity". According to Saith (1992) there are two alternative approaches to define rural-non-farm activities. The first is the locative approach in which the primary criterion is that a RNF activity is performed in a location which falls within a designated rural area. The second is based on the linkage approach where an industrial enterprise generates significant development linkages with the rural areas. Accordingly, non-farm activities are associated with those secondary and tertiary sector production processes that use raw physical intermediate inputs (such as wheat, milk, iron, wood) and process them into manufactured goods (such as wheat flour, cheese, knives, furniture) or use financial or manufactured capital and labor to produce services (e.g. Transport, commerce, banking).

According to Barrett et al.(2001) the rural non-farm economy includes a highly heterogeneous collection of trading, agro-processing manufacturing, commercial, and service activities. And the composition of non-farm activity differs considerably as a function of widely variable natural resources, labor supply, location, history and institutional factors. Measurement difficulty arises mainly from seasonal, part-time, and small-scale nature of production and the fact that producers do not normally keep written records. Many surveys use employment as a proxy for non-farm activity levels.

However in this paper the rural non-farm economy (RNFE) can be defined as comprising all those activities, both off farm and non-farm, which generate income to rural households, either through wageing work or in self-employment. Thus trading, agro processing (the transformation of raw agricultural products by milling, packaging, bulking or transporting), manufacturing, commercial and service activities forms a key component of the rural non-farm economy. Off-farm work participation is also defined in this study as the participation of individuals, whether they own their land or work for a wage, in a secondary or additional job away from his or her own plot of land.

Since there are various definitions of diversification it is also necessary to specify diversification in relation to the study. Thus according to Start(2001) "Diversification can either refer to an increasing multiplicity of activities (regardless of the sector), or it can refer to a shift away from traditional rural sectors such as agriculture to non-traditional activities in either rural or urban space- i.e. sectorial change" .

Inaddition Delil (2001) also explained diversification as an attempt by individuals to find new ways to raise incomes and to reduce risk, this can be achieved by involving into activities in addition to leading agricultural activity. Other authors like Ellis(2000b) also conceptualize diversification in various ways; an increase in the number of income sources, a switch from subsistence food production to commercial agriculture and expansion in the importance of non-crop or non-farm income on which non-farm includes both off-farm wage labor and non-farm self-employment. However, in this study, diversification is conceptualized as a shift from farming activities to non-farm activities (wage work and nonfarm self-employment).

2.1.2 Characteristics of the rural nonfarm economy

Barrett et al. (2001), highlights two critically important characteristics of the rural non-farm economy - its heterogeneity and measurement difficulty.The rural non-farm economy includes a highly heterogeneous collection of trading, agro-processing, manufacturing, construction, commercial, and service activities. The scale of individual rural non-farm businesses likewise varies vastly, from part-time self-employment in household-based cottage industries to large-scale agro-processing and warehousing facilities operated by large multinational firms. Often highly seasonal, rural non-farm activity fluctuates with the availability of agricultural raw materials and in line with household labor and financial flows between farm and non-farm activities. According to Bezu et.al (2009) explanation about the sectoral distribution of non-farm activities, despite the many countries emphasis on promoting rural industries, manufacturing typically accounts for only 20–25 percent of rural non-farm employment, whereas trade, transport, construction, and other services account for 75–80 percent.

2.1.3 Dynamics of the rural non-farm economy

The present structure of the rural non-farm economy results from an ongoing economic transformation that has proceeded for many generations, though at varying speeds in different locations. Historically, agriculture has played an important role in expanding the economic base of rural regions in the developing world. In regions where agriculture has grown robustly, the rural non-farm economy has also typically enjoyed rapid growth. A large literature on growth linkages suggests that each dollar of additional value added in agriculture generates $0.60 to $0.80 of additional rural non-farm economy income in Asia and $0.30 to $0.50 in Africa and Latin America (Ellis, 2000b).

In contrast Davis(2004), reported that there are non-farm activities that are not dependent on agriculture such as mining, logging, and trade, which offer an alternative economic platform for sustaining regional growth. But for these non-farm activities their growth is linked to agricultural growth, it seems true that to say regions with poor agricultural potential have seen more limited prospects for rural non-farm growth.

Inaddition, in recent years the forces of population growth, globalization, urbanization, and improved infrastructure have opened up new opportunities for the non-farm activities in many rural areas, thereby reducing the dependence on agriculture as the primary engine of rural non-farm growth. These developments offer new prospects for stimulating rural economic growth and, perhaps, new pathways out of poverty. But the question that needs explanation is that how powerful these new opportunities are, and to what extent have they enhanced rural non-farm livelihood diversification.

2.1.4 Motivations for Diversification into the NF IGAs

Davis(2003) and Dercon, et al.(1996) explained the motives for diversification by relating to risk and seasonality of agricultural production. That is the risk nherent in agricultural production and seasonal labor and asset employment of agricultural production. According to them, in poor rural areas, some households make a positive choice to take advantage of opportunities in the NF IGAs, taking into consideration the wage differential between the two sectors and the riskiness of each type of employment. However, other households are pushed into the non-farm sector due to a lack of opportunities on-farm sector, for example, as a result of drought or the small size of land holdings. This may result in a similar pattern of rising non-farm incomes, but the motivations are quite different. From this what can be learned is that whatever the reason, it is important to understand why an individual or a household is entering the non-farm income generating activities/sector.

Since one of the key areas of the study is the reason behind the non-farm sectoral engagement of discussion. Hence a literature on how individuals respond to the new opportunities is reviwed below. Ellis(2000a) has discussed these issues with reference to many contradictions: demand-pull/distress-push, coping/accumulating, need/opportunity, etc. Demand-pull diversification is a response to new market or technological opportunities, while distress-push diversification is driven because there are no opportunities on the farm activities. He suggests that the factors that lead to demand-pull diversification include the increased income of lower and middle-income households and increased demand from urban areas for the rural non-farm products. Besides he identifies successive droughts that depress income and hence increase the need for alternative incomes offering low skill income as a distress-push factor. As evidence of distress-push, incomes are likely to be higher in the NF sector than on-farm agricultural earnings.

Davis (2004) has discussed the importance of making this distinction between distress-push and demand pull since each may require different policy responses. The former may require policymakers to develop appropriate social safety net and interventionist policies to mitigate the short run negative effects that sometimes accompany this type of diversification (e.g. over-rapid urbanization, negative environmental impacts, etc.). Where demand-pull factors are driving the

process of diversification, policy-makers might seek to provide a suitable 'enabling environment' to support the development of the non-farm sector and sustainable rural livelihoods. A research by Davis (2003) on Armenia, Georgia and Romania shows that it is distressing-push diversification that drives the majority of the rural poor into rural non-farm employment and income generating activities. However, deciding on whether demand-pull or distress-push factors are at the ground may not be straightforward.

2.2 Empirical reviews

2.2.1 Importance of Rural non-farm diversification

The importance of the non - farm sector is explained in different studies. For example Lanjouw and Lanjouw (2001) indicated that the rural non-farm sector plays a critical role in promoting growth and welfare by slowing rural-urban migration, providing alternative employment for those left out of agriculture, and improving household security through diversification. According to the world Bank report (2008) the non-farm activities play an increasingly important role in sustainable development and poverty reduction in rural areas. Davis (2003) also explained the rural non-farm activities as the important sources of local economic growth e.g. tourism, mining, timber processing, etc. He added, these activities can be considered as an important way to increase overall rural economic activity and employment.

Other studies such as Lanjouw (1998) and the World Bank, (2008) explained the importance of non-farm activities by comparing the average share of non-farm income in the households' total income. Accordingly, in many developing countries, non-farm activity often accounts as much as 50% of rural employment and a similar percentage share of household income (Lanjouw, 1998). Average non-farm income share of the total is about 42% in Africa, 40% in Latin America, and 32% in Asia (The World Bank, 2008).

According to Haggblade et al. (2007) the non-farm activities have several advantages especially for the rural poor households. According to this study the advantages are smallholder farm households complement their farm income with income from non-farm sources. This is to mean their agricultural resources are limited to allow efficient use of all household labor and to meet the demands of the household members. Moreover, income from agriculture is subject to high risk at this time earnings from non-farm activities may help the household from fluctuations, so the non-farm activities can offer an alternative coping mechanisms.

Nong (2006) said that the earnings from non-farm activity can not only significantly increase total household income, but also function as a safety net through diversifying income sources. Thus, participating in a non - farm activity enhances households' capability of overcoming negative shocks and investing in farm activity. It also mitigates income fluctuation and enables the adoption of more profitable but "risky" agricultural technologies, which encourage the transformation of traditional agriculture to modern agriculture. Nong (2006) added that on-farm income may also prevent rapid or excessive urbanization as well as natural resource degradation through over exploitation. The non-farm sector can hence function as a route out of poverty through reducing the pressure on the demand for land in rural areas, and through breaking the vicious circle of "poverty – extensive cultivation – ecological deterioration – poverty" (Ibid).

Even though the above studies had focused the importance of non-farm activities for poverty reduction and livelihood diversifications, and it is often argued that African economies need to become less dependent on agriculture in order for poverty to decrease, very little is known about the characteristics, constraints and opportunities of non-farm enterprises in Ethiopia (Lanjouw&Lanjouw, 2001)

2.2.2 Participation in Rural Non-Farm livelihood

According to different literatures, for example (Tassew, 2001; Mulat, 1997) and Josf, et al., 2008), there are three different reasons for the participation of farmers in non-farm activities. Some authors have focused on the "push factors" as the central reasons for the rural non-farm diversification; on the other hand there are authors who reported that the "pull factors" are the

reasons for rural non-farm diversification. The third group of authors said the mixed "push" and "pull" factors and other demographic factos have a contribution for the participation of the rural poor farmers in the non-farm livelihood diversification. Now let us see these views in detail.

Ibrahim and Onuk (2009) in their study titled "Analysis of Rural Non-Farm Diversification among Farming Households" reported that over the last two decades, the non-farm economy, due to its positive contribution to poverty reduction and food security, has increasingly become vital in rural development policy. This participation in non-farm activities is one of the livelihood strategies among poor rural households in many developing countries. In the empirical research results, they have found that non-farm sources contribute 40%–50% of average rural household income across the developing world. We can see that their result is similar to the World Bank report (2008) that is non-agricultural activities account for 30%–50% of income in rural areas.

Other studies have investigated the determinants or factors that most influence the decision to participate in non-farm activities and the choice of activity, as well as the extent of rural household participation. For example, Abdulai et al. (2001) found that education level, availability of land, access to economic centers and credit were the most important factors in determining the number of households that participated in a particular rural local labor market and the share of labor income of total cash income. Bezu et al. (2009) also looked at the activity choice in rural non-farm employment. They found education, gender, and land holding to be the most important determinants of activity choice. Several studies across developing countries have also shown that participation in rural non-farm employment (RNFE) is positively correlated with total income, wealth and even agricultural productivity (Lanjouw and Lanjouw, 2001). The observed positive correlations between non-farm participation and higher income have fostered the hope that non-farm employment may serve as a way out of poverty. However, studies of determinants of participation indicate that typically the rich have superior access to remunerative non-farm activities. These findings thus call into question the direction of causality between wealth and participation is the positive relationship (ibid).

On the other side, according to the findings of Ibrahim and Onuk (2009) household income and total household farm size had negative and significant coefficients or factors that affect the non-

farm diversification participation. This implies that the lower the household income and household farm size, the higher the tendency to diversify into non-farm activities and vice-versa. Hence, Households with smaller farms are likely to combine farm and non-farm activities than those with larger ones. Besides, they found that, dependency ratio and access to credit had positive and significant coefficients. A household with a very high ratio of dependents has a higher tendency to diversify into other non-agricultural activities in order to cope with the needs of the household. Accordingly, access to credit plays a crucial role in the decision to diversify, that is, increase in access to credit by a given household will increase the level of non-farm diversification. The reason is because the increase in the capital base will enable them to have enough resources to support members of the household. A given household may also decide to start up another business apart from the previous one because there is available disposable capital (credit). Thus, access to credit without any means of increasing farm size will cause the households to invest in non-farm activities in order to increase the rate of return to capital investment (Ibrahim and Onuk, 2009).

Besides they added that the risk of investing a huge sum of money into a business has become a challenge and is a constraint to household members in the study area. This is because of the uncertain outcome from any given non-farm activity, since their involvement is dominated by causal employment. Another serious constraint was high competition. It is assumed that since there are many people who are engaged in a given business activity, there will be high competition in the marketing of whatever is offered for sale. Another major constraint is lack of information on starting a business.

In Sosina's(2007)study close to half of the sample households (48%) participated in RNFE and most were engaged in the low-return, unskilled wage employment and in business activities with low capital requirements. Only 7% of households participated in high-return, skilled wage employment or high investment self-employment. The author reported that the results demonstrate the importance of non-farm activities as alternative income sources for the poor households, although they are typically involved only in low-return activities because of entry barriers.

The study also explained that the greater participation of the poor households in the non-farm activities is due to the lower income from agriculture (push factor) rather than the greatest return from the non-farm activities. This result is in contradiction with a study result by Bryceson (1993) that is; the share of income from non-farm activities is lower for poorer households than the better one. According to him, the poorest households are participating in the traditional and unskilled non-farm activities with low return.

Barrett et al. (2001) found that non-farm activity is typically positively correlated with income and wealth (in the form of land and livestock) in rural Africa, and thus appears to offer a pathway out of poverty—if non-farm opportunities can be seized by the rural poor. However, this key finding appears to be a double-edged sword. The positive wealth/non-farm income correlation may also suggest that those who being poor in land and capital face an uphill battle to overcome entry barriers and steep investment requirements for participation in non-farm activities that are capable of lifting them from poverty (ibid.).

Bezabih et.al.,(2010) also indicated in the discussion part of their study that older household heads are less likely to participate in off-farm activities, while gender and education do not have a significant impact on participation in off-farm activities. The results also suggest that households with greater numbers of male and female household members participate more in off-farm activities than other households. This could be due to the fact that participation in off-farm activities is critically dependent on labor availability. Among other household characteristics, ownership of livestock also has a significant and positive relationship on participation in off-farm activities, indicating that wealth enhances the tendency to engage in off-farm activities. Plot characteristics with favorable attributes, such as fertility and flat plots, tend to increase off-farm participation. Participation is negative and significantly affected by the squares of male and female labor, implying that households with too few or too many laborers available tend to participate in off-farm activities. In addition, households with relatively large land assets or those with no land tend to participate in off-farm activities. This indicates the presence of non-linearity corresponding to the household characteristics in their effect on off-farm participation.

In sum, involvement in rural non-farm activities, as a livelihood strategy among poor rural households, plays a vital role in promoting growth and welfare and offers a pathway out of poverty, if non-farm opportunities can be grasped by the rural poor. Second, both "push-and-pull" factors appear to be involved in decisions by rural households to participate in rural non-farm activities. For example, some might be attracted by the incentives offered and labor availability (when households have more than enough laborers for their farm), whereas others might be pushed into the non-farm sector due to a lack of opportunities on the farm (for example, from drought or insufficient land holdings).

2.2.3 Sectorial choice within rural non-farm IGAs

Ibrahim and Onuk, (2009) in their study showed that the types of non-farm diversification activities among the households and the reasons for selection of the specific non-farm income generating activities. Accordingly most of the households (76%) had diversified into self-employment activities such as self-employed blacksmiths, food sellers, petty traders, automobile mechanics, cloth weavers, masonry. The rest 24% of the respondents were wage employees namely; security guards, civil servants i.e. teachers and office cleaners. According to the authors, self-employment opportunities are more common in the study area compared to wage employment; the major driving force for this is the education level of the participants.

Another study by Nong (2006) while discussing about the decisions of rural households involvement in non-farm activities, there are two major factors presented, first incentives offered for the households to get involved in the non-farm activities and the second is the household capacity. Davis (2003) also reported the general reasons for the participation of the household in their selected non-farm activities. Accordingly, some households make a positive choice of the non-farm activities to take advantage of opportunities in the rural non-farm economy, taking into consideration the wage differential between the two sectors and the riskiness of each type of employment. Other households are pushed into the non-farm sector due to a lack of on-farm opportunities, for example, as a result of drought or small size of land holdings. He added one of the components of rural non-farm activities in which the poor can participate, because it does not require any complementary physical capital, is wage employment. So, according to him the wage differential, riskiness of the activity, physical

capital requirement, and on-farm opportunities are the influencing factors for the choice of the households among the different types of non-farm income generating activities.

Ibrahim, H. and Onuk,G. (2009) also focus on the reasons why households diversify into non-farm activities, in order to explain the rationale for the difference in non-farm sectorial choice. Thus, they mention three reasons for the diversification into non-farm activities': to create additional income that helps to maintain the standard of living of the households (34.3%), to generate income in order to invest in the general personal development of the household members (31.4%), others to reduce the risk that may occur from agricultural production (11.43%). According to them the choice of households is influenced by their rationale for participation in non-farm activities.

2.2.4 Opportunities and Constraints to the development of the NFAs

A numbers of studies, in Africa, Ethiopia or elsewhere, suggests that the constraints for non-farm development in the rural areas are as diverse as the activities themselves. But all the constraints that hinder RNF development revolve around social, financial, physical and natural capital.

