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The Role of Small Towns in Diversifying the Livelihood of Rural Communities: The Case of Samre Town Saharti Samre District, Tigray, Ethiopia.

A **Thesis Submitted to the Department of Management, Mekelle University, in Partial Fulfillment of the Requirements for the Degree of Master of Arts (MA) in Development Studies (Regional and Local Development Studies)**

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June, 2013 Mekelle, Ethiopia

Declaration

The thesis entitled **"The Role of Small Towns in Diversifying the Livelihood of Rural Communities"** is my original work and has not been presented for a degree, diploma or fellowship to any other university and that all the sources of materials used for the thesis have been dully acknowledged.

Fitsum Mengistu Desta

Signature: _____

Date: _____

Certification

This is to certify that this thesis entitled **"The Role of Small Towns in Diversifying the Livelihood of Rural Communities":** The case of Samre town Saharti Samre District Southeastern Zone, Tigray, Ethiopia." Submitted in Partial Fulfillment of the Requirements for the award of Master Degree in Development Studies the College of Business and Economics, Mekelle University, in the department of management done by Mr. Fitsum Mengistu Desta, (Id.No.PE036/03) is an authentic work carried out by him under our guidance. The matter embodied in this project work has not been submitted earlier for award of any degree/ diploma to the best of our knowledge and belief.

Name of the Advisor_____Signature_____Date_____

Name of the Co-advisor_____Signature_____Date_____

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Acronyms

ASQ ----------African Studies Quarterly

CSA----------Central Statistics Agency

SSDOARD-------Saharti Samre District Office of Agriculture and Rural Development

SSD----------Saharti Samre District

HHs ----------Households

IDS----------Institute of Development Studies

IFPRI----------International Food Policy Research of Institute

NDMC----------National Drought Monitor Center

NRST ----------National Regional State of Tigray

Table of Contents

Declaration ii
Certification iii
Acknowledgements iv
Acronyms vi
Abstract x
List of Tables xi
List of Figures xii
CHAPTER ONE 1
1. INTRODUCTION 1
1.1 Background of the Study 1
1.2. Statement of the Problem 3
1.3. Research Questions 5
1.4. Objective of the Study 6
1.4.1 General Objective 6
1.4.2 Specific Objective 6
1.5. Significance of the Study 6
1.6. Scope of the Study 6
1.7 Limitation of the Study 7
CHAPTER TWO 9
REVIEWOF RELATED LITERATURE 9
2.1. Definitions and Basic Concepts 9
2.2. Characters of Livelihood Linkages between Small Towns and Rural Areas 10
2.2.1 Economic and Consumption Linkage 10
2.2.2 Strategic Linkage 11
2.2.3 Administrative Linkage 11
2.3. The Contribution of Small Towns for the Diversifying of Rural Livelihood 11
2.3.1 Market Access 11
2.3.2 Social Services and Credit Access 12
2.4. Bottlenecks of Rural Livelihood Diversifications 12
2.5. Empirical Studies 13

2.6. Sustainable Livelihood for Rural Communities 16
2.7. Conceptual Framework 17
CHAPTER THREE 18
STUDY AREA DESCRIPTION AND RESEARCH METHODOLOGY 18
3.1 Description of the Study Area 18
3.1.1 Location 18
3.1.2 Agro-ecology 19
3.1.3 Population and Distribution 20
3.1.4 Economic Potential 20
3.1.5Samre Town 20
3.2 Research Strategy and Design 21
3.3Data Type and Data Source 21
3.3.1 Data Type 21
3.3.2 Data Sources 22
3.4Sample Size Determination and Sampling 22
3.4.1 Sample Size Determination 22
3.4.2 Sampling and Sampling Procedure 23
3.5 Data Collection Methods and Instruments 25
3.6 Data Analysis and Presentation 25
3.6.1 Descriptive Analysis 25
3.6.2 Econometric Model Specification 25
3.6.3Selection of Variables Used in the Econometric Analysis 26
CHAPTER FOUR 30
RESULTS AND DISCUSSION 30
4.1 Demographic Characteristics of Respondents 30
4.1.1 Age of Household Heads 30
4.1.2 Sex of Household Heads 31
4.1.3 Family Size of Households 32
4.1.4 Education Status of Household Heads 32
4.1.5 Yearly Average Income of Households 33
4.1.6 Land Size of Households 34
4.1.7 Location and Distance 35

4.2. Livelihood Sources of Rural Communities in Saharti Samre District 36
4.2.2 Farming Activities 37
4.2.3 Non-farming Activities 38
4.3 Town-Rural Community Linkage 39
4.3.1 The Linkages 39
4.3.2 The Role of Samre Town in Diversification Rural Livelihoods 41
4.4 Determinants of Livelihood Diversification among Rural Households: Empirical Outputs 43
4.4.1 Age of household Head 44
4.4.2 Access to Road 44
4.4.3 Family Size of Households 45
4.4.4 *Tabia*/Location of the Households 45
4.5 The Challenges to Diversify Livelihood 46
4.5.1 Infrastructure Related Challenges 47
4.5.2 Institutional Related Challenges 47
CHAPTER FIVE 49
CONCLUSION AND RECOMMENDATIONS 49
5.1 Conclusion 49
5.2 Recommendations 52
3. Bibliography 55
Annex 1: Survey Questionnaire 61
Annex 2: Questionnaire for Focus Group Discussion or key Informant Discussions 70
Annex 3: Marginal effects of probit estimation 72
Annex 4: Correlation Estimates 72
Annex 5: Correctly Classified Estimation 73
Annex 6 coefficient partial effect 73

Abstract

It is not unusual to observe the rural communities participating in alternative income generating activities including construction, petty trading, daily labor, and the like. The objective of this research, among others, is to investigate the role of Samre Town in diversifying the livelihood strategies of the nearby rural communities. It also aims to identify the livelihood sources of rural communities surrounding Samre Town, urban-rural livelihood linkage and the factors hindering actual exploitation of the role of Samre town. In doing so, data were collected from both primary and secondary sources. Sample sizes of 155 households were chosen from three tabias: Lemlem Arena, Mai-tekli, and Samre that totality comprises seven kushets. A random sampling technique was employed in selecting kushets and households as well. Both descriptive statistics and econometric modeling were used to analyze the collected data. The descriptive analysis indicated that Samre Town plays a pivotal role in the rural community through market provision of their agricultural products, serving as a source of agricultural input, being a center of education, credit service, health and other important facilities. The town and the rural people are tied together in terms of market, credit access, education, health, road, and other administrative issues. Despite these facts, however, the rural communities cannot obtain the maximum possible benefit from Samre Town due to inaccessible of road, and lack of market, land scarcity, and administration related challenges. The results revealed that compared to other households, farmers living around Samre town are more likely to participate in important livelihood diversifying strategies assuring the hypothesis that emerging urban towns play significant roles in diversifying rural livelihood strategies. The empirical outputs also revealed that the participation likelihood in livelihood diversification reduces as household heads got older and older, living far away from the town. However, the findings revealed that households with larger family size are highly probable to diversify their income earning strategies. Another important finding of this study is that, households with access to the road are likely to reduce the chance to participation in non-farm tasks by about 0.9% as compared to those having no access to roads. Hence, the local and regional governments should have to give a great amount of attention, for meeting the basic needs of the rural communities; such as basic social infrastructure development and strengthen the Small towns 'urban-rural linkages for more productivity. This could be by making collaborations with other Nongovernmental organizations'. The rural community also requires trainings and awareness about the benefits of non-faming diversification that ever.

Keywords: Diversification, Livelihood, Rural livelihood, Samre Town, Small Towns

List of Tables

Table 1: list of Tabias and Kushets for Generating Primary Data 24
Table 2: Definition and Observation Levels of Variables used in the Econometric Analysis 29
Table 3: Age of Household Head 30
Table 4: Sex of Household Heads 31
Table 5 Family Size of Households 32
Table 6: Educational Status of Household Heads 32
Table 7: Average Income of Households 33
Table 8: Land Size of Respondents 34
Table 9: Summary Demographic Characteristics of Households 35
Table 10: Cross tabulation of *Tabias* and Major Occupation of the Rural Livelihoods 36
Table 11: Cross tabulation of *Tabias* for Crop production, Livestock and Irrigation 37
Table 12: Cross tabulation of *Tabias* for Petty trade, Daily labor and Handcrafting 39
Table 13: Types of Linkage between Samre Town and its Surrounding Communities 40
Table 14: The Role of Samre Town to its Surrounding Rural Communities 41
Table 15: Determinants of Livelihood Diversification among the Rural Households: 46
Table 16: Major Bottlenecks to Diversifying the Livelihoods of Rural Community nearby Samre Town 48

List of Figures

Figure 1 Sustainable Rural Livelihood: a framework foranalysis 16

Figure 2 the Linkage between Small Towns and their Surroundings towards Livelihood Diversification 17

Figure 3 Map of the Study Area 19

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Naturally, the urban-rural linkage is based on the bilateral way of interactions. However, small towns could be viewed as hearts, which play an important role in strengthening and supporting the needs for the rural growth and their local development. On top of this, rural livelihood diversification is the matter of conceptual and policy based research because income from farming has come under force due to overpopulation and climatic condition (Sharifinia, 2013; Barrett, et al, 2001; Ellis, 1999).

So far, there has not has been a universal definition about the size of small towns in our Earth: Consequently, different studies, give their definition based on their own standards. This divergence may also take place, even sometimes among researchers within the same region or country Tacoli (2004).

According to Rezvani, et al. (2009), the definition of a small town is different in various states and areas depending on different social, economic and population considerations. According to Satterthwaite and Tacoli **(**2003), small towns are still smaller, and on certain occasions do not yet extend to 2,000 dwellers. Similarly, different authors also give their own opinion about what should be the criteria's of small towns and they forward that, small towns demand to be studied based on their own or have territorial circumstance and specialties (Hardoy and Satterthwaite, 1988; Simon, 1990, 1992; Owusu, 2004).

In the Ethiopian context, to define one area as rural and urban, the primary significant points are statistic and economic issues. According to Ethiopia's urban plans proclamation (No.574/2008, Article2/8). Urban centre is defined as, whatever neighborhood on base or having a population size of 2,000 or over the dwellers of which fifty present of its task drive is mainly locked in non-farming actions. On the other side,

villages whose economic grounds are dominantly farming are regarded to be rural areas (FDRE, 2008).

As the interest of governance, urban areas or towns in the Tigray National State are categorized as; emerging, Town and metropolitan (proclamation 107/1998 article 9/1).Harmonizing to this declaration, an emerging town is a town with no less than two thousand populations furnished that, it is accepted as a town by the territorial authority. The developing town can get the position of domestic governance agreeing to the rule to be enacted by the regional authority executive commission of the urban administration (proclamation 107/1998 article 29/1).

Some other crucial concept is livelihood: this concept is very wide and used in several different ways; it consists of different ways of significance. For simple understanding let's see the following general concept given by different authors. Livelihood can be describe as the combinations five livelihood resources such as; natural capital (natural resource stocks), economic/financial capital (saving, credit, remittance, and pension), human capital (skill, knowledge, ability to labor, and good health) social capital (networks, memberships), and capital asset or physical capital including infrastructure and production equipments (Scoones, 2009: 1998; Carney, 1998). Moreover, Chambers and Conway (1992) have expressed livelihood consists of potentialities, both tangible and intangible assets and actions as well as events demanded for surviving.

Essential construct in this study is rural livelihood diversification. Rural livelihood diversification is describes the process by which small farm households take up on nonfarm activities, or trust on nonfarm income changes, for the overall standard living (Ellis,2005). According to IDS (2000), rural livelihood diversification is the procedure by which rural households build a diverse function of actions and social capacities in governing to keep or better their power to create a living condition. In place of having a single production and seasonal based economy, taking multi sources of economy is important for the rural household livelihood diversifications. Furthermore, Sharma (2010), household livelihood diversify is a systematic planned action to minimize risk. Especially, developing countries are suffering from chronic poverty. In rural Africa; asset and financial gain broadening rest at the center of livelihood strategies Barrett et al

(2001). Ito (2010), in Africa's rural regions, farming is not the entirely generators of livelihood but for non- agriculture financial gain sources and their kinship to citified regions and small towns have got a function in livelihood varieties and heterogeneity.

According to Tacoli (2004), small and medium city-born hearts have significant potential use of branching out of income sources, rural development and in poverty reduction. Additionally, she further stated that however, small towns act as a critical function by allowing for local markets, for agricultural outputs, which are all-important for small-scale farmers but oftentimes this issue did not get to a greater attention by policy producers (Tacoli, 2004).

According to the National Drought Monitor Center (NDMC, 2005; as cited in Gebru and Beyene, 2012: p.158), rural households in Sub- Saharan Africa regions commonly have to deal with both poverty and the financial gain variance. Of these, Ethiopia is one of among nearly undercoated in poverty due to occasional drought and exceedingly varying surroundings creating farming a hazardous economic function. According to Ellis (2005), local market towns and metropolises are highly crucial to the economic actions of the rural households. Similarly, according to Bihon and Gebremedhin (2011), small urban towns are functioning as a heart of commercials, administration, informative, health and occupation chance to surround hinterlands. Therefore, studying the role and function of small towns in rural communities' livelihood diversification is an important policy agenda among academicians, policy makers and development agents.

