ADDIS ABABA UNIVERSITY
SCHOOL OF GRATUATE STUDIES

THE ROLE OF SAVING AND CREDIT COOPERATIVES ON HOUSEHOLD INCOME: THE CASE OF ENDERTA WOREDA IN TIGRAY REGION

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GIRMAY KAHSAY GEBREMESKEL

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By:- GIRMAY KAHSAY GEBREMESKEL

Approved By Board of Examiners

Chairman, Graduate Committee	Signature
Advisor	Signature
Examiner	Signature

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ABBREVIATIONS AND ACRONYMS

ADLI	Agricultural Development Led Industrialization
AEMFI	Association of Ethiopian Micro Finance Institutions
AIDB	Agricultural and Industrial Development Bank
ASC	Agricultural Service Cooperatives
APRACA	Asia Pacific Rural and Agricultural Credit Association.
APS	Average Propensity to Save
BOARD	Bureau of Agriculture and Rural Development (Tigray region)
BOFED	Bureau of Finance and Economic Development (Tigray region)
CBE	Commercial Bank of Ethiopia
CC	Contingency Coefficient
CPO	Cooperatives Promotion Office (Tigray region)
CSA	Central Statistical Authority
DBE	Development Bank of Ethiopia
DECSI	Dedebit Credit and Saving Institutions
EEA	Ethiopian Economic Association
ECPO	Enderta Cooperative Promotion Office
EOARD	Enderta Office of Agriculture and Rural Development
FAO	Food and Agricultural Organization
FCA	Federal Cooperatives Agency
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GM	General Assembly
ha	Hectare
ICA	International Cooperatives Alliance
KM	Kilo meter
LLF	Log Linear Function
LPM	Linear Probability Model
MFIs	Microfinance Institutions

m.s.l	meter above sea level
NGO	Non-Governmental Organization
NBE	National Bank of Ethiopia
No	Number
OLS	Ordinary Least Square
PA's	Peasant Associations
REST	Relief State of Tigray
RUSACCO	Rural Savings and Credit Cooperatives
SACCO	Savings and Credit Cooperatives
SACCOL	Savings and Credit Cooperative League of South Africa
TCPO	Tigray Cooperatives Promotion Office
TNRS	Tigray National Regional State
UN	United Nation
UNDP	United Nations Development Program
US	United State
VIF	Variance Inflation Factor

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THE ROLE OF SAVING AND CREDIT COOPERATIVES ON HOUSEHOLD INCOME: THE CASE OF ENDERTA WOREDA IN TIGRAY REGION.

ABSTRACT

Generally, in Ethiopia, there are two types of non-banking financial intermediaries: share company micro finance institutions, which are 23 in number and savings and credit cooperatives, which are 4178 in number. However, as compared to the demand for the service their coverage is very small. Although savings and credit cooperatives are user-owned financial intermediaries, many of the savings and credit cooperatives are located in the urban area and savings and credit cooperatives are increasingly being organized in the rural areas recently. The research was conducted in Enderta Woreda, in Southern Zone of Tigray National Regional State. The general objective of the study was to assess the role of saving and credit cooperatives on household income. Based on the general objective the study tried to address specific objectives. The specific objectives were assessing the impact of saving and credit cooperatives in increasing the income of the household, to identify the constraints of RUSACCO, to see the service and growth pattern, to identify factors that can affect the participation of the household to join RUSACCo and identify challenges of SACCO. In order to carry out the stated objectives of the research, primary and secondary data were collected from sample households and respective organizations and analyzed using descriptive statistics and econometric model (logit model). Descriptive statistics such as mean, standard deviation and percentage were used for analyzing the data. In addition, t-test and χ^2 test were employed to compare members and nonmembers of the cooperative with respect to the hypothesized and other related variables. Logit model was used to identify the factors influencing the participation of household in saving and credit cooperatives in the study area. Nine explanatory variables were included in the logit model. . Variance Inflation Factor (VIF) and Contingency Coefficient (CC) were used to check the multicollinearity problems for continues and dummy variables respectively. Based on the model out put, five were significant and the rest were insignificant to explain the dependent variable. The significant variables that affect households to participate in RUSACCO include: annual social expenditure of household, credit taking from saving and credit cooperatives, the amount of first loan taken by the household, training, and participating in other types of cooperatives. Besides, based on the result of weighted scored, the major constraints that affects the performance of saving and credit cooperatives were financial constraint of the institutions shortage of the qualified staff members, poor technical support of government officials, poor financial capacity of members and shortage of availability of facilities. The study concluded that the services of RUSACCOs have increased from time to time, members of household income was better than non members by the expenditure approach. Therefore RUSACCO has a positive effect on household income and is an appropriate option for the rural households to increase their income. Hence, to promote such financial institutions in the rural areas in a sustainable manner the study suggested some measures to be taken by the concerned stakeholders.

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Rural finance has emerged as a major policy instrument after World War II in the fight against poverty in low-income countries. Agricultural growth was given high priority, with a focus on the high-yielding agricultural technologies (Robinson, 2001) as a means of achieving the objective of reducing the poverty in low-income countries.

During the last few decades, Ethiopia has made considerable efforts for the supply of loans to the poor, mainly to the rural poor, largely in connection with the country's overall development strategy, which is the Agricultural Development Led Industrialization (ADLI). Arrangements were made for none formal and formal banks to provide cash as well as input loans to the farmers.

There have also been a number of initiatives to establish and expand micro finance institutions.The government enacted proclamation No 40/1996 for the institutionalized operation of micro finance institutions and proclamation No 147/98 for the creation and strengthening of cooperative societies including saving and credit cooperatives.

The issuance of the regulatory framework for the micro finance institutions has in fact helped to standardize the provision of micro finance service throughout the country. It has also helped to set out a clear vision, policy and strategy with regard to the provision of micro finance both on the part of the government and other stakeholders. The role small credit provisioning can play is, for example, clearly stated in the government's policies and strategies. The governments recently announced Rural and Agricultural Development Strategy rightly identifies the strategies for developing viable and sustainable rural financial institutions.

Ethiopia's Agricultural Development Led Industrialization Strategy (ADLI) has the basic objective of reducing rural poverty by increasing agricultural production and productivity. Though agriculture is the crucial sector in the national economy, its production and productivity is not as encouraging as it

ought to be. For instance, at the national level the average all cereal grain productivity is about one tone per hectare. Annual increase in cereal yield is only 0.5 percent where as population increase is estimated at 3 percent per annum (Ethiopian Economic Association, 1999/2000). Consequently, with the current trend of productivity and population growth, the country is not in a position to meet the demand for agriculture products.

On the other hand, historical records indicate that no country has moved from chronic stagnation of development into takeoff stages of economic development without raising first agricultural productivity. Improvement in the production and productivity of the agricultural sector must be given due attention and agriculture should be organized on business lines. Crops and livestock production should be increased to maximize cultivators' nutritional status and profit in particular and society's welfare in general. This in turn will necessitate the availability of adequate capital to enable the farmers to use modern agricultural technologies.

A system of financial intermediation is necessary to channel the flow of funds from suppliers to users. An effective and smoothly functioning financial system will increase the mobilization of saving, lower transaction costs, disperse risks and direct the allocation of resources to the most productive use (FAO, 2001).

Micro finance is one part of the larger finance sector. The goal of meeting the needs of the disadvantaged part of the population, who in many cases do not have access to formal financial services, as well as the small amount, involved in both savings and credit transactions are characteristics feature of micro finance. These features require specific expertise to meet the demand due to the high cost of each transaction.

There are various types of banking and non-banking financial intermediaries in the world, and they differ in the services they offer to their clients. In Ethiopia there exist two types of non- banking financial intermediaries: share company micro finance institutions, which are 23 in number, and saving and credit cooperatives, which are 4178 in number. However, as compared to the demand for the service their coverage is very small.

The importance of micro finance as a tool for poverty reduction has been increasing at both international and national levels. In Ethiopia, the delivery of micro finance has been considered as one of the policy instruments of the government and non-government organizations in the fight against rural and urban poverty. In Tigray Region, the Dedebit Credit and Saving Institution (DECSI) since its establishment in 1994 has remarkably grown in terms of its outreach and disbursing millions of dollars each year. More recently, the Tigray regional government is taking measures to scale up the program and mobilize more funds in an attempt to lift a large number of the poor out of poverty. In addition there are 204 rural saving and credit cooperatives that are established based on the cooperative law. Accordingly, saving and credit cooperatives are user owned financial intermediaries. Many of the saving and credit cooperatives are located in the urban areas (urban SACCOs) but saving and credit cooperatives are increasingly being organized in the rural areas recently.

Although these rural saving and credit cooperatives are newly emerging institutions, most of them have started providing at least saving and credit services to their members. There fore it is important to assess the role of saving and credit cooperatives on household income that this particular study will focus. The study will stress on challenges, contributions, operational activities of rural households saving and credit cooperatives in relation to household income in Enderta woreda of the southern Tigray. And hence this enhances to undertake the study.

1.2 Statement of the Problem

The level of dependence of the rural households on agriculture as their main sources of income and their reliance on seasonal rain have mainly been responsible for high level of vulnerability to external shocks. It is practically seen in some countries that participatory development activities and micro finance interventions have been shown a significant role in poverty alleviation activities (Chalchisa, 2006). In line with this it is important to explore the implication of saving and credit cooperatives on household income in the region particularly in Enderta woreda.

It is an accepted truism in economics that future economic growth intently, is largely a result of current investment activities. These investments could be expanded in the development of human resources to increase efficiency as well as in building up productive capacity to exploit its natural resources. Investment, in turn, is mainly a function of savings from current incomes. It is therefore

instructive to look at the trend of savings (Befekadu et al, 2001). In this case one of the rural poor banks are rural saving and credit cooperatives that can initiate to see the trend of saving in the area. In recent years in Ethiopia, the over all economy is marked by impressive performance. Preliminary estimates show that real GDP, for the year 2004/05 registered a 10.2 percent growth, indicating a complete recovery from sluggish performances of the recent past. Nevertheless, domestic savings has increased by 1 percent however investment expenditure is estimated to reach 23 percent (Biritu, 2005). The declining domestic saving rate in the economy necessitates depending on foreign savings, foreign credit or else aid to finance the investment requirement of the country. There fore it is important to look at the saving trend of saving and credit cooperative members in the study area. This is because under the circumstances of minimal or negative savings, investment in the short run could be financed partly through domestic government borrowings and/ or foreign loan and grants but this would significantly increase the country's debt burden and would not be a solution in the long run.

On the contrary the poor in Ethiopia have low income, which leads to low investment, which in turn leads to low productivity, and income. Access to institutional credit contributes to increase investment however it is very limited to the majority of the poor that have access of financial services through the informal channels such as: money lenders, *iquib*, *idir*, friends, relatives, traders, etc (Wolday, 2002). In relation to this it is crucial to evaluate the role of cooperatives in provision of credit to their members in the area.

A cooperative enterprise is one where groups of people come together to work or to buy or sale goods or services for the mutual benefit of the group. However in the region there are different types of cooperatives that are involved in saving and credit but their role is not assessed. Finally it is crucial to show the significance of such cooperative on household income quantitatively and qualitatively.

1.3 Objectives of the Study

The overall objective of the study is assessing the role of saving and credit cooperatives on household income by taking Enderta woreda as a case. This objective resolves itself to certain specific objectives given below.

1. To identify the impact of saving and credit cooperative in increasing the income of household.
2. To study the factors that affects the participation of the households in RUSACCOs in the study area.
3. To identify the constraints of saving and credit cooperatives in the study area.
4. To see the status of saving services and growth pattern of rural saving and credit services in the study area.

1.4 Research Methodology

Purposive sampling method (non probability) was used to select the study woreda as well as five peasant associations where saving and cooperatives are found. The woreda was selected purposively because of no study undertaken in the woreda, life span of cooperatives are relatively existed longer, accessible and good means of communications. Similarly, the five saving and credit cooperatives have been selected purposively based on their lifespan, accessibility and good communication. Member sample households were selected randomly from entry documents based on proportion to the population size of the institute (RUSACCOs). Non-member households were selected purposively from each peasant association. Based on this, 72 household members RUSACCO and 22 nonmembers that consist of 94 sample households were incorporated in the study (17% of members population in the woreda).

Both primary and secondary resources were used to collect the data. Primary data were collected from members and non-members of the cooperative by using questionnaires. Both observations and focus group discussions were employed with the main stakeholders of saving and credit cooperatives to strengthen the primary information.

To analyze the data, descriptive statistics and econometric regression model were used. The descriptive statistics such as mean, standard deviation, percentages, t-test, chi-squared test was used to describe the demographic and socio economic condition of sample households in the study. Factors that affect households' decision to participate in saving and credit cooperatives have been identified using the logistic regression model. Before executing the econometrics model, the explanatory variables were checked to detect the existence of multicollinearity problem using the VIF (Variance Inflation Factor) and the C.C (Contingency Coefficients) for continuous and dummy variables

respectively. Finally weighted frequency value has been used to identify the main constraints of rural saving and credit cooperative in the study area.

1.5 Significance of the Study

The result of this study would help for researchers and implementing bodies to know the contribution of saving and credit cooperatives on household income and promoting foster economic development. Also it may help policy makers to take measures or decisions based on the findings and to provide basic information for enabling saving and credit institutions to sustain. In addition to this, the study helps community to participate in saving and credit cooperatives so as to have their own share. Besides, the government and NGOs can use the findings as the starting point to evaluate the sustainability of saving and credit cooperative service by formulating more efficient modalities. Since it creates ground for further research, development and recommendation in the field of the saving and credit cooperatives for academic institution purpose is important and hence academic institutions can use as springboard. Finally, it helps in understanding of the benefits of saving and credit cooperatives in the over all economic development of the region.

1.6 Scope of the Study

This study will focus on the role of saving and credit cooperatives on household income in Enderta of the southern region of Tigray. In particular, it focuses five purposively selected saving and credit cooperative institutions from the seven administrative kebeles (Debri, Haikhiltet, Arato, Romanat And May Alem Saving And Credit Cooperative Institutions).

1.7. Limitation of the Study

The limitation of the study is its scope, that is, due to time and financial constraints it could not cover all Tigray zones in which SACCOs provides its services. Lack of clients recorded assets prior to they being a member of SACCOs was another major constraint to see the impact in detail. Due to such problems the study may limit the expectation of the result. How ever, a great effort has made to identify and analyze the findings using descriptive and econometric models that can help to undertake the research scientifically. Therefore it can confidentially represent the area and highly contribute as a source for further impact assessments.

1.8. Organization of the Thesis

The thesis is organized into five main chapters. The first chapter focuses mainly on the background, statement of the problem, objectives, significance and scope of the study. Relevant literatures related to the study are reviewed in chapter two. Chapter three deals with description of study areas, sampling design, methods of data collection and analytical techniques. In chapter four, the results obtained from the descriptive statistics and econometric models are presented and discussed. Finally, chapter five presents the summary, conclusion and policy implication parts of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Microfinance and Poverty Reduction

2.1.1 Micro finance: Definition

Micro finance refers to small-scale financial services –primarily savings and credit (Robinson, 2001). Micro finance encompasses the management of small amounts of money through a range of products, and a system of intermediary functions that circulate money in an economy. Micro finance is small in value with amounts targeted at low-income clients. It includes loans, savings, insurance, transfer services and other financial products and services (Chekol, 2007).

Micro credit is a small amount of money made available to a client by a bank or other institution (ibid). Micro credit is a critical element of the broader range of financial tools for poor and low-income people, referred to as micro finance. How ever micro savings are deposit services that allow one to store small amounts of money for future use. On the other hand micro finance is defined as the provision of small-scale financial services to those low-income clients who have no access to financial services by the formal sector (Lidgerwood, 2000). Microfinance services are one of the methods that have significant contributions in poverty alleviation activities.

2.1.2 Basic Concepts on General Poverty and Income Poverty

The definition of what is meant by 'poverty', how it might be measured and who constitute 'the poor' are fiercely contested issues (Hulme and Mosley, 1997 in Greeley: 99). At the center of the debate is the question of whether poverty is largely about material needs or whether it is about a much broader set of needs that permit well being.

The former position concentrates on the measurement of consumption, usually by taking income as a proxy. Although the approach is criticized for its narrowness it has considerable strength in terms of creating the potential to make quantitative comparisons and analyze changes in the access of different people to their most pressing material needs. 'An absolute and objective poverty line is a form of information that empowers the poverty reduction agenda and encourages appropriate resource allocations' (Hulme and Mosley in Greely, 1997: 99).