According to different literatures, for example (Tassew, 2001; Mulat, 1997) and Josef, et al (2008), the constraints includes technological, institutional, infrastructural (the low quality and insufficient supply of roads, electrical power and telephone lines), lack of sufficient initial capital, lack of adequate start-up skills, lack of raw materials and absence of market demand for products and cultural factors. But these constraints are not consistent among the localities and type of non-farm activities.

Even though these studies have discussed about the constraints for non-farm livelihood diversification, there is no point of discussion about the opportunities for the development of non-farm activities in the rural areas.

2.3 Non –farm activities in Ethiopia

2.3.1 The economy of Ethiopia

Ethiopia is a rural and agrarian society where nearly 85% of the population are directly dependent on agriculture and livestock for their livelihood. Agriculture is the mainstay of the economy. It accounts for about 50% of the GDP and 90% of the total foreign exchange earnings (Beyene, 2008). The main types of farming activities are crop production, livestock husbandry and mixed farming. Mixed farming is the dominant type of farming system and includes both crop production and animal husbandry. The dominant type of farm input is labor and most of the farm labor comes from family members. Hence, the distribution of Labor force - by occupation is agriculture 85%, industry 5%, services 10% (CSA, 2007). The report also added nearly 96 percent of the agricultural output is produced by subsistence farmers who operate on fragmented small plots of land. The small plots could be subject to further fragmentation in the future unless measures are taken to accommodate the ever increasing rural population and minimize the total dependency of the rural population on agriculture.

Despite the different measures taken by governments, the national economy still relies on the agricultural sector which is characterized by low labor productivity, a declining farm size and subsistence farming, soil degradation, inadequate and variable rainfall, tenure insecurity, weak agricultural research base and extension system, lack of financial services, imperfect agricultural markets and poor infrastructure (Beyene, 2008).

2.3.2 Rural livelihood diversification in Ethiopia

In Ethiopia, like other sub-Saharan Africa countries, the nation is characterized by a complex, diverse and risk-prone agricultural production environment (Devereux, 2000, and MoFED, 2002). Natural disaster (drought) forced people into alternative livelihood. Ensuring households' access to food poses a formidable challenge in view of the fact that chronic food insecure households are predominantly located in drought-prone, moisture deficit, areas and peripheral

pastoral areas. These areas are chronically food insecure in several aspects; they don't produce enough food to feed themselves, food production is highly variable, and there are many households with insufficient income to secure enough food through the market (FDRE, 2002). This has forced people in the region to look for alternative employment option other than agriculture. That means, households engage in diverse livelihood strategies away from purely crop and livestock production towards farm, non-farm and off-farm activities that are undertaken to broaden and generate additional income for survival and coping mechanism. Despite of this, the struggle to reduce poverty at the household level in the rural areas of Ethiopia, this has remained as a challenging goal.

Barrett et.al (2001), Davis (2003), IFPRI (2009) shows that different livelihood diversification strategies exist in the Sub-Saharan countries even though the forms and people's participation level may vary. According to Sosina (2007), the combination of livelihood resources (different livelihood asset) is resulting in the ability of people to follow the combination of livelihood strategies. Consistent with the above statement, in many rural parts of the country, the recurrent drought along with the environmental degradation is becoming a serious threat to the livelihood of the poor. However, some households successfully respond to these events, and exhibit livelihood systems that are able to resilient while others do not.

According to Ayele (2008) agriculture and agricultural land are extremely important to millions of rural farm households, as well as to the national economy. He added Agriculture is the only source of livelihood for most people in rural areas and access to agricultural land is of great economic significance. Whereas in most farm households, livelihood activities often include off-farm and non-farm activities in addition to farming, as income from the latter alone is insufficient to make needs meet. Besides, according to Start (2001) farming and off-farm/non-farm activities complement each other. That is, Farm income can provide the capital needed to initiate and expand off-farm and non-farm income sources, while off-farm and non-farm income can contribute to farm productivity by providing finance for farm input purchases and investment.

Like most regions of Ethiopia, Tigray is largely dependent on agriculture. The majority of populations living in the densely populated highland areas is sedentary agriculturalists practicing crop cultivation for household subsistence supplemented by animal husbandry. Nonetheless, agricultural production and productivity has remained very low mainly due to small land holdings (average 0.5 ha. Per household), the use of traditional farming systems, land degradation and low soil fertility; recurrent drought; prevalence of pests, etc. As a result, household agricultural production is often unable to sustain their families (Timothy et.al, 2007).

According to the woreda report (2012) Most of the households in Enderta also rely on the production of rain fed cereal crops (barley, wheat, vetch, teff, and flax), daily labor activities and participation in the productive safety net program /PSNP/. Households that engage in daily labor activities do so primarily through male household members traveling to Mekelle to find work. On the other hand, the poor households often do not have the capacity (labor, oxen for draft power) to cultivate their plots themselves. They either enter into sharecropping arrangements with better off households or simply rent out their land. A small number of the better off households are involved in the salt trade, either by renting their donkeys to others or by directly engaging in trading themselves.

Ethiopia created food-for-work (FFW) programs in the early 1960s to address rural unemployment and food shortages. By the 1980s, the national FFW programs focused extensively on soil conservation and afforestation projects (Tommy, 2004).The FFW programs put pressure on households to diversify out of agriculture due to the distortionary effect it had on local food prices.

Despite the pressures on households to diversify into off-farm activities, entry barriers to such diversification exist. In some cases, "off-farm activities may require investment on equipment purchase, or rent, skill acquisition, and license fees. Besides in the Tigray region of Ethiopia, Tassow et al. (2001) emphasize that older households are less likely to work off-farm because they were traditionally prohibited from doing so this implies the existence of cultural outlooks towards the non-farm activties. In addition, in a region where household wealth is measured by number of livestock and land owned, the necessity of tending to land and livestock also reduces

livelihood of off-farm employment. In many villages, wealthier households dominate the most rewarding forms of off-farm employment, driving those without opportunities into wage-based farm work. Households differ in diversification strategies depending on physical needs and constraints. Some adopt a long-term strategy to address risk management issues while others look for short term strategies to cope with immediate harvest shortfalls. However, little or no empirical analysis had been conducted on the institutional arregements needed for enhancing the development of rural non-farm income generating opportunities.

Chapter three: Research methodology

This chapter basically focuses on giving an outline of the various procedures implemented by the study. Grounding on this understanding, the chapter provides an insight on the research approach adopted by the study as well as the research methods employed during the investigation process. Pertinent to this, the chapter also provides the rationale for the choice of each of these. Furthermore, the chapter provides detailed information on the study area, the units of analysis of the study and on the data collection methods and the data analysis procedures employed by the study.

3.1 Site selection and sampling procedure

3.1.1 Site selection procedure and area description

The study population was drawn from EndertaWoreda, which is found around Mekelle city, is among the 34 rural woredas of Tigray regional state. It is located in south Eastern Zone part of the region which shares borders with Wukro to the north, DegueTemben to the west, Afar region to the east, and HentaloWajirat to the south. The Dry Midland Livelihood Zone spread across parts of Enderta, SehartiSamre, part of AtsbiWonberta and Hawzen woredas. Thus Enderta lies in the midland Agro-ecological zone, characterized by dry climatic conditions and erratic annual rainfall of 450-600 mm. The landscape is mostly plain and hills, with bush vegetation (USAID, 2006).

Enderta is the third populated woreda next to HentaloWajirat and Seharti Samre woredaswith total population of 114,277 (57,472 male and 56,805 female) in the region (CSA, 2007). According to Enderta woreda office agriculture and rural development annual report, the woreda has seventeen tabias /kebeles with 23,674(102,245) total households and out of which 7,750

households are female headed, and the woreda has total area of 93,452hectare and out of the total area 31,184 hectare is arable land(Enderta office of Agriculture and rural development annual report, 2012).

According to the BOARD report (2012), mixed farming which includes crop and livestock productions is the most dominant livelihood system undertaken by small-scale farming households in *Enderta*. Like other parts of the region livestock ownership and land holding are the important assets of the farming households in this area. The most commonly produced crops by small-scale farming households are wheat, barley, teff**,** and lentils. Firewood sales and labor migration are also an important source of income for poor households.

Figure 3.1.1.1 Map of research area Enderta, Tigray

Source: Tigray online. 2011.

The rationale for the choice of Enderta for the study is based on the following factors: Logistical feasibility; and previous contact of the researcher with the locality and the Woreda's Agricultural

Office staff. Besides Enderta is a Woreda with some kebeles exhibiting thriving non-farm activities and other kebeles where the predominant occupation of the population is farming.

After having made a choice of Woreda to conduct the research, the next stage has been Kebeleselection. Thus, two tabias were selected randomly in order to achieve the stated research objectives. Accordingly tabia Ddba and Chelekot were selected, with a population of 1558 and 771 households respectively, thus the total population of the study is 2329.

3.1.2 Sample and sampling procedure

The sample size of the study is 156, which had been determined based on Kothari's (2004: 179) formula:

$$n = \frac{z^2 * p*q*N}{e^2 (N-1) + z^2 * p*q}$$

Where

N= the population size

p = Sample proportion of successes

n= Sample size

q = 1 – p

z = the value of the standard deviate

e = Acceptable error (the precision)

Hence, N= 2329 p= 0.5 z= 1.81 e= 0.07

Therefore, $$n = \frac{(1.81)^2 * (0.5)*(0.5)*2329}{(0.07)^2 (2329-1) + (1.81)^2 *(0.5)*(0.5)}$$ ……. n=156

Within the Tabias, the households were also selected based on proportionate random sampling procedure. Accordingly, 104 from Ddba and 54 from Chelekot were nominated, thus making total sample size of 156.

Table 3.1.2.1 Sample size selection method from each kebeles

No	Name of Tabias	Total households	Sample selected	Method of selection
1	Ddba	1558	104	Proportionate random sampling
2	Chelekot	771	54	Proportionate random sampling
Total		2329	156	Then the elements were selected using a systematic random sampling method

The systematic random sampling method had been adopted for selecting the elements of the study. Under systematic random sampling method, firstly all households in a village had been enumerated. The next step was to find the random interval. This was calculated by dividing the total number of households or total population in each of the two Tabias (For e.g. N = 1558) by the number of households that are to be selected (e.g. n = 104). Thus, the random interval is equal to 1558/104 = 14.9, since the random interval was in decimals, it was converted to the next whole number, which is 15. Then the first households had been selected using the random numbers table. Since the total sample population is a four digit, the starting point was determined by lottery system on a four digit number. Subsequently every 15^{th} household from the total number of households was taken to frame a sample. Therefore, the first selected number was the 31^{th} household in the list, and then the subsequent selected households had been the 41th, 56th, 71th, 86th, and so on.

3.2 Research Methods

With regard to the research method, the researcher thought that a single approach will not provide all the answers to the research questions because the rural non-farm economy is multi-dimensional and heterogeneous. Therefore, a mix of qualitative and quantitative methods had been used complementarily in the research i.e. the two methods are combined throughout the study in a mixed-methods approach or triangulation.

According to Trochim (2000), a mixed method study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research.

3.2.1 Methods of data collection and data sources

Due to the multidimensional, heterogeneous and dynamic nature of RNFAs, both qualitative and quantitative data are used for this study. And this study had employed two types of data, primary and secondary. The primary data sources were gathered as first-hand information to achieve the objectives of the research using a survey method, focused group discussion (FGD) method and personal observation. At household level, the data include demographic characteristics, the dominant rural non-farm activities and their characteristics, reasons for participating in the chosen non-farm activities, opportunities and constraints for the promotion and expansion of non-farm activities.

Secondary data, as supportive data to the primary data, were gathered from secondary sources such as similar studies conducted in other areas, the report of woreda respected offices, and from related published journals. Thus, documentary sources were utilized to build the theoretical and empirical basis of this study. The search for literature and documents for this study is conducted using libraries, personal collections and the internet. Published and unpublished documents

including progress reports, research document and compiled data were reviewed to get background information about RNFAs. Information was collected from different organizations like the Woreda Agriculture and Rural Development Office, Small-Scale Trade and Industry Offices, youth affairs office.

3.2.2 Data collection instruments

The survey was conducted in the month of February up to May, 2013. Primary data was collected through a structured questionnaire, focus group discussions interviews', and personal observations.

Household interview/ Questionnaires

As data collection instrument questionnaire was developed based on the research questions to gather information from sample respondents in such a way that it addresses the relevant variables and objectives of the study. Questions were also developed for qualitative focus group discussion. Three enumerators were employed and given one day training on how to fill the questionnaire and collect the required data. The draft research instruments were discussed with advisor. This discussion led to initial refinement in wording and the inclusion of additional items. Then, in order to have further corrections and necessary modifications, the draft questionnaire was pre-tested on Dadba Kebele (in five households). The period of pre-testing gave the enumerators and the researcher practical experience in conducting interviews. After administering the pre-testing questionnaires, each item was examined in a group (the researcher and enumerators) and improved on wording, ordering, removing repeated questions and arrangement of research variables. Pretesting and revision were done in February 2013 (refer to the questionnaire in annex A).

Focus Group Discussion/FGD/

To crosscheck and enrich the validity of the information collected from the sample respondents, FGD had been carried out. The group discussions were carried out at three levels, one in each Tabias and one in Woreda. A group of 12 members was established for the purpose of FGD in each Kebele. Participants of the FGD include representatives from youth, women, non-farm participants, development agents and Tabia administrative members. And at Woreda level, extension coordinator and experts of the Woreda agricultural office, representatives from youth office, women affair's office, social affairs office and office of small and micro enterprise development agency. A checklist of issues was prepared to ignite discussions and allow the participants to analyze their own situation (refer to the checklist for FGD in annex B). These interviews were aimed at gathering information on the dominant non-farm activities, opportunities and constraints of RNFAs in the Woreda.

Observation

In order to crosscheck the data obtained through other instruments or methods of data collection mentioned above, observation was done by visiting the study sites and some households working areas. And issues such as balance book recording, customer handling, product handling, operaters of the non-farm activities, and negoating skills during selling products are aboseved in the market and working areas.

3.3 Method of data analysis

In view analyzing the data, a code was developed to guide the extraction of data from the questionnaire. Then, the responses from the questionnaires were entered into the cells of SPSS. Data processing and analysis was done by computing summary Statistics (frequencies, and percentage), cross tabulation, summarized in tables and graphs.

The analysis of the qualitative data obtained through both household interview and focus group discussion is conducted on the basis of narrative type of analysis.

Chapter four: Presentation and discussion of results

4.1 Introduction

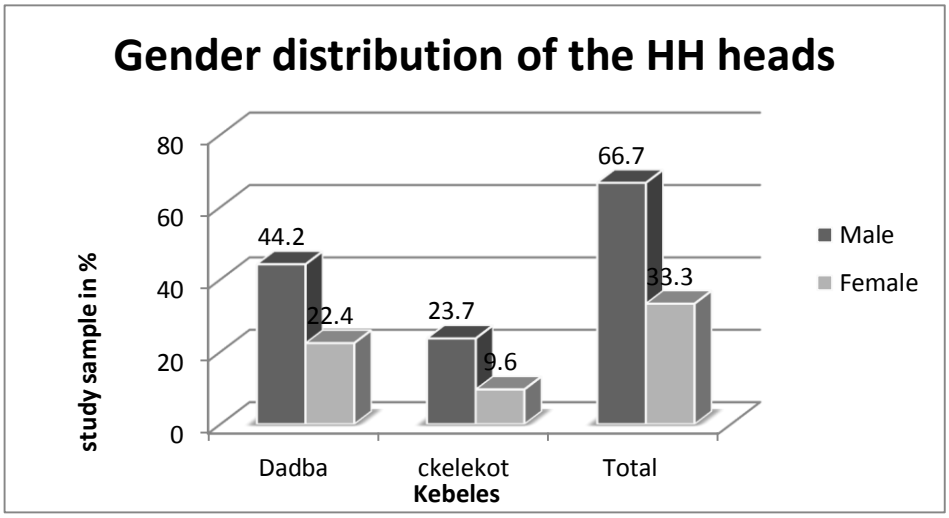
The purpose of this chapter is to present, review and analyze the results obtained from the household interview survey and focus group discussion conducted in the two Tabias of Enderta district in the month of February 2013. Thus, information was obtained about the non-farm activities the farmers are engaged in, the reasons why they are engaged in those activities, the constraints and opportunities, and finally the institutional arrangement needed for realizing non-farm activities in the rural areas of the study areas. In order to provide a summary of the research findings and explain these findings, the research findings are presented in the form of cross-tabulations and descriptive statistics which include frequencies, percentages and charts.

4.2 Household Characteristics of the Respondents

As indicated in chapter three, a total of 156 respondents were selected from the two study Tabias. Different aspect data of the samples which relate to demography, awareness and participation in non-farm activities, constraints and opportunities, and institutional support needed were collected.

A summary of the demographic characteristics will be presented in this section. And in order to see the variations between samples, the data is summarized by Tabias. Hence the sex, age, marital status, religion, education level, occupation status and family size of the households are presented in Annex C.