1.2. Statement of the Problem

Tigray region has been characterized by its poverty, recurrent droughts and food shortages, long lasted civil wars fought at different times, fast process of environmental desertification that goes from the north to the south, depletion of natural resources due to high population growth, insufficiency of appropriate infrastructure facilities and social services. The regional and national governments have made paramount commitments to reduce poverty by engaging in broad based economic growth. Following this, remarkable improvements have been noticed in the region. However, considerable numbers of people in the region still survive under the multifaceted and complex problems inflicted by poverty (Bahre and Sosina, 2011). Governmental and non-governmental organizations

have been trying to address these problems using various policy interventions and strategies. Among others, the existence of small towns may be taken as an opportunity for promoting diversified livelihood strategies of the nearby communities.

The report from the District of Saharti Samre (2006) indicated that, the District is suffering from chronic poverty of livelihood: this is due to the main sources of their livelihoods are more of agricultural based activities and these activities are exceedingly affected by drought.

Babulo, et al, (2008), realized that in rural areas of developing states, farming only is not enough to serve livelihood. Rather, additional income sources are important such as off-farm wage works, non-farm activities, non-farm self-employment, and remittances. According to Tacoli (1998), small towns are pivot points for those communities found in them and the peripheral rural societies which are expected to play fundamental roles in enhancing the dynamic momentum of rural-urban linkage and vice versa. Tacoli (2004) stated that small towns have a potential function as the sources of income radiating or diversifying and rural development. Furthermore, Tacoli (2004) stated, that small towns play on specific functions such as supplying local markets for agrarian output, which are necessary for small-scale farmers. Similarly, according to Ellis (1999), diversity is an important strategy in diversifying the rural livelihoods but, this issue was neglected by many of the policies, this is mainly encountered in the rural urban linkages. According to Courtney, et al (2007), small towns are serving as an employment role and strengthen the societal network among the surrounding communities. Furthermore, according to Wandschneider (2004), small rural towns are serving as a vital conjunction within the villages and extend the economy by providing marketing services and occupational engagement opportunities to agrarian households. However, there is imperfect scientific evidence about small towns and their role in rural development strategies.

With the exception of Mohammed (2007); Bezabih (2006) ; Bihon and Gebremedhin (2011) attempted to examine the livelihood strategies and their implications for rural-urban linkages, the implication of rural urban linkage for livelihood diversification and the role of small urban towns in improving rural livelihood; previous studies in Ethiopia have been largely concentrated on the determinants of livelihood diversification in

pastoral societies, rural household livelihood strategies in drought prone areas, and diversification and livelihood sustainability in a semiarid environment respectively, (Eneyew and Bekele,2012; Gebru and Beyene, 2012; Berhanu et al. 2008).

Many of the livelihood and related studies (such as those stated above), strove for examining livelihood strategies and their bases of diversification thereof. However, many of them did not disclose the role that small towns play in diversifying the livelihood of surrounding rural communities. As per the researcher's knowledge, the link between small towns and the rural masses occupational livelihood diversification is overlooked in many of the literatures, particularly in Ethiopia. In short, there is a need to investigate the role small towns and their play in diversifying livelihood among rural communities. Furthermore, there also is a need to investigate on the determinant factors both the infrastructural and institutional related challenges as well as demographic factors; that can affect the rural communities or households on their livelihood diversification need to examine.

1.3. Research Questions

The study was guided by the following key research questions.

1. What are the main livelihood sources of the rural community surrounding Samre Town?
2. What are the livelihood links between Samre town and its peripheral communities?
3. What contribution does Samre town have in diversifying the livelihoods of its peripheral communities?
4. What factors are determinant in diversifying the rural livelihood households in the context of Samre Town?
5. What are the chief constraints for diversifying livelihood in the study area?

1.4. Objective of the Study

1.4.1 General Objective

The general objective of the study was to examine the role of small towns in diversifying the livelihoods of the rural communities in the context of Samre town, in Saharti Samre District, South East zone, Tigray.

1.4.2 Specific Objective

More specifically, the study was intended to accomplish the following objectives.

- To describe the livelihood sources of the rural communities surrounding Samre Town.
- To identify the livelihood linkage between the rural community and the Samre Town.
- To explore the role of Samre Town in diversifying the livelihood of rural communities.
- To identify factors that can determine the livelihood diversification of the rural households.
- To identify the bottlenecks which restrain Samre Town not to play its maximum role in diversifying the livelihood of the selected rural *Tabias*[1]

1.5. Significance of the Study

The study contributes to the existing knowledge of rural livelihood diversification strategies in rural Tigray. It also contributes in disclosing the role of small towns in diversifying the livelihood strategies of peripheral communities. Furthermore, the study can serve as an input for rural-urban integration efforts and gives the way for further studies in the areas of livelihood diversifications and the role of small towns.

1.6. Scope of the Study

The geographic scope of this research was limited merely to the Saharti Samre District Southeastern zone, National Regional Sate of Tigray. The District was picked out due to its location, distance and furthermore, the researcher conceives that this area can be more

[1] A *Tabia* is the lowest administrative unit in the region corresponding to kebelle in the urban setting.

manageable to conduct this study from the point of financial issues. Relatively speaking; there are two small towns that can own a municipality in the Saharti Samre District, Southeastern zone, Tigray: Samre and Gijet. From the above two small towns Samre town is selected to serve as a reference category for this study due to the following factors. Interms of governmental administration, Samre is the center of the district with compare to Gijet. Therefore, according to the researcher Samre town and its surrounding was relatively sounding to conduct this study. The District has 23 *Tabias* but this study was carried out merely on the following three *Tabias*; *Tabia* Mai-tekli, *Tabia* Lemlem-Arena and *Tabia* Samre[2].Those three *Tabias* were selected by the simple random sampling method.

Another important point is that, the conceptual scope of this study was limited merely on the function of Samre town for occupational livelihood diversifications of the rural communities; that is diversifying from the very usual agricultural activities to the non-farm occupational practices. Furthermore, this study used cross-sectional survey method which was carried out from July 2012 up to June 2013.

1.7 Limitation of the Study

The study encountered the following limitations. The respondents were busy of their daily agricultural tasks. Therefore, was lacking of time to respond appropriately. Moreover, sufficient secondary data that could helpful for this research were not available as required due to poor documentation and weak data handling system commonly observed in government offices. So as to solve the above problems the researcher took proactive solutions such as dealing with respondents to confirm which time and day is relatively convenient to them; that's why all the expected questionnaires fully responded. With regard to secondary data, the researcher worked more or less by using his maximum effort in order to obtain recent and relatively accurate secondary data by discussing the importance of this research to the concerned persons or organization leaders. In general however, the researcher was doing his best on the above problems it does not mean that all the troubles were fully puzzled out.

[2]In this study, Samre town itself was not included. Rather it served as a reference category.

Furthermore, this study may come across with following limitations; the final finding of this research may not necessarily represent to all *Tabias* which are found in the District of the study area as well as to all Tigray regional Districts and the other limitation could be since, the livelihood diversification strategies categorize into three (i.e. intensification, migration and occupational diversification). However, this study deals only with the occupational diversification strategies. Consequently, the two livelihood diversification strategies are not included in this research. Therefore, this can also take as one limitation of this research. Finally, the findings, conclusions, and reconditions of this study are the emanated from the concept of occupational rural livelihood diversification strategies and are limited to the households in the study area.

CHAPTER TWO

REVIEWOF RELATED LITERATURE

2.1. Definitions and Basic Concepts

There is no universal description of the issue of small towns. Accordingly, different studies give their own definition based on their criteria. Even sometimes there are variations among researchers within the same country. For example, according to the following authors' a single small town wants to be studied from the points of its local circumstance and distinguishing characteristic (Hardoy and Satterthwaite, 1988; Simon, 1990, 1992; Czerny, et al.1997; Giraut, 1997; Tacoli, 2003; Owusu, 2005).

According to Tacoli (2004), still there are no mutual criteria and concept to answer what small town stand for is, including interims of their universe size and economic activities small towns does not have a world-wide resolution in general rather the concept is depending upon the size of the given state. For instance, a" Small" town in India can have a population of many of tens of thousands and also intermediate areas about 500,000 dwellers. But for some other countries who have smaller size number population their big cities can have below 500,000 dwellers.

In Ethiopia context, the main points to categorize one area as rural or urban it is determined by its population size and economic activities (Bihon and Gebremedhin 2011). According to the Ethiopia urban plans proclamation No. 574/2008 Article 2/8, urban center stands for whatever area with featuring a population size of not smaller than 2000 dwellers who are mainly employed 50% of them in non-farming activities. Apart from this, villages in a dominant manner their economic activities grounded in agriculture are surely believed as rural areas. In Tigray as the purpose of governance, urban centers are categorized as emerging or infant, town and metropolitan. The rising town can have a domestic administration and with above 2000 inhabitants taken as a town (proclamation 107/1998 article 29/1 cited in Bihon and Gebremedhin 2011: p.11).

Livelihood is another most important concept of this study. However, it has tried to incorporate in the background part of this study; in this section we will also see some

other relative ideas of livelihoods. The very recognized definition of livelihood is forwarded by Chambers and Conway (1992) livelihood consists of the capacities, assets and actions necessitated towards existing life. According to Ellis (1999), the concept of livelihood also defines as the activities, the pluses, and the access that collectively shaped the living benefitted by an individual or family. Furthermore, Scoones and Carney (1998), it consists of different sort of livelihood resources and they defined as the following it is "natural capital (natural resources stocks), economic/financial capital (saving, credit, remittance, pension), human capital (skill, knowledge, ability to labor, good health) social capital (networks, memberships), and capital asset (substructure, production instruments)".

Rural livelihood diversifying is another conception of this study. According to different studies stated that, rural livelihood diversifying is expressed as; a strategy that to build a various portfolio or functions of activities to improve the ability to work, minimize risk (uncertainty) through diversifying the single (or the exits one) and common ways of farming system to other non-farming activities such as petty trade, daily laborer, firewood, handcrafting, construction and the like (Sharma, 2010; Satterrthwate, 2003; IDS, 2000).

2.2. Characters of Livelihood Linkages between Small Towns and Rural Areas

2.2.1 Economic and Consumption Linkage

The rural-urban linkage is a multidimensional system. According to (Thanh, et al, 2005; Tacoli, no year series No. 77), ways rural-urban interactions involve that movement of people, social network and other exchange of monetary system. Furthermore, the second author also stated that several urban activities rely on demand from rural users, and most farming and non-farming producers of rural areas also needed the demand of urban dwellers consumption; in-between the alternative of the livelihood diversifying will be increased in both areas. According to Taleshia and Mohammadi (2012),in order to satisfy the demand of rural communities' small towns are functioning as a core of activities by producing or new jobs in both farming sector and strengthening of the rural- urban

infrastructural services. Furthermore, small towns help and facilitate the rural urban acting by providing the basic sources of linkages, such as market access, agricultural inputs and make job opportunities in the rural areas.

2.2.2 Strategic Linkage

Recently, the interrelations between rural and urban can be express through the livelihood strategies; mainly small towns are taking place a vital role in creating different options for the rural communities. According to Scoones (1998), livelihood strategic linkage can be categorized into three clusters such as farming intensification, livelihood variegation or diversification and migration. According to (ASQ, 2010;Thanh, et al, 2005), small towns are essential for livelihoods in rural areas in two important grounds, their functions as labor migration as a coping strategy at the time of food shortages occurs and access to social factors of rural livelihood strategies.

2.2.3 Administrative Linkage

According to Bihon and Gebremedhin (2011), small towns are providing different governmental services for the rural communities like social- justice services, marriage contract, and different conferences and trainings. Furthermore, Owusu (2005) stated that, small towns are also contributing their role in helping and promoting the decentralization of the administrative system. Owusu further, explained that small towns have an important role in strengthening the administrative linkage between the rural and urban areas. According to Taleshia and Mohammadi (2012), small towns are served, by providing the political as well as administrative issues to meet the needs of the rural communities including communication, health, education, and other rural development services.

2.3. The Contribution of Small Towns for the Diversifying of Rural Livelihood

2.3.1 Market Access

Small towns provide different market goods and services for the rural community. If the rural people do get more market access to buy and sell for both, their agricultural and

nonagricultural products, their probability to diversify in their livelihood source will be definitely increase. According to (Taleshia and Mohammadi, 2012; Thanh, et al., 2005; Tacoli, 2004, 1998), assess to market is a prerequisite to rural development, small towns have substantial and potential role in providing different marketing services for the rural communities such as farming inputs, other goods and services and credit service.

2.3.2 Social Services and Credit Access

The concept of social service is too broad. Small towns have a great amount of role in providing the basic social service for improving of the rural livelihood diversifying. According to (Taleshia and Mohammadi, 2012; Bihon and Gebremedhin2011;Rezvani et al.2009; Satterthwaite and Tacoli, 2003), Small towns are playing a vital role in providing many social services to their nearby rural communities such as; education, cultural relations, health services, administrative service (marriage contract, justice and police) , infrastructures' and credit services etc. They also stated that, small towns are consuming or demanding the farming yield of households and control out migration to large cities by creating job opportunity to surround hinterlands. According to Tacoli (2004), small towns also performing in providing the general service both governmental and private; these service provisions such as banking, credit association and others are crucial to rural livelihood diversifying and development strategies.

According to Courtney et al. (2007), small towns are playacting as sub-poles by strengthening their employment function and supporting social networks with their hinterlands. Small towns are acting as catalysts by shaping the production, employment and marketing opportunities of the local economic development (Wandschneider, 2004).