Greely (1997) highlights five substantive reasons for using consumption-based estimates of poverty in evaluating the impact of micro credit programs:

The fact that most ethical theories of welfare ultimately recognize some sort of hierarchy of meeting material well-being is at the top of the priority

1 Poor themselves refer to the material basis of their poverty in participatory impact assessments of micro credit programs
2 Alternative approaches to defining poverty are often incapable of being aggregated
3 A key characteristic of a poverty indicator is that it should be comparable over time
4 Household-level analysis of the material benefit from credit programs is one of the components in assessing sustainability of the credit programs.

As illustrated by Narayan, other dimensions of poverty are important to poor people's definition of poverty:

> *"Poverty definitions focus on difficulties in securing food and livelihood. What is still striking, however, is the extent to which dependency, lack of power, and lack of voice emerge as core elements of poor people's definitions of poverty.... Poor people speak extensively about assets and much less about income. These findings have implications for how we measure poverty. One of the challenges is to track and measure changes in power and voice together with other measures of poverty, such as estimates of expenditure and consumption, and access to education and health." (Narayan: 2000:64)*

As stated by Hulme and Mosley, there is no scientific basis for choosing between the material and non-material needs in measuring poverty.

Although it is important to consider the non-material needs, in practice, it is the material basis that is being used as a benchmark in poverty measurements and poverty reduction strategies that is the household income. The World Bank target of 'reducing by one half the proportion of people in extreme poverty by 2015' uses economic terms as a criterion, by measuring a person's income and establishing a 'poverty line' which serves as a bench mark income level below which a person is said to be in extreme poverty (Allen and Thomas, 2000).

Here, the definition of poverty that has been chosen by UN and its partner organizations is a simple one. It is "whether households or individuals have enough resources of abilities today to meet their needs". The simple way of measuring this is by deciding on an income threshold below which people are poor such as the UN's measure of US dollar one a day. This is absolute poverty.

Poverty is not the same as inequality, which is a relative measure. The relative position of individuals and households is also important because the over all level of inequality is an important indicator of the level of welfare among the most unequal.

To relate household income and micro credit it is important to quit from DGRVof 2005:

> *Income is crucial if basic needs are to be met in a sustainable manner yet income in only generated by individuals who have an opportunity to take part in economic activities. And it is possible to save only if there is an adequate level of income. Access to financial services and markets is therefore an essential prerequisite for self-sustained poverty reduction. Poor people have a considerable productive potential, which can be mobilized by means of self-help approaches (DGRV, 2005).*

Micro finance institutions generate saving capital, mobilize local resources and promote development process in so doing (ibid).

2.2 Basic Concepts in relation to Cooperatives

2.2.1 Cooperatives: Definition

Based on the definition of Encyclopedia of business, "a cooperative is a form of business ownership that consists of a group of people who have joined together to perform a business function more efficiently than each individual could do alone". Here the purpose of cooperatives is not to make a profit for itself, but to improve each member's situation. However members of certain types of cooperatives do make a profit by selling their product and/ or service to customers who are not co-op members. Britannica concise Encyclopedia added "cooperative is organization owned by and operated for the benefit of those using its services. This definition shows that people organize them selves around a common goal usually with the concerns of economic.

Besides a cooperative (co-op) has been defined in the international cooperative Alliance (ICA) statement on the cooperative identity as , "an autonomous association of persons united voluntarily to meet their economic, social, and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise." They "are based on the values of self-help, self-responsibility, democracy, equality, equity, and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and carrying for others."

A cooperative is usually perceived as a socioeconomic organization that can fulfill both social and economic objectives of its members, and that has its members' interest truly at heart. There are three dimensions of cooperatives-economic, social, and moral, which are equally crucial for its success. The decision making system of cooperative is a perfect democratic institutions of the members which is based on the "one member, one vote" system (Singh, 1999).

The international Cooperative Alliance (ICA) Congress held in Manchester on 23 September 1995 adopted the following seven principles:

1. Voluntary and open membership
2. Democratic member control
3. Members' economic participation and limited interest on share capital
4. Autonomy and independence.
5. Provision of cooperative education, training and information
6. Cooperation among cooperatives
7. Concern for the community

The degree of applicability of the stated principles, values, and ethics in the organization and activities of cooperatives tell whether a given cooperative is genuine or not. ILO defines a genuine cooperative as:

> *"An association of persons who have voluntarily joined together to achieve a common end through the formation of a democratically controlled organization, making equitable contribution to the capital required and accepting a fair share of the risks and benefits of the undertaking in which the members actively participates"*

In relation to the advantage of cooperatives, the UN still sees cooperatives as an important of creating employment, overcoming poverty, achieving social integration, and mobilizing resources effectively. But the methods by which they will do this have changed. The UN added, there is a new development paradigm that emphasizes a bottom-up approach that is much more in keeping with the way in which genuine cooperatives have always been created. Perhaps the most dramatic way of understanding this new way of thinking is through Hans Munkner's reversal of the reversal of the usual definition of cooperative as cited by Birchall.

He says:

> *It is misleading to say that cooperatives have members. It is more correct to say that members have their cooperatives. Cooperatives do not help the poor but, by working together, by pooling their resources, by submitting themselves to group discipline and by accepting to combine self-interest and group solidarity, the poor can solve some of their problems by way of organized self-help and mutual aid better than alone (Birchall, 2003)*

The above concept explores the relation ship between cooperatives and household income through an understanding of the potential the cooperative form might have for enabling poor people to lift themselves out of poverty (ibid).

Cooperatives continue to be an important means, often the only one available, whereby the poor, as well as those better off but at perpetual risk of becoming poor, have been able to achieve economic security and an acceptable standard of living and quality of life (UN, 1994).

2.2.2 Credit Union: Definition

According to Britannica concise Encyclopedia, credit union is defined as "credit cooperative formed by a group of people with some common bond who, in effect, save their money together and make low cost loans to each other." the legal Encyclopedia stated that a credit union is "a corporation formed under special statutory provisions to further thrift among its members while providing credit for them at more favorable rates of interest than those offered by other lending institutions." On the other hand, WorldNet defined, as a credit union is a cooperative financial institution that is owned and controlled by its members. Credit unions differ from traditional financial institutions (banks, savings and loan, etc) in that the members who have accounts in the credit union are the credit union's owners (sited from wave-Answers.com).

Based on the definition the implication of cooperatives on poverty reduction has explained by DGRV in the international year of Micro credit 2005:

> *The existence of functioning cooperative societies leaves a positive mark on the economic and social structures of a country since cooperatives develop on the basis of local initiative and local economic strength; decentralized cooperative systems can operate in close proximity to markets and target groups.*

According to the study of 2005, in the context of globalization, cooperatives are particularly well equipped to combine the advantage of local activities with regional and national networking

within the system, provided they adapt their structures and operations accordingly, thus contributing considerably not just to strengthening their members but the local / regional economic structure in which they are operating.

2.3 The Role of Rural Saving and Credit Cooperatives

In the world different types of institutions have been existed. However a single institution model suitable to all countries does not exist-no one structure could be said to be clearly preferable to others. What is important is that these institutions should be able to adapt to local conditions and financial flow (Padmanabhan, 1987).

As a short-term solution to the lack of savings by the households, governments of developing countries are embarking on micro financing schemes to enable the households to venture into small business activities. However, these measures are not only costly but also not sustainable in the longer run if the societies are not empowered to save by themselves (Orazio and Miguel, 2000).

Saving and credit cooperatives are cooperatives voluntarily financial organizations owned and operated by members. Their propose is to encourage savings by creating local deposit activities and then using the pooled funds to make loans for productive, consumer or social purposes to their members. Rural saving and credit cooperatives operate as farmers grassroots organizations, aimed usually at meetings the seasonal financial needs of their members, which other financial institutions do not satisfy (FAO, 2001).

Cooperatives create the opportunity for people to take responsibility for their own financial organization. The democratic process is an integral part of the cooperative and encourages people to take control of their own financial affairs. Members there fore take pride in owning their own savings and credit cooperatives (SACCOs, 2003).

"Self organization by the poor is a precondition for successful antipoverty work and that cooperatives can play an important role in this struggle."(Birchall, 2oo3)

A recent report of the UN Secretary-General does endorse the promotion of micro finance as a "best practice" that enables poor people to create economic opportunities for themselves, and banks owned by the poor people are essentially cooperatives (Birchall, 2003). This indicates that

development must be community driven, with funds channeled directly to community groups, and with capacity building of self- help groups being the key to success.

Cooperatives have the feel of local areas, reflecting the rural ethos and culture. Farmers feel at easy with loan agents of cooperatives, unlike in the case of commercial banks. Despite the potential advantage of the system, effective cooperatives for financial services delivery have been faced difficult in many countries. The major problems of cooperatives in Africa are: absence of experienced management, uneconomic base level units, lack of supporting infrastructure, poor member participation due to hasty launching of cooperatives, in sufficient supervision and auditing of cooperatives, and too much political disturbance (Padmanbhan, 1987).

2.4 Rural Savings Mobilization

Savings is a mechanism by which economic agents make deliberate choice to allocate a portion of their current income for the purpose of making investment and increasing their future earning capacity. Theory suggests that household total savings depend on the rate of return on savings, on uncertainty of future incomes, on risk aversion of households, on lifetime of permanent income or wealth, on family characteristics, and on the availability of borrowing (Gjersovitz, 1988,cited in FAO, 1996). In particular, increases in uncertainty in the face of liquidity and borrowing constraint will increase the total volume of household savings and particularly the portion of precautionary savings (Kimball, 1990,Deaton, 1989,cited in FAO1996).

In absence of other credit and insurance markets, household savings are a crucial determinant of welfare in developing countries. on the one hand , without savings, households have few other mechanisms to smooth out unexpected variations in their income and shocks may leave permanent scars, such as interrupting the process of human capital accumulation at early ages. On the other hand, since savings are one of the only means to accumulate assets in the absence of credit and insurance markets, the capacity to save becomes one of the most important vehicles of social mobility and of enhancing future income earning possibilities (orazio and Miguel, 2000).

As Chalchisa cited from Yaron, saving mobilization have important benefits for clients and micro finance institutions. Among the advantages: help clients to smooth consumption patterns, enabled clients to build reputations and collateral with rural institutions, enhance client's perception of

"owning" a rural financial institution and potentially increasing their commitment to repayment loans (chalchisa, 2006).

Based on purpose and type, savings can be categorized in to the following; Center savings, compulsory savings, individual savings and institutional voluntary savings (Zaid & Narayan 2001and Wolday 2003).

Saving is a strategic variable and plays a crucial role in economic development. in the words of Maira Otero, simply put saving provides the assets for the economy's investment in future production, with out it the economy could not grow. This could be addressed if alternative sources of investment such as foreign capital are injected (Maria Otera, 1989).

Saving mobilization is becoming a crucial factor of many micro finance institutions because it is considered that saving provides the basis for effective growth. Added, saving is also important for an institution that offers financial services (Mehammod, 2002). Accordingly from institutional perspective, mobilizing small and micro-savings in conjunction with credit programs enables micro finance institutions to attain self-sustainability because:

- it serves as a source of lending capital.
- it provides cash collateral and eligibility for loans.
- it serves as a source of income.
- it strengthens relationship with saving clients.
- it reduces dependency on donors.

A common feature of economic growth theories is the premise that capital accumulation is a prerequisite of economic growth, and that the savings of individual and households are an essential part of the process of capital accumulation. Savings determine, to a large extent, the rate at which productive capacity and income grow. An effective smoothly functioning financial system will increase the mobilization of savings, lower transaction costs, disperse risks and direct the allocation of resources to the most productive uses (FAO, 2001).

Padmanbhan,(1987) stated, mobilization of local savings would enlarge the resource base of lending agencies and correspondingly reduce their external dependence. It would also reduce loan defaults, as borrowers would be more careful with neighbors' savings than with government funds.

2.5. Rural Credit Mobilization

Credit is "the sum of money in favor of the persons to whom control over it is transferred"(Ellis, 1992). Credit can be also defined as "a liquid asset through which the poor can acquire production capital to improve their capacity to generate income, savings and investment"(Fiona, 1977). Rural credit in this sense is, capital that is necessary to purchase seeds, fertilizers, chemical and other inputs, which help the beneficiaries to raise their production and incomes in order to improve their living conditions. Micro financial programs and institutions emerged through recognition that the poorest sectors of the population have little or no access to formal credit institutions, making it almost impossible for them to build up any productive capital which might enable them to break out of the poverty trap (Fiona, 1997). He adds credit enhances the incomes of small farmers thereby improving the status and role of rural women.

Where the credit schemes have been introduced, these all seen as a strategy to enhance economic empowerment and these all not seen as an end in themselves but as a means to an end (NPA, 1997). Besides, credit schemes are response to the perceived lack of financial services for the poor mainly small farmers, small holders, the landless poor, and the youth (ibid).

The demand for credit among the poor is not infinite, but the fact that poor people use financial services where they are available and if not available they create and organize their own, thus the demand for financial services is great among the poor in the struggle to meet their needs such as household consumption, marriages, business enterprises etc (NPA, 1997).

Credit support is a crucial factor in any rural development program (Mohapatra, 1997). Credit is a strategic resource to use these technologies in order to increase food production and income which then to increase saving and investment (zena limat bank, 1997). However credit alone cannot reduce poverty without other complimentary inputs such as land, markets, good infrastructure, skills, political stability etc.

According to Braverman and Guash (1986, p. 1255):

> *"It has been estimated that only 5 percent of farmers in Africa and about 15 percent in Asia and Latin America have had access to formal credit. Rather than equalizing income in equalities, low interest rate credit have increased it; 5 percent of borrowers have received 80 percent of the credit."*

This enhances saving and credit cooperatives are an essential element in Africa. However Robinson states that:

> *Large scale subsidized credit programs depress, in one way or the other, the development of sustainable financial intermediation at the local level... credit subsidies often depress saving because revenues are too low to cover the operating costs of effective savings mobilization. (Robinson, 2001:146).*

Robinson (2001) further argues that institutions lending at low cost are not sustainable, primarily because their interest rates on loans are too low for full cost recovery.

2.6. Microfinance Institutions in Ethiopia

The current practice of microfinance in development can be seen as coming from two different directions. From one direction, the growth in scale and diversity of credit provision is associated with changes with the financial sector, public and private, and the identification of considerable levels of unmet demand and potential market growth for financial services. From another direction, with NGO Sector and government aid policy, comes the shift from relief assistance to sustainable development, providing grinding mills and fishing rods in place of loaves and fishes, but in the form of loans to be repaid with interest than 'handouts' (Fiona, 2000). Development of microfinance in Ethiopia should be viewed as

1. An identification of considerable levels of unrealized demand and potential market growth for financial services and
2. A shift by the NGO sector and government from relief assistance to sustainable development that intersects at the point of institutionalization of microfinance provision (Fiona, 1999).

Interventions through the delivery of microfinance services have also been considered as one of the policy instruments of the government and nongovernmental organizations (NGOs) to enable urban and rural poor increase output and productivity, induce technology adoption, improve input supply, increase income, reduce poverty and attain food security. The establishment of sustainable

microfinance institutions that reach a large number of rural and urban poor who are not served by the conventional financial institutions, such as the commercial banks, has been a prime component of the new development strategy in Ethiopia.

Although the development of microfinance institutions in Ethiopia started very recently, the industry has shown a remarkable progress in terms of outreach particularly in terms of clients. Since the issuance of proclamation 40/1996, which provides the establishment of microfinance institutions (MFIs) have been legally registered by the national bank of Ethiopia (NBE) and started delivering services, and two more applications by new MFIs are currently being processed. According to the Micro start project document of UNDP (1999), the economically active poor in Ethiopia who can potentially access financial services are about six million. Out of this 8.3% of the active poor have gained access to the licensed microfinance institutions. Despite the obvious disadvantages of the microfinance industry such as poor communication and infrastructure, weak legal systems, banking sector and technical capacity when compared with other sub Saharan countries, the sector has been growing at a significant rate.