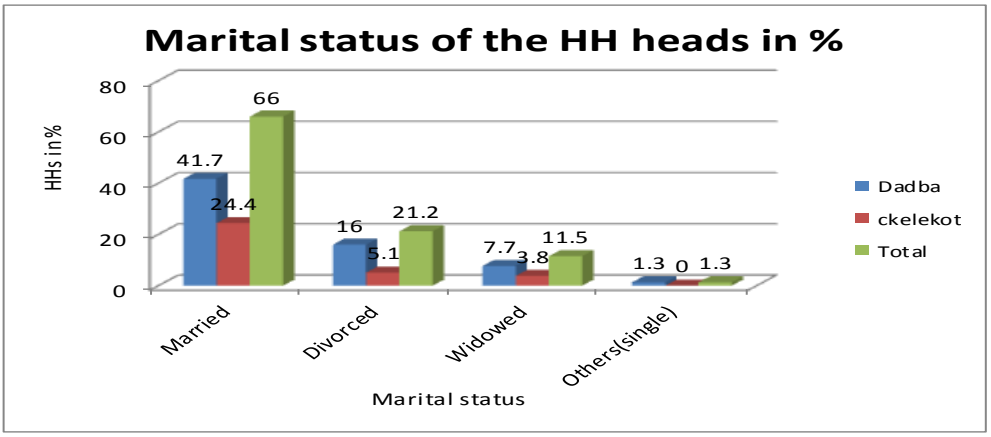
Figure 4.2.2 Gender distribution of the HH heads



Source: Owen survey, 2013

Sex is one of the factors that help to define the kind of non-farm activities an individual engages in. Thus, to uncover the involvement of the households in different non-farm activities the study has identified the gender of household heads. Accordingly, the gender distribution of the household heads is presented in figure 4.2.2. This figure shows that 66.7 percent of the sample household is male headed, from this 44.2 percent are from Ddba Tabias and 23.7 from Ckelekot. And the women headed households' accounts 33.3 percent.

Figure 4.2.3 Marital status of HH heads



Source: Owen survey, 2013

Figure 4.2.3, which is a summary of the marital status distribution of the sampled household heads, illustrates that out of the four categories of marital status such as single, married, divorced and widowed, the majority of the respondents (66 percent) are married, only 1.3 percent household heads are single, 21.2 percent divorced and 11.5 percent widowed. Besides the divorce rate is high in Tabia Dadba that of Chelekot.

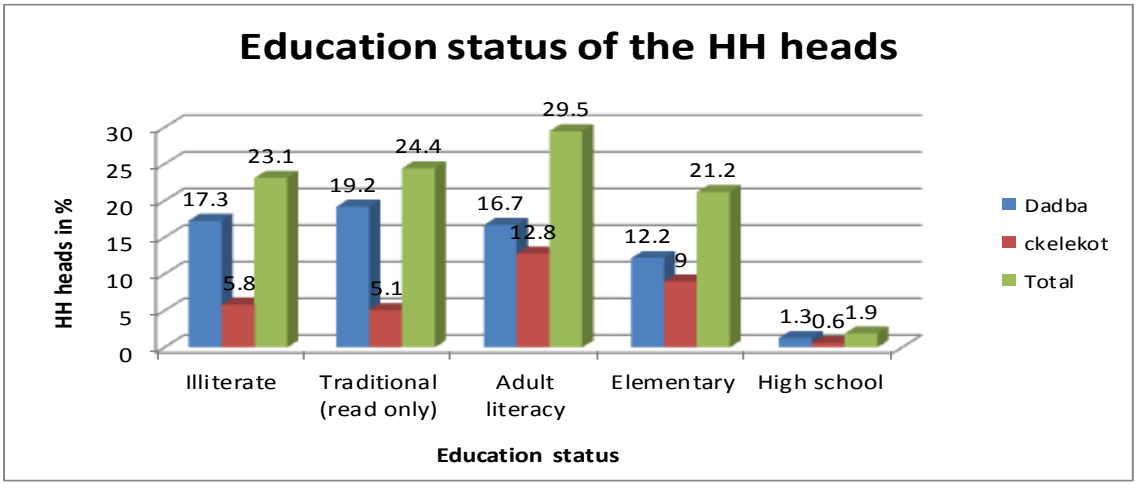
Table 4.2.2 Age and labor capacity of HH heads

No	HH characteristics'	Ddba		Chelekot		Total	
		Count	%	Count	%	Count	%
1	**Age**						
	18-45 years	70	44.9	47	30.1	117	75
	46-64 years	32	20.5	5	3.2	37	23.7
	65 years and above	2	1.3	0	0	2	1.3
2	**Labor capacity of the HH head**						
	Adult working	94	60.3	52	33.3	146	93.6
	Elderly	5	3.2			5	3.2
	Permanently disabled	5	3.2			5	3.2

Source: Owen survey, 2013

With regard to the age distribution of the household heads as shown in table 2, 75 percent of the total household head is found in the active working age ranging 18-45 years (with an average age 31.5 years), and 23.7 percent is in the age of 46-64 years (with an average age of 55 years). The remaining 1.3 percent from Tabia Ddba is above 65 years of age, which is known as the age of dependency or elderly. Similarly the labor capacity of the household heads is described as, 93.6 percent are adult working groups there are only 3.2 percent of the household heads who are permanently disabled.

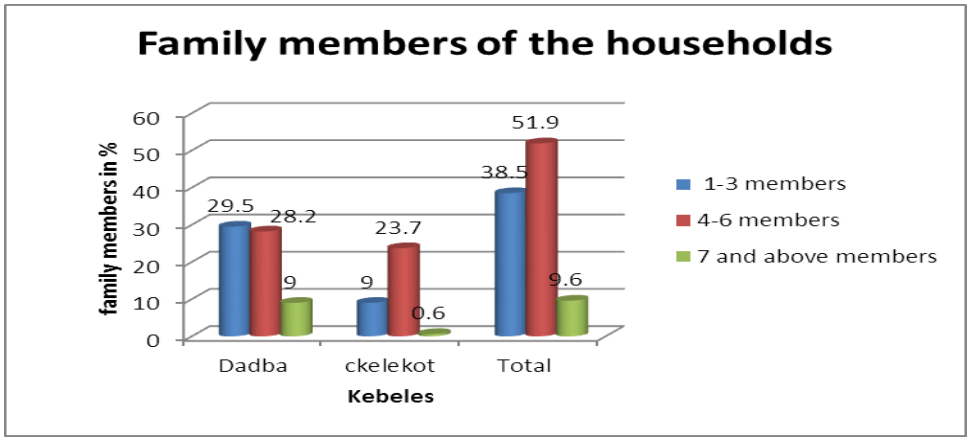
Figure 4.2.4 Education status of the HH heads in percent



Source: Owen survey, 2013

The study has also identified the education level of the sample population as indicated in figure 3; 23.1 and 24.4 percent of the respondents are illiterate and traditional(read only) respectively. On the other hand 21.2 and 1.9 percent are found as high school and elementary level. Out of the 13.5 percent are from Tabia Ddba, the growing sub-urban area. From this result what can be understood that 47.5 percent of the total respondents are below the adult literacy stage and 29.5 percent are also adult literacy, totally there are 77 percent of the respondents are below adult literacy status.

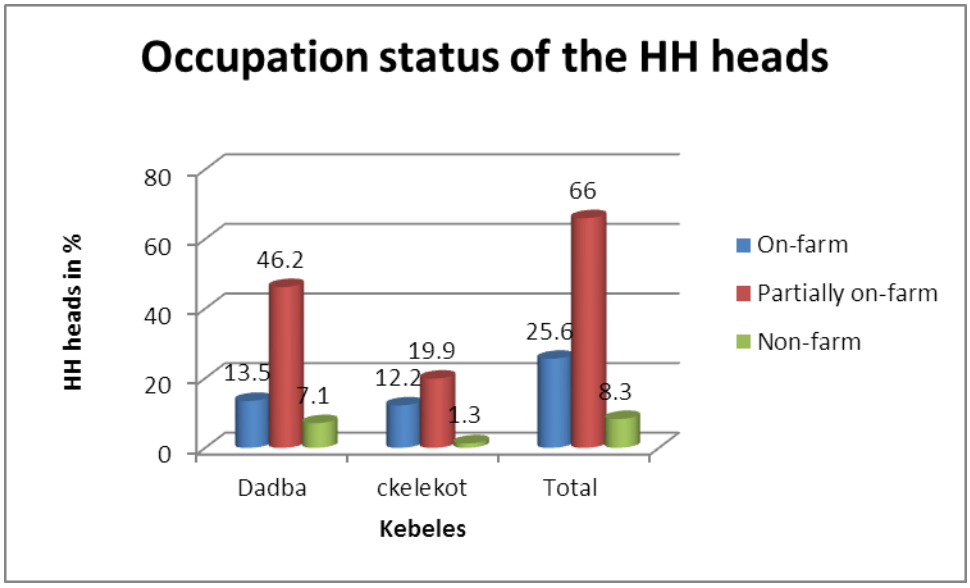
Figure 4.2.5 Family sizes of the households



Source: Owen survey, 2013

To study the role of labor or the family size of the respondents and their participation in non-farm activities a data regarding family size was collected and is presented as in figure 5. Accordingly, 51.9 percent of the respondents have a family with members in the range of 4-6 members(or an average of 5 members), and 38.5 percent of the respondents has family members in the range of 1-3 members(or an average of 2 members). Only 9.6 respondents have a family members of 7 and above.

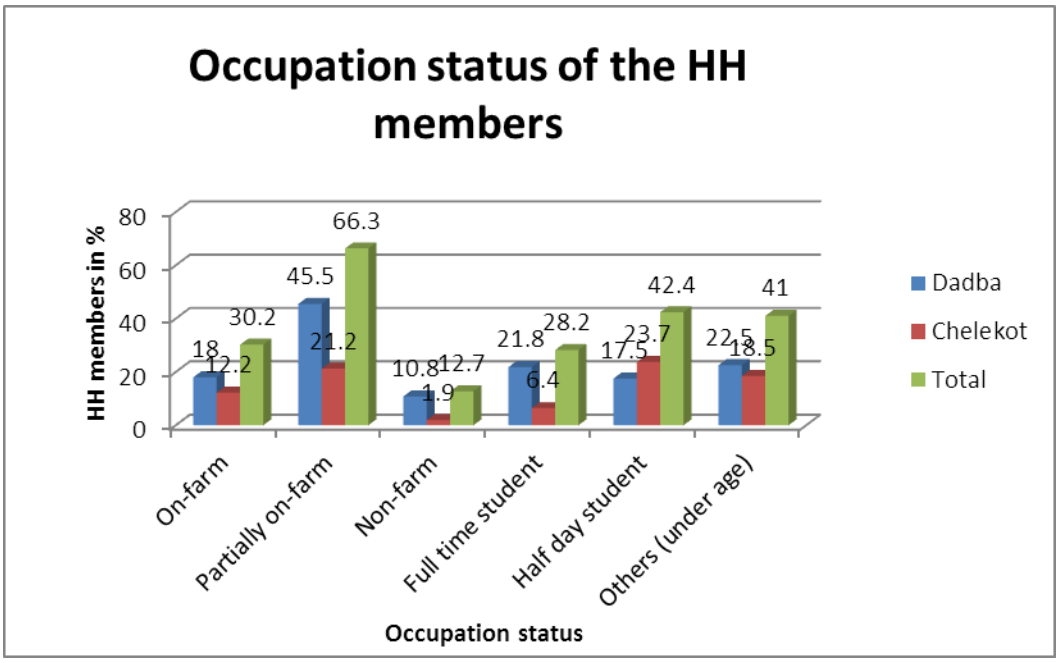
Figure 4.2.6 Occupation status of the HH heads



Source: Owen survey, 2013

This part will be seen in detail in next section of this chapter but as an introduction the occupation statues of the respondents were identified as 66 percent participating on partially farming activities, and only 8.3 percent are making their living by participating in non-farm income generating activities as only income source and those members are the landless household heads or new married couples. On the other hand there are households that totally depend on the agriculture, which accounts 25.6 percent of the respondents.

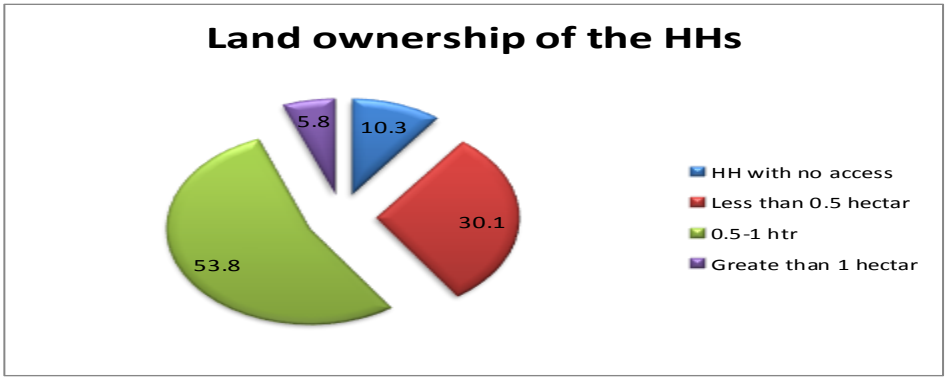
Figure 4.2.7 Occupation status of the HH members



Source: Owen survey, 2013

As indicated in figure 4.2.7, the occupation status of the family members is dominated by partially farming activities which accounts 66.3 percent. Besides, 30.2 and 12.7 percent of the household members are participating only in one income sources that is farming or non-farming activities respectively. There are also a full time student (28.2 percent), half day student (42.4 percent) and under age (41 percent) family members.

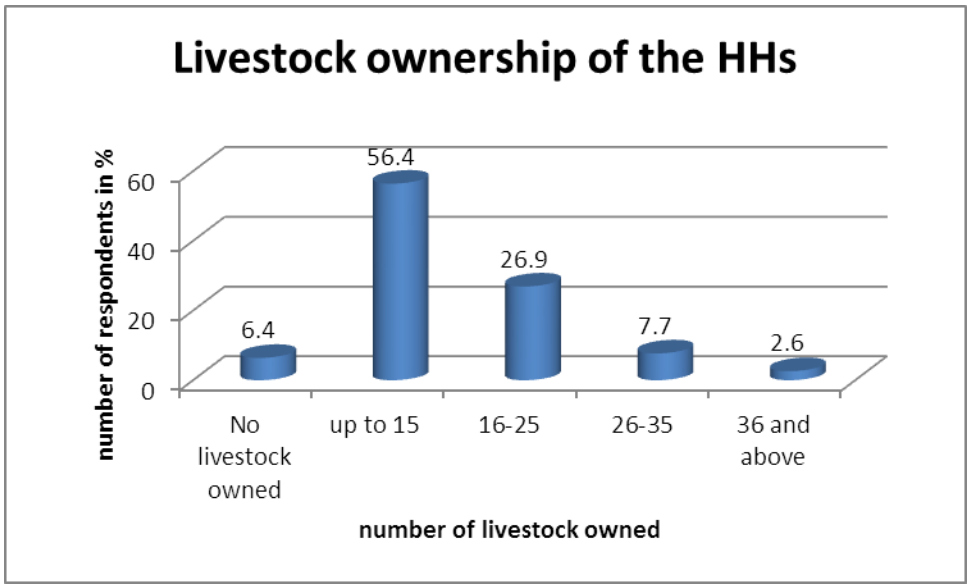
Figure 4.2.8 Land ownership of the respondents



Source: Owen survey, 2013

With regard to farming land ownership of the households there are two extravagances for example 16 (10.3 percent) households have no land owned, another 5.8 percent household have land ownership of greater than one hectare. The majority of the households,53.8 percent, have a farming land with size ranging between 0.5 up to 1 hectare. And 30.1 percent of the respondents have less than 0.5 hectare land.

Figure 4.2.9 Livestock number owned by the HHs



Source: Owen survey, 2013

In order to identify the livestock ownership status of the household a question was asked to the respondents to mention the livestock they own. In the study livestock includes ox, cow, heifer, bull, calf, sheep, goat, donkey, horse, mule, chicken, and beehives. The livestock ownership of the households is dominated by a number of livestock owned less than 15 in number. This is reported by 56.4 percent of the respondents. And there are 6.4 percent who reported that they don't have any livestock in their home.

4.3 Number and Dominant patterns of non-farm activities

In order to get instance access to the discussion and uncover their awareness about the existence of non-farm activities in their locality, the households were asked to mention any of the non-farm activities in their locality in which the community members are participating in as a means of income generating activities.

Table 4.3.3 Non-farm IGAs practiced in the study areas

Activities by category	Respondents who replied "Yes"	
	Frequency	Valid percent
Service category	145	92.9
Construction category	102	65.4
Manufacturing category	71	51.9
Hand tool product category	67	42.9

Source: own study results

Accordingly, the result shows all of the households interviewed are aware of the non-farm activities practiced in their locality or Tabia i.e. all the respondents have mentioned two or more of the non-farm income generating activities practiced in their locality. As in table 4.3.3 is indicated, the service category non-farm income generating activities, which includes Petty trade, Rural transport (carts, donkey, horse), Barberry, photography, Grain milling, Maintenance and repair services (Repair of shoes, vehicles and tools……), coffee and tea shops, bars, restaurants, are familiar and recognized by 92.9 percent of the households.

However, the results from group discussion are different. That is the awareness of the farmers is limited only to the existence of the non-farm activities and to the services they get from such activities. Thus, the scope of the farmers' awareness about the non-farm activities is in its low status. The farmers did not recognize these activities as a means of earning additional income; instead they consider these activities are destined for the lower class and minority group in the community. Even there are community members who feel bad to talk about these activities. Especially the pottery making, blacksmith and weaving are culturally highly discriminated and unrecognized activities. So the farmers are not well aware of the types of non-farm activities for them as a means of livelihood diversification or income generating activities rather they are aware of these activities in the culturally biased way. This means they did not have any cultural and social initiatives to participate in such activities to gain additional income. In addition to that, the result from the group discussion, explained that the awareness of the woreda and tabia administrative bodies and experts about the non-farm activities is low as well as understood in culturally biased perception.