2.4. Bottlenecks of Rural Livelihood Diversifications

According to Tegegne (no year but no. 21.69-76) some of the constraints for the hinterland communities are shortage of land, lack of financial capital and agricultural inputs (pest &weeds).In his study, due to these constraints the production capacity of the farm households remained subsistence. Tacoli (2004), stated that, transport infrastructure, access to credit and access to market are among the ignored by policy makers in the rural communities. The existences of rural roads are important for rural livelihood

diversification and rural-urban linkages development but the financial issues and capacity are some of the major bottlenecks to construct new roads and upgrading the existing roads (MOFED, 2010).

Many studies explain that the living of human being is supported by different livelihood strategies. According to Eneyew and Bekele (2012), the reasons to diversifying livelihood are large family size, dependent ratio, often extension service, being member of the cooperatives, input use and remittance. They also stated that, one extra person in the household increases the degree of probability diversifying livelihoods by 3.3% and the more there is dependency ratio the power to satisfy the basic demand declines and the dependency problems make it necessary to diversify their source of income (ibid).According to Gebru and Fekadu (2012), rural livelihood strategies can have the following alternatives such as; education, productive family, access to credit and market.

Marketing is one of the most important to facilitate the rural-urban and increase livelihood diversification of the rural and regional areas. However, there are some constraints such as inadequate price information among rural producers, lack of road access and financial or credit service (Mohammode, 2007; Tacoli, 2004; Satterthwate and Tacoli, 2003). The rural livelihood diversification strategies may determine by many factors; Such as, education, sex of household heads, age and credit access (Eneyew and Bekele, 2012). Small and intermediate towns have significant functions in the supply of basic of services for most of the rural community but this is determined by the nature of the local, regional, national government policy and strategy (Tacoli, 2003).

2.5. Empirical Studies

Previous literature (Eneyew, 2012; Khatun and Roy, 2012; Eneye and Bekele, 2012Piya,L and et al, 2011; Bihon and Gebremedhin, 2011; Mohammed, 2007, and Miller, 1995), argued that a wide range of factors affect the likelihood of household's livelihood diversification strategy owing to social demographic, cultural, and economic factors. Accordingly, the following variables are considered in the empirical analysis of this study.

Age: - according to Eneyew and Bekele (2012), age is a significant component in the livelihood preferring farm and non-farm activities reduced by 1.4% by the age increasing. The potential reason of the study is that, other things remain constant farmers whose age is relatively younger, could be forced to engage more in non-farm activities due to shortage of holding land. Furthermore, Gebru and Beyene (2012), supported that, youth household heads are more participates and pliant in their diversification livelihood strategies than the older one. The reasons stated by the authors are due to lack of education, inadequate experience to protest the risky condition, high social network and decreasing the physical effectiveness of work condition.

In the study of, Eneyew and Bekele (2012), sex of household heads has a negative influence in the livelihood diversification of in non-farming activities. Their finding demonstrates that, the probability of livelihood diversification in non-farming activities, which is headed by female household heads, reduces by 24.8%.Other studies have also, ensured that, with the above findings (Berehanu, 2007, cited in Eneyew and Bekele 2012 p:156).

Size of household: - Previous empirical studies researched (Eneyew and Bekele, 2012), indicates that, size of household was found a positive as well significant to livelihood diversification schemes. Their results revealed that, one excess labor is the household increases the possibility of diversifying livelihood by 3.3%. They also argue that, the potential correlation between the sizes of the household and diversification may be due to the relation between big household size and household task or labor.

The Educational level of household head: - according to Enyew (2012), the educational level of household head has a positive correlation with livelihood diversification. His study reveals that, a unit of increase the in the education level of the household head wills increases the possibility of being to the livelihoods diversification by a factor of 2.2.

Location of the respondent: - in this study location is stands for distance from markets (towns). According to Eneyew (2012), households who are closer distance to market centers have more possibility to diversify their livelihoods from those who do not have close distance to the market. His finding also indicates that, a household nearby one

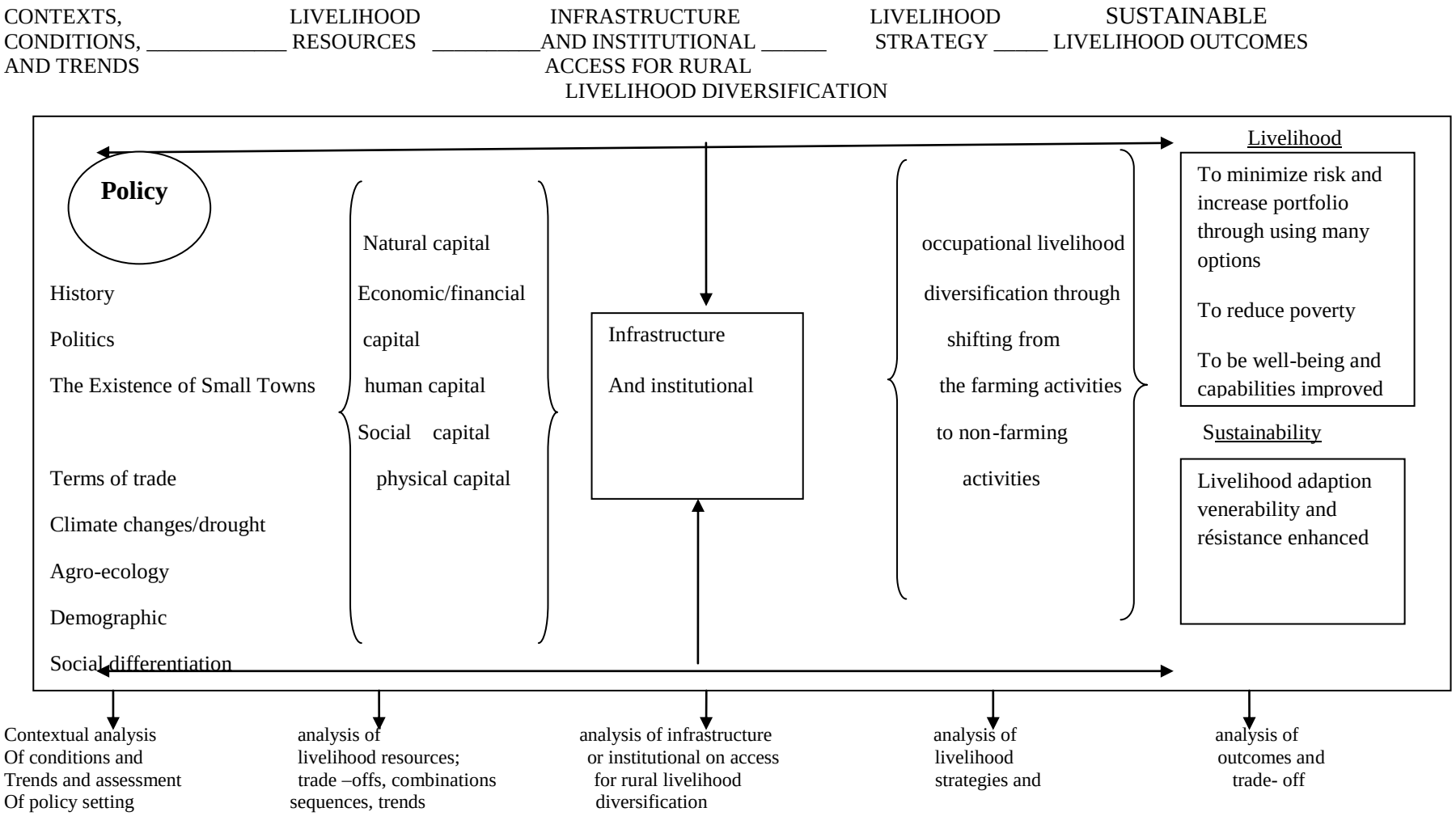
kilometer to the market area has the possibility to diversify his/her livelihood by a factor of 8.9. Similarly, the study of Beyene and Gebru (2012), suggests that, other things being constant; the chance of the households to participate in farm and non-farm livelihood strategies decrease by a factor of about 0.83 at the distance increase by one kilometer. The authors argue that, this is due to the households located near to the market gets more advantages (lower costs of transport and better returns, saving their golden time and access to information) than the far located households.

Road access: - the presence of road access plays an important role in improving the economic activities of the rural households. In other words, the rural household heads, which have an access to road, have a better possibility to diversify their livelihood than who do not have an access to road (Dercon and Hoddinott, 2005).

Credit access: - is a significantly important to single household heads inorder to meet their financial gap (demand) and to diversify their livelihood sources (Bihon and Gebremedhin, 2011).

2.6. Sustainable Livelihood for Rural Communities

Figure 1Sustainable Rural Livelihood: a framework for analysis

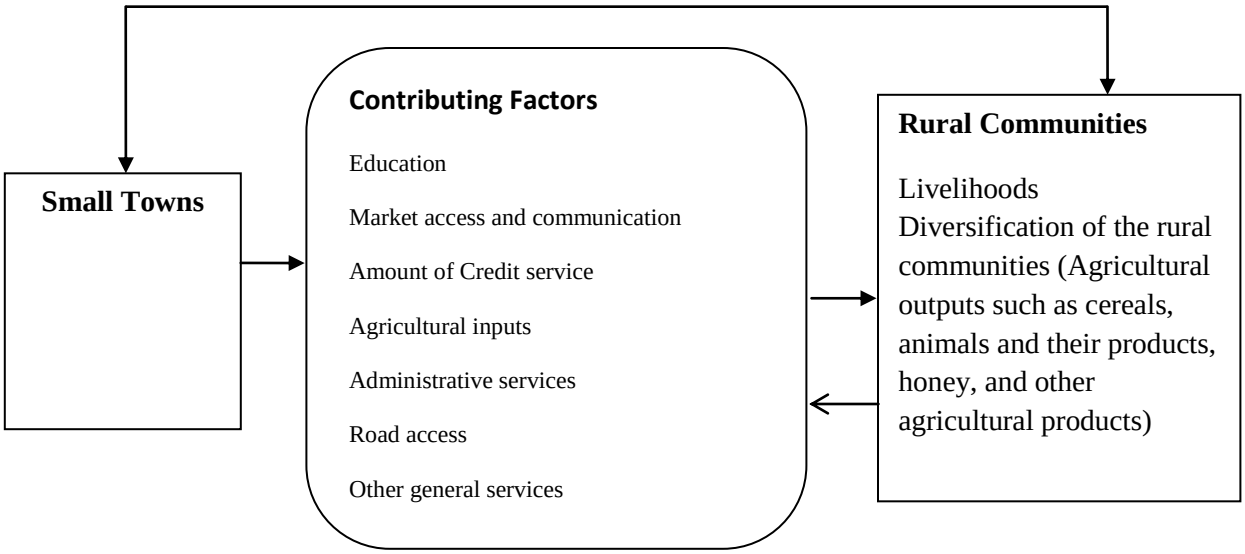


Source: Adapted from Scoones (2009)

Figure 1 shows us the producer how to come through for the sustainable of the rural livelihood outcomes. Furthermore, framework is points that, the general direction and real circumstances that should be undertaken into account to analysis rural livelihood diversifications.

2.7. Conceptual Framework

Figure 2 the Linkage between Small Towns and their Surroundings towards Livelihood Diversification



Sources: Adapted from Tacoli (2002) as also cited in Mohammed, 2007.

Figure 2explains that, some of the linkages between the urban and the rural areas. Consequently, small towns are providing different social services to their surroundings rural communities that can help in improving in their survival. The same is true, the reaction of the rural communities also goes to the existence and the development of the small towns; in another saying, the developments of the small towns are based on the existence of rural development and the rural livelihood diversification is depending on the developmental status of the small towns. The figure also shows us the multi-dimensional ways of in both the role of small towns through different factors that may increase the rural livelihood diversification and the response socioeconomic products by the rural settlers. In general figure 2.1 show us, the interdependency among the small towns and the rural communities