2.7. Similarities and Differences of SACCOs and MFIs in Ethiopia

2.7.1. Similarities

Both organizations cater financial services. Those who are benefiting from the services of these institutions mostly have no access to the financial services of formal institutions. They also contribute a lot to reduce the negative impact of local money lenders in areas they operate in. by mobilizing saving in different forms the two financial institutions contribute to the formation of client/member's capital in particular and that of the nation in general, they tackle the issue of poverty alleviation, as their services are available mostly to the middle and lower class of the society. The two organizations enjoy privileges like tax exemption etc by believing that they are effective tools to alleviate poverty and empower the poor.

2.7.2. Differences between, SACCOs and MFIs

Item	Legal basis	RUSACCO	MFI
Minimum capital requirement	Birr 200,000	None except should be adequate to their objectives	Level is determined during registration
Voting power	Based on size of share capital	One man one vote irrespective of the amount of share	Share ownership is determined by law
Par value of shares	Dependent on market	May not change from the initial value	May change depending on the market
Ownership	Shareholders that are not service users	Members who are at the same time customers	Few MFIs have client shareholders
Integration	May form networks and may compete each other	Collaborate and support each other not to compete	Compete among them selves .
Lending interest rate	Decided by market	Limited by cooperative principle, legislation and the members	Since sharing surplus is based on participation there is no burden on the members so law had not limited it.

Source AEMFI occasional No. 19.

2.8. Development and Status of Cooperatives in Ethiopia

The historical development of cooperatives in Ethiopia is briefly discussed under three eras:(1) the imperial regime (before the 1974 socialist revolution), (2) the command economic system under the military rule, and (3) under the incumbent government (since mid 1991).

2.8.1 Cooperatives under the Imperial Period (before 1974)

The first legal framework for cooperatives, farm workers cooperatives decree No.44, was enacted in 1960 and the then Ministry of National community development was charged with the promotion and registration.

In 1996,cooperative societies proclamation no. 241/1966 was issued and the Farm workers cooperative decree No. 44 of 1960' was repealed. This proclamation was meant to "provide a proper basis for the formation of cooperative societies and the objectives of the societies were to promote "thrift, mutual help and self help among persons sharing colon needs and desires".

The proclamation was comprehensive in the sense that it contained a number of clauses including the formation and registration of societies; members of society and their rights and obligation; organs of societies; properties and funds of societies; audit, inquiry and inspection; arbitration; dissolution and winding -up of societies; and decision, appeal and execution. The proclamation had the following key features as Mekonen, Alemayo and etal explained in 2007.

a) The purpose and objective of societies was to promote better living, business, and method of production by reducing the cost of goods and services for production and consumption; minimizing and reducing the individual impact of risks and uncertainties; and spreading knowledge of practical technical improvements.
b) Two categories of societies were to be formed: primary societies comprised of not less than ten individual members; and secondary societies comprised of at least one member society;
c) A physical person, a society, or a Ministry, chartered government agency or other public authority may become a member of a society; and that a society may admit any physical or judicial person as a nominal member.
d) Every member has one vote at meeting of the society, regardless of the number of shares owned or controlled by him.
e) The supreme authority in a society rested in the general meeting of the members;
f) No member of a primary society shall hold more than one-Fitch of the total paid-up share capital of such society.
g) In every society there shall be an executive committee comprising of members elected by the general meeting;

h) Income of a society earned through operation shall be exempt from income tax; and

i) A society shall be dissolved where number of members of a primary society fall below ten.

At the end of 1973, 100 agricultural and non-agricultural cooperatives were established. Those in agriculture had a total membership of about 11,000 and a capital of Birr 6 million. Against the planned establishment of 320 cooperatives, only 83 were registered in the period 1966-1973 out of which 56 were farmers' cooperatives. Notwithstanding their numbers, the then existing cooperative played a marginal role owing to the following main factors:

1) Absence of clear policy guidelines for cooperative promotion
2) Absence of adequate government structure for the promotion of cooperatives
3) Absence of uniform and well thought out systems and procedures for registration, accounting, credit, marketing etc.
4) Lack of training facilities and consequently of trained personnel

2.8.2 Cooperatives under the Military Regime (1974-1991)

The socialist economic system was adopted and proclamation No. 241/19966 was repealed and replaced by proclamation No. 71/1975.the new proclamation addressed the formation of peasant associations in which the objectives, powers and duties of agricultural producers and service cooperatives were stipulated, subsequently, proclamation number 138/1978 was issued with a vies to include the promotion of other types of cooperative societies, the main objectives of cooperatives, as outlined in article 4 of this proclamation were to:

a) Develop self reliance and to promote the interest of their members;
b) Put the means of production under the control of cooperatives and to transform them gradually to collective property as may be necessary;
c) Increase production
d) Expand industries
e) Conduct political agitation
f) Eliminate reactionary culture and customs
g) Participate in the building up of a socialist economy and
h) Accumulate capital and to mobilize human resources to sustain economic development.

Four types of cooperative societies were to be established. The types and responsibilities summarized as follows

Type of cooperative society	Responsible body
1.Agricultural Service Cooperatives 2.Agricultural Producers Cooperatives	Ministry of Agriculture and Settlement
3.Artisan Services Cooperatives 4.Artisan Producers Cooperatives	Handicrafts and Small Scale Industries Development Agency
5.Housing Cooperatives	Ministry of Urban Development and Housing
6. Saving And Credit Cooperatives	National Bank Of Ethiopia

As a result of the collectivization policy of the government in the early 1990s, there were 3,723 producers and 4,052 services cooperatives with a total membership of about 10 million persons. However in spite of there numbers and their membership sizes many of the societies were unsuccessful in part due to state intervention. Cooperative societies were used as a means to exercise political programmes. Other causes for their failure include forceful promotion of cooperatives and non-voluntary nature of membership; and wastefulness and embezzlement.

2.8.3 Cooperatives under the incumbent government (since mid 1991)

Following the overthrow of the military Government in May 1991, the Ethiopia's Revolutionary Democratic Forces (EPRDF)-led transitional government adopted a market oriented economic system. Subsequently, a number of cooperative societies were dissolved of ceased to operate due to;

a) Removal of all subsidies
b) As most of the cooperatives were formed forcefully, some took that opportunity to express their grief; and
c) Most of the societies wealth was misappropriated of embezzled and as a result they were unable to finance their business.

These phenomena, in addition to ruining the societies, left bad impression and sentiments about cooperatives societies in the country.

In 1994, the government issued Proclamation No. 85/1994 with the objective of restructuring agricultural cooperatives to enable them contributes to the development of the national economy. The proclamation was generally featured by the principles of cooperation such as voluntary formation, business orientation and democratic membership control. As a result a number of cooperative societies were restructured.

The Ministry of Agriculture was responsible for promoting agricultural cooperatives at federal level. While the regional agriculture bureau were charged to promote registered and supervise cooperatives in their respective regions. However the proclamation dealt with agricultural cooperatives to the neglect of societies in other sectors. Consequently Proclamation No.85/1994 was replaced by a more comprehensive and multi sectoral cooperative promotion Proclamation No. 147/1998.

The proclamation was based on internationally accepted cooperative principles. it laid the ground for the development of all kinds of cooperative societies at different levels, and is comprehensive in its coverage. It provides for, among other things, the objectives, guiding principles, formation and registration, bylaws of cooperative societies, amalgamation and division of societies, rights and duties of members of a society payment of shares, register of members, voting, transfer of share or benefits management bodies of cooperative societies including their powers and duties, special privileges of societies, mechanism of dissolution and winding up of societies, maintenance of assets and funds of societies, and settlement of disputes as well as other miscellaneous provisions.

Currently due to the prevailing favorable environment, the number and diversity of cooperatives is increasing very rapidly. As of mid 2006,there were 19147 primary cooperative societies with a total membership of about 4.62 million. Women constituted merely 10 percent.
Out of this total number 5869(28.8%) are housing cooperatives followed by saving and credit cooperatives 5437(26.6%) and multipurpose cooperatives 5104(25%). in terms of membership multipurpose cooperatives account for 80 percent. Housing, saving and credit cooperatives account for 9.2 percent and 8.2 percent of the total membership of cooperative societies, respectively.

CHAPTER THREE

3. RESEARCH METHODOLOGY

Before identifying and discussing the sampling procedures, data sources and technique of data analysis, it is important to see the study areas situation in relation to location, population characteristics, and economic and social aspects. These could help as to conceptualize a good research methodology in different aspects.

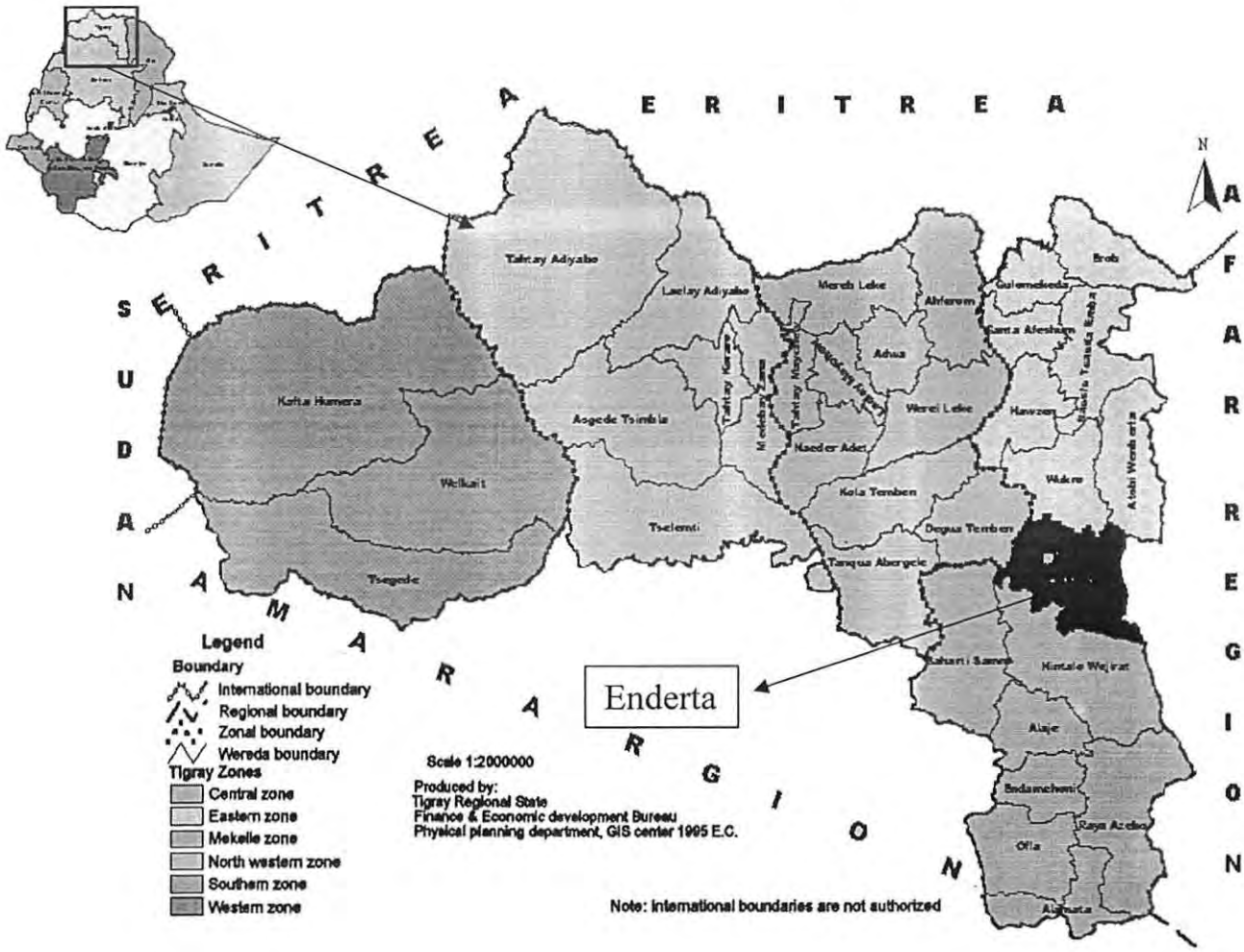
3.1 General Information of Tigray Region

TNRS is one of the 9 states of the Federal Democratic Republic of Ethiopia (FDRE) and the region belongs to the African Dry lands, which is often called the Sudano-Sahelian Region (Bharat, 2004). TNRS lies in the northern Ethiopia, extending from $12^0$15' to 14^0 54' N and 36^0 27' to 39^0 59' E. The region is bordered with Eritrea to the north, to the west by the Sudan, to the south by the Amhara National Regional State, and to the east by the Afar National Regional State. It is one of the most land-degraded regions of the country, which has an approximate areas of 80,000 sq. km. Out of this, about 25 per cent of the land area was cultivated and about 40 per cent used for grazing in 1992/93. The rest is unused land. The potential cultivable area of the region is estimated at about 1.5 million hectares.

The region is characterized by sparse and highly uneven distribution of seasonal rainfall, and by frequent drought. The amount of rainfall increases with altitude and from east to west, and decreases from south to north. Annual rainfall ranges from 450 to 980 ml with significant spatial and temporal variability. Most of the precipitation falls within the three months of June, July and August, and with high intensity (Berhanu *et al.*, 2000). Generally, the rainfall distribution is mono-modal in character, with few exceptions in the Southern and Eastern zones, where it is bimodal. Average temperature in the region is estimated to be 18 ^{0}C, but varies greatly with altitude. In the highlands of the region, during the months of November, December and January, the temperature drops to 5 ^{0}c. In the lowlands of Western Tigray, especially in areas around Humera, the average temperature increases from 28 ^{0}C to 40 ^{0}C during the summer.

The TNRS is divided into 6 administrative zones, 34 woredas (Districts), 550 *Tabias* (Fitsum *et al.*, 2002), more than 3500 *kushets*, and 74 towns. The zones are Eastern, Central, Southern, Western, North Western and Mekelle city. *Kushet* is the lowest unit in the administrative hierarchy. TNRS has an estimated total population of 4,334,996 consisting of 2,136,000 men and 2,198,996 women

Figure 4.1: Map of Tigray National Regional State



3.2. The Situation of Enderta

The study area (Enderta woreda) is located in the Southern part of TNRS, Southern zone. Enderta woreda is one of the eight woredas of Southern zone. Quiha town is the capital of Enderta woreda. It is located at the vicinity of Mekelle, the capital city of TNRS, with a total area of 1339.93 KM^2 situated at 13.5^0 latitude and 39.5^0 longitude. The woreda is bordered with Hintalowajerat woreda in the south, Deguatemben woreda (river Giba) in the west, Wukro and Atsbiwomberta woredas in the north and Afar region in the east.

Besides, the altitude of the woreda is 1,500-2,300 m.a.s.l that gave the woreda different climatic zone. Ethiopian agro-ecological conditions are commonly classified into three categories, namely *dega* (highland), *weyna dega* (mid-altitude) and *kolla* (lowland). *Dega* zones refer to highland areas with an altitude of over 2,300 meters while *weyna dega* represents mid-highlands with an altitude of 1,500 to 2,300 m.a.s.l. Area lying below 1,500 m.a.s.l is known as *kolla*. Mean annual rainfall of the area ranges from 400-799 ml and the average temperature is 15-20 ^{0}c. The location map of Enderta woreda is presented in figure 2.

Based on the study of CSA (2005), the total population of the woreda is 144,784 persons. Out of this size, 70,897 are males and 73,887 are females. The density of the population is 108.6 persons / KM^2. Regarding the population profile, 46-48 per cent of the total populations in the woreda are youngsters (whose age is below 16 years) while the remaining 52-54 per cent are middle age and old age groups. Life expectancy at birth remains at 47 years and infant and child mortality rates are high at 118 and 173 per 1000 births, respectively. The woreda is subdivided in to 17 rural *kebele* administrations. The economically active population is estimated at 51.04 per cent. More than 99 per cent of the populations are followers of the Ethiopian Orthodox Church. (Tigray Bureau of Information and Culture (TBIC), 2002).