The study also sought to determine the various non-farm activities that farmers are engaged in order to obtain additional income for them to survive and meet basic requirements.

Table 4.3.4 Family members participating in Non-farm activities

No	Family Member's Engagement in Non-farm activity	Frequency	Valid Percent
1	1-2	108	69.2
2	3-4	17	10.9
3	No participation	31	19.9
4	Total	156	100.0

Source: own study results, 2013

Accordingly, of all the 156 sampled household heads 80.1 percent of them have at least one family member participating in non-farm activities whilst the rest, 19.9 percent did not have any family member who participate in any non-farm activities and earn additional income to the household (see Table 4.3.4 which show participation of members in non-farm activity).With regard to the number of family members engagement in non-farm activity, of the 80.1% households 10.9% has a 3-4 family members participating in non-farm activities and 69.2% has a 1-2 family members participating in non-farm activities. This indicates that even among these households participating in the non-farm activities the level of family member participation is limited to one or two members, which means the involvement of the household members in the activity is low, which is not understood and owned by all the members of the family. Thus the awareness level among the household members may also be different. Inconsistent to this Josef et al. (2008) in a study titled "Non-farm Micro enterprise Performance and the Investment Climate" as evidence from Rural Ethiopia, found that even though the rural non-farm participation rate tend to show an increasing trend, the participation rate is more volatile.

Besides, it was noted that those household heads who engaged in non-farm activities were found to engage in service oriented rural non-farm activities (see Table 4.3.7 which shows the types of non-farm activities that household heads participated in). The most notable thing was that, the majority of the sampled household heads were engaged in petty trade, which includes grain and animal trading as well as non-agricultural items. And according to literatures the existence of trading (animal, crop, or other non-agricultural items) is almost similar to the formation age of agriculture. Even practically the farmers always take some of their agricultural products to sale in order to buy basic non-agricultural items from towns. So, the participation of the household members in non-farm activities as a means of additional income earning or diversifying income sources is dominated by the traditional/unskilled trading activities.

Table 4.3.5 Reasons cited for not participating in any NF IGAs

No	Reasons for not participating	Frequency	Percent
1	Lack of awareness about nonfarm activities	25	16.0
2	Lack of sufficient skill	6	3.8
3	Lack of access to training facilities	14	9
4	Lack of adequate access to credit	3	1.9
5	Lack of adequate access to market information	2	1.3

Source: own study results, 2013

Further the study has attempted to examine about the reason behind the lacking participation of households in the non-farm activities. Accordingly, the 31 household heads who were not engaged in any non-farm activities cited various reasons for failure to engage in any non-farm activities. Their reasons included lack of awareness about non-farm activities, lack of sufficient skill, lack of access to training facilities, lack of adequate access to credit and lack of adequate access to market information. Table 4.3.5 above shows the reasons for not engaging in non-farm activities.

From the above given statistics in table 4.3.5, the major limiting factors mentioned by 16 percent of those household were lack of awareness about non-farm activities i.e. those households don't have the knowledge about the types and importance of non-farm activities and how to get involved in one of these activities. Besides 9% reported due to the absence of training in our locality we are not motivated even to participate in one of the non-farm activities, 3.8% of the households also said lack of access to skill training, which includes either technical training, business development or customer handling training. That is, these households are aware of the types of non-farm activities and are interested to participate in such income generating activities but the problem is they don't have basic skill to start the non-farm activity for example there are household members who want to engage in weaving, but he/she needs training on how to use weaving machine and become competent with the modern textiles.

Now let us see the proportion of engagement of the households in non-farm activities, in the two kebeles separately.

Table 4.3.6 Kebele of the HHs*Family members participating in Non-farm activities

No	Kebele/Tabia of the HHs	Participation in NF IGAs	Family member participating in Non-farm activities		Total
			Yes	No	
1	Ddba	Count	90	14	104
		%	86.6%	13.4%	
2	Chelekot	Count	35	17	52
		%	67.3%	32.7%	

Source: own study results, 2013

As indicated in table 4.3.6 the involvement of the farmers in non-farm livelihood diversification in Tabia Ddba is higher than that of the Tabia Chelekot, which is 90 by 67.3 percent respectively. This indicates that the farmers in Ddba have more advantage from non-farm alternative income sources. This could be due to the centeredness or intimacy of the Ddba Tabia to the nearby urbans areas such as Mekelle, Adigudom, Quha and to the main road that leads from Mekelle to Adigudom. Besides the awareness level about the non-farm activities in Ddba Tabia is better than the remote rural areas like Chelekot. Besides as it is absorbed from the group discussion there are households in Ddba Tabia,which are involved in non-farm activities as their only income sources for their living.

In line to this Josef et al.(2008) found that holding other variables constant, the livelihood of operating an enterprise differs across locations with different geographical characteristics. That is with semi-remote or semi-urban location the participation is most likely higher than the remote rural area. Besides according to Davis (2003) rural towns play multiple economic roles, some of which strengthen local inter-sectorial linkages and contribute to the development of the rural non-farm activities. In addition it plays the role of intermediate marketing centers.

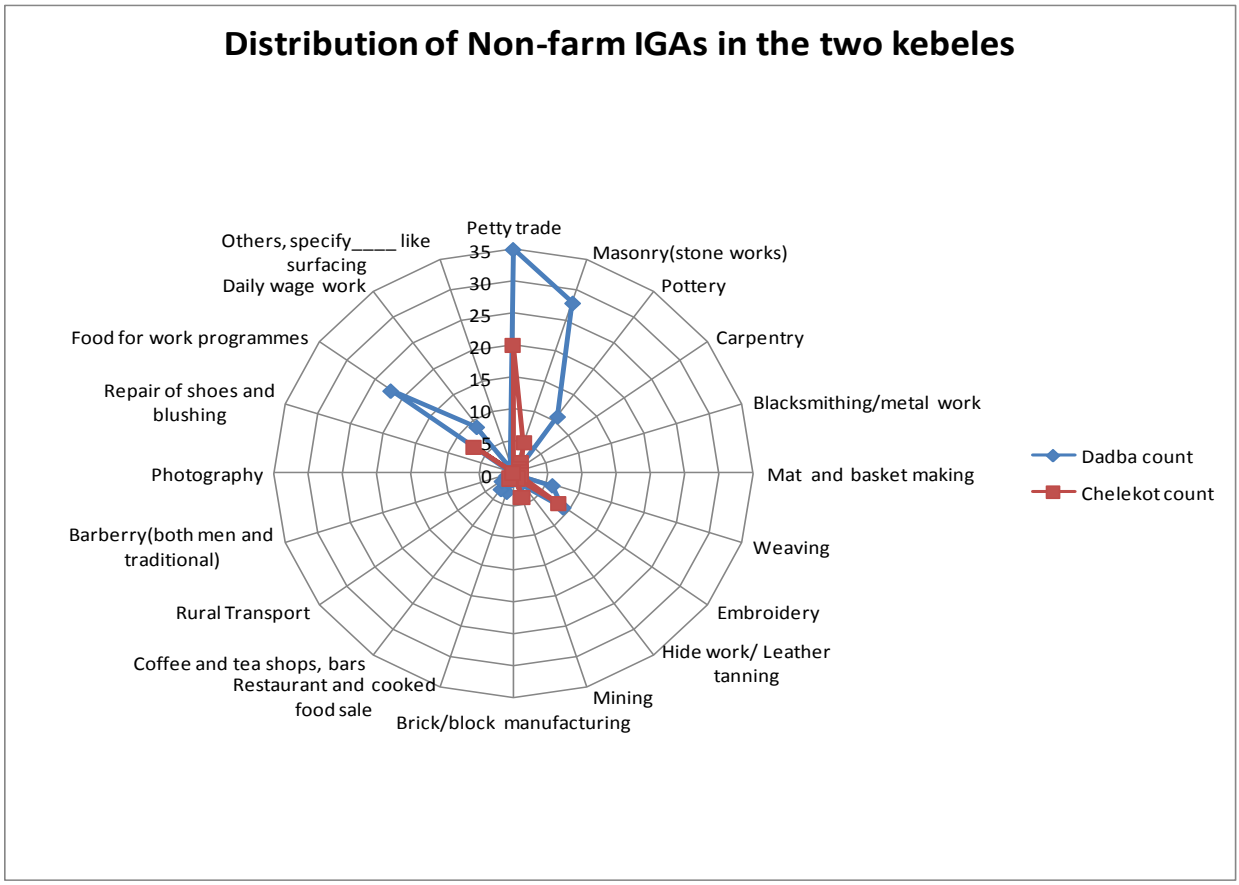
Table 4.3.7 Kebele of the HHs*type of Non-farm activities

No	Type of NF activity	Ddba		Chelekot		Total
		Count	% within the non-farm activity	Count	% within the non-farm activity	count
1	Petty trade	35	63.6	20	36.4	55
2	Masonry(stone works)	28	84.8	5	15.2	33
3	Pottery	11	84.6	2	15.4	13
4	Carpentry	1	50	1	50	2
5	Blacksmithing/metal work	1	50	1	50	2
6	Mat and basket making	0	0	0	0	0
7	Weaving	6	85.7	1	14.3	7
8	Embroidery	9	52.9	8	47.1	17
9	Hide work/ Leather tanning	2	66.7	1	33.3	3
10	Mining	0	0	4	100	4
11	Brick/block manufacturing	1	100	0	0	1
12	Restaurant and cooked food sale	3	75	1	25	3
13	Coffee and tea shops, bars	3	75	1	25	4
14	Rural Transport	2	100	0	0	2
15	Barberry(both men and traditional)	1	100	0	0	1
16	Photography	0	0	0	0	0
17	Repair of shoes and blushing	0	0	0	0	0
18	Food for work programmes	22	75.9	7	29	29
19	Daily wage work	9	100	0	0	9
20	Others, specify____ like surfacing	1	100	0	0	1

Source: Owen survey, 2013

From table 4.3.7 above, the general finding emerging from the data is that the nature of RNF activity differs significantly over the two kebels. This can be explained by the relationship of rural emerging urban or sub-urban areas and the involvement of the households in the non-farm activities, accordingly the participation of the households living in Ddba is higher than those living in Chelekot. Because Ddba is emerging sub-urban area located in the road side networked with Mekelle and Adigudom i.e. these rural areas surrounding urban areas and the growing rural-urban areas possess greater advantages in terms of market linkages in favor of the supply of raw materials and marketing of final products, availability of infrastructural facilities and certain opportunities for developing their activities. Thus the activity of the non-farm IGAs is relatively high besides the people in Ddba relatively are well aware of the benefits and importance of participating in non-farm activities as a means of income diversification for the households.

Figure 4.3.10 Non-farm activities pursued by household heads within the two kebeles



Source: Owen survey, 2013

The study revealed that there was a relationship between the types of non-farm activities engaged in by the household heads in each of the Tabias and the location of the Tabias. Table 4.3.7 and Figure 4.3.10 provide a summary of the activities being engaged in by the household heads in each of the two kebeles. These illustrations show that the majority of sample households in Kebele Ddba was engaged in any type of non-farm activities than those in Chelekot. Most of households in Ddba kebele took advantage of their close proximity to the nearby urban areas, and were specializing in buying and selling activities. These household heads bought goods from the nearby towns for resale in their areas of residence. Besides they had a better participation in masonry especially cobblestone, pottery, weaving, embroidery and carpentry than those households in kebele Chelekot. The study observed that as the distance from the city center increases, two things stand out. First and foremost, the numbers of people engaged in non-farm activities are decreasing. Secondly, the numbers of those engaged in productive non-farm activities are also decreasing (comparing to the Ddba with Chelekot) and this implies the dominance of traditional service oriented non-farm activities in Chelekot(Figure 4.3.10).

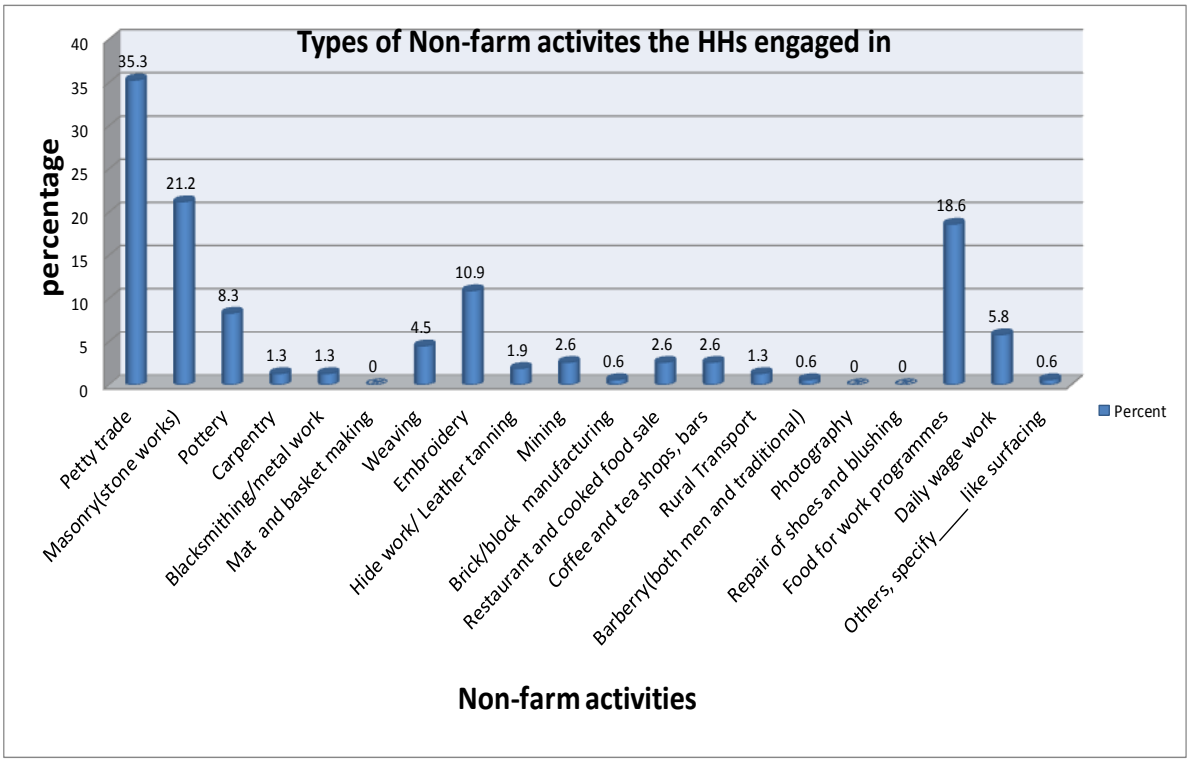
Table 4.3.8 Types of RNF activities in the locality

No	Non-farm activities	Frequency	Percent
1	Petty trade	55	35.3
2	Masonry(stone works)	33	21.2
3	Pottery	13	8.3
4	Carpentry	2	1.3
5	Blacksmithing/metal work	2	1.3
6	Mat and basket making	No	No
7	Weaving	7	4.5
8	Embroidery	19	10.9
9	Hide work/ Leather tanning	3	1.9
10	Mining	4	2.6
11	Brick/block manufacturing	1	0.6
12	Restaurant and cooked food sale	4	2.6
13	Coffee and tea shops, bars	4	2.6
14	Rural Transport	2	1.3
15	Barberry(both men and traditional)	1	0.6
16	Photography	No	No
17	Repair of shoes and blushing	No	No
18	Food for work programmes	29	18.6
19	Daily wage work	9	5.8
20	Others, specify____ like surfacing	1	0.6

Source: Owen survey, 2013

According to household interview and FGD results, non-farm activities in the study sites includes petty trade, masonry, embroidery, food for work, weaving, pottery, metal work, carpentry, mining, to name some. Survey respondents were asked to identify their sources of additional non-farm income generating activities or that of other members within the family. Their responses were summarized in Table 4.3.8 and figure 4.3.11.

Figure 4.3.11 Type of Non-farm activities the HHs engaged in



Source: Owen survey, 2013

Now let us see in detail the participation of the farmers in nominated non-farm IGAs and the status of these IGAs. From the study sample, it is marked that there is a high level of non-farm activity in the study area.

Petty trade

This seems to be a popular activity particularly in the study area because it does not require any skill to implement and the items sold are an everyday or frequent requirement of the community. From the above statistics, most of the household heads, 55 (35.5 percent) are engaged in petty trading activities (buying and selling). And the commonly practiced trade activities in the study area are mainly linked with agricultural, forest and urban products; namely, grain trade, livestock trade, trading of fuel woods, trading of other urban items. The farmers who participate in trading

of urban goods are taking the advantage of the close proximity of the towns such as Mekelle, Quha and Adigudom.

The participation of the farmers in petty trade, as a means of alternative income generating activity, is high. But there are points that need to be clear, one the farmers are participating in these activities seasonally. For example, farmers engaged in grain and livestock trading are performing these activities only in good agricultural harvest time. Second, these petty trade activities are not managed in a modern way or there is no recording system of the balance sheet, the cost of labor and transportation is usually not calculated in the selling price of the items, the item handling system is also not in proper way, and finally this all indicates that the trading system is a traditional.