CHAPTER THREE

STUDY AREA DESCRIPTION AND RESEARCH METHODOLOGY

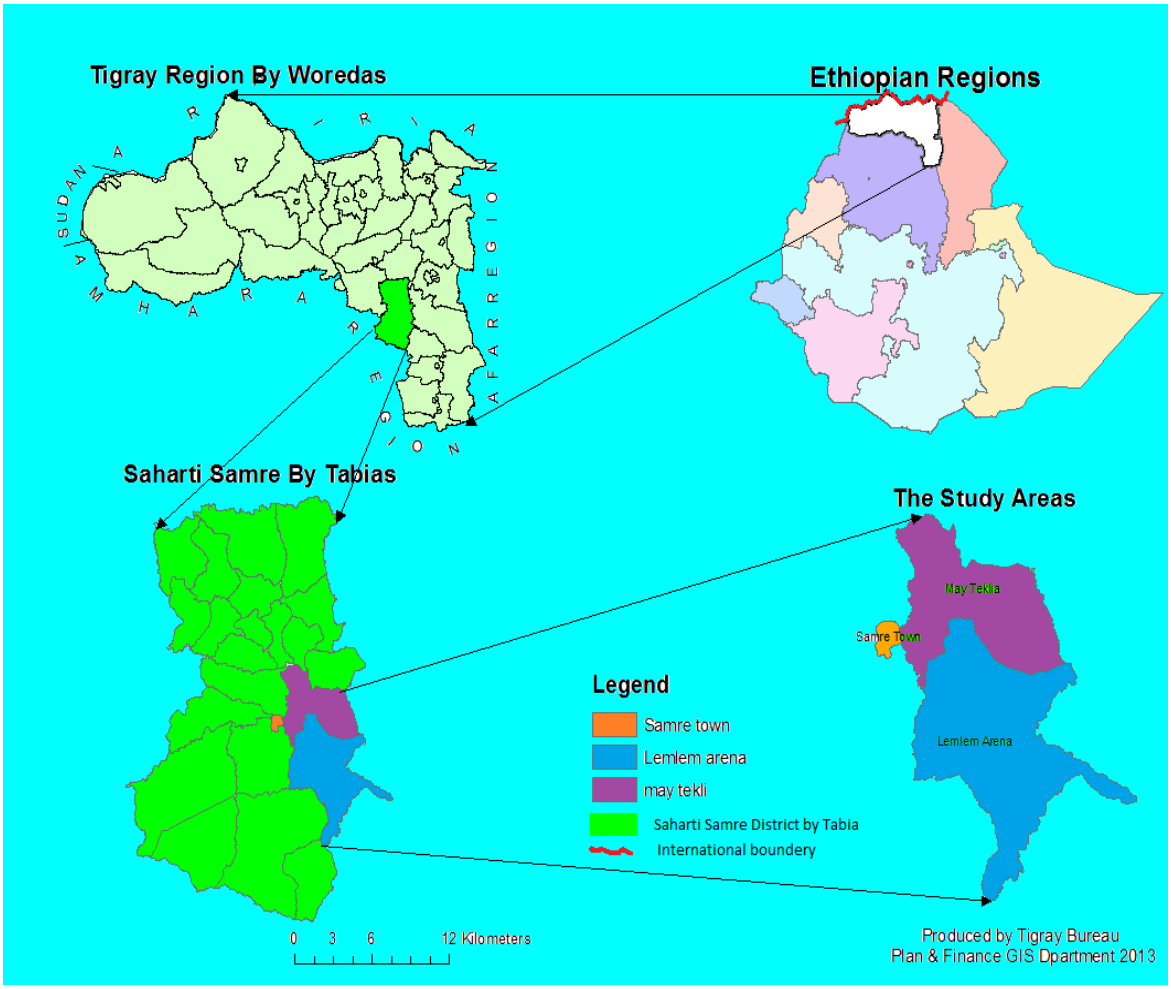
3.1 Description of the Study Area

3.1.1 Location

Established by the Federal Democratic Republic's Constitution of Ethiopia in 1994, the Tigray National Regional State is one of the nine regional states of Ethiopia (FDRE, 1994).Accordingly the Tigray region is named as regional one. Tigray region is located in the Northern part of Ethiopia. The region is bounded by the State of Eritrea in the Northern part, Amhara Regional State in the South and West, and Afar National Regional State in the East. The region has seven Zones; East Zone, South Zone, West Zone, Northwestern Zone, Central Zone, South East Zone, and Mekelle special Zone. The region has also46Districts.

This study was conducted in the Saharti Samre District which is found in the South Eastern Zone of Tigray National Regional State. The District is bounded Amhara National Regional State on the West and north by the central zone Tigray, on the northeast by Enderta, on the east by Hitalo-wejirat, and on the Southeast by southern zone. It has also 23 *Tabia* administrative. The District is found in the East $12^0$30' 00'' - 13^0 02'00'' Latitude North 38^0 59' 00'' - 39^0 26' 00'' Longitude (Saharti Samre District office of Plan and Finance, 2011)

Figure 3 Map of the Study Area



3.1.2 Agro-ecology

The climatic condition of the District is Kolla, Woynadega and Dega 50%, 47%, 3%, respectively, (SSDOARD, 2012).Attitudinally, it is located in 1470- 2370 meter about sea level. *Kremti* is the major cropping season of that District. The word *Kremti* is stands for the rain season like (June, July and August). The yearly average rainfall of the District is about 350-700 mile meter (Saharti Samre District office of Plan and Finance, 2011.) According to the report of the Saharti Samre District office of Plan and Finance the fertile soil composition of the District is as follows; luvisol, cambisol ,and vertisol 55%, 20%, 25%, respectively.

3.1.3 Population and Distribution

The total population of the District is about136, 514 of those 67,874 are males and 68,640 are females. From the above 136, 514 total population 11,115(5,194 male and 5921 female) are urban dwellers and the rest of 125,399 is rural dwellers (CSA 2011). The dispersion system of the population is more of in the geographically fragment and strategic area to protect natural and human damages. The district has two ethnic group such as; Tigreyan (about 98 %) and Agew about 2%.

3.1.4 Economic Potential

Agriculture is the major source of income for both the rural and urban dwellers in Saharti Samre District. The District has about a total of 171,675 hectares; from this total hectare of that District about 65,267hectares are covered by forests, about 35,526hectares holding land for all productions, about 36,728hectares forest and grazing. Furthermore, the District has also about 37,075hectares for residence areas (Saharti Samre District of office of Plan and Finance, 2011). Like the other Districts of this region, *Kremti* is the main cropping season. Teff, wheat, barley, dagusha, maize, Sorghum, beans, lentil, sesame, and the like are the most common crops. The District is also home of different animals among others; cattle, goats, sheep, donkey, hens and bee. The predominant types of non-farming activities of that District are trade, daily-labor, mining, dry farming, and irrigation. In addition to the above the District has the following mineral resources; gold, marble, and clay soil (SSDOARD, 2012).

3.1.5Samre Town

Samre town is the center of administrative services of the Saharti Samre District found in the Southeastern zone of Tigray Regional National State. Samre is far away about 57 kilometers from Mekelle, the capital city of Tigray Regional National State. Samre is bordered on the north by Gijet, on the south by Dela, on the west by Finarwa, and on the east by Dengolat and Hareko. It has a total population of 5,723 males 2,730 and females 2,993 according to the recent census (CSA, 2011).The climatic condition of the Samre town is more *woynadega* .The town owns two primary schools and one high school and preparatory school, two banks (government &private) one health center and municipality. Interms of religion the town contains Orthodox Christianity about 98% and Muslims

about 2%. The town is the home of different economic activities such as crops (white teff, barley, wheat, sorghum, maize, pulses and oil crops), and livestock productions (cattle, goats, sheep, bees, chicken), irrigation (vegetables, fruits) as the data found from (Saharti Samre District Office of Agriculture and Rural Development, 2011).The town has market linkage with the following such as; Mekelle, Gijet, Finarwa, and Sokota (to Amhara Regional National State). Samre town is the home of honey, butter and local beer (*Tela or Sawa*).

3.2 Research Strategy and Design

This study used a cross-sectional survey method. Both quantitative and qualitative methods of data analysis were used in the study. The survey method was more appropriate in order to have accurate data from the study area. It was also more relevant to this study in terms of time, cost and other related factors.

3.3Data Type and Data Source

3.3.1 Data Type

Primary data: Data that can help to map out the livelihood diversification of the rural communities surrounding the Samre town were found different sources. Firsthand information regarding the interaction between the samre town's economic activities and the linkage with the rural community was gathered. This can be contextualized on the different sectoral and cross-sectoral economic activities and life supporting systems of the two surrounds: rural town and peripheral communities. Furthermore, primary data were gathered that can witness the role samre town in the context of diversifying the livelihood strategy of its peripheral communities. Lastly, firsthand information that substantiates to identify the principal bottlenecks in diversifying the livelihood strategies of rural communities in the Samre town was also required.

Secondary data: The major secondary data were found related to road construction, credit services, and health services, educational and administrative services. Furthermore, the researcher used secondary data from the rural development office and employment data from the *Tabias*, District, zonal and Regional level. Furthermore, to substantiate and

triangulate the primary data, scientific journals, and review proceedings were applied as appropriate.

3.3.2 Data Sources

In order to gather accurate and valid data, the study used both primary and secondary sources.

Primary data sources: The primary data sources were collected from the selected rural household heads and the key informants were including *Kushet* and *Tabia* leaders, development agents, school teachers, and credit agents. Furthermore, the office of rural development experts of that District was also part of the key informants.

Secondary data sources: The secondary data sources were District administrative, Rural Development office, office of plan and finance, health office, education Office, construction and road transport office, Dedebit microfinance credit and saving sub ranch samre, Rural Development office Southeastern Zone, and bureau of plan and finance National Regional State of Tigray (NRST) as well as central statistics agency Tigray, Ethiopia.

3.4Sample Size Determination and Sampling

3.4.1 Sample Size Determination

The total target population of this study was 2034 households. The sample size of this study was determined to be 155 household heads. The sample size was determined using Kothari's formula (2004) as following;

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

Where,

N = size of population or targeted population

P = sample proportion of successes;

n = size of sample

q = 1-P;

z = the value of the standard deviation at a 93% confidence level

e = acceptable error (the precision)

Thus, N = 2034 p = 0.5 z = 1.81 e = 0.07

Substituting values in the initially stated formula above,

$$n = \frac{(1.81)^2 * (0.5) * (0.5) * 2034}{(0.07)^2 * (2034-1) + (1.81)^2 * 0.5 * 0.5}$$

n= 155

Therefore, the total sample size used in this study is 155 households from the rural Samre district.

3.4.2 Sampling and Sampling Procedure

The district has 23 *Tabias* but due to various factors this study was carried out only on the following three *Tabias*. These *Tabias* were selected by using simple random sampling (lottery) method because the researcher believes that, the selected *Tabias* have almost similar socioeconomic activities; in other words they have almost homogeneous people. Within these above to select *Tabias* there were also seven selected *Kushets*[3] nominated

[3] A *kushet* is the local administrative unit below *Tabia* in the region corresponding to *ketena* in the urban setting.

by using random sampling method. Accordingly, *Kushet* Adeba and *Kushet* Tsaedasaeri were from Tabia Lemlem-arena, *Kushet* Mai-tekli and Kushet Adi-srawat from *Tabia* Mai-tekli and *Kushet* Adi-awrerom, *Kushet* Adi-harta, *Kushet* Adi-gerhi from *Tabia* Samre. Finally, this study used simple random sampling method to nominate the respondents from each *Kushets*, because the rural communities have homogeneous characteristics in terms of different socioeconomic factors. The sampling procedure of this study is summarized in table 1as follow.

Table 1: list of Tabias and Kushets for Generating Primary Data

No	Name of selected *Tabias*	Name of Selected *Kushets*	Total number HHs from each *kushet*	Sample size to be drawn from each *kushet*
1	Mai-Tekli	*Kushet* Adi-srawat	210	16
		Kushet Mai-tekli	215	16
	Sub Total	**Sub Total**	**425**	**32**
2	Lemlem Arena	*Kushet* Adeba	320	24
		Kushet Tsaedasaeri	390	30
	Sub Total	**Sub Total**	**710**	**54**
3	Samre	*Kushet* Adi-awrerom	233	18
		Kushet Adi-harta	364	28
		Kushet Adi-gerhi	302	23
	Sub Total	**Sub Total**	**899**	**69**
Total		**Total**	**2034**	**155**

The sample seize considered for each *kushet* is determined in proportion to the total number of household heads from each *kushet* and the totally sample size considered for this study (i.e. 155).

Table 1: indicates us about the proportion of respondents from the three selected *Tabias* and particularly, the respondents of household heads' proportion from the seven selected *Kushets*.

3.5 Data Collection Methods and Instruments

The researcher enrolled four enumerators in order to collect the data and then trained by the researcher on the issues of concerning neutrality and questioning approaches. They were also oriented to respect the household's diversified tradition, living standard and knowledge. At last, familiarization practice with the envisaged questions and response recording techniques were used to offer before leaving for the field. The instruments of this study were questionnaires and focus group discussion.

3.6 Data Analysis and Presentation

3.6.1 Descriptive Analysis

Descriptive statistical outputs such as; mean, frequency, and percentages are used to describe the role of a small town in occupational or livelihood diversification of the rural communities in the study area. In addition to this percentage and tables are used to analyze data collected from the representative respondents. To analyze the data the researcher used SPSS version 19 and stata10.

Moreover, to conduct the analysis it was important to identify and determine the key independent variables such as sex of household head, age of household head, size household, education of household head , location of the *Tabias* (distance), road access and amount of credit service, administrative services, land size and agricultural inputs. The dependent variable of this study is occupational livelihood diversification of rural communities.

3.6.2 Econometric Model Specification

As it has been discussed in the descriptive part of this thesis, rural households can diversify their livelihood by participating in non-farming activities in addition to their regular or farming practices. Their participations in non-farming activities could be affected by a lot of factors. The role of small towns is apparent in this regard. This

section, is therefore, meant to address whether Samre town has a significant role in diversifying the household's livelihood sources or not based on the presumption that, for any household, the decision to involve in non-farm activities is likely to depend on variables such as; location of the household. More specifically, households residing in *Tabias* close to the town are more likely to engage their family members in non-farm activities as compared to other households living far away from it.

The probability of a given household member to diversify their livelihood strategy through non-farm activities is modeled using a probit model. This is given by:

$$Y_i^* = \beta_i' X_i + \varepsilon_i \ldots\ldots\ldots\

younger household heads are more active in their livelihood diversification than the older ones.

II. **Sex of household heads**: -rural communities believe that women are weaker than men. Hence, male headed households are more likely to diversify their income source as compared to female headed households. The studies (Khatun and Roy, 2012; Eneye and Bekele, 2012) also revealed that, the sex of the household is one of from the important driving force towards the occupational livelihood diversification in the rural dwellers.