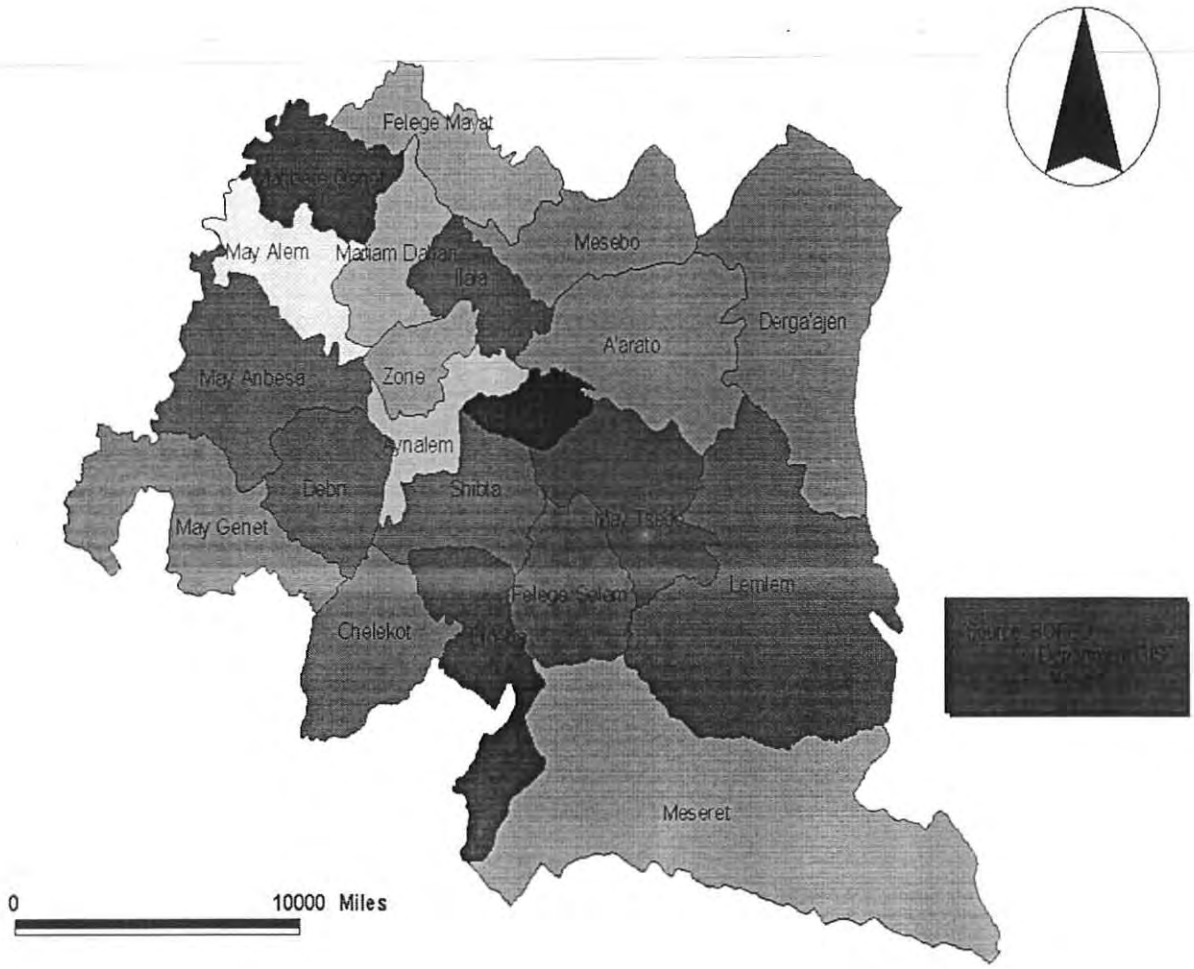


Figure 4.2: Map of Enderta *Wereda*

Agriculture is the mainstay of the economy of the woreda. About 85 per cent of the woreda population depends on rain fed mixed crop-livestock subsistence agriculture, with oxen power supplying the only draft power for plowing. Except some areas of the woreda which produce surplus during good rainfall years, the rest either produce just enough for subsistence during good rainfall years or face chronic food deficit. The causes of the structural food deficit include severe environmental degradation, low soil fertility, inadequate and erratic rainfall, vulnerability to pests, lack of appropriate technology, small size and fragmentation of land holding, lack of diversification in economic activities, lack of oxen for draft power and little use of modern inputs (Berhanu *et al.*, 2000).

The woreda consists of 17 rural peasant associations; all of them having ASCs. According to the report of TCPO (2006), 'among other social and economic institutions, 17 primary ASCs and 1 multi-purpose union, 8 saving and credit, 9 irrigation users, 4 dairy, 3 construction and mining and 4 others making a total of 48 cooperatives have been established in the woreda. Currently, those saving and credit cooperatives have 384 male and 24 female members, which make a total number of 407 members.

Although the major market center for the Enderta woreda is the Mekelle town, smaller markets are located everywhere in the PA villages. Both crop and livestock products are the main goods supplied by the farmers to the market centers. Table Salt, wood, potato, tomato, live animals, milk, eggs etc are supplied to the market. In return, the farmers take home consumable goods such as food, edible oil, salt, kerosene, soap, etc. Usually the market places are, places where farmers and traders meet in a designated open area with goods displayed on the ground.

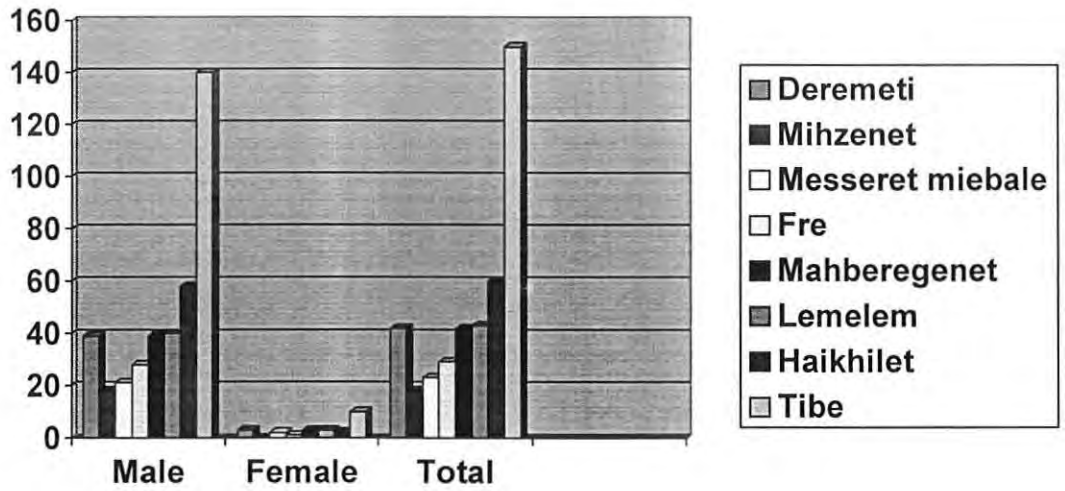
Regarding the infrastructure of the woreda, Bharat (2004) sited by Gegrehiwot argued that though improvement is taking place in the availability of public infrastructure such as; roads, schools, health centers, drinking water, power supply, credit service and others, their basic situation is far from adequate. This is especially true with regard to drinking water, electric supply and health service. The main road passing through the region was established in the early 1940s. However, since Mekelle is located at the center of the woreda; its geographical location helps it to get better road and air transport than others. Large investments are being made in other types of

infrastructure like telecommunication service and irrigation system. There are 8 saving and credit cooperatives in Enderta woreda .these cooperatives exist in 8 different peasant associations. In this case the name of cooperatives, amount of capital at current status has been summarized in the following.

Table 3.1: Saving and Credit Cooperatives in Enderta Woreda with Number of Members & Capital

Cooperatives		Number of members			Amount of capital in Birr		
Name	Type	M	F	Total	Fixed	Current	Total
Deremeiti	RUSACOO	39	3	42	0	26188.5	26188.5
Mihznet	RUSACOO	18	0	18	1277	111335.8	112612.8
Meseret miebale	RUSACOO	21	2	23	1439	12742.7	14181.7
Fre	RUSACOO	28	1	29	0	5620.8	5620.8
Mahberegenet	RUSACOO	39	3	42	0	22666.9	22666.9
Lemlem	RUSACOO	40	3	43	0	10141.6	10141.6
haikihilet	RUSACOO	58	2	60	0	11775.3	11775.3
Tiebe	RUSACOO	140	10	150	0	22520	22520
Total	8	383	24	407	2716	222991.6	225707.6

Source: semi annual report of TCPO until November 2000 E.C



3.3. Sampling Procedures and Data Sources

3.3.1. Sampling design and procedure

From the southeastern of the Tigray region, one woreda (Enderta) was purposively selected. The plausible condition to select this woreda for inclusion in the study was the following. These are: a) most of the established rural savings and credit cooperatives are not studied until now b) next to Ofla, most of the cooperatives in these woredas have relatively longer duration being established and at least they have already started providing savings and credit services to their members, c) relatively these woredas were accessible, and have a good means of communications and d) they are representative of of the subject for this study being a cooperatives in a realm of growth or potentials to grow in the region .

Taking into consideration the life span of cooperatives, time, budget, and accessibility issues, five peasant associations (*kebeles*) that have rural savings and credit cooperatives were purposively selected. Based on this from the woreda, Debri, Mahberegenet, Arato, Mayambesa and Didiba kebeles were selected. The selection of the sample *kebeles* was mainly based on the lifespan of the cooperatives and their accessibility to communication and therefore, those cooperatives that have had three and above years of operation were taken into consideration. In this case all the respondents were drawn from five *kebele*s. The total sample size retained for analysis was 94 (72 respondents were cooperative members and 22 respondents were non-members) and the number of respondents from each *kebele* was determined based on proportion to the total population size.
The sample member household head of saving and credit cooperatives were randomly selected by simple random sampling method from members' entry documents of the institutions. And non-members were however selected purposively from peasant associations. In this case the local leaders had a great effort to identify those non-members of the institution. Nonmembers include those respondents that are not members of saving and credit cooperatives. Sample size of members and non-members are summarized in Table 4.1.

Table 3.2: Sample PAs and sample size

Name of PAs	Name of SACCOs	Number of household heads (members)			Sample size
		Male	Female	Total	
Debri	Deremeiti	39	3	42	19
Mahberegenet	Mahberegenet	39	3	42	18
Arato	Meseretmiebale	21	2	23	10
May Ambese	Lemlem	40	3	43	19
Didiba	DidIba	58	2	60	28
	Total sample size	-------- -			94

Source: Respective Woreda's Agriculture and Rural Development offices

Note: including the rest three kebeles, there are 407 members of SACCOs in the district. From the table 22 of the tatal samle size are non-members.

3.3.2. Data Sources and Collection Methods

In this study both primary and secondary data were employed. The primary data were collected from the sample farmers who were members and non-members of rural savings and credit cooperatives in the sample peasant associations (kebeles) through structured questionnaire prepared for this purpose. In addition to the structured questionnaire, personal observations and group discussion with the members, non-members, and executive committee members were held to generate additional primary information.

Secondary data were collected from the different records of Rural Savings and Credit Cooperatives, Woreda Cooperatives Promotion Team, Regional Cooperatives Promotion Agency, Tigray Region Agriculture and Rural Development Bureau, Bureau of Finance and Economic Development, Branches of Commercial Banks of Ethiopia, and Ethiopian micro finance institutions.

The survey was administered over 8 week period in January and February 2008. A total of 94 households, who were randomly selected were interviewed using the questionnaire.

3.4. Techniques of Data Analysis

Based on the objectives of the study, appropriate techniques of analysis such as descriptive statistics and regression model were employed.

3.4.1. Descriptive Analysis

Demographic and socio-economic conditions of sample households and institutional factors in the study areas of the two group farmers were analyzed by using descriptive statistics like mean, standard deviations, percentage, t-test, and χ^2-test. Further more; the potential variable hypothesized to influence both farmers' decisions to join RUSACCO was statistically measured using t-statistics and chi-square (χ^2) tests.

The t-test was used to test the significance of the mean value difference of continuous variables between RUSACCO-members and non-member farmers. Similarly, potential discrete (dummy) explanatory variables were tested using the chi-square (χ^2) distribution. The statistical package SPSS version 12 was employed to compute these statistical tools. This analysis helped us to have clear picture about the two groups.

3.4.2. Econometric Analysis

Choice of the model

The objective of this section is to analyze which, how, and how much the hypothesized variables will affect the participation of households on saving and credit cooperatives to increase their income. The dependent variable in this case is a dummy variable or qualitative dichotomous variable that takes the value of 1 if the household participates on RUSACOO and 0, otherwise. The explanatory variables included in the study area of both types i.e. binary and continuous depending on the nature of the explanatory variables to be considered.

When one or more of the explanatory variables in a regression model are binary, it represented as dummy variables and proceeds to analysis. However, the application of the linear regression model is more complex and/ or even not efficient when the dependent variable is binary. Binary choice models assume that individuals are faced with a choice between two alternatives and their choice depends on their behavior. Thus, one purpose of a qualitative choice model is to determine

the probability that an individual with a given set of attributes will make one choice (Belay, 2002 based on Pindyck *et al.*, 1981).

Regarding the dummy dependent variables, there are three different models that one can use: the linear probability model, the logit model and the probit model. The linear discriminant function is closely related to the linear probability model. The coefficients of the discriminant function are just proportional to those of the linear probability model. Thus, there is nothing new in linear discriminant analysis. The linear probability model has the drawback that the predicted values can be outside the permissible interval (0, 1) (Maddala, 2001).

In linear probability model, the dichotomous dependent variable is expressed as a linear function of the explanatory variables. According to Pindyck *et al.* (1981) as cited in Tefera (2004), LPM has frequently been used in econometrics application, especially in the early years, because of its computational simplicity. Nevertheless, since the dependent variable is dummy variable, proceeding with the OLS estimation procedure will result in biased and inconsistent estimates and it has a serious defect in that the estimated probability values can lie outside the normal 0-1 interval.

In multiple regressions, for example, we try to predict the average value of dependent variable for given values of the independent variables with the use of a regression line. Whereas in logit and probit regression; however, our interest is to predict the probability that a particular characteristic is present. Hence, we do not predict whether the dependent variable equals 1 or 0: what we predict is the probability that y=1given the value of the independent variables (Mukherjee *et al.*, 1998).
In addition, the LPM is plagued by several problems, such as non-normality of the error term, hetroscedasticity of error term, possibility of the estimated probability value lying outside the 0-1 range and the generally lower R^2 values. Hence, we will confine our analysis to logit and probit models because of the problems with the LPM.

Due to the inadequacy of the linear probability model, non-linear specification may be more appropriate and the candidate for this will be an S-shaped curve bound in interval 0, 1 (Gujarati, 1999). The author suggested that, the S-shaped curves satisfying probability model are those represented by the cumulative logistic function and cumulative normal distribution.

Now the issue is between logit and probit, and one has to raise the question which model is preferable? In most applications the models are quite similar, the main difference being that the logistic distribution has slightly fatter tails. That is to say, the conditional probability P_i approaches zero or one at a slower rate in logit than in probit (Gujarati, 2003). In the analysis of models with dummy variables, we assume the existence of a latent (unobserved) continuous variable, which is specified as in the usual regression model. However, the latent variable can be observed only as a dichotomous variable (Maddala, 2001).

In principle, one should use logit if one assumes the categorical dependent variable reflects an underlying qualitative variables (hence logit uses the binomial distribution), and use probit if one assumes the dependent variable reflects an underlying quantitative variable (hence probit uses the cumulative normal distribution). In practice, these alternative assumptions rarely make a difference in the conclusions, which will be the same for both logit and probit under most circumstances. Prime among these circumstances is the fact that logit regression is better if there is a heavy concentration of cases in the tails of the distributions (Borooah *et al*, 2002).

Belay (2002) also pointed out that a logit model has got advantages over others in the analysis of dichotomous outcome variable in that it is extremely flexible and used from mathematical point of view and results in a meaningful interpretation. The justification for using logit model is its simplicity of calculation. Moreover, its probability approaches zero at a slower rate as the value of explanatory variable gets smaller and smaller, and the probability approaches 1 at a slower and slower rate as the value of the explanatory variable gets larger and larger (Gujarati, 1999).

According to Greene (2000), other distributions have been suggested, but the probit and logit models are still the most common frameworks used in econometric applications. The question of which distribution to use is a natural one. The logistic distribution is similar to the normal except in the tails, which are considerably heavier. Therefore, the two distributions tend to give similar probabilities. Moreover, the logistic distribution tends to give larger probabilities to y=0, than the normal distribution.