According to the FGD results there are farmers who are engaged in trading activities and unable to cover their expenses. This is because their trading system is not based on cost-benefit analysis and they are lacking negotiating skills in the buying-selling arrangements. Thus, even though the participation of farmers in the trading activities is good, it is difficult to say this is helping them to gain additional income for their household needs to meet.

Stone works

The other activity with a fairly large proportion of participation is stone works such as cobblestone with 33 people being involved in the activity. According to the FGD results the stone works are traditionally well known and practiced by the farmers as additional income sources for their family. From such activities the farmers gain a good income ranging from 120-150 Birr per day, but this activity is seasonal and the average working day per month is 15-20 days. It is also practiced usually in the months of January, February, and March. The rest months are usually used for agricultural activities and other social ceremonies. Besides the participants in the FGD indicate that the skill of these farmers, who participate in the stone works, is traditional- it is not guided by modern skills and technologies.

Food for work also had a better frequency with 29 people being involved in the activity. This means the participation of the households in the productive safety net program as an additional income source. But it is difficult to say the households are intentionally diversifying their income sources by participating in non-farm activities. Since their participation in food for work activities is based on being a beneficiary of PSNP. And the PSNP beneficiaries' are selected based on their existence as chronically food insecured households. Thus the participation of the farmers in such activities doesn't indicate their awareness about the importance of diversifying non-farm livelihoods.

Embroidery and pottery

The participation of the households in embroidery and pottery activities is reported as 10.9 and 8.3 percent respectively. This shows the existence of these activities in the locality. But according to the participants these activities are important to cover the household's costs for agricultural input demands.

The FGD participants have also indicated that there are a lot of the landless or unemployed members of the kebeles who are engaged in quarrying of sand and stone as income sources. But these who apply to access the resource are eligible under the condition that they organize themselves under cooperatives. And in the interview there are four household members participating in sand and stone mining. However, trading- in particular in agricultural commodities- is the dominant activity. In both the kebells more than half of the enterprises are in the trade and service sector, followed by embroidery, and then pottery. The participation of the households is dominated by trading, which is not production oriented activities. Thus, the non-farm livelihood diversification of the households was in the traditional / unskilled way and it is also seasonal.

The least reported cases are barberry (modern and traditional hair dressing), brick production, carpentry, metal works, hide work and masonry which had one-two (1-2) respondent each. Basket making, photography, repair of shoes and blushing were not reported at all indicating that they are not commonly practiced in the study areas.

FGDs further revealed that engagement in non-farm activities is on the whole mostly seasonal and done on a part-time basis.

Table 4.3.9 Participation in Non-farm IGAs*Demographic factors

No	Household's characteristics'	Participation of the household members in Non-farm activities			
		Yes in count	Yes in %	No in count	No in %
1	**Sex**	**125**		**31**	
	Male	82	65.6	24	77.4
	Female	43	34.4	7	22.6
2	**Marital status**	**125**		**31**	
	Married	81	64.8	22	71.0
	Divorced	25	20.0	8	25.8
	Widowed	17	13.6	1	3.2
	Others (single)	2	1.6	0	0.0
3	**Age**	**125**		**31**	
	18-45 years	92	73.6	25	80.6
	46-64 years	31	24.8	6	19.4
	65 and above years	2	1.6	0	0.0
4	**Education status of HH head**	**125**		**31**	
	Illiterate	28	22.4	8	25.8
	Traditional (read only)	30	24.0	8	25.8
	Adult literacy	39	31.2	7	22.6
	Elementary	25	20.0	8	25.8
	High school	3	2.4	0	0.0
5	**Family size of HHs**	**125**		**31**	
	1-3 members	50	40.0	10	32.3
	4-6 members	63	50.4	18	58.1
	7 and above members	12	9.6	3	9.7
6	**Farm land ownership**	**125**		**31**	
	No access to land	16	12.8	0	0.0
	Less than 0.5 hectare	36	28.8	11	35.5
	0.5-1 hectare	65	52.0	19	61.3
	Greater than 1 hectare	8	6.4	1	3.2
7	**Number of livestock owned**	**125**		**31**	
	No owned livestock	10	8.0	0	0.0
	1-15 owned	75	60.0	13	41.9
	16-25 owned	26	20.8	16	51.6
	26-35 owned	10	8.0	2	6.5
	36 and above	4	3.2	0	0.0

Source: own survey, 2013

Sex and participation in NF IGAs

Sex is one of the factors that help to define the kind of non-farm activities an individual engages in. Thus, to uncover the involvement of the households in different non-farm activities the study has identified the gender of household heads. Accordingly, as shown in table 4.3.9, the participation in non-farm IGAs in the study area is dominated by male household heads. That is out of the 80.1 percent of the households participating in non-farm activities 65.6 percent are male headed. But even the households are male headed their wife's have a higher participation in petty trade.

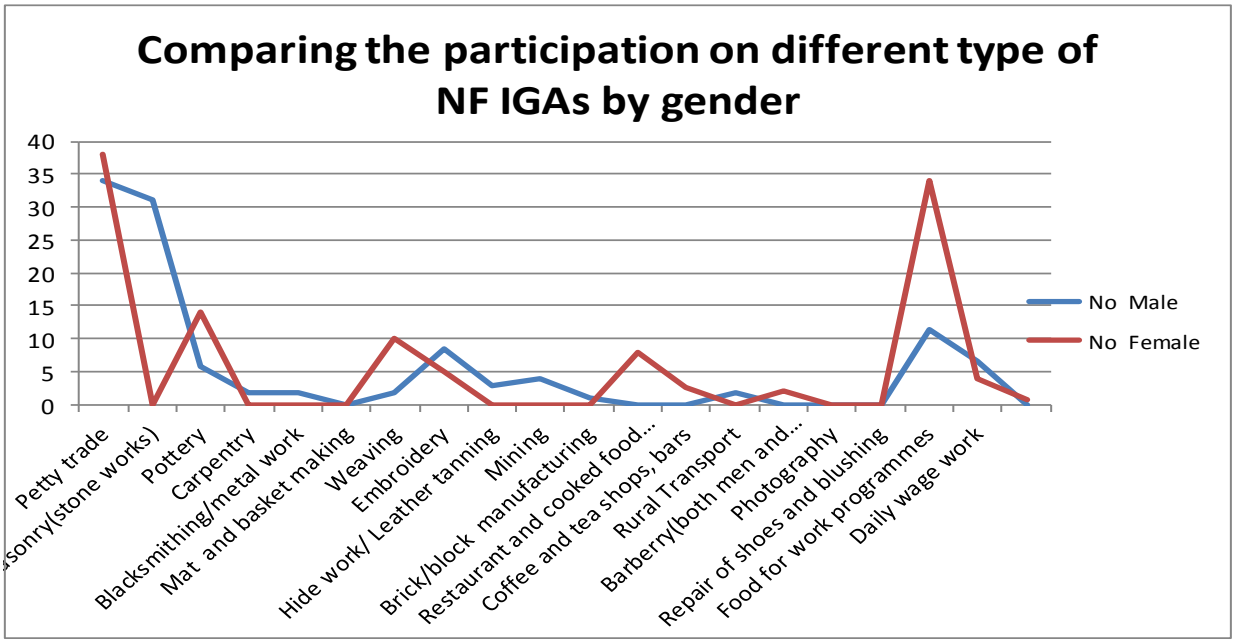
There are also important gender differences in the type of non-farm activity engagement. For example, petty trade, pottery, weaving (spinning), food for work, the production and sale of local alcohol is a typical female dominated activity. Women also predominate as owners of local drinks, tea houses, and restaurants. Men, on the other hand, are more actively participating in masonry, embroidery, retail trade, and other activities that require higher mobility.

Table 4.3.10 Types of Non-farm activities the HHs engaged in and gender

No	Non-farm activities	Sex of the HH members engaged in these Non-farm activities (%)		
		Male	Female	Total
1	Petty trade	34	38	35.3
2	Masonry(stone works)	31.1	0	21.2
3	Pottery	5.7	14	8.3
4	Carpentry	1.9	0	1.3
5	Blacksmithing/metal work	1.9	0	1.9
6	Mat and basket making	0	0	0
7	Weaving/ spinning of wool	1.9	10	4.5
8	Embroidery	8.5	5.1	10.9
9	Hide work/ Leather tanning	2.8	0	1.9
10	Mining	3.8	0	2.6
11	Brick/block manufacturing	0.9	0	0.6
12	Restaurant and cooked food sale	0	8	2.6
13	Coffee and tea shops, bars	0	2.6	2.6
14	Rural Transport	1.9	0	1.3
15	Barberry(both men and traditional)	0	2	0.6
16	Photography	0	0	0
17	Repair of shoes and blushing	0	0	0
18	Food for work programmes	11.3	34	18.6
19	Daily wage work	6.6	4	5.8
20	Others, specify____ like surfacing	0	0.6	0.6

Source: Owen survey, 2013

Figure 4.3.12 Types of the non-farm activities the HHs engaged in and gender



Source: Owen survey, 2013

Age and participation in NF IGAs

The significant of households head age in relation to their participation in non-farm activities is discussed below as age is a dimension of human capital. According to the study results, table 4.3.9, within those households participating in non-farm activities the level of participation varies with age. That is the households in the age group 18-45 years are found as active participants in non-farm livelihoods, which accounts 92 percent of the total participants. Thus participation of farmers in non-farm activity is negatively related with age i.e. the older farmers are less risk takers and less active than the younger ones.

In line to this, Abdulai,A. et.al (2001) also found that "the probability of participation in non-farm activities increases up to a certain age(up to 33 for men and 30 for women) and is therefore inversely related to age." According to Gebrehiwot et al. (2011), the youth household heads are more active and flexible with time to use different non-farm and off-farm income diversification livelihood strategic than the older one.

Education status and participation in NF IGAs

Education is often the most valuable asset for rural people to pursue opportunities, obtain skilled jobs, and start businesses in the rural non-farm sector successfully (World Bank, 2007:9). Thus, this factor is also very important for analyzing the awareness and participation of the farmers in the non-farm activities as alternative income generating activities.

According to some authors education is positively related to the participation in non-farm activities. However, this study result indicates that 77 percent of the participants have no formal education or are below adult literacy which has a negative implication for their understanding, participation and resistance to the cultural outlooks for the non-farm activities. Thus, in this study area there is a negative relationship between education and participation in non-farm activities. This could be due to the purpose, of the households, non-farm livelihood diversification in the study area. That is the farmers awareness, as discussed in page 38, is low and their purpose of participation in non-farm activities is for temporary to survive from shocks. Besides results from the group discussion indicated that there is little opportunity to motivate the well-educated members of the households to stay in the Kebeles and adopt a non-farm activity or livelihoods. Because they usually migrate to urban areas to seek a better jobs. Thus, who stay behind are the uneducated ones. So, in the rural areas it is not generally true to say education is directly related to the participation of the rural households in non-farm activities.

Family size and participation in NF IGAs

For information the family size of the households is also important for their participation in additional income sources other than agriculture, that is if the households have enough labor to participate in activities such as non-farm activities, thus their involvement is not constrained by labor shortage. According to the results in table 4.3.9 and group discussion results, households with abundant labor supply are believed to be more likely to participate in livelihood

diversification to non-farm activities. Bezabih et.al (2010) in his study indicated the households with too few or too many laborers available tend to participate in non-farm activities.

Farm land and livestock ownership

As shown in table 4.3.9, the landless households have no other alternatives but to make their living by participating in non-farm activities. Accordingly, those households owning a land 0.5-1 hectare have higher participation in non-farm IGAs (which accounts 52 percent) than those owning greater than one hectare. That is the greater the farm land the households own, the greater human and financial capital is demanded to cultivate the land. Hence the households have less chance of involving in non-farm IGAs. On the other hand, for the landless households, which accounts 12.8% of those involved in non-farm activities, their involvement in the non-farm activities is not in order to diversify their livelihoods but with no alternatives on farming activities, if they don't exercise share cropping. Thus, their livelihood is usually dependent on activities other than agriculture. From this it is possible to say that those households with average landholding size or with no access to farming land have the highest participation in non-farm activities. In consistent with this Ibrahim and Onuk (2009) shown that the lower the household income and household farm size, the higher the tendency to diversify non-farm activities.

The study also prevailed that the greater the household's livestock owned the less participation of these households in non-farm activities (Table 4.3.9). Hence, livestock ownership is inversely related to the non-farm livelihood diversification of farmers in rural areas. On contrary, Bezabih et.al. (2010) indicated that ownership of livestock has a significant and positive relationship with participation of households in the lucrative non-farm activities.

4.4 Factors that influence the household's choice between the non-farm activities

According to Ellis, (2000) and other authors the reasons for household's involvement are often divided into two: "survival versus accumulation or push versus pull reasons". He mentioned the key push factors as "demographic pressure, scarcity of cultivable land, deforestation and decline in natural resource base, decline in agricultural productivity, and lack of access to various inputs, absence or incompleteness of rural financial markets, transient shocks and catastrophic events." On the other hand, the pull factor includes the need for capital accumulation, and high return from non-farm activities.

In areas, with an adverse economic base where risk, market imperfections, over population, land scarcity, and lack of technological advance are prevalent, households are pushed to undertake non-farm activities by default. In such settings households are not motivated by the need to exploit potential productivity gains or accumulation purposes from non-farm income generating activities, but by the need to avoid further income decreases and to maintain household survival. According to Davis et al. (2004) such activities usually require less capital and low skill, as a result are more accessible to the poor and vulnerable groups

Table 4.4.11 Factors for HH's engagement in non-farm activites

no	Factor	Frequency	Percent
1	Decline of farm productivity	76	48.7
2	Temporary events and shocks	22	14.1
3	Smallness of land size	49	31.4
4	Landlessness	16	10.3
5	High return from Non-farm activities	41	26.3
6	Generation of cash to meet households needs	97	62.2
7	To accumulate assets	30	19.2

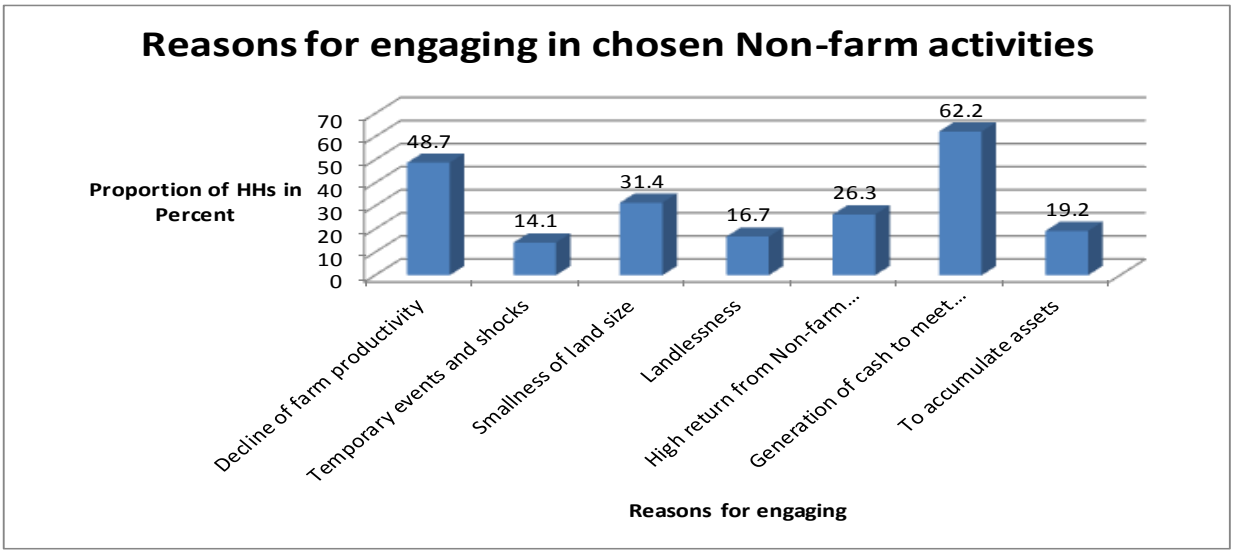
Source: Owen survey, 2013

For an individual to practice any non-farm activity as a source of livelihood there may be so many reasons. Some of the reasons for involvement in non-farm activities may include; decline of farm productivity, temporary events and shocks, smallness of land size, landlessness, higher return in the non-farm activities, generation of cash to meet household needs, or to accumulate assets.

In the study area to identify the major reasons behind the participation of the households in non-farm activities a question was forwarded. Accordingly, the major reason for the participation of the households is to generate additional income to meet the household's need- which is responded by 62.2 percent of the sample. And 48.7 percent of the respondents also replied that decline of farm productivity as a major reason for their participation in non-farm income generating activities (see Figure 4.4.13 which highlights the relationship between household heads and the reasons for engaging in non-farm activities.). This was followed by the smallness of land size (31.4%). And only 16.7 percent household members indicated that they were engaged in the non-farm activities because they are landless, these include the landless youth members of the household. On the other hand, 26.3 and 19.2 percent of the respondents mentioned higher return from non-farm activities and accumulation of assets respectively as reasons for engaging in these activities. From these findings it is clear that the reason for the participation of the farmers in the non-farm activities is dominated by the "push factors." So, it is by default that the households are participating in different type of non-farm activities and their objective is to survive –thus their participation is also limited in those non-farm activities that require less capital and low skill.