III. **Size of household**:-literatures (Khatun and Roy, 2012; Eneye, 2012) has identified this variable as an important determining factor for livelihood diversification. It is hypothesized that household heads with large family size are forecasted to widely diversify their livelihood strategies. This happens because the larger family size demands larger consumption which consequently necessitates greater livelihood diversification.

IV. **Educational level of the household heads**: -previous literatures (Khatun and Roy, 2012) witness that the education level of the households is one of the driving forces towards livelihood diversification of the rural communities. Hence, we hypothesize that educated households are more close to the likelihood of livelihood diversification than non-educated ones.

V. **Access to road**: -access to the road facilities the participation of farmers more in diversifies their livelihood sources than their counterparts. This may in turn motivate them to encourage diversifying their livelihood strategies. This study, hence, expects that rural communities with access to the road and marketing accessibility are likely to diversify their livelihood means as compared to their counterparts. The studies (Khatun and Roy, 2012; Eneye, 2012), also support the above assumptions.

VI. **Amount of credit service**: - credit service may have a positive or negative relationship with livelihood diversification. However, in this study it hypothesized that access to financial service could have more possibility in livelihood diversification.

VII. **Location or distance**: - location (distance) has appositive or negative consequence with livelihood diversification. In this study we hypothesized that households who have relatively short distance and geographically comfort to travel without any suffer to the samre town are more close to participate in the non-farm activities and then diversify their sources of livelihoods.

A brief description of the variables used in the econometric investigation is summarized in the following table.

Table 2: Definition and Observation Levels of Variables used in the Econometric Analysis

Variables:	Definition of the Variables	Observation level
Dependent Variable		
Livelihood diversification	Whether the household diversifies its livelihood strategy or not using non-farm participation as a proxy based on the question that "is there any household member who participated in such activities during the 2011 and2012 production year": 1 if yes, 0 otherwise.	Household members
Independent Variables		
Sex of the household head	1 if male, 0 otherwise	Household head
Age of the household head	Age of the household head in years	Household head
Size of household	The total number of household members	Household
Education level of the household head	0 if the household head is illiterate, 1 if grades 1 to 8 and 2 if grades 9 and above	Household head
Location of the household	Location of the household: 1 if the household resides in *Tabia* Samre, 2 if in *Tabia* Mai-tekli and 3 if in *Tabia* Lemlem-arena	Household
Road access	Does the household have access to road: 1 if yes and 0 otherwise	Household
Credit access	Does the household have access to credit service: 1 if yes and 0 otherwise	Household

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the results and discussion part of the study. While the descriptive analysis has been applied to explain the demographic part and the socioeconomic characteristics of the sample respondents, an econometric model is used to explain the factors influencing the likelihood of occupational livelihood diversification among the rural households. The results are discussed as follows.

4.1 Demographic Characteristics of Respondents

The demographic and socioeconomic part of the study is presented with the help of descriptive method of analysis- mean, percentages, and frequencies to reveal their effect on the occupational livelihood of a society. It is expected that demographic factors have an impact on occupational livelihood diversification in rural settings. Previous literatures (Khatun and Roy, 2012; Eneyew and Bekele, 2012; Eneyew, 2012; Bebru and Beyene, 2012; Adewunmi, et al, 2011), support this argument. Thus, the descriptive analyses of the socioeconomic factors are displayed as follows.

4.1.1 Age of Household Heads

Table 3: Age of Household Head

Age category	Frequency	Percent
16-34	37	23.9
35-64	101	65.2
Above 65	17	11.0
Total	155	100.0

Source: own Computation from the Survey Data (2012)

Age is one factor for rural livelihood diversification. As it is portrayed in table 3 age is categorized into three age groups. Accordingly, most (65 %) of the respondents are found in the age group of 35-64 and about 24% of the sample respondents are also in the age group of 16-34. In general, about 89% of the respondent households are found in the productive age group. The household heads in the study area have an average age of about 45 years with the minimum and maximum year 24 and 75, respectively. For general information it is indicated in table 9. This may indicate the sample household head have a greater farming experience and composed of sample respondents of different ages. This may also imply that, the rural households have a potential to diversify their livelihoods.

4.1.2 Sex of Household Heads

Table 4: Sex of Household Heads

gender	Frequency	Percent
Male	118	76.1
Female	37	23.9
Total	155	100.0

Source: own Computation from the Survey Data (2012)

When we look to the gender composition of the respondents it seems like the following. Of the 155household respondents' – 118 of them are males headed and the remaining 37 households are females headed. In other words, most of the respondents from the sample taken are male household heads. This could have its own side effects on the probability of occupational livelihood diversification where literatures indicate that the probability of livelihood diversification increases more if the household is headed by male than by female –on the premise that male household heads are stronger than the female household heads emanated from the difference in biological nature (Khatun and Roy, 2012).

4.1.3 Family Size of Households

Table 5 Family Size of Households

Family size	Frequency	Percent
1-3	30	19.4
4-6	82	52.9
7-9	36	23.2
10-12	7	4.5
Total	155	100.0

Source: own Computation from the Survey Data (2012)

As it can be seen from table 5 the family size of the household head is categorized into four. The result also shows that, about (76 %) of the households have included from 4-9 family members. In other words, majority of the households are found in the 2nd and 3rd family size groups. The study also shows that the average size of household is 5 people, the minimum and the maximum being is 2 persons and 10 persons per household, respectively. Looking to maximum size, it seems too large and one could expect - this or that way- have an impact on the occupational livelihood diversification. Nevertheless, the average household size of the study area is comparable with the average household size of the rural Tigray which is 4.6 people (CSA, 2007). Looking for the positive aspect of large family size, the chance to diversify the rural occupational livelihood in the study area at household head level may improve other things remains constant. This is consistent with the studies (Eneyew and Bekel, 2012; Khatun, and Roy, 2012).

4.1.4 Education Status of Household Heads

Table 6: Educational Status of Household Heads

Educational level of HH heads	Frequency	Percent
Illiterate	84	54.2
1-8	64	41.2
grade 9 and Above	7	4.5
Total	155	100.0

Source: own Computation from the Survey Data (2012)

As it is portrayed on table 6from the total sample respondents 84 of household heads are not able to read and write whereas 71 of them are able to read and write. Of the 71 household respondents 64 of are from grade one up to grade eight and the rest seven are above grade nine. Hence, from the assumption of previous literatures it is possible to anticipate that the education level of household has its own positive relation to the increasing of livelihood diversifications (Eneye, 2012; Khatun and Roy, 2012). Since a great number households are not educated in the study area; due to the educational status their probabilities to livelihood diversification may reduce.

4.1.5 Yearly Average Income of Households

Table 7: Average Income of Households

Income range(Birr)	Frequency	Percent
3000-8000	16	10.3
8001-13000	39	25.2
13001-18000	35	22.6
18001-23000	27	17.4
Above 23000	38	24.5
Total	155	100.0

Source: own Computation from the Survey Data (2012)

In order to see the yearly income revenue of the respondents the researcher used to categorize in to five scales with the variance of 5000.00 Birr. Accordingly, households who are categorize in the following scales. On top of this, 39 households have earned from Birr 8001.00-13000.00, 35 of the total households are revenue from Birr 13001.00 - 18000.00 and27 of them also have from Birr 18001.00-23000.00. Furthermore, in the study area there are 38 households their yearly income goes to above twenty three thousand (23000.00) Birr. On the other side, among sample respondent households are a number of households who earned from 3000.00-8000.00 Birr. In general, the yearly average income of the sample households in the study area is 18,253.00 in Ethiopian Birr whereas the minimum and maximum income of the household is 3,520.00 and 72,192.00 Ethiopian Birr, respectively. This shows that there is a large income gap across households from a farm. This may be due to the difference in the fertility, size, and other

topographic characteristics of arable land. This is also varying in the degree of livelihood diversification. That is the households relatively rich or has higher yearly income is close to diversify his/her livelihoods.

4.1.6 Land Size of Households

Table 8: Land Size of Respondents

land size households	Frequency	Percent
0.5-3 Tsimdi	57	36.8
3.5-6 Tsimdi	84	54.2
6.5-9 Tsimdi	6	3.9
No land	8	5.2
Total	155	100.0

Source: own Computation from the Survey Data (2012)

As the table 8: shown us vividly, the land distribution among the rural household too vary from household to household. Consequently, in the study area majority (54 %) of the sample respondents owned since 3.5-6 tsimdi that is equivalent about 0.22-0.4 hectare. On top of this about 37 % of households have owned since 0.5-3 tsimdi. Similarly, about 4 % of the respondents have owned from 6.5-9 tsimdi of land size. On the opposite of this, there are also few rural households who are landless. Furthermore, the mean, minimum, and maximum land size of the respondents is 3.82 tsimdi, 0.and 9 tsimdi, respectively. This idea is clearly stated in table 9 below. In general, it is found that the size difference of land holding is large; among the sample respondents of the study area. From this, we can observe in the study area that, the chance of landless farmers to diversify their livelihood income is very low. This is may depend on the amount of arable land they plough based on the rent. If the possibility of getting rented arable land is zero, those farmers have no choice to stay in agriculture and may exist for searching non-farm income. Here, there is same relating to the previous research of (Mohammed, 2007)

4.1.7 Location and Distance

The data are gathered from households resided in three *Tabias*: Samre, Mai-tekli and Lemlem-Arena, found in the surroundings of Samre town. The town is far about 57 km to the Southwestern part from Mekelle the capital city of Tigray. A total of 155 sample respondents from the selected three *Tabias* were employed to get the required data for this study, in which from Samre, Mai-tekli, and Lemlem-Arena respectively, has taken 69, 32, and 54 respondents. The distance of *Kushets* from the nearby town Samre has been found that it varies based on the *Kushet* in which *Tabia* it is. Hence, *Kushets* found under *Tabia* Samre have at an average of about 2km and also *Tabia* Mai-tekli and *Tabia* Lemlem-arena has an average of 8km and 28km, respectively.

Table 9: Summary Demographic Characteristics of Households

Variable	Obs.	Mean	Gender		%		min	Max
			M	F	M	F		
Age of household head (years)	155	44.75	--	--	--		24	75
Sex of household head (1=male)	155	--	118	37	70.37	29.63	--	--
Size of household head (number)	155	5	--	--	--	--	2	10
Total household yearly income (Birr)	155	18253.06	--	--	--	--	3520	72192
Total household land size ('*tsimdi*'[4])	155	3.82	--	--	--	--	0	9
Location of the households	155	--	--	--	--	--	--	--
Tabia Samre	69	--	53	16	76.81	23.19	--	--
Tabia Mai-tekli	32	--	27	5	84.37	15.63	--	--
Tabia Lemlem-arena	54	--	38	16	70.37	29.63	--	--
Education level of household head	155	--	--	--	--	--	--	--
Illiterate	84	--	54	30	64.3	35.7	--	--
Grades 1 to 8	64	--	57	7	89	11	--	--
Grades 9 and above	7	--	6	1	85.7	14.3	--	--

[4] One '*tsimdi'* is equivalent to 0.25 hectare.

Source: Own Computation from the Survey Data (2012)

4.2. Livelihood Sources of Rural Communities in Saharti Samre District

In rural areas households can diversify their livelihood strategies by involving in different sources of income generating activities to fulfill their basic needs including their usual business of farming. The rural households in the Saharti Samre District are not an exception to this. Therefore, the main sources of livelihoods in this study area are categorized into two; livelihood sources based on farming activities and non-farm activities (See Table 10).

Table 10: Cross tabulation of *Tabias* and Major Occupation of the Rural Livelihoods

Name of *Tabia*	Major occupations		Total
	Farm	Non –farm	
Samre	62	7	69
Mai-tekli	31	1	32
Lemlem-arena	54	0	54
Total	147	8	155

Source: Own Computation from the Survey Data (2012)

According to the result of the study, farming is the most common activity in all the three selected *tabias*. The result portrays that, out of the total 155 sample household respondents, 147 of them are engaged in farming while the rest 8 household head respondents are involved in non-farming activities. In conformity to this study, evidences from the Saharti Samre District office of Agricultural Report (2011/12) also depict that of the total 27,478 household heads about 23,639 household heads of the District are engaged in farm activities and 3,839 of them are engaged in the non-farm activities. As compared to those households who take farming as their major occupation, a household that practice non-farming activities as their primary business are too small- about 5 percent. This is similar to the studies of (Hosseinabadi, et, al, 2012; Mohammed, 2007)

that found the cultural background, absence of infrastructures such as road, and market access may have an influence on diversification. The lack of access to the market and shortage of demand emanated from the smallness of the town could unmotivated farmers in diversifying their livelihood. On top of this, the existing social and religious trend of the study area may undermine the importance of non-farm income and may lead to heavy reliance on farm activities. Therefore, this may make depend highly on farming as their economic source. As a consequence, during drought, famine, and natural and human made disasters, the society may not be in a position to strive for their livelihoods.

4.2.2 Farming Activities

As one can have a look from the above table 11 the main livelihood activities of the household heads are rain fed crop production, livestock activities, and irrigation.