According to Maddala (2001), the usual logit model can be used with out any change even with unequal sampling rates. Logit is the natural logarithm of the odds ratio. Hence, the logistic

distribution function is specified as follows:

$$P_i = E(Y = 1 / X_i) = \frac{1}{1 + e^{z_i}}$$

Where: $Z_i = B_0 + B_1 X_1 + B_2 X_2 + ... + B_k X_k + u_i$

X_i = i^{th} explanatory variable

B_i = Coefficient of explanatory variables to be estimated

K = represents number of explanatory variables included in the model

u_i = error term

If P_i is probability in favor of participants of RUSACOO by the household, then $(1-P_i)$ is the probability of non-participants in RUSACOO by the household to increase their income.

Therefore, $\left(\frac{P_i}{1-P_i}\right) = \frac{1+e^{z_i}}{1+e^{-z_i}} = e^{z_i} = e^{(B_0 + B_1 X_1 + ... + B_k X_k)}$

$\left(\frac{P_i}{1-P_i}\right)$ is the odds-ratio that implies the ratio of the probability that an individual would choose an alternative P_i to the probability of non participants of RUSCOO $(1-P_i)$.

Taking natural logarithms of, $\left(\frac{P_i}{1-P_i}\right) = e^{z_i}$.

We have $L = \ln\left(\frac{P_i}{1-P_i}\right) = Z_i = B_0 + B_1 X_1 + ... + B_k X_k + u_i$

This L, log-odds ratio is a linear function of the explanatory variables and the parameters and we call it logit model. In this case our data are based on individual observations and we used the method of maximum likelihood function to estimate the model. According to Gujarati (2003), in ML estimation procedure, our objective is to maximize the log linear function (LLF) that is to obtain the values of the unknown parameters. The model is normally estimated using the iterative maximum likelihood estimation procedure, which yields unbiased, efficient and consistent parameter estimates.

3.4.3. Statistical Tests of Multicollinearity Problem

Before executing the econometric model, all the hypothesized explanatory variables were checked for the existence of multicollinearity problem. The problem of multicollinearity may arise due to a

linear relationship among explanatory variables. Multicollinearity problem might cause the estimated regression coefficients to have wrong signs, smaller t-ratios for many of the variables in the regression and high R^2 value. Besides, it causes large variance and standard error with a wide confidence interval. Hence, it is quite difficult to estimate accurately the effect of each variable (Gujarati, 1995, 2003).

Different methods are often suggested to detect the existence of multicollinearity problem. Among them, Variance Inflation Factor (VIF) technique was employed in the present study to detect the existence of multicollinearity in continuous explanatory variables (Gujarati, 1995) and Contingency Coefficient (CC) for dummy variables (Healy, 1984 cited in Paulos, 2002).
According to Gujarati (1995), VIF (Xi) can be defined as

$$\text{VIF } (X_i) = \frac{1}{\left(1 - R_i^2\right)}$$

Where:

R_i^2 is the multiple correlation coefficients between X_i and other explanatory variables.

Selected continuous explanatory variables, (X_i) were regressed on all other continuous explanatory variables, and the coefficient of determination (R_i^2) was constructed for each case. The larger the value of R_i^2 results in higher value of VIF (X_i) which causing higher co linearity between variables. For continuous variables, as a rule of thumb, values of VIF greater than 10, are often taken as a signal for the existence of multicollinearity problem in the model (if the value of R_i^2 is 1, it would result in higher VIF (∞) and cause perfect multicollinearity between the variables) (Gujarati, 1995).

In the same line, the Contingency Coefficients (CC) was computed for dummy variables from chi-square (χ^2) value to detect the problem of multicollinearity (the degree of association between dummy variables). According to Healy (1984), the dummy variables are said to be collinear if the value of contingency coefficient is greater than 0.75 (cited in Paulos, 2002).

$$C.C = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

Where:

C.C is contingency coefficient,

n is sample size,

χ^2 is chi-square values.

3.4.4. Definitions of Variables and Working Hypotheses

After the analytical procedures are clearly delineated, it is necessary to identify the potential explanatory variables that would influence household decision to join savings and credit cooperative to increase their income. Review of literatures, past research findings, experts and author's knowledge of rural household's savings behavior of the study areas were used to identify potential determinants of households' decision to join rural savings and credit cooperatives. Therefore, by assigning households decision to join rural savings and credit cooperatives, the following variables are selected to analyze whether they explain households' decision to participate RUSACCO to see its role on the income of the household.

P: The probability of a household to participate RUSACCO to increase household income. It is a dichotomous dependent variable in the model and it takes '1' if the household is a member of rural savings and credit cooperative '0', otherwise (in the logit model).

Households' family size (nomemhh): It is a continuous explanatory variable represented by positive integer values. As the household size increases, the number of mouths to be fed obviously increases, which share available income to consume. On the other hand, if the majority of the household members are productive, the level of income at household level will be increased. Oliveira *et al.* (2003) found family size to be related negatively to annual savings magnitude. Hence, it is hypothesized that the household's family size is directly or inversely related to the farmers' decision to join RUSACCO.

Age of household head (ageointer): It is a continuous variable and defined as the number of completed years from the time of birth till the time when the survey was conducted. In this study it

is assumed that as age increases farmers would acquire knowledge and experience through continuous learning and the level of responsibility to manage the family and the need to accumulate assets for tomorrow becomes high. Therefore, they prefer to save cash. On the other hand, due to past bad experiences those who were the member of the then cooperatives may hesitate to be members of the RUSACCOs and they may also hesitate to deposit substantial amount of savings in RUSACCOs. De Serres and Pelgrin (2003) found age of the household heads negatively related to savings magnitude. In light of this, it is hypothesized that the age of the household is negatively or positively related to the decision to join the RUSACCO.

Sex of the household head (sexointer): This is a discrete variable that takes a value of "1" if the household head is male and "0", otherwise. In this study in one hand, it is assumed that male household heads have more exposure and access to information and new interventions than female household heads, which might enable them to participate in the RUSACCO movement as early as possible. On the other hand, once female headed households have got information about savings programs and related financial products/services they are strong participants in all aspects of the financial system. Based on this assumption it is hypothesized that sex of the household affects positively or negatively the decision of household to join the RUSACCOO.

Total annual expenditure on social/religious ceremonies (socialexp): It is a continuous variable. In the rural setting there are different social and religious ceremonies celebrated occasionally such as, wedding, burial/funeral, circumcision and others. The expenses related to these ceremonies are sometimes too large relative to farmers' income levels. As this variable can be a proxy for use of income for non-productive purposes, it is expected to have a negative impact to participate of farmers in RUSACCO.

Total expenditure on vegetable items (vegitabexp): it is continues variable. In the rural area households consume different vegetable items depending on their income and access to irrigation on their surrounding. However in the previous time expenses on such items was not common. In this case this variable is definitely used for non-productive purposes. Therefore it is expected to have a negative relation on saving and hence has inverse on participation in the RUSACCO.

Total expenditure on drinking (drinkexp): this variable is continues one. Households expend part of their income on drinking items. This expense differs from household to household depending on their behavior to consume. Especially if the habit of drinking is above the normal situation its consequence is a danger for the health of the individual. This variable definitely have a negative impact on saving and hence less participation in the cooperative.

Total expenditure on water (waterexp): it is continues variable. Water is a life for living thing. In the rural area, most of the time households get freely. Depending on their personal income and family size, they expend part of their income. As this variable can be a proxy for use of income for non-productive purposes. In this case it is expected to have a negative impact on saving and hence inverse relation on participation of RUSACCO.

Total expenditure on cleaning items (cleanexp): it is continues variable. Households expend part of their income for cleaning items to protect their sanitation in their daily activities. In this case it is hypothesized that this variable has a negative relation with participation of households in the saving and credit cooperatives.

Amount Of First Loan Taking From RUSACCOs (firstloan)-it is continues variable. This variable has expected to have a positive relation with household's decision to join RUSACCO. Because if the first loan is high then operators will be motivated to invest in relatively better types of investment. This enhances to participate more in the cooperative.

Education level of the household head (eduointer): This represents the skill of households to read and write. It is a discrete variable that represents 1 if a household has and ability to read and write, 0 otherwise. On one hand, educated farmers are expected to have more exposure to the external environment and accumulated knowledge through formal learning which might enable them to pursue livelihood strategy that leads to better income through making use of available opportunities, and on the other hand, due to an exposure effect educated farmers prefer 'modern' lifestyles which lead to increased household consumption level. Oliveira *et al.* (2003) also found that education level of the household heads to be related the magnitude of participation. Therefore, it is hypothesized that education level of the household head is positively or negatively related to both the decision to join the RUSACCOs.

Center of RUSACCO office to household (combascop): It is a discrete variable that indicates if the institution serves as a center was (1), otherwise (0). The close proximity of RUSACCO to the beneficiaries would save farm resources (time, labor) which otherwise would have been spent to access different financial products and services and it might also motivate farmers to join the institution. Rural SACCOs that are located at far distant areas, on the other hand, might discourage members' participation in the cooperative and it becomes difficult to follow up and control the operational system of the cooperatives(Bishop and McConnen,1999,Daniel,2006). Therefore, it is hypothesized that distance to RUSACCOs' office is negatively related to the household's decision to join the RUSACCO.

Access to training (training): It is a discrete variable, which takes a value of "1" if yes and "0", otherwise. Training would increase the awareness level of farmers and exposure to new ideas, information, activities, opportunities, working environment, and different sources of income, prudent handling of cash, etc. Usually the trainings programs focus on organization, management, objectives, operation system, savings mobilization, etc. of RUSACCOs. Therefore, access to training would have positive impact on the decision of farmers to join cooperative.

Credit beneficiaries of household heads (credittak): It is a discrete variable that takes a value of "1" if the household head was a credit beneficiary for the last three consecutive years and "0", otherwise. It is assumed that those households who were the beneficiaries of credits over the last few years might have developed experiences on how to use loan purposefully and how to make money easily from the available resources. Therefore, it follows that they desperately need financial products in their day-to-day activities. Since one of the major objectives of RUSACCOs is to offer loan products to the members, those who have credit use experience are expected to be pioneer in the RUSACCO movement. In line with this, it is hypothesized that credit beneficiaries of household heads is directly related to both decision to join RUSACCOs.

Size of rented land by the household (rentland): it is continues variable, and measured by ***tsimad***. Traditionally a ***tsimad*** is one fourth of hectares. In this pattern if the size of rented land is high definitely the production of the household will be high and hence high income. The usage of the cooperative as marketing agent requires substantial economic resources of which rented land is the principal one (Wadsworth, 1991;Klein et al., 1997). Therefore part of their income will be saved in the institution and encourages participating in rural saving and credit cooperatives.

Therefore it is hypothesized that household's size of rented land has a positive relation with participation in RUSACOO.

Membership in other cooperatives (anycooppa): this is the dummy variable measured as 1 if the household head has a membership of another cooperative society, otherwise 0. Therefore this may be a sign of awareness of the importance of participation in cooperative business by the household and it may have positive influence in the participation of member's patrons in RUSACOOs as Alema stated in 2008.

Believes on change of household income due to joining to RUSACOOs (copibetter): this is a dummy variable measured as 1 if the household head has improved his income due to joining the saving and credit cooperatives, 0 otherwise. Therefore it is assumed members with improvement in their income due to joining to cooperative may participate in a better way. Therefore, this variable can have positive contribution to the participation of members in saving and credit cooperatives.

Abilities of households to pay their loan (loanrep): this is a dummy variable measured as 1 if the households have an ability to pay 0 otherwise. Therefore, it is assumed households who have an ability to pay their loan timely have positive relation ship to participate in the cooperative.

Getting profit from the loan taken (loanprofit): it is a dummy variable measured as 1 if households get profit from their loan otherwise 0. In this case it is hypothesized that if a household gets profit then it motivates to participate in the rural saving and credit cooperative. Therefore it is assumed to have positive relation in participation on RUSACOOs

Perception of households on importance of cooperatives (imporocoop): this is a dummy variable as 1 if the households perceive that participation has important otherwise 0. Therefore it is assumed that perceptions and believes on important has positive relation to participate in the institution.

Transparent of decisions by the cooperative management committee (cooptransp): this is a dummy variable measured as 1 if there is transparent way of management system in the cooperative otherwise2. In this aspect it is assumed to have a positive relation with households to participate in the rural saving and credit cooperative.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

This chapter presents the findings of the study. Tables, percentages, graphs and charts were used to present the secondary and primary data of the study. Here focus of the study depends on the primary data to examine the role of saving and credit cooperatives on household income. The descriptive analysis made use of tools such as mean, standard deviation and percentage. T-test and chi-square χ^2 test were also employed. Moreover, to test the multi collinarity and degree of association between continues and discrete variables, variance inflation factor and contingency coefficient were also calculated. Econometric analysis was employed to identify the significant factors that can influence the participation of members to saving and credit cooperative in Enderta woreda.

4.1. Descriptive Statistics Results

The descriptive statistics was run to observe the socio-economic and institutional characteristics of the respondents such as: age, family size, level of education, land holding and other related variables.

4.1.1. Financial service delivery of RUSACCOs

4.1.1.1. Saving Services

This section analyzes the saving and credit cooperatives', saving products and savings outreach. Usually the saving products offered in the study area are compulsory and voluntary savings. Compulsory savings are regular savings of fixed amount that is agreed upon by the general assembly while voluntary saving is decided by the individual member and can be with draw at anytime. Only compulsory savings are thus used for loans to members.

4.1.1.2. Amount Savings Mobilized

Here in the study area it tries to see the saving patterns in saving and credit cooperatives. Table 4.1 provides saving mobilization by RUSACCOs in the study area.

Table 4.1: Saving Mobilization by RUSACCOs in Enderta woreda

Year (E.C)	Number	Members	Saving (birr)	Saving per SACCOs	Saving per member
1997	8	162	53184.5	6648.06	326.28
1999	8	394	150389.5	18798.69	381.70
2000	8	407	172782	21597.75	424.52

Source-annual report of *woreda* cooperative office

Over all saving mobilized increases from birr 53184.5 in 1997 to 172782 in 2000 E.C. This indicates that saving mobilization increases from year to year as the table 3 explained. Besides, the number of members increased by triple amount in 2000 than in 1997.Consequently, saving per member increased by 11.2% in 2000 than in 1999. Therefore, the over all income of the member household increases from time to time because saving is a part of income on one hand and the saving performance of the institution is also increased on the other hand.

4.1.1.3. Growth trends of RUSACCOs in the study area

The number of saving and credit cooperatives has increased from year to year. As can be observed from the table above, the number of member of RUSACCOS increased three-fold from 162 in 1997 to 407 in 2000. Their aggregate capital has also increased from birr 19943.53 in 1997 to 58009.20 in 2000. And their assets also increased from birr 73128 to 239892 in the same year. Similarly their outstanding loans increased from birr 1200 in 1997 to birr 33800 in 2000. This shows more than 28 times increment in the study area. To elaborate more the following table is important.

Table 4.2: Growth of RUSACCOs, 1999 and 2000.

Growth indicators	1997 E.C	1999 E.C	2000 E.C	% Change (1999 & 2000)	Remark
Number	8	8	8	-	
Membership	162	394	407	3.3	
Capital, in Birr	19943.54	51595.8	58009.2	12.43	
Assets, in Birr	73128.04	208736.32	239892.07	15	
Saving, in Birr	53184.5	150389.5	172782	14.9	
Outstanding loan in Birr	1200	30700	33800	10.1	

Source: annual report 0f Enderta woreda cooperative promotion office.

Comparing the two consequent years, the amount of capital, assets, and savings are increased by 12.43 %, 15%, and 14.5% respectively from the year 1999 to 2000while the amount of outstanding loan has been increased by 10.1. This showed that the over all performance of rural saving and credit cooperatives increased from year to year.

4.1.2. Continues explanatory variables that explained, demographic and socio economic factors

4.1.2.1. Age of the sample household head

In rural areas agriculture is the backbone of the economy. In this aspect for production activities family labor is usually utilized. To produce over or under age of the farm household head affects all types of activities related with crop, livestock enterprises and petty trading activities. The average age of the household heads is found to be 43.13 years (41.81 years for members and 45.45 years for defaulters) with a standard deviation of 12.82. The minimum and maximum age of the sample household heads were 25 years and 78 years, respectively.