It is clear, therefore, that those who pursue non-farm activities do so in order to earn additional income to use for various basic requirements which include buying food staffs and clothes, health, input purchase, transport and paying school fees for children. This is due to the fact that from agriculture only, their major source of income, the costs of the households cannot be covered; thus the households were forced to find other means of earning additional income in order for them to be able to meet these requirements.

Figure 4.4.13 Reasons for engaging in chosen non-farm activities



Source: Owen survey, 2013

Thus the major reasons for the households to engage in the non-farm activities are that the pushing factors/forces such as the decline of farm productivity, temporary shocks, and smallness of land size, landlessness. This implies that the awareness of the farmers about the pulling factors for non-farm participation is in its low state. They are participating in the non-farm activities randomly in traditional way forced by external factors, but they don't participate in these activities based on their feasibility study/cost-benefit analysis or to diversify their income sources. They simply participate to survive from the temporary shocks, so their participation is temporary. This is also supported by the findings of Ibrahim and Onuk (2009). That is, the lower the household income and household farm size the higher the tendency to diversify non-farm activities. Davis (2003) also found that there are households which are pushed into the non-farm sector due to lack of on-farm opportunities such as drought or small land holding size. Besides Sosnia (2007) had explained that the greater the participation of the households in NF IGAs is

due to the lower income from agriculture(push factor) rather than their awareness about the greatest return (profitability) from non-farm income generating activities.

Table 4.4.12 Reasons for selection of the chosen non-farm activity

No	Reasons for chosen Non-farm activity	Frequency	Percent
1	Based on Owned Asset	2	1.3
2	Based on my skill	4	2.6
3	Based on the Advice from experts	0	0
4	Based on initial training	0	0
5	Based on Market Demand	7	4.5
6	I simply select because I was not aware of the types of non-farm activities	114	73.1
7	Others …..advice from relatives	1	0.6

Source: Owen survey, 2013

In order to identify the factors that influence the household's choice among the non-farm activities, the households were asked to clarify based on what reason they chose the non-farm activity, in which they are known practicing. Accordingly, 73.1% of the households participating in the non-farm activities as a source of additional income generating activities replied that they simply select the non-farm IGAs grounded on their traditional knowledge in the locality and they were not aware of the non-farm types at the time they get involved. This implies the awareness level of the farmers about the types or category of non-farm IGA is in old-fashioned way i.e. what they know is the traditional classification of these activities as lower class activity, there is no awareness about the productive or service oriented non-farm activities.

The findings also shows the responses of the households as follows: based on market demand of the non-farm product (4.5%), based on their traditional skill (2.6%), based on their capacity or

asset for starting the activity (1.6%), only one household start the non-farm activity based on the advice from relatives. Thus the involvement of the households in the non-farm activities is not guided by skill training and expert advice from respected offices, but simply by tradition.

Here we can understand that the participation of farmers on the selected non-farm activities depends on the rationale for their involvement, which is a temporary shock or survival reasons. At this time their participation in different types of non-farm activities is not supported by technical advice from respected governmental or non-governmental organizations, this means they are participating in unskilled and informal activities.

But to those farmers planning to involve in different types of on-farm activities (agricultural activities) a proper advice is provided to them by the development agents in the kebeles, whereas for the non-farm activities there is no responsible body assigned to provide the desired advice and technical support to the participants. Thus, their choice as well as implementation is traditional with no scientific analysis and support.

In line to this, according to Tassow (2001), Ibrahim and Onuk (2009) the choice of the households is influenced by their rationale for participation in non-farm activities. That is survival or capital accumulation. Besides according to different literatures [such as Nong (2006), Lanjouw & Lanjouw (1999), Barrett et.al (2001)] the wage differential, briskness of the activity, physical capital requirements, initial capital, and on-farm (agricultural) opportunities are the influencing factors for the choice of the households among the different types of income generating activities.

Table 4.4.13 Types of non-farm activity selected by HHs for the future

No	Non-farm activities	Sex of the HH head (%)		
		Male	Female	Total
1	Petty trade	38.5	21.2	59.6
2	Masonry(stone works)	35.9	2.6	38.5
3	Pottery	3.8	3.9	7.7
4	Carpentry	5.8	0	5.8
5	Blacksmithing/metal work	0.6	0	0.6
6	Mat and basket making	0	0	0
7	Weaving	7.7	5.8	13.5
8	Embroidery	10.9	5.8	16.7
9	Hide work/ Leather tanning	2.6	0	2.6
10	Mining	2.6	0	2.6
11	Brick/block manufacturing	1.3	0	1.3
12	Restaurant and cooked food sale	1.3	6.4	7.7
13	Coffee and tea shops, bars	0	3.8	3.8
14	Rural Transport	1.3	0	1.3
15	Barberry(both men and traditional)	0	0.6	0.6
16	Photography	0	0	0
17	Repair of shoes and blushing	0	0	0
18	Food for work programmes	0.6	2.6	3.2
19	Daily wage work	0	1.9	1.9

Source: Owen survey, 2013

In addition the households, both participant and non-participant, were asked to clarify on what type of activity they want to participate in the future. A household may select one or more activities to participate in the future. Accordingly the study revealed that the dominant activities selected by the households as their future demand are petty trade (59.6%), masonry (38.5%), embroidery (16.7%), weaving (13.5%),pottery and restaurant each 7.7%.From this finding it is clear that the households had been planning to participate in the service oriented non-farm activities which accounts about 67.3 percent (59.6 +7.7=67.3%). This implies the households are still planning to get involved in different types of traditional service sector oriented non-farm activities, based on their own knowledge, thus till now no advice or consultation is provided to the farmers about non-farm activities even from the woreda.

Besides, even within the lowest selection, the productive non-farm activities such as masonry, weaving, embroidery, hide works, and block production are selected/ dominated by male headed households (see Table 4.4.13).

Table 4.4.14 Reasons for selecting the future of non-farm activities by HHs

No	Reasons for selection of Non-farm activity in the future	Sex of HH head (%)		Total
		Male headed	Female headed	
1	Based on my asset or capital	34	19.9	53.8
2	Based on family members' skill	21.2	7.1	28.3
3	Based on credit provision	0	1.3	1.3
4	Based on market demand	45.5	22.4	67.9
5	Based on initial training provided	1.9	0.6	2.5
6	Availability of natural resources in the locality	19.9	1.9	21.8
7	Based on my interest	66.7	28.8	95.5

Source: Owen survey, 2013

The households were also asked their rationale for selecting the non-farm activities, almost 95.5 % of respondents replied that they do have the interest to diversify their livelihood situations. And 67 percent of them have reported that there is market demand for any trading activities and this activity is not risky, doesn't require any technical skill. Generally there is market demand for such activities. The other households, 28.3 percent, had selected the non-farm activities based on their existing capital; since their capital is limited they don't have a chance to get involved in the more productive non-farm activities. And 21.8 percent of the households reported that their participation is highly dependent on the existing natural resources such as sand, stone. Those household members are planning to get involved in mining of sand and stone as additional income sources for the household.

4.5 Key constraints and opportunities for non-farm livelihood diversification

Table 4.5.15 Constraints that hinder non-farm activities

No	Problems that hinder from diversifying non-farm activities	Frequency	Percent
1	Lack of awareness about non-farm activities	112	71.8
2	Social barriers/Social outlooks towards non-farm activities	74	47.4
3	Lack of access to training facilities /lack of skill	95	60.5
4	Lack of adequate credit/loan size	79	50.6
5	Absence of access to credit	15	9.6
6	Low returns	8	5.1
7	Lack of adequate access to market information	81	51.9
8	Timing of loan repayment	38	24.4
9	Labor poor (can't work, or not enough workers in the household)	21	13.5
10	Gender biasedness	9	5.8
11	Lack of Electricity and communication facilities	57	36.5
12	Lack of transport facilities	72	46.2
13	Others (specify)……	2	1.3

Source: Owen survey, 2013

Given the fact that rural non-farm activities are heterogeneous by their very nature, the constraints also have varying characteristics. The constraints may include the barriers in terms of poor awareness, lack of start-up capital, low skill level (practical and managerial), poor access to infrastructure, social-cultural relationships, cooperation among household members and other factors.

The Household heads of the study sample were asked to tell the primary constraint preventing household members from opening a non-farm income generating activities or from participating in the productive non-farm activities by choosing among pre-coded answers in the questionnaire. Accordingly, 71.8 percent responded that lack of awareness about non-farm activities is the primary constraint (as shown in Table 4.4.15). 60.5 percent of the households responded that lack of access to training facilities /lack of skill training as the main constraint from participating in the non-farm activities. About 1.3 percent of the respondents have never given thought to this issue and when they are given the alternatives, they were unable to identify the primary constraint. Despite the high percentage of respondents who singled out lack of awareness about non-farm activities as primary constraint, the percentages of those who reported absence of access to credit sources and lack of awareness about credit sources as primary constraints are very low (9.6 percent).

4.5.1 Credit provision and timing of loan repayment (financial capital)

The above perception of constraints to non-farm engagement generally agrees with the perception and the result from focus group discussion especially skill and knowledge are mentioned as key inhibitors of diversification. But the participants in the group discussion also emphasis absence of access to credit sources as main reasons for the unskilled and traditional/poor participation of the households in the non-farm income generating activities as well as for these households not participating in non-farm activities. And all the participants in the group discussion have given a focus to the timing of loan repayment. That is for the rural area such as Chelekot there is no

provision of credit to the non-farm activities at all as other farming activities, hence their basic issue with regard to credit is absence of credit provision to those involved in non-farm activities but to those who are living in the growing sub-urban areas/pre-urban areas such as Ddba the issue is about loan size and the timing of loan repayment. This is to mean the ceiling loan size for any non-farm activity in the growing sub-urban area is 10,000 Birr; this is too small as a star up loan provision for most of the non-farm activities. Secondly, there is no relief time before starting loan repayment after the loan is provided which means the households are asked to repay the pre-determined loan repayment size monthly as soon as they take the loan from the credit provider institution whether they implement the planned non-farm activity or not. That is, no time is given for the operation of the non-farm activity as soon as they take the loan they are conditioned to start loan repayment. Where as in the rural areas the timing of loan repayment for on-farm activity depends on the type of package the household selects to operate, and the truth is, depending on the type of package the time for loan repayment is planned after the implementation of the package with a relief time which ranges from 6months -2 years. However, this is not for the non-farm activities.

According to Ibrahim and Ounk (2009) the main factor for non-farm livelihood diversification is access to credit. Bryceson (1999) also explained credit as one of the entry barriers for the poor households to participate in non-farm activities, and, he added, due to this barrier these households are involved in traditional unskilled non-farm activities with lower return.

4.5.2 Lack of awareness, skill and, social out looks (social capital and human capital)

The focus group discussion participants also have emphasized skill and knowledge as key inhibitors of diversification. The awareness, business consciousness and education in general are very low in these communities. For example, the existing involvement of the households in the non-farm activities are tradition and custom-oriented. All the FGDs participants have also laid strong emphasis on this point. It is not difficult to realize that lack of skills and ability poses a barrier to entry into higher return/skilled non-farm activities. However it would be incorrect to

assume all non-farm activities are liable to skill constraints. Certain activities will, by their very nature, require special skills. For example, handicrafts, weaving, carpentry, metal works, pottery and Blacksmithing. On the other hand, activities such as simple food processing, local drink sales and petty trade are not likely to be constrained by high or specialized skill requirements. Therefore, the main constraint, in the skill and knowledge part, is the awareness about the types of non-farm activities (the high return and low return IGAs), how to get involved in the non-farm activities as additional income generating activity regardless of the socio-cultural discriminations.

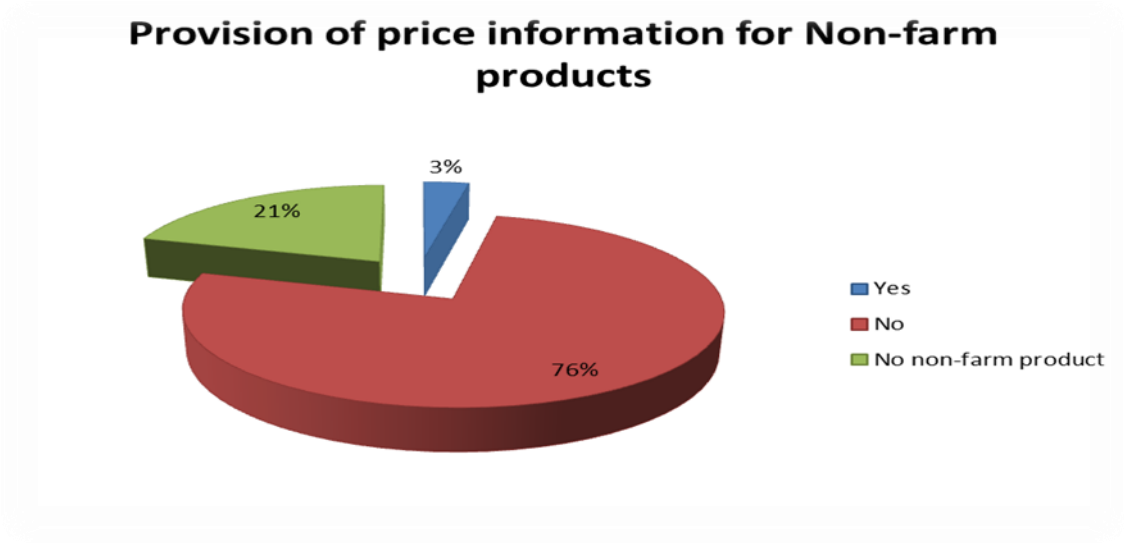
Even though the study results highlighted the prevalence of craft activities such as blacksmith, pottery and weaving, there are social outlooks towards these activities, accordingly most of these activities are considered as the occupation of a minority. For example despite the age-old importance of blacksmiths in producing, sharpening and repairing farm and kitchen tools, they are referred to in insulting names for their services, indicating that people looked down upon these activities. In addition, such activities had negatively impacted by advancement in skill labor i.e. these activities are still operating in the traditional way.

4.5.3 Poor Market information and demand (physical capital – infrastructures)

There are also market factors that constrain the involvement and productivity of the households in their non-farm activities. According to the FGD results pottery products are relatively better in terms of market demand than Blacksmithing. Since the pottery products such as pots and pans for baking and cooking are utilized by many rural households and urban dwellers. For example mgogo[a large pan for baking injera] holds better demand than any other clay products. But even there is market demand for such products, there is no technological support and market linkage support provided for such activities. The production system is still carried out traditionally even the work remained demanding. With regard to weaving, the households and FGDs revealed that though the activity **is** important in the study area and traditional dresses such as shawl or double shawl had a fairly good demand among the rural and the urban dwellers for ritual and ceremonial

purposes. But it is relying on primitive technology/traditional way of production system, hence, it was challenged by market linkages and skill problems.

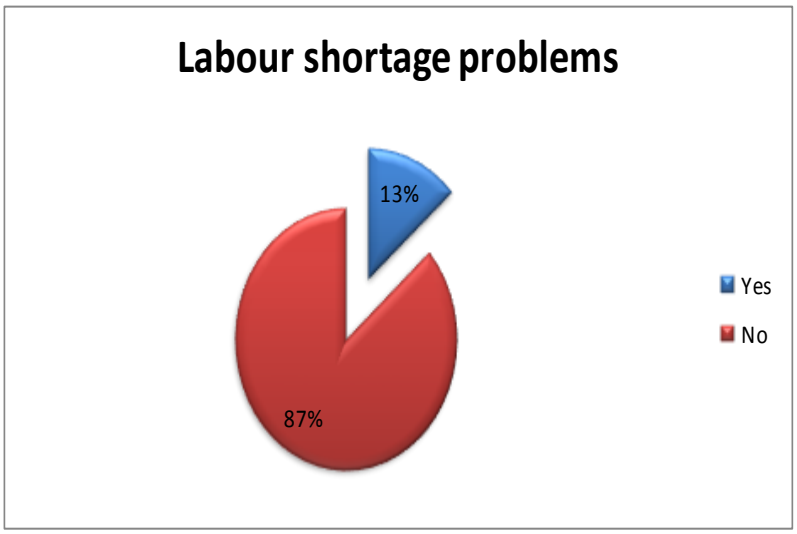
Figure 4.5.3.14 Provision of price information for non-farm products



Source: Owen survey, 2013

To uncover the marketing aspect of the non-farm products the HHs were asked where they get price information for their non-farm products. Accordingly, the study underlined that 76 percent of the respondents replied that the existence of poor access to market information, no governmental or non-governmental organization provide them a market price information for their non-farm products they simply sell by local market price even with lowest or no profit.