Table 11: Cross tabulation of *Tabias* for Crop production, Livestock and Irrigation

Name of *Tabia*	Crop production		Total	Livestock		Total	irrigation		Total
	No	Yes		No	Yes		No	Yes	
Samre	7	62	69	9	60	69	67	2	69
Mai-tekli	1	31	32	5	27	32	25	7	32
Lemlem-arena	0	54	54	2	52	54	3	51	54
Total	8	147	155	16	139	155	95	60	155

Source: Own Computation from the Survey Data (2012)

Almost all households of all tabias- about 94 percent, rain fed crop production are their major occupation. Within the rain-fed crop, sorghum, maize, barley, wheat, teff, pulses, and oil crops are among the most produced crops in the rural communities. In addition, the data reveal that out of the 155 household respondents, 139 (about 89 percent) of them are engaged in the livestock activities and are mainly engaged on rearing of cattle, goats, sheep, hens, bees, and domestic animals. Contrary to this, about 60 households- about 38 percent- below half of the total respondents are diversifying their livelihood through irrigation practices. This is opposite with the finding of (Khatun and Roy, 2012).The less

importance of irrigation for livelihood diversification could be justified by the access to market and proximity compared to the gain it would have. Looking for the number of irrigation participants, most of those households engaged in irrigation activities are living near to the Samre town, considered as a potential market for diversifying the livelihood activities.

4.2.3 Non-farming Activities

On the other hand, based on the evidence from the study area shows, households diversify their livelihood through involvement in non-farm activities like Petty trade, daily labor, and handcraft. As the result revealed that, among the non-farming activities which are commonly practiced in the study area such as petty trade, daily labor, and handcrafting. However, petty trade and daily labor are the more exercised by the surrounding rural households than the handcrafting and other non-farming activities and this is more happened in both *Tabias: Tabia* Samre and *Tabia* Mai-tekli than *Tabia* Lemlem-arena.

If you see the participation of households who are living in *Tabia* Lemlem-arena in non-farming activities such as petty trade and daily labor, it is very lower than the involvement *Tabia* Samre and *Tabia* Mai-tekli. This may cause by the location and the distance of the *Tabia* (households) from their residence in Samre town. Whereas households who are living in *Tabia* Samre and *Tabias* Mai-tekli have a possibility to participate in the non-farming activities and as well to diversify their livelihood sources. Because *Tabia Samre* and *Tabia* Mai-tekli are found in the average distance 2km and 8km to Samre town. But *Tabia* Lemlem-arena is found in the average distance 28km. Households who are living *Tabia* Lemlem-arena are exposed lost their precious time and to pay other additional cost when if they did not get a job in the town when we compared with the households who are living *Tabia Samre* and *Tabia* Mai-tekli. Therefore, distance matters in the probability of livelihoods diversification of the rural community. This is also coherent with the finding of (Hosseinabadi, 2012; Khatun and Roy, 2012; Dercon and Hoddinott2005).

However, handcrafting has its own contribution in income diversifying of the rural livelihood sources, but in the study area of this research (Table 12), the level of

participation in handcrafting is not to that much and this could be due to the existing social and cultural, and religious influence of the surrounding societies who are living in the study area matters.

Table 12: Cross tabulation of *Tabias* for Petty trade, Daily labor and Handcrafting

Name of	Petty trade		Total	Daily labor		Total	Handcrafting		Total
Tabia	No	Yes		No	Yes		No	Yes	
Samre	8	61	69	43	26	69	61	8	69
Mai-tekli	6	26	32	22	10	32	30	2	32
Lemlem-arena	44	10	54	46	8	54	47	7	54
Total	58	97	155	111	44	155	138	17	155

Source: Own Computation from the Survey Data (2012)

4.3 Town-Rural Community Linkage

4.3.1 The Linkages

Like any other town, Samre town has numerous inter-linkages within its surroundings. As table 13 vividly shows in the below, the Samre town and the surrounding rural communities are linked via marketing, financial credit, educational, health care service, and administrative service. This is coherent with the study of (Rezvani, et al, 2009; Thanh, et al, 2005). Of the total 155 household respondents 62.6 % of them have directly linked to Samre town whereas 37.4% of respondents are linked to other emerging markets, such as Dela and Hareko. Though majority of the respondents revealed that the link is more with the largest market-Samre town, the link with some emerging towns is also high. This is also related to work with (Khatun and Roy, 2012). This may be due to the location and closeness of most *Kushets* to Samre town. Of the three tabias taken as a sample, Samre and Mai-tekli comprising about 100 respondents (about 65 percent) are residing at a distance of about 2 km and 8 km from the town.

In terms of financial credit service, of the 155, 72.9% of them have credit service linkage with Samre town (see table 13). This indicates us, most of the respondents financially linked with the town. Similarly Samre town has a linkage with its surrounding in such away education, health, road, and administrative issues. Of the total 155 household respondents 89 % of them have an educational link with the town. This result shows us there is a good linkage in between of the Samre town and its surroundings in the educational perspective. Furthermore, the town has a linkage in the issues of health service, administrative and social interaction, and road with the coverage of about 82%, 67%, and 65% respectively. All in all, the result in the study area implies that, since the Samre town has strong relation with its villages and this also create an opportunity for the rural dwellers households in order to diversify their livelihoods. This finding corresponds to the work (Taleshia and Mohammadi, 2012; Bihon and Gebremedhin, 2011; Rezvani, 2009; Heffner and Solga, 2006).

Table 13: Types of Linkage between Samre Town and its Surrounding Communities

Types of linkage	No		Yes		Total
	Freq.	percent	Freq.	percent	
Market	58	37.4	97	62.6	155
Financial credit service	42	27.1	113	72.9	155
Educational	17	11.0	138	89.0	155
Health	28	18.1	127	81.9	155
Road	55	35.5	100	64.5	155
Administrative and social interaction	52	33.5	103	66.5	155

Source: Own Computation from the Survey Data (2012)

4.3.2 The Role of Samre Town in Diversification Rural Livelihoods

As long as the role of Samre town is concerned, in occupational livelihood diversification of the rural communities, the results revealed that the town is playing its function through providing numerous public services to the rural communities which are important to diversify their livelihoods(see table 14).

Table 14: The Role of Samre Town to its Surrounding Rural Communities

Type of roles that Samre town play	No		Yes		total
	Freq.	percent	Freq.	percent	
Market	58	37.4	97	62.6	155
Providing agricultural inputs	35	22.6	120	77.4	155
Financial credit service	42	27.1	113	72.9	155
Educational	17	11.0	138	89.0	155
Health care services	28	18.1	127	81.9	155
Providing administrative	52	33.5	103	66.5	155
Daily labor	111	71.6	44	28.4	155
Petty trade	58	29.7	109	70.3	155
Handcrafting	138	89.0	17	11.0	155

Source: Own Computation from the Survey Data (2012)

From the total sample household respondents, Samre town is giving a market service to 62.6% of the respondents. The town is an important source of obtaining agricultural inputs and other public services such as financial credit, education, and health. This is too exchangeable with the studies of (Sharifinia, 2013; Bihon and Gebremedhin, 2011; Heffner, and Solga, 2006; Tocali2003, 2004). Of the total respondents about 77% are beneficiaries of agricultural inputs and around 73 % are getting access to financial credit

service from credit providers found in the Samre town. The data from the Dedebit Credit and Saving Institution of the district- the dominant source of rural credit in the region as a whole and the study area in specific shows that about 1700 households got access of credit service (Dedebit Microfinance, Credit, and Saving Institution Sub branch Samre, 2011/12).

In line with, the town is served by allowing for public services. Of the total 155 respondents, 138 are getting an educational advantage from the town. This is as well backed through secondary data obtained from the yearly report of 2011/12 stated that, from the total 4,362 students of the Samre town about a total of 3,490 students come from different *tabias* and attending their schooling starting from grade 1upto grade 12^{th} for (Kushets nearby Samre such as *kushet* Adi-harta, kushet Adi-awrerom and kushet Adi-gerhi) whereas, for other *kushets* the town gives the service from 9^{th} – 12^{th} grade level (Saharti Samre District Education Office, 2011/12). Of the total 155 sample household respondents 127 of them are directly getting the health service from Samre town health center. This is could help in the rural community to enhance their livelihood diversification. According to the yearly report of 2011/12 demonstrate that about a total of 7211 rural patients were getting health service from the town (Saharti Samre District Health Office, 2011/12). In general, these results are not differing from the study of (Bihon and Gebremedhin, 2011; Heffner, and Solga, 2006).

Similarly, as one can realize from the above table 4.6, of all the sample household respondents 103 of them are getting a different sort of administrative services from the Samre town. Among the administrative services providing by the town to the surrounding rural communities are; social justice, social awareness, and extension services. This is accordance with the study (Sharifinia, 2013; Bihon and Gebremedhin, 2011; Sharma, 2010; Satterrthwater, 2003). The role of the town also has an important part in diversifying the rural livelihoods. This is more important for *kushets* that are nearby the town and found in *Tabia* Samre. They are more likely to practice in the non-farm activities than other *Kushet* residents who are far away from it. For the nearby *Kushets,* the town is playing in providing and creating other new job employment to the nearby rural households. Especially, as it is presented in the above table, of the 155 sample

respondents, 103 of them are engaged in petty trade. Therefore, Samre town contributes to the livelihood diversification to its nearby rural communities. This is interchangeable to the studies (Taleshia and Mohammadi, 2012; Bihon and Gebremedhin2011).

4.4 Determinants of Livelihood Diversification among Rural Households: Empirical Outputs

The occupational livelihood diversification is expected to be affected by numerous variables. To see the effect of emerging towns on the livelihood diversification in Tigray, the probit model – showing the nonlinear relationship among variables - is used. Besides, even though the logit model could be used as alternative for estimating such nonlinear models, the Probit has higher log likelihoods than, the logit - makes Probit superior, even if the difference is not great (Cameron and Trivedi, 2009).

To estimate it, non-farm participation of the household, a proxy for livelihood diversification, in its latent variable form, is used as a dependent variable. The details of the explanatory variables included in the model are briefly justified in the previous chapter.

Before directly estimating the empirical findings of this study, it is always advisable to check the relative fitness of the model. In this regard, the predictive power of the model was examined. Results show that about 84 percent of the predicted outcomes fits to actual values. This justifies the fact that the percentages of correctly specified values are about 84 percent. The quality of the model is also tested against its goodness of fit using Pseudo R^2. The results depict that about 43percent of the variation in the dependent variable is explained by the explanatory variables included in the model of interest. This may seem low, however, goodness-of-fit for discrete choice models like the probit case is usually low (Verbeek, 2004). Even though long iterations (17 in this case) show a symptom of the multi collinearity problem, this suspicion was checked using the correlation estimates technique and we found that it is not a serious problem in the model except that access to the road has a high correlation with the location of the household (tabia)(see Annex 4).

Cameron and Trivedi (2009) argued that the marginal effects are more informative than coefficients and hence, the results in this thesis are interpreted according to their marginal effect values. According to this, a probit estimation of livelihood diversification model reveals that *while Tabia* Lemlem-arena, size of the household, age of the household head, and access to the road are significant at the 1 percent level, it was observed that Tabia Mai-tekli is found significant at the 10 percent level only. Similar findings were reported by previous researchers (Khatun and Roy, 2012; Hosseinabadi, et al, 2012; Gebru and Beyene, 2012; Eneyew and Bekele, 2012; Adewunmi, et al, 2011).

4.4.1 Age of household Head

Age of the household head is found to an important variable in the model. It has a statistically negative effect on the likelihood of diversifying rural livelihood strategies at the 1 percent level of significance. The data reveal that a year increment in the age of a household head results in reduction of the probability of participation in non-farm activities by about 1percentage. This is in line with the hypothesis that an older household head is less likely to participate in non-farm activities and diversify his/her livelihoods. A result from the focus group discussion and key informants also supports this evidence. This resonates with the previous findings from other studies (Eneyew and Bekel, 2012; Gebru and Bekele 2012; Khatun and Roy, 2012). This is expected because the desire and ability of older household heads to participate in non-farm activities may be adversely affected by abnormal health status, weak physical fitness and cultural thoughts associated with older ages.

4.4.2 Access to Road

It was expected that households with good road connection with the town have better possibility for livelihood diversification compared to relatively non- networked channels. However, the results were found to be inconsistent. That is, households with access to the road are likely to reduce their probability of involvement in non-farm tasks by about 0.9 percentages as compared to those having no access to roads. This contradicts with the hypothesis of a positive sign and also inconsistent with the studies of Eneyew (2012), Khatun and Roy (2012), Mohammed (2007), Ellis (2005) and Tocali (2004). This happens may be because of the fact that such residents undermine the current

opportunities of non-farm participation following the non-developed basic infrastructures in the town such as electricity, telephone services, water supply and the road networking with the localities as well the main roads of the region. This may also be augmented with the lack of trickle-down effect of the town to its surroundings areas. Secondary data sources from the district also substantiate this finding. Only 14% of the households from the district are involved in both farm and non-farm works.

4.4.3 Family Size of Households

This variable was found to have a significant effect at the 5 percent level of significance. This indicates that an increase in the size of household by one from the baseline (5.37) increases the probability of being participating in non-farm activities by about 5 percentages. This matches with the hypothesis that a household having the excess labor force increases the possibility to participate and diversify his/her livelihood sources. This is not different from the findings of previous authors (Khatun and Roy, 2012; Eneyew and Bekele (2012). The possible explanation for this is that excess labor force allows a room for farm and non-farm participation even in the absence of the household head.