Age of household head is believed to be a great source of experience in day-to-day activity of human beings. So, elderly heads of household are expected to have more experience in participation of the rural saving and credit cooperatives to increase their income. However, in this pattern members are younger than non-members. This may be due to accepting new ideas that can participate in the cooperative because it is a new system comparing with other financial institutions. Hence, as Table 4.3 depicts that there are no statistically significant differences between the two groups with regard to the number of members in various age groups at any level of significance.

Table 4.3: Age of sample household heads

Age **distribution** (In years)	Members of SACOOs		Non members		χ^2-value	Total	
	No	%	No	%		No	%
Age 20-35	25	34.7	5	22.7	0.060	30	31.9
Age 36-50	35	48.6	13	59.1	1.719	48	51.1
Age 51-75	12	16.7	4	18.2	1.197	16	17
Overall mean	41.81		45.45			43.13	
Standard deviation	11.3		13.19			12.82	
Maximum	75		78			78	
Minimum	25		30			25	

Source: Computed from survey data

* Significant at10 per cent significance level

4.1.2.2. Educational status of the sample households

The educational status of sample farmers is shown in Table 6. Exposure to education helps farmers not only to acquire and interpret new information in agricultural technologies but also to know their rights and obligations. It can help them understand their right to borrow agricultural input credit and also their obligation to repay their debt on time. But lack of education and poor awareness level thereof may be a bottleneck to participate in saving and credit cooperatives to save their money properly and to take credit if necessary so as to increase their income. The survey results revealed that 12 of the sample borrowers were illiterate, 50 respondents have a grade 1 up to grade 4 and 32 respondents have formal education level from grade 5 to grade 8 (Table 4.4). This result reveals that the majority of the respondents are less than first cycle primary school completed and this calls for the necessity continues and additional basic education for rural people in the area.

Of the total sample respondents, 6.9 percent of members and 31.8 percent of nonmembers are illiterate, and 93.1 percent of members and 68.2 per cent of nonmembers could read and write. Consequently 4.5 percent of members are ranged from grade 5 to grade 8 but zero percent incase of non-members. In this aspect comparing the educational level members have in a better position

in education level and hence actively participated in the cooperative to increase consciously their income.

Table 4.4: Educational level of sample farmers

Description	Members		Non members		Total	
	No	%	No	%	No	%
Illiterate	5	6.9	7	31.8	12	12.8
Grade 1- 4	35	48.6	15	68.2	50	53.2
Grade 5- 8	32	44.5	0	0	32	6.6
Overall mean	4.81		1.52		3.25	

Source: Computed from survey data

4.1.2.3. Family size of the sample households

Table 4.5 shows the family size of the sample respondents. Totally there are a total of 501 family members in the sample households with the average family size of 5.33 (5.5 persons for members and 4.75 persons for non members) persons. It ranged from a minimum family size of 1 person to a maximum of 10 persons per household. This average is greater than the average agricultural household size (4.7 persons) in the region (CACC, 2003), which implies that the study woreda is relatively densely populated. Out of the sample households, 2 were single, 2 were divorced, 2 were widowed and the remaining 88 (93.6 per cent) were married.

Table 4.5 shows that 32.1 percent of the member respondents and 55.6 percent of the nonmembers' respondents have the family size that ranges from 1-4 persons. Moreover, 59.5 percent of member respondents and 36.1 percent of the nonmember respondents have a family size of 5-8 persons. Whereas, the remaining 8.3 percent of the member respondents, and 8.3 percent of the nonmember respondents have a family size of 9-10 persons. Therefore, computed χ^2-value reveals that there is a statistically insignificant difference between the members and nonmember groups with regard to family size.

As it can be seen from the table, the average number of family for members of the cooperative is 5.5 and nonmembers of cooperative 4.75 respectively. This indicates number family size does not have a negative effect on participation in saving and credit cooperatives rather enhance to

participate more. This may be in local areas large number of family enhances to increase production by participating in different activities of the agriculture and increases household income.

Table 4.5: Family size of sample households

Description (in years)	Members		Nonmembers		χ^2-value	Total	
	No	%	No	%		No	%
1-4	23	32.1	12	55.6	5.798	37	39.2
5-8	43	59.5	8	36.1	5.539	49	52.5
9-10	6	8.3	2	8.3	0.000	8	8.3
Overall mean	5.50		4.75			5.33	
Maximum	10		9			10	
Minimum	2		1			1	
Total family size	396		105			501	

Source: Computed from survey data

Significant,, at 10 percent, significance level.

4.1.2.4. Land holding size and use

Since land is the basic asset of peasants, all the farmers in the study area have access to farming land. The average size of land owned and cultivated was 4.3 ***tsimad*** , which is greater than the average land holding size of the region (0.1 ha. to 1 ha, CACC, 2003) with 0.75 tsimad being the minimum and 8 tsimad being the maximum land holding. members of saving and credit cooperatives own on average a larger area of land i.e. 4.84 tsimad than non members who have access to 4.02 tsimad.

It can be observed from Table below that members of the cooperatives cultivated more additional land. On an average, a typical member farmer cultivated larger rented-in (2.33tsimad) than nonmembers (1.2 tsimad). The average cultivated farm size of the members and nonmembers were 4.84 and 4.02 t***simads***, respectively. Differences in the own land use between members and non-member groups were statistically tested and found to be insignificant, whereas the difference in rented-in land use is found to be significant at 5 per cent level of significance, respectively.

Therefore, this implies that securing additional lands through various arrangements contribute to participate more in saving and credit cooperatives to increase their income. This additional land may enhance to increase additional production and implicitly brings more income. In this case part of the income may save in the institution and hence inactivate to participate in the institution.

Table 4.6: Land holdings of the households (in tsimad)

	Members		Non members			Total	
Descriptions	Mean	SD	Mean	SD	t-value	Mean	SD
Owned land	4.845	2.32	4.02	2.56	-1.338	4.34	2.48
Rented-in land	2.33	2.79	1.20	2	2.093**	2.069	2.66
Maximum	8		6			8	
Minimum	1		0.50			0.75	

Source: Computed from survey data

**significant at 5 percent level of significance,

4.1.2.5 Households' expenditure results and related continues variables

To see the institutions contribution on household income an expenditure approach was utilized because people are more transparent to tell their expenditure rather than their income. Therefore, in this aspect the higher the expenditure means the higher income of household other things remain constant.

The total annual average expenditure of member households and nonmember households on vegetables is birr 679.90 and birr 437.90 respectively. It is significant at less than 1 percent significant level. This indicates that member households of saving and credit cooperatives comparing with non-member households expend more amount of annual expenditure. In this case given other government interventions constant, participating in saving and credit cooperatives may assure to increase the income of member household of the institution in the study area. The common types of vegetables in the area that are consumed by the household are: onions, tomatoes, potatoes, garlic and green vegetables.

The total annual average expenditures of member households and nonmember a household on cooking items are birr 514.90 and birr 339.20 respectively. Still comparing the expenditures on this item is also relatively higher in member household than non-member of the institution. The types of commodities usually the sample households expend in cooking items are cooking oil and cooking butter. Therefore, saving and credit cooperative may have a positive influence to increase members of the household income.

On average, members and nonmembers of saving and credit cooperatives expend birr 1698.80 and birr 1419.34 respectively in the items of drinks in a year. The common types of drinks usually utilized by the sample households are local beer ***(tela), meis (tej)*** and liquor (areki). As it can be assured from the table below the total amount of expenditure on drinks is higher by members than nonmembers. Therefore, household incomes, by the expenditure approach, relatively better among member of RUSACOO than non-members. Therefore, probably participating in saving and credit cooperatives improved household income for its members.

The total expenditure on average of education for members and nonmember of cooperatives are 187.17 and 93.90 respectively. The expenses including in education incorporates exercise books, pens, pencils, and transport to and from school. To participate more in the saving and credit cooperative education is among the important element of the household expenditure. Therefore, in this aspect by the expenditure approach income among the members is better than nonmembers given other government and non-government interventions.

The total average annual expenditure of sample households on water is 82.22. The members and nonmembers are expended 103.75 and 11.72 respectively on water usually for drinking purpose. This is statistically significant at 5 percent significant level at T-value 2.65. Hence, members have better income opportunity comparing non-members. This justifies among other variables the role of saving and a credit cooperative has positive impact to increase their income for members of the institutions.

The total average annual expenditure on cleaning and personal care items is birr 612.16with a standard deviation of birr 335.02. The average expenditure on the commodity for members and nonmembers are 655.65 and 469.80 respectively. The activities including in cleaning and personal

care items are: hair oil, hair butter, soap bar, body soap, hair salon for men and women and other items. This parameter is also statistically significant at 1 percent level of significance among members and nonmembers with T-value of 3.17. From this total expenditure on cleaning items is greater in members than non-members and hence participation in saving and credit cooperatives may enhance members of households income.

The total average expenditure of households on firewood and fuel is 1043.45 per annum. While the expenditure on participants and non-participants are 1108.20 and 831.50 respectively. Consequently, the average annual expenditure on social occasions or festivals is 460.1.while members and non-members expenditure on festivals are 527.65 and 238.95. It is statistically significant at 5 percent interval and has a T- value of 2.832.Therefore, expenditure on occasions is a significant factor to participate in saving and credit cooperatives. On the other hand from the expenditure approach of point of view members expend more as compared to nonmembers of the institutions. There fore other things remain constant the income of households can be influenced positively in participating in saving and credit cooperatives.

Using the expenditure approach, the average income of the sample household is birr 16411.22.while the average income of member and non-member household is birr 18444 and birr 15441 respectively. From the total respondents the minima and maximum value are 6558 and 29458 respectively with a standard deviation of 4900. This indicates members of saving credit cooperatives have better income comparing with non-members. And members of the cooperatives have above average income. There fore from this it can be conclude that given other interventions the role of saving and credit cooperatives has a positive impact on increasing members income. This can enhance to participate more in the institution.

Table 4.7: Mean, STD, T-Value continues Variables, for Members and Nonmember group, Enderta Woreda of Tigray 2008.

Explanatory variables	participants N=72 mean	STD	non participant N=22 Mean	STD	total N=94 mean	STD	Significant	t-values
Expenditure of hh.on vegetables	679.9	413.8	437.90	216.38	623.27	389.76	0.001***	3.605
exp.of hh on drinks	1698.83	1419.34	981.40	944.49	1530.90	1353	0.008***	2.741
exp.of hh on cooking	514.89	248.41	339.18	124.37	473.76	237.1	0.000***	4.448
exp.of hh on education	187.17	139.7	93.9	85.43	165.34	217.06	0.007***	2.77
exp. of hh on water	103.76	294.18	11.72	9.53	82.22	260.0	0.010***	2.65
exp.of hh on cleaning items	655.65	357.91	469.81	190.36	612.16	335.02	0.002***	3.17
exp. of hh on fire wood	1108.20	675.57	831.50	509.36	1043.45	648.8	0.046**	3.17
exp.of hh on social occasion	527.65	659.72	238.95	309.21	460.10	607.43	0.006***	2.832
Size of rented land by hh	2.33	2.79	1.2	2.00	2.069	2.66	0.042**	2.069
Repeated time taken loan	1.55	0.96	0.422	0.75	1.28	1.028	0.002***	5.76
loan amount from SACOO	869.30	400	233	421	725.69	483.76	0.000***	6.155

Source- Survey data

***Significant at less than and equal to 1%level of significance

**Significant at less than 5% level of significance

The average size of rented land by the sample household is 2.069 tsimad. Where as the average rented land of participants and non-participants are 2.33tsimad and 1.20 tsimad respectively. There is statistically different among members and non-members of cooperatives on the size of rented land. This may be due to the contribution of saving and credit cooperatives for members. Usually in the rural area land is a prerequisite for production to increase household income. Therefore participating in cooperative enhances to increase members income.

The average loan amount from saving and credit cooperatives taken by the respondents is birr 725.69. However the loan size of members and non-members are 869.30 and 233 respectively. Here it is possible to understand that there is statistical significant difference between members and non-members of the cooperative in case of the size of loan taken. This may be due to special treatment given for members of the institution. Therefore participating in the cooperative creates available credit services to increase household income. Here the same is true in case of the time taken loan from the institution.

4.1.3 Discrete variables that explained sample households

In addition to continues variables, discrete variables also employed to participate in saving and credit cooperatives to increase their income. Here the significant variables have been taken to explain the determinant factors for participation in saving and credit cooperatives using $\chi 2$ test.

4.1.3.1. Believes and perceptions of households on participation of RUSACOOs

Positive thinking, perceptions and believes determines household's participation in saving and credit cooperatives. As it can be seen from table 4.8, 78.7 percents of the respondents reported that participation in saving and credit cooperatives improved their income. Where as members and nonmembers of the respondents perceive that participation in saving and credit cooperatives improved their income 87.7 percent and 59.1 percent respectively. And 40.9 percent believe that participation did not improve household income. Here there is a statistically significant difference between participants and non-participants on the perception of participation improved household income in the chi square value of 6.60 at significance level of 1 percent.

Table 4.8: The response of sample household heads on participation of SACOOs to improve their income.

Perception of respondents	Participants		Non participants		χ^2-value	Total	
	No	%	No	%		No	%
improved(Yes)	61	87.7	13	59.1	6.600*	74	78.7
not improved(No)	11	12.3	9	40.9		20	21.3
total	72	100	22	100		94	100

Source: Computed from survey data

*, significant at 1 per cent level of significance .

4.1.3.2. Access of credits on other types of cooperatives

The formulation of saving and credit cooperatives in Ethiopia is a recent phenomenon. In this case participating in other types of cooperatives enhances to have a good experience in participation of saving and credit cooperatives. Based on this perspectives 62.8 percent of the respondents stated that they have an access of credit from other cooperatives. Of which 73.6 percent of member respondents and 27.3 percent of the respondents have got an access for credit from other types of cooperatives. In this case there is a statistical significant different among members and nonmembers of the institutions to participate in saving and credit cooperatives. Therefore participating in other types of cooperatives contributes positively to participate in saving and credit cooperatives. Table 4.9 illustrated the situation of participation below.

Table 4.9: The response of sample household heads on access of credit from other cooperatives.

Perception of respondents	Participants		Non participants		χ^2-value	Total	
	No	%	No	%		No	%
Received (Yes)	53	73.6	6	27.3	15.483***	59	62.8
Not received (No)	19	26.4	16	72.7		35	37.2
Total	72	100	22	100		94	100

Source: Computed from survey data

***, Significant at less 1 per cent level of significance.

4.1.3.3. Access of credit from saving and credit cooperatives

One of the important contributions of saving and credit cooperatives is providing access of credit for the members. From the total sample respondents 74.5 percent have an access from the cooperative institution. The members and non-members have access of credit consists of 90.3 percent and 22.7 percent respectively. In relation to access credit between the participants and non-participants there is statistical difference at χ^2-value 40.442 with a significance value of at less than 1 significances level. There fore access to credit is one of the determinant factors to participate in saving and credit cooperatives. The listed table below illustrated clearly as follows.

Table 4.10: access and not access credit of members from saving and credit cooperatives

Description	Members		Non members		χ^2-value	Total	
	No	%	No	%		No	%
Have an access (yes)	65	90.3	5	22.7	40.442***	70	74.5
No access (no)	7	9.7	17	77.3		24	25.5
Total	72	100	22	100		94	100

Source: Computed from survey data

4.1.3.4. Training

Training will enable households to expand their knowledge and develop their skill. A typical training in saving and credit cooperative includes how to save cash, importance of savings and how to use the credit taken from the institution. The survey results show that 53.2 per cent of the respondents stated that they were trained on the advantage of saving and use of credit they have availed whereas the other 46.8 per cent of the respondents stated that they were not trained.

Moreover, about 63.9 per cent of the participants respond that they were trained on saving and credit cooperatives whereas only 18.2 per cent of the non-participants responded that they were trained. Therefore, the value of χ^2 also indicated that the mean difference between the participants and non-participant groups was statistically significant at less than 1 per cent level of significance with regard to training on saving and credit cooperatives (Table 4.11). The possible explanation for this is that in the study there may not be enough number of qualified government and staff members who can give training for the respondents in the study area. This may affect non-

participants not to involve in the institution.

Table 4.11: households' responses on availability of saving and credit use related training

Descriptions	Participants		Non participants		χ^2-value	Total	
	No	%	No	%		No	%
Trained (Yes)	46	63.9	4	18.2	14.139***	50	53.2
Not trained (No)	26	36.1	18	81.8		44	46.8
Total	72	100	22	100		120	100

Source: Computed from survey data

***, Significant at less than 1 per cent level of significance

Table 4.12: Other qualitative independent variables that affects the HH performance on RUSACCO) in Enderta *woreda* of Tigray region (N=94).