Figure 4.5.3.15 Labor shortage problems

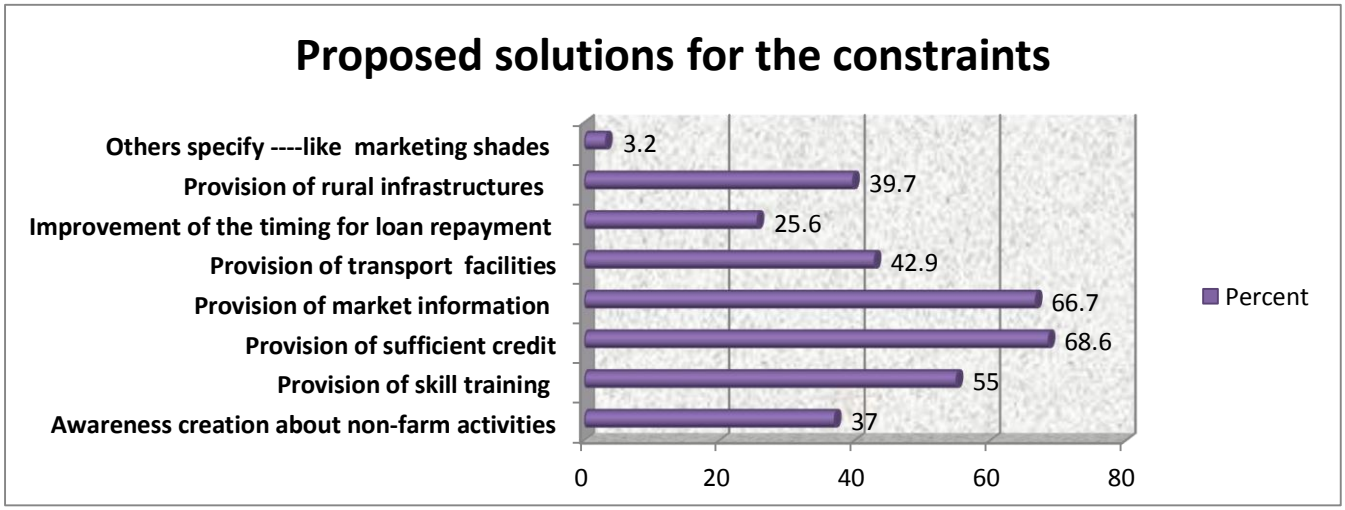


Source: Owen survey, 2013

The other constrain raised by 13.5 percent of the respondents is that shortage of labor; these are household heads which are aged or households with no member able to help them in their on-farm or non-farm activities. Thus for these households' the critical problem is a shortage of labor, but in the group discussion this was not raised as an issue.

4.5.4 Solutions to the constraints mentioned

Figure 4.5.4.16 Respondents proposed solutions for constraints



Source: Owen survey, 2013

As it is shown in the figure 4.5.4.16 above, the respondents were asked their projected solutions for these constraints, accordingly their proposed solutions are prioritized as provision awareness creation training, provision of sufficient credit, market information, skill training, transport facilities and rural infrastructures, improved timing of loan repayment. Here it is clear that the households have given a due focus on the issues of awareness creation training, credit, market and skill training. These are critical constraints that need solutions. All the household heads engaged in non-farm activities agreed that there was a great need to set up credit facilities which will ensure that they have access to credit when the need arises and also help them participate in the more productive aspects of the non-farm activities. But at first the basic problem should be solved, according to them the awareness is the basic problem and if the diversification is really to flourish awareness about the importance of the non-farm activities should be provided at community level. They also indicated the need for infrastructural development in terms of electricity which they feel will make more opportunities available to them and the construction of

a road (especially those from Chelekotkebele) which will help improve connectedness to urban areas such as Mekelle, Quiha, Adigudom and other nearby rural locations

In addition to that, findings from the group discussion prioritize awareness problem, that is for all the poor involvement of the community in non-farm activities and lack of support of the respected bodies, to these households already participating in the non-farm activities, the basic problem is lack of awareness about the importance/role of non-farm income generating activities. Thus the solution should begin by solving this problem by provision of awareness training on non-farm activities and packages to the community, administrative bodies, and respected experts. From this training two things can be improved, one the community will become aware and acknowledge the non-farm activities, which help them to select the best activity for their productivity. Secondly, the cultural barriers will be improved or solved and every member of the community becomes aware of the importance of these activities and understands the past wrong social outlooks towards the non-farm activities and those households accomplishing the activities. Then the skill training comes next, the traditional way of producing non-farm products should be improved by provision of upgrading skill training to those households practicing in the non-farm activities which demands basic skill to produce a competent product at any market level. Finally, the provision of market price information, credit and improving timing of loan repayment should be considered after solving these basic problems.

Table 4.5.4.16 Projected solutions by the respondents for the constraints mentioned

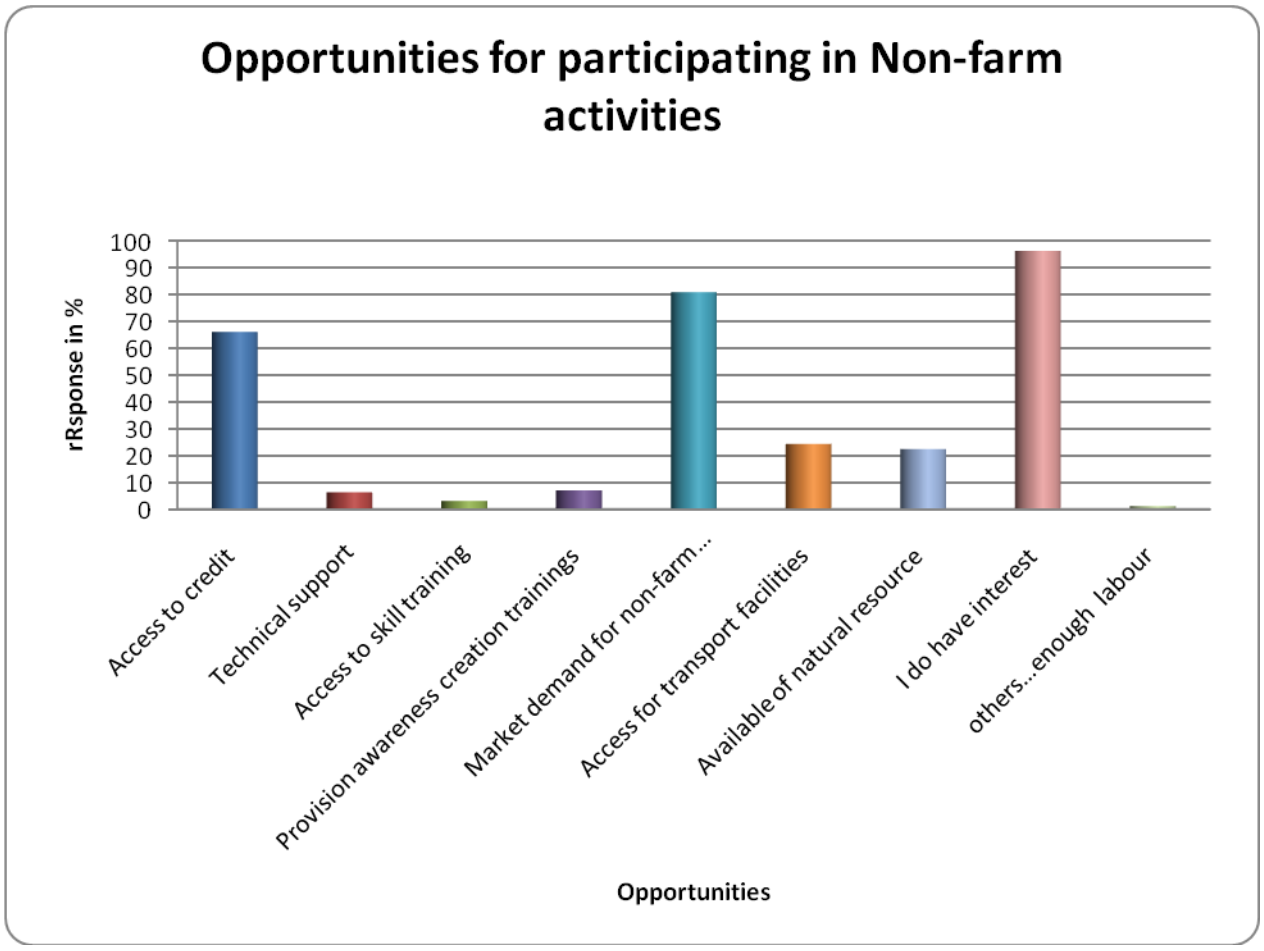
No	Solutions	Frequency	Percent
1	Awareness creation about non-farm activities	119	76.3
2	Provision of skill training	101	64.7
3	Provision of sufficient credit	107	68.6
4	Provision of market information	104	66.7
5	Provision of transport facilities	67	42.9
6	Improvement of the timing for loan repayment	40	25.6
7	Provision of rural infrastructures	62	39.7
8	Others specify ----like marketing shades	5	3.2

Source: Owen survey, 2013

4.5.5 Opportunities for non-farm livelihood diversification

The households were asked to mention the existing opportunities for non-farm livelihood diversification in their locality, thus the responses of both kebeles are similar.

Figure 4.5.5.17 Opportunities for participating in Non-farm activities



Source: Owen survey, 2013

The households have prioritized the opportunities in their locality for the diversification of non-farm income generating activities as follows: the first is, interest of the HHs to get involved in these activities, enough market demand, access to credit, access to transport, availability of

natural resources, awareness creation, technical support and skill training. The basic thing is that 96.2 percent of the households do have the interest to participate in the non-farm activities as income generating alternatives. And 80.8 percent of the households also consider the existing market demand for the non-farm products as an enabling environment for their involvement in these activities. And 66 percent of the respondents also replied that access to credit is an opportunity in their locality (this HHs are from the growing urban areas such as Ddba).

However, the results from the group discussion is similar but there is a priority difference, the participants in the discussion, while dealing with the existing opportunities that encourages farmers to diversify their non-farm activities, they gave a primary position for the market demand, available natural resource and interest of the household members as opportunities for the participation of the households in non-farm activities. According to the FGD participants access to credit cannot be an opportunity, instead it is a constraint. Because in the rural parts of the study area there is absence of credit provision for the non-farm activities. So, this is a problem or constraint not an opportunity for the development of non-farm activities in our locality. The farmers have reported access to credit as an opportunity but this may be a misperception of access to on-farm activities, obviously it is known that DECSI as a micro finance institution/MFI in Tigray have been providing credit to the rural households but these credit services are only to the on-farm packages. Thus for the non-farm activities in the rural area there is no credit provision at all either by DECSI or any other organization, provide this rural area is not located in a growing pre-urban area.

4.6 Institutional supports necessary to alleviate the constraint of non-farm participation

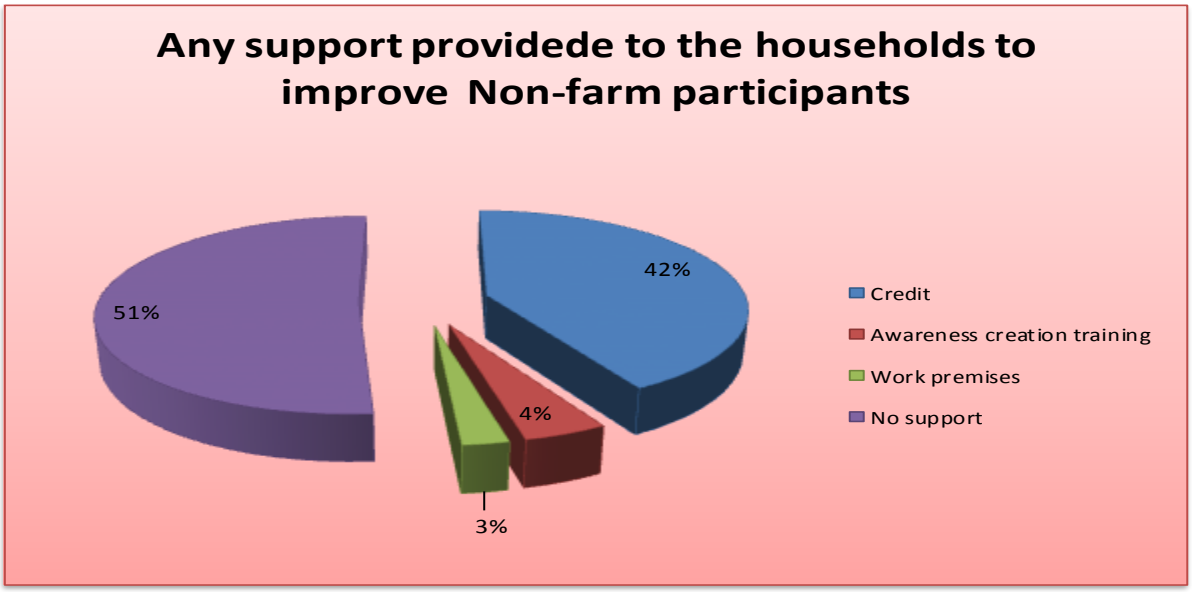
According to the study institutional support includes institutions that are important in the enhancement and development of non-farm activities in the rural areas. Such institutional support includes training provision (skill and managerial), on job technical support provision,

improving access to credit, providing marketing place for non-farm products, and working places for the landless household members.

The respondents were asked about the type of institutional support which should be provided in the rural areas to support and modernize the traditional way of undertaking non-farm activities. To get a reliable answer they were first asked to mention the institutional support they got during their participation in the non-farm activities, and then the support they demand for the future in order to improve the performance of the non-farm sector in their locality.

4.6.1 Institutional support provided to the NF IGAs

Figure 4.6.1.18 Institutional support provided to NF IGAs



Source: Owen survey, 2013

The households, 51 percent, have replied that they did not get any support related to non-farm activities. 42, 4 and 3 percent of the households have reported that they got credit, awareness

creation, training and work places/premises' respectively. Here the study prevailed that there is no assigned institution for the enhancement of rural non-farm activities, which reflects the relatively limited attention awarded to the activity in establishing important implements in the rural areas.

Figure 4.6.1.19 Training provide to Non-farm participant HHs

Source: Owen survey, 2013

As in the figure 4.6.1.19, is shown with regard to training provision on non-farm activities, 96% sample households have reported that they have never been given any training concerning non-farm activities by any governmental organizations or non-government organizations. As in the earlier discussion is mentioned the non-farm activities practiced by the HHs are in their traditional status, they don't get any technical training regarding these activities and even there is no institution to ask about this. From this we can understand that the sector did not get enough attention and even the participation of the farmers in the non-farm activities as a means of income sources is good, this participation was traditional and did not receive any training to improve the traditional way of doing it. There is 4.5 percent of the HHs who reported that they have accessed training about business development. According to survey results, of the 4.5% sample

respondents who reported receiving training, 3.8% of them received it from woreda micro and small enterprise and 0.6% from Woreda Office of agriculture.

Besides there is only one household from Dadba kebele who reported he had got on job technical support for his petty trade activity from the woreda micro and small enterprise development agency. The rest households did not get any on job technical support from any government or non-governmental organization.

Table 4.6.1.17 Types of training provided to NF IGA participants

No	Type of training the HHs got	Number of HHS IN %	Provider institution in %
	Skill training	2.6	3.8 % and 0.6 % of the training is provided by MSEA and Woreda office of agriculture respectively
	Business development	1.9	
	Awareness about non-farm activities	0	

Source: Owen survey, 2013

In addition to the poor provision of training there is also no technical support provided to the farmers who are involved in non-farm activities. That is almost 99% of the households responded that they did not get any technical support on their job area, they are simply working on the non-farm activities as to their traditional knowledge. FGDs further revealed that absence of responsible institution for the promotion of non-farm activities to the rural areas, poor coordination capacities, inefficient needs assessments, and absence of participatory and transparent working modalities in government institutions had negatively impacted non- farm activities as vehicle to realize sustainable livelihood security.

Table 4.6.1.18 Source of initial capital

No	Source of initial capital	Frequency	Percent
1	My own	57	36.5
2	Relatives	5	3.2
3	RUSACCOs	4	2.6
4	DECSI	61	39.1
5	Multipurpose Cooperatives	1	0.6

Source: Owen survey, 2013

With regard access to credit the households reported 39.1 and 2.6 percent got a credit from MFI (DECSI) and RUSACCOs respectively. And 0.6 percent of the respondents, who are involved in trading of non-agricultural items, got in-kind credit for their non-farm activity from multipurpose cooperatives'. There are also 36.5 percent of the households who claimed the initial capital for their NF IGAs is that their own capital and further they claimed for the absences of credit provision for non-farm activities.

But the results from group discussion indicated that according to the existing situation in the woreda there is no credit provision for non-farm activities in the rural areas of the woreda. Credit, for the purpose of implementing non-farm activities, is accessed by these households who are living in the urban or pre-urban areas (in our case Kebele Ddba-kushet Meremieti) and only those should have licensed non-farm activities. Thus, even in the growing pre-urban areas the access to credit is highly dependent on whether the non-farm activities -the household involved in- are formal or informal. For these non-farm activities which are not licensed no credit provision at all even though the owners are a member of the community in the area.

Table 4.6.1.19 Loan size accessed by the households

No	Loan size (in Birr)	Frequency	Percent
1	Up to 2000	3	1.9
2	2001-5000	47	30.1
3	5001-10000	14	9
4	Greater than 10000	2	1.3
5	No loan taken	90	57.7

Source: Owen survey, 2013

As in table 4.6.1.19, is indicated the loan size provided for these households with licensed non-farm activities ranges in different. But from these households who had taken loans from DECSI or RUSACOOs, 47 households have accessed a loan size of 2001-5000 birr. From this we can understand that even among these households who got loan for establishing or scaling up their non-farm activities the loan size they got is not enough as initial capital for such activities.