4.4.4 *Tabia*/Location of the Households

It was hypothesized that households' closer distance to the Samre town are expected to have better non-farm participation observations. Our results also support our expectation. The estimation procedure revealed that *Tabia* Mai-tekli and *Tabia* Lemlem-arena are negatively significant at 10 percent and 1 percent, respectively. The interpretation is that being a household living at *Tabia* Mai-tekli decreases the probability of participating in non-farm activities by about 0.25 percentage points as compared to households living in *Tabia* Samre itself. In the same way, the likelihood of getting involved in other non-farm activities for any household living in *Tabia* Lemlem-arena reduces by 1percentagerelative to those living in*Tabia* Samre. It is, therefore, possible to conclude that a household living far away from Samre town (baseline or reference category) decreases his/her probability of participating in non-farm activities.

In the study, nonetheless, the sex of the household head, the illiteracy of the household head and availability of access to credit were found to be insignificant (See Table 15: and

Annex 3).This in contradict with the previous research findings (Eneyew and Bekele, 2012; Khatun and Roy, 2012; Eneyew, 2012; Berehanu, 2007).

Table 15: Determinants of Livelihood Diversification among the Rural Households: Empirical output

Variables	Marginal effect (dy/dx)	Z	P
Tabia 2 (Mai tekli)	-0.248	-1.73	0.083(*)
Tabia 3 (Lemlem arena)	-0.999	-1622.21	0.000(***)
Age of HH	-0.012	-2.78	0.005(***)
Sex of HH	-0.02	-0.36	0.718
Size of HH	0.054	2.07	0.039 (**)
Education 1(illiterate)	0.071	0.67	0.504
Education 2 (literate)	0.112	0.46	0.644
Credit service	-0.075	-0.73	0.467
Access to road	-0.898	-14.86	0.000 (***)

Source: own computation from the Survey Data (2012)

Note: *, **, and *** are significant at 10%, 5%, and 1% significant level, respectively Values in parenthesis indicates p value

4.5 The Challenges to Diversify Livelihood

Even though rural households are expected to obtain some benefits of supplying and demanding services from the town, this is not without challenge. The households indicated that there are fundamental bottlenecks in diversifying their livelihood sources. According to the finding of this study, the major bottlenecks to diversify household livelihoods of the rural communities are lack of road, lack of market, shortage of agricultural land and also poor and insufficient administrative services are among the common constraints of the study area.

4.5.1 Infrastructure Related Challenges

According to the result of the study showed that, some of the most usual infrastructure related challenges in the study area are; roads and brigs. Accordingly, from the total respondents, about 37% of them have infrastructure related troubles. This is accordance with a study of (Khatun and Roy, 2012). The focus group participations also responded that with the selected *Tabias* access to the road and the market are the very severe problems in the study areas. Furthermore, the results of group participations indicate that, these types of problems are particularly appearing in *Tabia* Lemlem-arena and the like *Tabias* of that district. The secondary data indicated that out of the 23 *Tabias*, eight *Tabias* have an access to roads for about 84 km of RR30[5] type of road which is functional the whole year. Around 12 *Tabias* have covered by about 262 km RR10[6] sort of road and according to the District report this type of road is giving service only in the winter season whereas the rest three *Tabias* (Lemlem-arena, Berezba and Freweyane) do not have any other road (Saharti Samre District Construction and Road Transport Office, 2011/12). This finding is also having similarity, with the study of (Mohammed, 2007). To see the problems of infrastructures- bottleneck for livelihood diversification from the focus group discussion, the respondents from *Tabia* Lemlem-arena *Kushet* Tsaedasaeri said:

"we do have irrigable land and we produce good products from it but, we could not sell our products on time with the reasonable price, due to the absence of road and lack of market: this is also having its own negative impact in our livelihood diversification: furthermore we could not get enough social services in our locality: pregnant women, children, and old people are suffering from lack of health service, to get these social services we travel for about 4 and 5 hours on our foot and in addition to those we pay a life every summertime for ZAMRA river or flood".

4.5.2 Institutional Related Challenges

The institutional related challenges are like market service provisions and administrative related problems (shortage of land and lack of justice). Accordingly, the respondents

[5] RR30 is a type of road that can give service throughout the year
[6] RR10 is a type of road that can provide service only on the non-rain seasons

have the above institutional challenges that can restrain to diversify their livelihoods. Of the total 155 household respondents, responded that, some of the institutional bottlenecks in diversifying the rural are shortage of land holding and administrative services takes 44.5% and 40%, respectively. The secondary data of the health office of the District also revealed that, in the District there are 5 health centers in five *Tabias* and 18 health posts *Tabias*. In the study area from the selected *Tabias* only *Tabia* Samre has a health center whereas the rest two Tabias; Tabias Lemlem arena and Tabia Mai tekli do not have (Saharti Samre District of health office, 2011). The rural settlement of the people also has its own negative effect on getting the public services. Due to this, they are exposed to travel long distance, to spend their precious time, to pay unnecessary cost, and to sale their agricultural products with unfair price. Thus, their degree of chance to participate in the non-farm activities and occupational livelihood diversification becomes low. The previous studies (Khatun, and Roy, 2012; Mohammed, 2007), supported the above findings.

Table 16: Major Bottlenecks to Diversifying the Livelihoods of Rural Community nearby Samre Town

Main bottlenecks	Yes		No		total
	Freq.	percent	Freq.	percent	
Lack of road	58	37.4	97	62.6	155
Deficiency of credit service	20	12.9	135	87.1	155
Lack of market	58	37.4	97	62.6	155
Shortage of land	69	44.5	86	55.5	155
Lack of social service	19	12.3	136	87.7	155
Lack of administrative services	62	40.0	93	60.0	155

Source: Own Computation from the Survey Data (2012)

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study conducted in Saharti Samre District Southeastern Zone of Tigray concluded the following conclusions. The demographic section the respondents indicates that, most of the respondents were uneducated and dominated by male heads about (70). The average age of the household is about 45 years. Furthermore, the average family size, yearly income, and land size goes to 5 people, about18, 253.00 birr and about 4 in tsimdi (0.25 hectare), respectively. The descriptive part also showed that, the main sources of the rural livelihoods are categorized as, farm and non-farm activities. The farm activities included (crop production about 95%, livestock about 90%, and irrigation about 39%). Similarly, the main non-farm activities practiced by the rural communities in the study area are such as; petty trade, daily labor and construction, and handcrafting about 63%, 38% and about 11%, respectively. Secondary data of the district also revealed that, out of the total 27,478 household heads about 23,639 household heads of them are directly engaged in the farming activities whereas, the rest 3,839 household heads are engaged in both the farming and non-gaming activities. These findings are consistent work (Khatunand Roy, 2012; Hosseinabadi, et al, 2012; Mohammed, 2007).

The finding indicated that, Samre town is linked with its surrounding community in terms of market, education, financial credit service, health, road networking and other administrative linkage issues. The findings correspond to (Taleshia and Mohammadi, 2012; Bihon and Gebremedhin, 2011; Rezvani, 2009; Heffner and Solga, 2006).On top of this, the town plays an important role in strengthen and providing for the rural through market provision(about 62%) of their agricultural products, doing as a source of agricultural input (about 77%),being a center of education(89 %), health service(about 82% %), financial credit service(about 73%) and furthermore, the town gives other administrative services to the rural villages which are surrounding it. This is similar to the studies (Sharifinia, 2013; Bihon and Gebremedhin, 2011; Heffner, and Solga, 2006; Tocali 2003, 2004). In spite of these realities, still, the rural people cannot get the utmost

potential gain from Samre town due to the inaccessibility of infrastructure, lake local market, land scarcity and other administrative related challenges. Accordingly, the result indicates that, the respondents have faced the following challenges that can matter to their livelihood diversification strategies; among others, lack of road and market (about37 %), shortage of land and administrative related challenges are taking place 44.5% and 40%, respectively,(Khatun and Roy, 2012; Mohammed,2007).

The empirical results revealed that, the determinant of livelihood diversification of the rural households in this study includes; age of household head, family size of the households, access to the road, and location (distance of the households from the town) are among the determinants of the rural livelihood diversification. Consequently, the data reveal that a year increment in the age of a household head results in reduction of the probability of participation in non-farm activities by about 1 percentage. This resonates with the previous findings from other studies (Eneyew and Bekel, 2012; Gebru and Bekele 2012; Khatun and Roy, 2012).With family size, the data indicate that an increase in the size of household by one from the baseline (5.37) increases the probability of being participating in non-farm activities by about 5 percentages. This is, not inconsistent with the findings of previous authors (Khatun and Roy, 2012; Eneyew and Bekele, 2012).

With regards to location and distance of the respondents from the town; the output shows that being a household living at *Tabia* Mai-tekli decreases the probability of participating in non-farm activities by about 0.25 percentage points as compared to households living in *Tabia* Samre itself. In the same way, the likelihood of getting involved in other non-farm activities for any household living in *Tabia* Lemlem-arena is reduces by 1 percentage relative to those living in*Tabia* Samre.(Khatun and Roy, 2012; Hosseinabadi, et al, 2012;Gebru and Beyene, 2012; Eneyew and Bekele, 2012; Adewunmi, et al, 2011; Mohammed, 2007).

Another finding of this study is that; households with access to the road are likely to reduce their probability of involvement in non-farm tasks by about 1percentageas compared to those having no access to roads. This contradicts with the hypothesis of a positive sign and also inconsistent with the studies of Eneyew (2012), Khatun and Roy (2012), Mohammed (2007), Ellis (2005) and Tocali (2004).

In general, farming activities are the dominate livelihood sources of the rural community. The involvement of rural communities in the nongaming activities is very low other things remaining constant this is essential to the households who are found in *Tabia* Samre. Samre town is playing in creating and providing new employment opportunities that can support the sources of livelihood diversification strategies to the nearby communities. Those who have better access to market and close distance to the market center, households have large family size, and younger household heads are likely to diversify their livelihoods and to increase their means of ways.

5.2 Recommendations

The study has suggested the need to develop a number of rural development strategies especially for rural *tabias* to insure the livelihood diversification strategies. This admits the exploitation rural infrastructure such as; roads and local market center areas that can support the rural households to increasing their probability of occupational livelihood diversification strategies. In Ethiopia, about 84% its population's livelihood sources is dependent on agriculture (cited in Bihon and Gebremedhin, 2011) in this case in order to sustain the livelihood means using alternatives strategy is important. Hence, the existence of small town and emerging towns may have its own significant contribution for the integrated urban-rural linkages. Consequently, the rural communities also have the trickle-down effect and their probability to diversify the livelihood well increase as well as the link of agro-industry.

The rural households should get a continuous and enough training about the advantage of livelihood diversification strategies for their better survival. Here, the local and regional governments should play their significant role through making different efforts and approaches; inorder to increase the productive capacity of the households with regard to age of productivities by using and applied other modern approaches of livelihood diversification that, can easily managed by the rural communities. To do this the local government should have cooperated with numerous stakeholders and rural development agents; such as local and international non- government organizations.

As far as the issue location or distance is concerned with the role of small towns in rural livelihood diversification of this study area, the district administration of this study is badly expected to solve this problem by strengthening the exits ones and creating other local market centers based on their distance from the Samre town. This problem has mainly happened in the *tabia* Lemlem-arena and most of the households of this *tabia* have a good irrigation product but due to the absence of the local market they could not sell their products on time with the reasonable price due to the perishable of the products. Most of the rural communities of the study area have only a weekly market day with Samre town to sell and buy their any item. Therefore, this is very difficult for the majority of the communities who are living in *tabia* Lemlem-arena and similarly to *tabia*

Mai-tekli. Consequently, the probability livelihood diversification of the households became decrease. Hence, since the local government is closer and responsible for this affair; it is expected to give the quick and possible solutions for this issue than any time.

Access to the road is a significant for the rural livelihood diversification in my finding and its precondition for rural development. The role small town in livelihood diversification rural communities also determined through the present of road availability. However, in this result the households who have an access to roads are not more participants in diversifying their livelihoods with compared to the households those who do not have an access to road. Of course, there may not be a question on the importance and existence of road networking for the rural development and livelihood diversification but in addition having access to the road the rural communities also need a continuous training about the advantages livelihood diversification, inorder to use their maximum effort and potential.

In the study, distance and locations of households are also found significant variables in diversifying the rural livelihoods. For example, in the study area, *tabia* Lemlem-arena is one of the Tabias which is suffering from such a serious troubles found in the District. This *Tabia* does not have any road that can link among its kushets, Tabias and Samre town. Under these circumstances, it is impossible to enhance the rural livelihood diversification, poverty reduction, and sustainable economic development in the region as well as at the national level. Therefore, inorder to solve this severe problem; the following concerned parts are expected to play their significant contributions, such as the local administration and the regional governments, policy planners (it may be, the local, the region, and the national economic development) that ever.

In addition to these, both local and international nongovernmental organizations should also give their special attention to the rural-urban linkages and rural development by working together. Because, unless we strengthen the rural-urban link through making road-networking and constructing the basic social infrastructures in between the two regions it will never take us to the anticipated stage of economic development. Especially in the developing states like Ethiopia their economic sources are primarily depending in

the rural agriculture. Here, the rural people desired a greater amount of attention from the above mentioned organizations than always.

According to the result obtained from focus group discussion and personal observation of the researcher; the participation of the nearby communities in the non-farm activities as a primary occupation is very low. This may be, mainly due to lack of basic infrastructure and inadequate business firm activities etc. Therefore, inorder to increase the observation capacity (trickledown effects) of the small town for the surrounding rural communities; the local administration should give an attention for infrastructural development and expansion of micro and small enterprises through involving other stakeholders more than ever. This government intervention may also strengthen rural-urban linkage; thus, the likely of livelihood diversification among the rural communities also increases. Such kind of strategies may have its own contribution to local, regional as well as to national economic development and poverty reduction.