Explanatory variables	Participant (N=72)		Non-Participant (N= 22)		Sig.	χ^2-value
	1	0	1	0		
Ability to pay for SACCOs	49	23	4	18	0.00***	17.044
Obtaining profit from the loan	44	28	5	17	0.002***	9.95
Perception on amount of loan	24	48	3	19	0.074*	22.061
Participation on saving of cash	72	0	9	13	0.000***	49.374
Perception of households on important of SACCO	67	5	0	22	0.001***	71.274
Transparent decisions on management committee	59	13	1	21	0.007***	43.724
Auditing on regular basis	26	46	2	20	0.015**	5.882
Discussion on audited values by general assembly	22	50	3	19	0.006***	34.066
Institutional center by the community	64	8	13	9	0.001***	10.100
Perception of households on better services	56	16	7	15	0.000***	16.104

Source- computed from survey data

***-significance at less than 1 percent level of significance.

** -significance at less than 5 percent level of significance

*-significance at less than 10 percent level of significance

As it can be seen from table 4.12, 68% of member households have an ability to pay their credit on time and rest are not. 61% of member households have got profit and the rest did not. 93%and 82% of member households perceived that saving and credit cooperatives are important and there transparent decisions on management committee respectively. However 67% and 70% of member respondents stated that there was no regular auditing of cooperatives and there was no discussion of the audited values respectively. Consequently 89% of respondents are clearly believed the institution served as a center for the community and 78% perceived that the services of their cooperatives better than the other types of microfinace in the area. From this it is possible to conclude that there are problems of regular auditing and discussions on the result of auditing. This may create a threat for the members to have confidence on the institution.

4.2. Factors Influencing the Participation of Households in Saving and Credit Cooperatives

To study the factors influencing the participation of households in saving and credit cooperatives data gathered from 94 sample households were subjected to logistic regression analysis. The statistical software package used for analyzing the data was SPSS 12.0 for windows. The logit model was selected for analyzing the factors influencing in participating of households in saving and credit cooperatives to increase their income. Before running the logit regression model, both the continuous and discrete explanatory variables were checked for the existence of multi-collinearity problem.

Variance Inflation Factor (VIF) was computed to detect the problem of multi-collinearity for continuous explanatory variables while contingency coefficients were used to detect the degree of association among the qualitative explanatory variables (see appendix table 2). Hence, the VIF values for continuous variables and the contingency coefficients for discrete variables were found to be very small, indicating that absence of multi-co linearity among the continuous and discrete explanatory variables (Appendix Table 1). Therefore, to determine the explanatory variables that are good predictors of the participation in saving and credit cooperatives, the logit regression model was estimated using the Maximum Likelihood Estimation Method. 20 explanatory variables were hypothesized to explain the determinant factors of households for participation in rural saving and credit cooperatives of sample households. Out of these, five variables were found

to be significant, while the remaining 15 were non-significant in explaining the variations in the dependent variable. For clarification purpose, it is represented nine major explanatory variables in the table of which five of them are significant.

Table 4.13: Major explanatory variables with their expected sign in relation to the participation of households in saving and credit cooperatives.

Independent variables	Expected sign per logit regression model in participation of saving and credit cooperatives by HH	Variable description
Age of household (ageointer)	+	Age in years
Annual expenditure on vegetables by HH(vegitabexp)	-	Measured in Birr
Annual expenditure on cleaning items by the HH (cleanexp)	-	Measured in Birr
Annual expenditure on social ceremonies by the HH (socialexp)	-	Measured in Birr
The size of rented in land in tsimad by the HH (rent land)	+	Measured in tsimad
Taking laon from saving and credit cooperatives (credittak)	+	Dummy, favorable response=1
Total amount of first loan taken from RUSACCO by HH (firstloan)	+	Measured in Birr
Taking training from RUSACCO (training)	+	Dummy, favorable response=1
Participation in any types of cooperative by the HH (anycooppa)	+	Dummy, favorable response=1

4.2.1. Determinants on household participation in saving and credit cooperatives

Logistic regression analysis was conducted to identify the major determinant factors that can affect the participation of households in saving and credit cooperatives. The maximum likelihood estimates of the logit regression model shows that age of the household (ageointer), annual expenditures on vegetables (vegitabexp.), annual expenditure on cleaning items (cleanexp.), annual expenditures on social ceremonies (socialexp.), total size of rented land holding of the

household (rentland), credit taking from saving and credit cooperatives (credittak) and amount of first loan by the household (firstloan), training taking from saving and credit cooperatives (training), participation in other cooperatives other than saving and credit cooperatives(anycoopa)were important factors influencing the participation of households in saving and credit comparatives.

Of these factors, annual expenditures on social ceremonies (socialexp, total size of rented land holding of the household (rentland), credit taken from saving and credit cooperatives (credittak) and amount of first loan by the household (firstloan), training taken from saving and credit cooperatives (training), participation in other cooperatives other than saving and credit cooperatives (anycoopa) were important factors influencing the participation of households in saving and credit comparatives. The results of the logit regression analysis are shown in Table 4.14.

Table 4.14: Logistic regression estimates on participation of household in saving and credit cooperatives in Enderta *Woreda*

Explanatory variables	B	Wald	Sig.	Exp (B)
Ageointer	.064 (0.053)	1.462	.227	1.067
vegitabexp	-.002 (.002)	1.083	.298	.998
cleanexp	-.001 (.002)	.163	.687	.999
socialexp	-.004 (.002)	2.806	.094*	.996
rentland	.323 (.304)	1.130	.288	1.381
Credittak(1)	-2.865 (1.403)	4.170	.041**	.057
firstloan	-.003 (.002)	3.197	.074*	.997
training(1)	1.991 (1.111)	3.211	.073*	7.325
anycooppa(1)	-3.546 (1.330)	7.109	.008***	.029
Constant	2.883 (2.426)	1.412	.235	17.874
Overall percentage correctly predicted				93.8
Chi-square value				72.46
-2 Log Likelihood				29.8
Sample size				94

Source: Model out put

*, ** and ***, significant at 10, 5 and 1 per cent probability level, respectively

NB. Figures in parenthesis are standard errors

Age of household head (ageointer): analysis of binary logit model as given in table 16 reveals that the demographic explanatory variable namely age, has positive but insignificant at any level of significance on the participation of members and non members in saving and credit cooperatives in the study area. Regardless of the significance level, this result is consistent with the finding of Subbaura.j and Karunakara on the people's perception on the social benefits of cooperation (frank, 2003) cited by Alema 2008. This is an important finding that young cooperative members are more active participants in the saving and credit cooperatives in the study area. This may be young have a good opportunity for education in the area and have a good know how in accepting new ideas. Besides the insignificance nature the independent variable age between participants and non-participants that they did not have a great gap on the average age of the respondents in the category. But the coefficient of the independent variable is positive that assured according to the hypothesis expected.

Annual social expenditure (socialexp): In the rural setting there are different social and religious ceremonies celebrated occasionally such as, wedding, burial/funeral, circumcision and others. The independent variable social expenditures in participation of households in saving and credit cooperatives has influenced negatively as expected and significant at less than 10% level of significance. This result is consistent with the study undertaken on expenditure in the agricultural inputs on participation of households in input and output marketing in ofla woreda (Alema, 2008). The explanation for the negative relation ship of the social expenditure on participation of households in saving and credit cooperatives is that the more households expend money they discouraged to save more and hence people are discouraging to participate in the cooperative. Because, saving is one of the important prerequisite to participate in rural saving and credit cooperatives.

Credit taken from saving and credit cooperatives (credittak)-taking credit from saving and credit cooperatives has a negative and significance influence in participation of saving and credit cooperatives by the household at less than 5% level of significance. This result is contrary with the expected hypothesis. The possible explanation is that farmers use credit to purchase agricultural inputs and some animals. However the price of inputs such as fertilizer increases from time to time and drought may also affect rising of animals due to shortage of feed. Such activities may affect households negatively to take more credit from the cooperative and hence results less

participation of households in the saving and credit cooperatives.

Amount of first loan from cooperative (first loan): the amount of first loan taking from saving and credit cooperatives has a negative and significance influence in participation of saving and credit cooperatives by the household at less than 10% level of significance. It has an opposite value with the expected hypothesis result reported by Kebede (2003) corroborates the results obtained in the present study regarding the significance of an amount of credit supplied to the rural households. Moreover, according to Babatunde *et al.* (2007), this is the ability of the household to obtain large amount of credit for household's production and consumption purpose. This could be from cooperatives, government, MFIs, friends and relatives and private moneylenders. Production credit could increase household's income and could allow him/her to repay their debt on due date. All the same, the odds ratio suggests that farmers who have got large amount of credit are expected to repay their debt in time than borrowers who have got small amount (Gebrehiwot, 2008). However the possible explanation for the result is that households lack experiences in managing the amount of first loan and may have shortage in training obtain from the cooperative. Besides, in the beginning, households lack entrepreneurship skills. These all contribute to have a negative relation ship between first loan amount and participation in saving and credit cooperatives by the household.

Training given by saving and credit cooperatives (training); the result of the logit model showed that training is a positive and significant at less than 10 % level of significance on participation of household in saving and credit cooperatives. The field survey told us individuals who have more access for training could participate in saving and credit cooperatives than those don't have access. Therefore training has a significant effect in participation of members and nonmembers in saving and credit cooperative.

Membership in other cooperatives (anycooppa): membership in other cooperatives that is other than the saving and credit cooperatives has negative and significance influence in participation of saving and credit cooperatives by households. This result is in contrary to the findings of Alema on the participation of households in input and out put marketing in multipurpose cooperatives (Alema, 2008). This is an important finding that households may be better to use their opportunity cost in other alternatives that could bring higher income such as involving in off farm activities.

This may enable households to concentrate on specific cooperatives that can maximize their benefit and the rest time also to use in the best alternative.

4.3 Constraints / Challenges Faced in Saving and Credit Cooperative in the Study Area

To identify the constraints and challenges of saving and credit cooperatives, cooperative members were asked to give their view on the major issues. Usually constraints have been developed from members of the cooperative, from the cooperative institution, and from the government support point of view. In this case the respondents identify 22 major constraints that faced households in saving and credit cooperatives. In this case, the sample respondents' opinion on the constraints of the cooperative to have active role in saving and credit cooperatives to increase household income was categorized as less important, important and very important with a weighted value of frequency 20,30, and 50 percent respectively (table). The categories have received an average frequency score of 33.8(35.9%) for less important constraints, 26.1(27.7%) for important constraints, and 35.55(36.76 %) for very important constraints and the over all weighted value from frequency is 31.63.

- When it is observed constraints emerged from members of the cooperative, the major constraint of the households was poor financial capacity of members that consists of weighted frequency score of 43.9. Secondly, less awareness of members about the importance of cooperative is also the second major constraint (35.4). Thirdly, negligence is another major problems related with constraints for the members that consist of weighted frequency score of 34.6.

Table 4.15: Constraints faced by members.

s/n	Constraints	Less important (20%)		Important (30%)		Very important (50%)		Weighted value
		Frequency	%	Frequency	%	Frequency	%	
1	Poor participation	35	37.2	50	53.2	9	9.6	26.5
2	Negligence	10	10.6	32	34	52	55.4	34.6
3	Unable to repay loans on time	60	63.8	20	21.3	14	14.9	25
4	Do not respect the bylaw	21	22.3	53	56.4	20	21.3	30.1
5	Cheating	80	85.1	7	7.4	7	7.4	19.5
6	Poor financial capacity of members	13	13.8	11	11.7	70	74.5	40.9
7	Less awareness	12	12.8	40	42.6	42	44.6	35.4

- From the institution point of view, one of the critical problem is financial constraint which consist of weighted frequency score 43.9. This constraint can affect the institution not to provide sufficient loan to its clients. The second critical problem of the cooperative is shortage of qualified staff members that consist of score value of 41.9. This can negatively affects the performance of the institutions.

Table 4.16: Constraints faced by the institution

8	Financial constraint of coop.	3	3.2	11	11.7	80	85.1	43.9
9	Shortage of available of facilities	17	18.1	48	51.1	39	41.5	37.3
10	Inefficient management of resources	32	34	40	42.6	22	23.4	29.4
11	Absence of market information	23	24.5	36	38.3	35	37.2	32.9
12	Lack of market for their product	60	63.8	24	25.5	10	10.7	24.2
13	Shortage of qualified staff	3	3.2	21	22.3	70	74.5	41.9
14	Shortage of store and ransparent facility	36	38.3	25	26.6	33	35.1	31.2
15	They provide poor services	75	79.8	8	8.5	11	11.7	22.9
16	Limited leadership capacity	2	2.1	43	45.7	49	52.2	37.8
17	Corruption and nepotism	67	71.3	10	10.6	17	18.1	24.9

Source from field survey

- From the government support point of view, poor technical support government institutions is the major constraint that can affect the performance of the institution and consist of weighted frequency score of 41.0.shortage of qualified government workers and poor implementation capacity are another major constraints that consist of weighted frequency value 38.4 and 33.5 respectively. Besides, as it can understand from the group discussion of staff members, there was no close supervision by the government officials except organized the institution. Consequently, there was no periodical auditing system by the government officials.

Table 4.17: Constraints faced from government support

18	Poor technical support	12	12.8	12	12.8	70	74.4	41
19	Shortage of qualified staff	10	10.6	28	29.8	56	59.6	38.4
20	Poor implementation capacity	25	26.6	30	31.9	39	41.5	33.5
21	Policy related problems	80	85.1	13	13.8	1	1.1	20.4
22	Poor infrastructure	68	72.3	12	12.8	14	14.9	24.2
	Average	33.8	35.9	26.1	27.7	35.55	36.76	31.63

Source: computed from field survey.

Finally the over all major constraints that usually face in saving and credit cooperatives reveals in the table below in the order of importance:

- Financial constraints of the institutions
- Shortage of the qualified staff members in the institution
- Poor technical support of the government officials
- Poor financial capacity of members in the cooperatives
- Shortage of qualified government officials
- Limited leadership capacity
- Shortage of available facilities
- Less awareness respondents about the benefit cooperatives
- Negligence by the members of the cooperative
- Poor implementation capacity

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

5.1. Summary and Conclusion

The delivery of financial products and services through micro finance institutions in Ethiopia is one of the policy instruments used to enable rural and urban households to increase their output and productivity, induce technology adoption, increase input supply, increase income thereby helping them reduce their poverty and attain food security.

There are various types of banking and non-banking financial intermediaries in the world, and they differ in the services they offer to their clientele. In Ethiopia, there are two types of non-banking financial intermediaries: share company microfinance institutions, which are 26 in number and savings and credit cooperatives, which are also 4178 in number. However, as compared to the demand for the service their coverage is very small.

Non-banking financial intermediaries functioning in Tigray region are similarly two types (Share company micro financial institutions and savings and credit cooperatives). However, as compared to the demand for the service their coverage is estimated to about 10 to 12 percent. Although savings and credit cooperatives are user-owned financial intermediaries, many of the savings and credit cooperatives are located in the urban area and savings and credit cooperatives are increasingly being organized in the rural areas too.

The main objective of this study was to assess the role of saving and credit cooperatives on house hold income in Enderta woreda. Formation of savings and credit cooperatives in Ethiopia has been started in 1964 by employees of Ethiopian Airline by the initiation of interested Ethiopian individuals who have foreign countries exposure and peace core workers of foreign origins. Although formation of rural savings and credit cooperatives is a new phenomenon for the country, currently there are 1167 rural based savings and credit cooperatives that are providing the two major financial products –savings and credit products to their members.

This study was undertaken in Enderta woreda of Tigray region by undertaking five purposively

selected saving and credit cooperative institutions. From five purposively selected cooperative institutions 94 respondents that comprise 72 RUSACCO-members and 22 non-members were randomly selected. Both primary and secondary data were collected and used.

Comparing the two consequent years, the amount of capital, assets, and savings are increased by 12.43 %, 15%, and 14.5% respectively from the year 1999 to 2000 in the study area. And the amount of outstanding loan has been increased by 10.1. This showed that the services and the institutional capacity of RUSACCO increased from time to time and implicitly the overall size households' income also increased.