Table 4.6.1.19 Market place for Non-farm products

No	Market place	Frequency	Percent
1	Kebele	121	77.6
2	District town's market	8	5.1
3	Sub-district market	15	9.6
4	Zone town's market	5	3.2
5	No product to sale	7	4.5

Source: Owen survey, 2013

The other point to discuss is that market places for non-farm products/items, accordingly the dominant market place for the non-farm products are the kebele market which was reported by 77.6 percent of the households' response. This means the non-farm activities were discovered to be in a traditional mode of production and were dominated by petty trade/service sector in the local markets in kebeles. Thus the non-farm products did not have the efficiency to penetrate markets other than kebele and district markets.

4.6.2 Institutional support needed to improve the performance of non-farm activities

Having an understanding of the support provided, the HHs was asked what intentional support should be provided to improve the participation in and production system of the non-farm activities in their locality

Table 4.6.2.20 Institutional support needed to expand non-farm activities in practice

No	Type of support	Frequency	Percent
1	Provision of sufficient credit	131	84
2	Expertise technical support	61	39.1
3	Improving access to infrastructure	25	16
4	Provision of skill training	98	62.8
5	Provision of working places	86	55.1

Source: Owen survey, 2013

With regard to the institutional support needed for enhancement of non-farm activities, 84 percent of the households have given a focus on the provision of sufficient credit. According to the respondents the basic thing that needs institutional arrangement and support is that on how a sufficient amount of loan should be provided to the rural communities or rural households who are ready to diversify their livelihood into non-farm income generating activities. And 62.8 percent of the households have replied that it is important to assign an institution who can provide skill training to the HHs who has decided to participate in non-farm activities. Without skill the traditional non-farm activities can not transform into the modern competent production system. Thus there should be a responsible body to develop or train the skill of a selected non-farm activity of the rural households/farmers.

According to 55.1 percent of the households provision of working places is also a critical thing in improving the participation of HHs. And to implement some of the non-farm activities, such as mining (sand, stone or gold mining), block production, masonry (stone works), pottery and others, these activities by their nature demands a working place. So it is important to assign a responsible body with respected authority to help the household members how to access working places for their non-farm activities.

The remaining 39.1 and 16 percent of the households have claimed the provision of technical support and improving infrastructure in the locality are very critical issues respectively. Thus, there should be assigned institutions who can provide on job technical support to the participants and develop a network among these participants to fill the skill gap and get markets play a role.

Chapter five: Conclusion and Recommendations

5.1 Conclusions

Though, the non-farm income generating activities have the potential to improve the income and well-being of farmers by spreading agricultural risks across several non-farm activities and thereby improving the family's coping mechanisms. Drought, smallness of landholding, landlessness and low non-farm livelihood diversification are the most serious problems facing the rural population in the study areas.

The present study assessed the non-farm livelihood diversification of farmers in Enderta woreda. The main conclusion that can be drawn from this study is that the significance of helping the farmers to overcome the constraints that limit them from participating in non-farm activities and empowering to utilize the opportunities from non-farm income generating activities.

The study has assured that the participation of the farmers in the non-farm activities is in its traditional status, and some socio-economic characteristics of the respondents influence their enrollment in different productive non-farm activities such as lack of awareness, knowledge and skill about the different productive non-farm activities. Besides, there are also additional basic constraints such as absences of awareness creation and skill training programmes, absences of financial support/credit, timing of loan repayment, lack of access to marketing information and working places, poor infrastructure etc. Moreover, their participation in the non-farm activities is for short term or temporary and it is pushed participation i.e. in- out participation, they don't recognize there is possibility of making a livelihood by entirely involving their resources in the non-farm IGAs.

The study has focused on the development of credit guideline for enhancement of rural non-farm livelihoods, so that those farmers who are interested to get involved in the non-farm activities as

their livelihood alternatives, can get enough credit from respected MFIs to implement the non-farm activities. However this should be supported by the development of policy document or implementation manual for non-farm livelihood packages indicating the type of activities and size of loan allowed for it. In addition, like in the farming, there should be a relief time for loan repayment of credit provided for the non-farm activities.

The study also prevailed the absences of the responsible institution for the provision of skill training and on the job support to the farmers participating in non-farm activities. That way the existing non-farm activities are traditional and unskilled. All these suggest that the only provision of credit cannot improve the performance of the non-farm activities in rural areas, besides an institutional arrangement in the rural areas for supporting the farmers with skill training, on job technical support during implementation, marketing information center for these products, and the provision of working places for the landless is similarly important.

5.2 Recommendation

Even though, there are efforts by the Ethiopian government to introduce the non-farm livelihoods to the rural areas. For example in ADLI, PASDEP and GTP the importance of non-agricultural income diversification in rural areas is explicitly recognized. However, policy objectives should be translated to policy actions by developing interventions to alleviate the mentioned problems. That is, appropriate institutions should be assigned to provide loans, technical support and training based on the non-farm livelihoods opportunities of the locality, and the marketing agency in the region should also incorporate the market information for the non-farm products in the rural parts. Therefore, institutions strengthening explicitly focused on rural people's access to non-farm livelihoods should be one of the priority issues of rural policy because only agriculture can not achieve food security.

Besides it is importance to help the poor to overcome the constraints and thus enable them to participate in RNF activities. This entails diagnosing the kinds of asset poverty constraining the poor with respect to entrance into the more dynamic and productive RNF activities, and using policies and programmes to address those asset constraints

Finally, the study in the course of the literature review and the actual research has identified a number of themes which need further research are:

- The design for credit provision system/guideline for rural non-farm activities
- The effect of rural pre-urban development in rural non-farm enhancement
- How to develop non-farm technology demonstration sites in the rural areas
- How to make linkages between rural non-farm participant and the urban skill training provider institutions like TVET

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APPENDICES

Appendix A: Household Survey Questionnaire

Non-farm livelihood diversification survey questionnaire

Dear sir/ Madam

I am conducting a research study on Non-Farm livelihood diversification of farmers in Enderta woreda, Tigray as a partial fulfillment for the award of Master's Degree in Development studies (Regional and Local Development Specialization). The main objective of the study is to examine the participation, dominant patterns, influencing factors, challenges and constraints of non-farm livelihood diversification in Enderta Woreda. Thus, your genuine response for the following questions is required.

General instructions

- **Your information will be kept confidential**
- **Mark √ for the closed ended questions/multiple choice questions**
- **Use the space provided for open ended questions**
- **Please answer all the questions**
- **Asking for clarifications is possible**

I thank you very much in advance for your honest cooperation

Pleasantly, yours

WeldebrhanWerede

Contact address; Cell phone +251914-74-72-31 ; E-mail;wwt2003@yahoo.com.

Name of enumerator _____Date of contact _____

Questionnaire code_____

Section I. Demographic factors of the Households

1. General characteristics of the house hold

No	**1.1 Code of the HH members (including head of the HH)** **Code of HHs:** H=household head w=wife h=husband s=son d=daughter	1.2 Kebele and Kushet **Chelekot(C)** Maeklgeza=C01 Adigabat=C02 Bet mskel=C03 **Ddba(D)** Mremieti= D01 Maykeyah=D02 Elikin=D03	**1.3 Participate in interview: 1. yes 2. No**	**1.4 Sex: 1.M 2. F**	**1.5 Age (yrs)**	**1.6 Marital status** 1=Married 2= Divorced 3=Widowed 4=Other	**1.7Religion**	**1.8 Labor capacity** **Labor Capacity:** 1. Child (too young to work) 2. young boys & girls 3. Adult 4. Elderly 5. Permanently disabled 6. Chronically ill (unable to work temporarily)	**1.9 Education status** **Education Status:** 1. Illiterate 2. Traditional (Read only) 3. Adult literacy (read and write) 4. Elementary (1-8) 5. High school (9-12) 6. Higher education 7. Under age	**1.10 Occupation status** 1=on –farm IGAs 2=partial on-farm 3=non-farm IGAs 4=full time student 5=half day student 6=others specify
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										

2. What asset does the household Owen? (Fixed assets)

No	Fixed assets					
	2.1 Land		2.2 Livestock		2.3 Home	
	Land owned	Area in Tsimdi	Type of Livestock	Livestock no. owned by the HH	Type of home	number
1			Ox		Hidmo	
2			Cow		Turf roof house	
3			Heifer		Metal roof house	
4			Bull			
5			Calf			
6			Sheep			
7			Goat			
8			Donkey			
9			Horse			
10			Mule			
11			Chicken			
12			Beehives			

Section II. Number and Dominant patterns of non-farm activities

3. Would you please mention the non-farm income generating activities that you know and practiced in your locality?

No	Types of non-farm activities	Prioritize (rank) in terms of coverage or participant number
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

4. Is there any of your family member participating in non-farm activities (including the house hold head)?

1. Yes ☐ 2.No ☐

5. If your answer for question number 4 is, yes, in which of the following non-farm activities do you participate?

No	Activities	Yes=1 No=2	How many		Age group 1=1-14 2=15-30 3=31-64 4= >64 years		**Relationship** **H**=household head **h**=husband **w**=wife **d**=daughter **s**=son	no. of working days per month	Income per day	For how long(months)	Annual income
			M	F	M	F					
1	Petty trade										
2	Masonry(stone works)										
3	Pottery										
4	Carpentry										
5	Blacksmithing/metal work										
6	Mat and basket making										
7	Weaving										
8	Embroidery										
9	Hide work/ Leather tanning										
10	Mining										
11	Brick/block manufacturing										
12	Restaurant and cooked food sale										
13	Coffee and tea shops, bars										
14	Transport										
15	Barberry										
16	Photography										
17	Repair of shoes and blushing										
18	Food for work programmes										
19	Daily wage work										
20	Others, specify____										

6. If your answer for question number 4 is, No, why don't you participate in non-farm activities as livelihood alternatives?

_____

_____

_____

_____

Section III. Factors that influence household's choice among the non-farm activities

7. If your answer for question number 4 is, yes, could you please mention the major reasons that **make** you participate in the non-farm activities? (Multiple answers possible)

No	**Factors**	**1. Yes 2. No**	*Rank*	Remark
	Push factor			
1	Decline of farm productivity			
2	Temporary events and shocks			
3	Smallness of land size			
4	Landlessness			
	Pull Factors			
1	Higher return in the non-farm activities			
2	Generation of cash to meet household needs			
3	To accumulate assets			
4	Others (specify) ……..			

8. Based on which of the following factors do you select the non-farm activities you are participating now?
    1. Based on Owned Asset ☐
    2. Based on my skill ☐
    3. Based on the Advice from experts ☐
    4. Based on initial training ☐
    5. Based on Market Demand ☐
    6. I simply select because I was not aware of the types of non-farm activities ☐
    7. Others _____

9. For the future, mention the non-farm activities (NF IGAs) you want to participate? Prioritize? And Explain why?

no	Types of non-farm activities	Rank	Why/what is your rationale
1			
2			
3			
4			
5			
6			

Section IV. Key constraints and opportunities for non-farm livelihood diversification

10. Select and prioritize the major problems that hinder you from diversifying your livelihood to non-farm activities ;(multiple responses are possible)

No	Constraints to choose	1=Yes 2=No	Rank
1	Lack of awareness about nonfarm activities		
2	Social barriers/Social outlooks towards nonfarm activities		
3	Lack of access to training facilities /lack of skill		
4	Lack of adequate credit/loan size		
5	Absence of access to credit		
6	Low returns		
7	Lack of adequate access to market information		
8	Timing of loan repayment		
9	Labor poor (can't work, or not enough workers in the household)		
10	Gender biasedness		
11	Lack of Electricity and communication facilities		
12	Lack of transport facilities		
13	Others (specify)……		

11. What solutions do you propose for these problems?

No	Solutions	1=yes 2=No	Rank
1	Awareness creation about non-farm activities		
2	Provision of skill training		
3	Provision of sufficient credit		
4	Provision of market information		
5	Provision of transport facilities		
6	Improvement of the timing for loan repayment		
7	Provision of rural infrastructures		
8	Others specify ----		

12. Do you have labor shortage problems? 1. Yes ☐ 2. No ☐

13. If your answer for question number 17 is, Yes, for which of the following activities?

1. Farm activities ☐ 3. Both farm and non-farm ☐
2. Non-farm activities ☐

14. What opportunities do you have to participate in the non-farm activities?

No	Opportunities	1=Yes 2=No	Rank
1	Access to credit		
2	Technical support		
3	Access to skill training		
4	Provision awareness creation trainings		
5	Market demand for non-farm products		
6	Access for transport facilities		
7	Others specify _____		

Section V. Institutional support necessary to alleviate the constraint of non-farm participation

15. Did you get any training for your non-farm activities?

1. Yes ☐ 2. No ☐

16. If your answer for question number 20 is, Yes, mention the types of training you get

No	Types of Training	Training provider institution	How many times
1			
2			
3			
4			

17. Did you get any on job technical support for your non-farm activities?

1. Yes ☐ 2. No ☐

18. If your answer for question number 22 is, yes, who provided the technical support?

no	Types of technical support provided	Provider institution	How often 1=Rarely 2=Sometimes 3=Often 4=Very often
1			
2			
3			
4			

19. Do you believe the training benefit you? 1. Yes ☐ 2. No ☐

20. Do you belive the training you get is enough? 1. Yes ☐ 2. No ☐

21. If your answer for question number 25 is, No, what type of additional support or training do you need?

_____

_____

_____

22. How much initial capital did you use as a startup for your non-farm activity? _____(in birr)

23. From where do you get the initial capital for your non-farm activity?

No	Your non-farm activity	Source 1=My own 2= Relatives 3=RUSACCOs 4=DECSI 5=Multipurpose Cooperatives 6=Others mention……..						Loan size you get (Use the same choice as 28.2)						When did you got the loan(year) (Use the same choice as 28.3)					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1																			
2																			
3																			
4																			
5																			

24. Where is the market place for your non-farm products?

1. Mini market in kebeles ☐ 3. District town's market ☐
2. Sub District town's market ☐ 4. Zone town's market ☐

25. What is the distance (in hours) to sale the non-farm products in a nearby market and come again? by walk on foot _____(hours)by transport_____(hours)

26. What support did you get from the government for your non-farm activities?

1. Credit access ☐
2. Awareness creation training ☐
3. Skill Training ☐
4. Work premises, shad area ☐
5. Other mention_____

27. Do you get market price information for your non-farm products?

1. Yes ☐ 2. No ☐

28. If your answer for question number 35 is, 2, from where do you get the price information for your non-farm products? And how did you decide the price?

_____

_____

29. What are your major problems while marketing your non-farm products?

_____

_____

_____

_____

30. What support do you need from government to expand your non-farm activity?

1. Provision of sufficient credit ☐
2. Expertise technical support ☐
3. Improving access to infrastructure ☐
3. provision of skill training ☐
4. Provision of working places ☐
5. Others_____

Thank you for your cooperation

Appendix B: Check list for FGD

List of questions for the focus group discussion

1. What are the common types of non-farm activities practiced in your area (Awareness question)?
2. Could you please list the potential non-farm investments in your locality (Awareness question)?
3. How is the acceptance of such activities in the society? Which section of the society undertakes such activities?
4. What are the main challenges and opportunities to invest in non-farm activities?
5. What possible interventions do you propose to reduce the main constraints of non-farm activities?
6. What is the trend of credit provision service for the non-farm activities in your localities?
7. What institutional support do the NGOs, or GOs provide for the non-farm activities, and what are the missing component?
8. Which governmental organization is more responsible for the promotion of non-farm activities in the Woreda?
9. What do you think should be the role of the government in promoting non-farm activities?

Appendix C: Demographic characteristics' of the sample population

No	HH characteristics'	Ddba		Chelekot		Total	
		Count	%	Count	%	Count	%
1	**Sex**						
	Male	69	44.2	37	23.7	104	66.7
	Female	35	22.4	15	9.6	52	33.3
2	**Marital status**						
	Married	65	41.7	38	24.4	103	66
	Divorced	25	16	8	5.1	33	21.2
	Widowed	12	7.7	6	3.8	18	11.5
	Others	2	1.3	0	0	2	1.3
3	**Age**						
	18-45 years	70	44.9	47	30.1	117	75
	46-64 years	32	20.5	5	3.2	37	23.7
	65 and above years	2	1.3	0	0	2	1.3
4	**Religion**						
	Orthodox	102	65.4	49	31.4	151	96.8
	Catholic	2	1.3	0	0	2	1.3
	Muslim	0	0	3	1.9	3	1.9
5	**Education status of HH head**						
	Illiterate	27	17.3	25	5.8	36	23.1
	Traditional (read only)	30	19.2	8	5.1	38	24.4
	Adult literacy	26	16.7	20	12.8	46	29.5
	Elementary	19	12.2	14	9	33	21.2
	High school	2	1.3	1	0.6	3	1.9
6	**Labor capacity of the HH head**						
	Adult working	94	60.3	52	33.3	146	93.6
	Elderly	5	3.2			5	3.2
	Permanently disabled	5	3.2			5	3.2
7	**Occupation status of the HH head**						
	On-farm	21	13.5	19	12.2	40	25.6
	Partially on-farm	72	46.2	31	19.9	103	66
	Non-farm	11	7.1	2	1.3	13	8.3
8	**Family size of HHs**						
	1-3 members	46	29.5	14	9	60	38.5
	4-6 members	44	28.2	37	23.7	81	51.9
	7 and above members	14	9	1	0.6	15	9.6