Recommendations for Future Research

The following are some of the research areas needed the role of small towns in the diversification of the rural livelihood communities:

1. The role of small towns for agricultural intensification of the rural communities and rural development strategies.
2. The role of small towns in obtaining the rural migrants and improving the rural-urban migration strategies.
3. The role of rural communities for strengthens the rural-urban linkage and for the development of small towns.

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Annex 1: Survey Questionnaire
MEKELLE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

This questionnaire was designed to the collect data from Saharti Samre District rural communities for the purpose of studying the role of small towns in diversifying the occupational livelihoods of rural communities. The study was being undertaken by Mr. Fitsum Mengistu for the fulfillment of the requirements for the award of master's degree in Development Studies. The study was case studies which consider Saharti Samre District, Southeastern zone of Tigray, Ethiopia. The questionnaire designed to solicit first-hand information from selected household heads, officials and key informants. The data were collected only meant for the academic purpose. Therefore, there was a full guarantee considering confidentially of data or idea provided by any respondent who could be considered anonymously.

I thank you for your commitment!

Enumerator's name: _____

Interview date: _____

Questionnaire Code: _____

Tabia name: _____

Village/ *Kushet* name: _____

Interviewer's name: _____

Section-I: Demographic profile of Respondents

1. Personal profile of the respondents

S.N		**Age (years)**	**Sex**		**Educational level**			
			M=1	**F=0**	**Illiterate= 0**	**Grades1-8=1**	**Grades 9-12=2**	**Above grade 12=3**
1	Household head's							

2. Age, sex, and educational level of the household members.

S.N	Number & Name of HH Member Family size:_____ List of family members	Age	Sex		Educational Level of HH members			
			M=1	F=0	Illiterate= 0	1-8=1	9-12=2	>12=3
1								
2								
3								
4								
5								
6								
7								
8								

Section –II: Basic information about livelihood situations

3. What were the main sources of your livelihood in 2003 E.C and 2004 E.C?

S.N	**Livelihood sources**	**2003 E.C**		**2004 E.C**	
		Yes=1	**No=0**	**Yes=1**	**No=0**
1	Farming				
2	Livestock				
3	Irrigation				
4	Bee keeping				
5	Daily laborer				
6	Petty trade				
7	Handcrafting				
8	Other sources				

Specify, _____

4. What was your total cultivated land of in 2004 E.C? _____tsimdi. Out of this, while _____of tsimdi, for cereal the rest land was _____for irrigation or vegetable purpose.

5. If your main source of livelihood in 2004 E.C was farming, what types of crop productions did you have?

S.N	Main source of crops	Yes=1	No=0	Total production (shenber /quintals)	Amount sold in (shenber /quintals)	Amount consumed in (shenber /quintals)
1	Sorghum					
2	Winter millet (leaqo)					
3	Maize					
4	Barley					

5	Wheat					
6	Teff					
7	Pulses					
8	Oil crops					
9	Others					

Specify, _____

Where, one *shember*=one and half of kilo

6. To facilitate the farming activities, did you use any agricultural input in 2004 E.C?

S.N	Type of Agric/input	Yes=1	No=0	Unit/kilo	Source place
1	Fertilizer				
2	Selected seed				
3	Herbicide				
4	Pesticide				
5	Local selected breeds				
6	Other agricultural materials				

Specify, _____

Where, Mekelle=A, Samre=B, Dongolat=C, Gijet=D, Hareko=E, in our tabia=F and others=G

7. Do you have an irrigational land in 2004 E.C?

S.N	Land size & Irrigational activities Land size hec/tsmad:_____ Irrigational activities	Yes=1	No=0	Total product (kilo or quintal)	Total revenue from sales	Consumption (kilo or quintal)
1	Vegetables					
2	Fruits					

3	Maize					
4	Others					

Specify, _____

8. In 2004 EC, if you were engaged in livestock, what were the main activities you were working in?

S.N	**Livestock category**	**Yes=1**	**No=0**	**Quantity (No.)**
1	Cow			
2	Oxen			
3	Goat			
4	Sheep			
5	Hens			
6	Donkey			
7	Camel			
8	Mule			
9	Pig			
10	Bees			
11	Others			

Specify, _horse, _____

9. If off farm farming was an important source of livelihood in 2004 EC, what were the specific sources?

S.N	Sources	Yes=1	No=0	#family members engaged in it		Revenue per month in Birr in 2004 E/C
				M=1	**F=0**	
1	Fire wood					
2	Mining					
3	Petty trade					
4	Handcrafting					

5	Construction					
6	Daily laborer					
7	Wage labor					
8	Other					

Specify, _____

10. In 2004 E.C, what was the most visited market center?

S.N	Name of market place	Yes=0	No=1	Distance from your residence (Km)	Visit frequency/week
1	Mekelle				
2	Samre				
3	Dongolat				
4	Gijet				
5	Finarwa				
6	Hareko				
7	Others market places				

Specify, _____

11. What types of livelihood linkage did you have with Samre town in the year 2004 E.C?

S.N	**Linkages associated with**	**Yes=1**	**No=0**
1	Market		
2	Financial services		
3	Educational (formal &informal trainings)		
4	Health care		
5	Administration services (social awareness, extension services, social justice, marriage contract etc.)		
6	Agricultural inputs &outputs		

7	Other societal –interactions		

Specify, _____

12. If you did not enjoy any administrative service in 2004E.C, what was the reason?

S.N	Factors	Yes=1	No=0
1	Because of Distance		
2	Because I am aged & no transport service		
3	Due to my Sickness & there was no access to transport		
4	There were no issue related with administrative service		
5	Because the administrative service did not attract me		
6	Due to other reasons		

Specify, _____

13. What was the role of Samre town to your household from many perspectives during the 2004E.C?

S.N	Samre town was important to	Yes=1	No =0
1	Provide agricultural inputs and out puts		
2	Serve as a center of administrative services		
3	Act as a center of credit and market access		
4	Render education and health care services		
5	Function as a core of different trade activities & job opportunities		
6	Play as a heart of training , social interaction , information dissemination and center of modernization		
7	Others benefits		

Specify, _____

14. If you have ever taken any credit in 2004 E.C, what was your source?

S.N	Actual credits sources	Yes=1	No=0	Amount borrowed (Birr)	Location of Bank
1	Commercial Bank of Ethiopia				
2	Ambesa bank				
3	Dedebit				
4	Relatives & my friends				
5	Informal institutions (equb & edr)				
6	Others				

Specify_____

Where, Mekelle=A, Samre=B, Dongolat=C Others=D

15. If your answer is no, what was/were the possible reason/s for not taking credit service?

S.N	**Reasons**	**Yes=1**	**No=0**
1	Because the credit service is far from me		
2	Because I am too old then, I could not take the credit		
3	Because I had not any financial problem		
4	Because I did not like to take credit		
5	Due to other factors		

Specify, _____

16. What were the main bottlenecks in diversifying your livelihood due to proximity to Samre town in 2004E.C?

S.N	**Main bottleneck**	**Yes=1**	**No=0**
1	Lack of road and infrastructure development		
2	Deficiency of credit services		
3	Shortage of residential		

4	Shortage of agricultural land		
5	Lack of market accesses		
6	Poor administrative services		
7	Lack of health and school facilities		
8	Lack of other things		

Specify, _____

Annex 2: Questionnaire for Focus Group Discussion or key Informant Discussions

1. What are the most common sources of livelihood in surrounding samre town?
   Farming ( ) livestock ( ) irrigation ( ) petty trade ( ) handcrafting ( ) specify if any others_____
2. What can you say about the following variables with the relation of the livelihoods of the rural communities:
   Age _____
   Sex _____
   Education _____
   Distance_____
3. In what way samre town linkages with its surrounding communities?
   Market ( ) financial flow ( ) social relation ( ) administrative issues ( ) others social affairs_____
4. Do you think that, the existence of Samre town had a positive role in diversifying your livelihood in 2004E.C? yes=0 ( ) no=1 ( )
5. If your answer "yes "for question No. 1 in what were does samre town contribute to your sources of livelihoods?

S.N	Name of the sources	Yes=1	No=0
1	Market access		
2	Financial credit		
3	Through creating new trade activities		
4	By provided good administrative services(social infrastructures)		
5	By facilitating linkages between the town and the rural communities like information flow and money flow		
6	By provided different short term training about the survival		
7	By being center of job opportunity		
8	others		

6. If your answer is' No' for question No. 1 gives your reasons.

   _____

7. What were the bottlenecks in the role of samre town for diversifying the livelihoods of rural communities?

S.N	Main bottleneck b/n samre town and its surroundings	Yes=1	No=0
1	Lack of road and infrastructure development		
2	Distance from the town and the rural communities		
3	Deficiency credit services		
4	Lack of market accesses		
5	Poor administrative services		
6	Lack of health and school centers		
7	Shortage of agricultural land		
8	others		

8. Which factor do think positively affect in diversifying of livelihood of the rural communities?

S.N	factor	Yes=1	No=0
1	Being aged household head		
2	Being youth household head		
3	Being male household head		
4	Being female household head		
5	Household head having large family		
6	Household head having small family		
7	Household head with long distance		
8	Household head with short distance		
9	others		

   Specify, _____

Annex 3: Marginal effects of probit estimation

```
. mfx

Marginal effects after probit
      y  = Pr(offfarmactivieties) (predict)
         =  .69428014
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
_Itabi~2*	-.2484134	.14352	-1.73	0.083	-.529709	.032883	.206452
_Itabi~3*	-.9992613	.00062	-1622.21	0.000	-1.00047	-.998054	.348387
ageofhhh	-.01245	.00448	-2.78	0.005	-.021237	-.003663	44.7484
_Isexo~1*	-.0421686	.11679	-0.36	0.718	-.271067	.18673	.76129
sizeof~h	.0547307	.02648	2.07	0.039	.00284	.106622	5.36774
_Ieduo~1*	.0714527	.10705	0.67	0.504	-.138355	.28126	.412903
_Ieduo~2*	.1127844	.24406	0.46	0.644	-.365558	.591127	.045161
_Icred~1*	-.0757104	.1042	-0.73	0.467	-.27993	.12851	.729032
_Iacce~1*	-.8983896	.06046	-14.86	0.000	-1.01689	-.779886	.645161

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Annex 4: Correlation Estimates

```
. corr
(obs=155)
```

	tabia	rainfa~g	livest~v	offfar~s	ageofhhh	sexofhhh	sizeof~h	eduofhhh	credit~e	access~d
tabia	1.0000									
rainfallcr~g	0.2050	1.0000								
livestocktlv	0.2105	0.3705	1.0000							
offfarmact~s	-0.6265	-0.1804	-0.2803	1.0000						
ageofhhh	-0.1590	0.2100	0.0922	-0.1029	1.0000					
sexofhhh	-0.0612	0.0062	0.1277	0.0674	0.1134	1.0000				
sizeofhhh	0.0536	0.0730	0.2613	0.0360	0.1981	0.3496	1.0000			
eduofhhh	-0.0556	-0.1487	0.0020	0.1871	-0.4081	0.2496	-0.0543	1.0000		
creditserv~e	-0.4109	-0.0766	0.0056	0.2785	-0.0870	-0.0009	0.0327	0.1278	1.0000	
accesstoroad	-0.9033	-0.1730	-0.2267	0.6526	0.1005	0.1224	-0.0736	0.1543	0.4277	1.0000

Annex 5: Correctly Classified Estimation

Probit model for offfarmactivieties

Classified	True D	True ~D	Total
+	86	12	98
-	11	46	57
Total	97	58	155

Classified + if predicted Pr(D) >= .5
True D defined as offfarmactivieties != 0

Sensitivity	Pr(+| D)	88.66%
Specificity	Pr(-|~D)	79.31%
Positive predictive value	Pr(D| +)	87.76%
Negative predictive value	Pr(~D| -)	80.70%
False + rate for true ~D	Pr(+|~D)	20.69%
False - rate for true D	Pr(-| D)	11.34%
False + rate for classified +	Pr(~D| +)	12.24%
False - rate for classified -	Pr(D| -)	19.30%
Correctly classified		85.16%

Annex 6 coefficient partial effect

Probit regression — Number of obs = 155
LR chi2(9) = 88.63
Prob > chi2 = 0.0000
Log likelihood = -58.1631 — Pseudo R2 = 0.4324

offfarmact~s	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_Itabia_2	-.6647961	.3774684	-1.76	0.078	-1.404621	.0750284
_Itabia_3	-7.670945	.6620181	-11.59	0.000	-8.968476	-6.373413
ageofhhh	-.0355059	.0128297	-2.77	0.006	-.0606518	-.0103601
_Isexofhhh_1	-.1223456	.3450862	-0.35	0.723	-.798702	.5540109
sizeofhhh	.1560857	.0761859	2.05	0.040	.0067641	.3054072
_Ieduofhhh_1	.2059361	.3125322	0.66	0.510	-.4066157	.8184879
_Ieduofhhh_2	.3547212	.8680559	0.41	0.683	-1.346637	2.05608
_Icreditse~1	-.2221727	.3146596	-0.71	0.480	-.8388941	.3945487
_Iaccessto~1	-5.019053	.7998001	-6.28	0.000	-6.586632	-3.451473
_cons	7.46089	.	.	.	.	.