To estimate the income of households in the study area, the expenditure approach was used. The basic assumption that the higher the expenditure of households is the higher the income other things remain constant.

Using the expenditure approach, the average income of the sample household is birr 16411.22.while the average income of member and non-member household is birr 18444 and birr 15441 respectively. From the total respondents the minima and maximum value are 6558 and 29458 respectively with a standard deviation of 4900. This indicates members of saving credit cooperatives have better income comparing with non-members. And members of the cooperatives have above average income. There fore from this it can be conclude that given other interventions the role of saving and credit cooperatives has a positive impact on increasing members income. Consequently the survey indicated that in all types of expenditures the member households expend more than the nonmembers of saving and credit cooperatives in the area. The implication is that the average income of members in the economy is better than the non-members of RUSACCO. This may be given other interventions constant member ship in saving and credit cooperatives improved households' income in the study area.

Members of rural savings and credit cooperatives have regularly deposited their monthly regular savings. The amount of monthly regular savings made by members in RUSACCOs is predetermined by General Assembly ranging between the minimum Birr 10 and maximum of Birr 100 in the study areas. The amount of members monthly regular savings differ from individual to individual due to their awareness level, savings habit, consumption habit, sources of earning,

capacity to save, and accessibility to the facilities.

The survey result revealed that the RUSACCO member's average monthly regular savings increased by14.9 percent over the last two consecutive years. In addition the asset of saving and credit cooperative institutions increased by 15 percent. Consequently, membership in the institution increased by 5 percent. This indicated that RUSACCO showed a good trend of growth and give services in the study area.

The average loan amount from saving and credit cooperatives taken by the respondents is birr 725.69. However the loan size of members and non-members are 869.30 and 233 respectively. Here it is possible to understand that there is statistical significant difference between members and non-members of the cooperative in case of the size of loan taken. This may be due to special treatment given for members of the institution. Therefore participating in the cooperative creates available credit services to increase household income.

The findings identified that differences in the own land use between members and non-member groups were statistically tested and found to be insignificant, whereas the difference in rented-in land use is found to be significant at 5 per cent level of significance, respectively. Therefore, this implies that securing additional lands through various arrangements contribute to participate more in saving and credit cooperatives to increase their income. This additional land may enhance to increase additional production and implicitly brings more income. In this case part of the income may save in the institution and hence inactivate to participate in the institution.

Concerning the econometrics result, ten explanatory variables had hypothesized to explain the factors that affect participation in saving and credit cooperatives. Some of these variables are of demographic type while the others are socio-economic in nature. The logit regression model showed that five variables were significant to affect participation of households in saving and credit cooperatives. These variables include: annual social expenditure of household, credit taking from saving and credit cooperatives, the amount of first loan taken by the household, training, and participating in other types of cooperatives. Those five explanatory variables significantly affect to participate rural households in saving and credit cooperatives positively or negatively depending on their nature of influence.

The independent variable social expenditures in participation of households in saving and credit cooperatives has influenced negatively as expected in the hypothesis and significant at less than 10% level of significance. The explanation for the negative relation ship of the social expenditure on participation of households in saving and credit cooperatives is that the more households expend money they discouraged to save more and hence people are discouraging to participate in the cooperative. Because, saving is a prerequisite to participate in rural saving and credit cooperatives.

Taking credit from saving and credit cooperatives has a negative and significance influence in participation of saving and credit cooperatives by the household at less than 5% level of significance. This result has a contrary with the expected hypothesis. The possible explanation is that farmers use credit to purchase agricultural inputs and some animals. However the price of inputs such as fertilizer increases from time to time and drought may also affects the production of animals due to shortage of feed. Such activities may affect households negatively to take more credit from the cooperative and hence results less participation of households in the saving and credit cooperatives.

The amount of first loan taking from saving and credit cooperatives has a negative and significance influence in participation of saving and credit cooperatives by the household at less than 10% level of significance. It has an opposite value with the expected hypothesis.

The possible explanations for the result is that households lack experiences in managing the amount of first loan and may have shortage in training obtain from the cooperative. Besides, in the beginning, households lack entrepreneurship skills. These all contribute to have a negative relation ship between first loan amount and participation in saving and credit cooperatives by the household.

The result of the logit model showed that training is a positive and significant at less than 10 percent level of significance on participation of household in saving and credit cooperatives. The field survey told us individuals who have more access for training could participate in saving and credit cooperatives than those don't have access. Therefore training has a significant effect in

participation of members and nonmembers in saving and credit cooperative.

Membership in other cooperatives that is other than the saving and credit cooperatives has negative and significance influence in participation of saving and credit cooperatives by households. This is an important finding that households may be better to use their opportunity cost in other alternatives that could bring higher income such as involving in off farm activities. Or else the past performance of the cooperatives may be inefficient. This may enable households to concentrate on specific cooperatives that can maximize their benefit and the rest time also to use in the best alternative.

Finally in this study the major constraints that can affect the performance of households in saving and credit cooperatives were:
Financial constraints of the institutions, Shortage of the qualified staff members in the institution), Poor technical support of the government officials, Poor financial capacity of members in the cooperatives, Shortage of qualified government officials, Limited leadership capacity, Shortage of available facilities, Less awareness respondents about the benefit cooperatives, Negligence by the members of the cooperative, Poor implementation capacity of government officials.

5.2. Policy Implication

In order to promote and strengthen rural savings and credit cooperatives in Tigray region and to increase household income from RUSACCOs financial products and services in a sustainable manner, the study reflect some policy implications.

The study has shown that a unit incremental of households' annual expenditure on social values and festivals decreases the probability of households' decisions to join rural saving and credit cooperatives to increase their income. This is because households expend their money on non-productive activities in the economy. Since expenditure is a part of income and increasing the expenditure means that decreasing the saving behavior of the household, which is the main component for participation in RUSACCO. On the other hand increasing the social expenditure means from investment point of view creating wastage in the performance of the economy. Therefore rural saving and credit cooperatives as an institution should provide consultancy services to members and non members of the areas using the technical backup to be offered by

cooperative promotion office about how to expend and for what purpose to be expend given the income of the household.

The findings revealed that taking credit from saving and credit cooperatives has a negative influence in participation of households in saving and credit cooperatives. This may be households lack awareness on how to use credit; lack support in preparation of business plan, drought or animal diseases may affect the previous investment and the past experience of credit. In this case those individuals who took much amount of credit will be affected negatively and hence less participation in the institution. Therefore the cooperatives should provide appropriate training on how to use credit and evaluate the feasibility of members' business plan before they run the business. Consequently, local financial institutions should involve in giving training on financial systems.

The study identified that amount of first loan taking from saving and credit cooperatives have a negative and significance influence in participation of saving and credit cooperatives by the household. This means that per unit increasement on first loan from saving and credit cooperatives, the demand of households in participation of the cooperative declines given other things remain constant. Therefore the cooperative promotion office should enhance to develop entrepreneurship skills to the operators and examine experience sharing from well-experienced woredas and regions.

Household's participation in training programs increased the probability of being a member of RUSACCOs. Training is the principle of principles in the cooperative movement, which enable to develop farmers' awareness and participation level. The participation rate of rural households in the RUSACCO movement as compared to the potential members and the demand for the services is very minimal. Therefore, problem oriented and target focused training programs and relevant modules should be prepared and offered to members and potential members by cooperatives promotion Agency.

Membership in other cooperatives that is other than the saving and credit cooperatives has negative and significance influence in participation of saving and credit cooperatives by households. This is an important finding that households may be better to use their opportunity

cost in other alternatives that could bring higher income such as involving in off farm activities. Or else the past performance of the cooperatives may be inefficient therefore government should give enough support on the already developed cooperatives in the local areas. Those cooperatives can create a trickle down effect to other cooperative particularly to the recent one (RUSACCO) in the area to increase their income.

A financial constraint of the institutions (43.9) is one of the serious problems in saving and credit cooperatives in the rural area. Therefore additional fund should be assessed to strengthen the institutional capacity of the study area from different sources such as CBE, Micro finance institutions and non-government institutions at reasonable.

Consequently based on the findings of cooperatives constraint:

- Provide staff members at least who have graduated from TVET in the saving and credit cooperatives.
- Close supervision and monitoring by cooperative promotion officials is required to improve the performance of saving and credit cooperatives in the study area.
- Diversify income of households through off farm activities in the area to increase the financial capacity of members in the institutions.
- Provide consecutive business development services and business management system to members and non-members of the organization to increase their productive performance in their livelihood.
- Up grade the educational level of cooperative officials by providing short and longrun to develop their implementation capacity in the study area.

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7 APPENDICES

Appendix 1: Questionnaire of the Interviewee

Code a

General Instruction:- the questionnaire is intended to collect the situation of household income that is involved in saving and credit cooperatives for members and nonmembers of the institution. The study is undertaken for an academic only. The sample respondents are expected to reply for each question with out any influence. Writing the name of the respondents is not necessary. The right responses that each respondent provides are very crucial for the reliability of this study. This information is filled by me members and nonmembers of households in saving and credit cooperative

General information on interviewee and household

Instruction:- Circle the correct choice among the following alternatives

1. Sex of interviewee (mark one) 1. Male
   2. Female
2. Age of the interviewee .....
3. Marital status 1. Married 2. Single
   3. Widowed 4. Divorce
4. Religion of interviewee
   1. Orthodox (Coptic) 2. Muslim
   3. Catholic 4. Protestant
   5. Others specify
5. Are you (interviewee) the head of the household?
   1. Yes 0. No
6. Can you read (write) 1. Yes 0. No
7. Number of family members_____
8. Grade level of the household 1. illetarate___2.1-4___3. 5-8___4.abovegrade 9__

9. Household land holding size in *tsimad* (directly belonging to the household)

9.1. In fertile area (roguid): ---------t*simad.*

9.2. In moderately fertile area (maekelay)-------*tsimad*

9.4. In unfertile area (*rekik*) ----------*tsimad*

9.5. Total land holding----------*tsimad*

10. Have you rented land in 1999 E.C.?

1. Yes 0. No

11. If your answer to 10 is "yes", how size of tsimad have you rented in 1999_____

12. Have you rented out land in 1999 E. C.?

1. Yes 0. No

13. If your answer for 12 is "yes", how size of *tsimad* have you rented out----------

C. Household expenditure and consumption

14. Food expenditure

Item	Quantity purchased in Sene 1999 E.c (K.g)	Expenditure on The purchase (Birr)	Amount consumed (In sene from own Production in kg.	Estimated Price of own produced consumption in sene in birr	Quantity consumption From food for work (Aid) in Kg	Estimated price of consumption from food for work /aid in birr
A. Cereals						
• Teff						
• Barley						
• Wheat						
• Maize						
• Sorghum						
• Dagusha (Finger millet)						
• Ground wheat						
• Ground barley						
• Other cereals						

15. **Pulses and oilseed**						
• Peas						
• Split peas (kike)						
• Chick peas (shim bra)						
• Beans						
• Split beans						
• Lentils						
• Split lentiles						
• Flux						
• Enguaya						
• Shiro						
• Other pulses/oil seeds/						
16 **Vegetables**						
• Onions						
• Tomatoes						
• Potatoes						
• Garlic						
• carrots						
• Other vegetables						

17. Meat and other animal products						
Beef (siga kefti)						
Mutton (tel-begi siga)						
• Eggs						
• Milk						
18. Fruits						
• Oranges						
• Banana						
• Other fruits						
19 Spices						
• Berbere						
• Salt						
• Jingibil						
• Other spices						
20. Cooking items						
• Cooking oil						
• Cooking butter						
21 Other food items						

• Bread						
• Pasta and macaroni						
• Ingera						
• Rice						

22. Drinks						
• Local beer						
• Miles (tej)						
• Soft drinks						
• Liquor (areki, katical)						
• Beer						
• Tea & coffee out side home						
23. Other consumables						
• Sugar						
• Coffee beans						
• Tea						
• Flour milk (hiructseba)						
• Children food						
• Expenditure on eating out side home by family						

24. Educational expenses

Item	Expenditure made in sene 1999E.C	Estimated expenditure made in 1999E.C. until sene (Br.)
Exercise books and books		
Pens and pencils		
Transport to and from school		
Other expenses on education		
Total		

25. Expenses on clothing

Item	Expenditure made in Sene 1999E.C	Estimated expenditure made in 1999E.C. until Sene (Br.)
Student uniform		
Clothing for father/mother		
Clothing for other family members		
Shoes		
Bed sheets and blankets		
Other clothing items		
Total		

26.Medical expenses

A. Medical expenditure made in sene 1999 E.C. Birr----------

B. **Medical expenditure made in the year 1999 until sene Birr----------**

27. Expenditure on water

Item	Average monthly expenditure (birr)	Yearly expenditure until sene 1999 E.C.
Water for drinking		
Water for irrigation		
Total		

28.Cleaning and personal care items

Item	Average monthly expenditure (birr)	Yearly expenditure until sene 1999 E.C.
Hair oil		
Hair butter purchased		
Hair butter from own products		
Soap bar (for clothing)		
Body soap		
Flour soap		
Hair salon		
Hair salon for men		
Other personal care items		

29.Fire wood and fuel

Item	Expenditure in sene 1999(birr)	Estimated price of own produced consumption in sene 1999E.C	Expenditure in 1999 until sene	Estimated cost of own product consumption in 1999 until sene
Fire wood				
Animal dung				
Coal (faham)				
Cooking gas (tsaeda lamba)				
Matc!. (kirbit)				
Shama (twaf)				

30.Social occasions or festivals

;em	Expenditure in 1999E.C		Estimated expenditure for the year 1999	
	Made by interviewee	Paid to others	Made by interviewee	Paid to others
sebel, mahber				
ddir				
Vedding				
eskar				
iristina				
thers				

- **Ekub and credit**

31.Are you currently a member of ekub?1. Yes 0. No

32.If yes, for 31 how much do you contribute per month and how much is your expected earnings?

1. Contribution birr ----------

2. Expected earning birr ----------

33. Did you give any credit of more than birr 10 to some one in the month of sene 1999 E.C?1. Yes, if yes how much in birr----------

- **Taxes and contributions**

34. How much have your household paid for land use tax in 1999 E.C?

Br. ----------

35.How much have your household paid as church contribution in 1999E.C? ----------36. How much have you r household paid as contribution to association "mahberat" in 1999E.C? ----------

37. Household items and Jewelry purchases

Items	Amount purchased in sene 1999EC in birr	Amount purchased in year 1999 until sene in birr
Chair, bench and related		
Table and similar items		
Bed,(metal or wooden)		
Tape recorded (radio)		
Plastic buckets, cups		
Glasses (for tea drink)		
Pot (Itro, tsahli)		
Metal pots		
Metal tisti		
Oven(mogogo)		
Gas midija		
Broom(mekoster)		
Gold		
Silver		
Watch		
Bicycle		
Cart (gari)		
Wheel barrow (carreta)		
Other house hold items		

38.do you live in (mark one)

1.own house 2.rented house

3.relativesor friends (house for free) 4. Other .....

39. If your answer for 12 is own house how many rooms does it have?

1.one room 2. Two rooms

3. Three rooms 4. More than three room

Savings and credit

40. Have you ever-received credit in the last three years except from saving and credit cooperatives?

1.Yes 0. No

41. What is the prerequisite to get credit?_____

42. Have you ever taken any loan from savings and credit cooperatives?

A. Yes B. No

43. If your answer for number 1 is yes how many times have you so far taken the loan?

---------- Times

44. When did you take the first loan from cooperative? Year----------month (if possible)

45. How much was the first loan amount you took from saving and credit cooperatives or any source you took?Birr _____

46. For what purpose was the first loan mainly used? _____

47. Did you repay your first loan fully to the cooperative (SACCOs)?

1) Yes 0. N0

48. If your answer for no 47 is yes, did you repay your loan from the benefit you Obtained with the help of the loan?

1) Yes 0) No

49.Did you make some profit from your first loan?

1) Yes 0)No

50. If your answer for no 49 is 1, how much birr _____

51. What do you feel about the amount of loan (loan size) given by saving and credit? Cooperatives?

1. Enough 0) Small

52. Do you save? 1. Yes 0) No

53. What was the amount of first savings? _____Birr

54. Your source of money for savings (circle one or more)

1) From the farm income (profit financed by loan)

2) Income from other sources than loan employm

55. Where do you save?

1) At saving and credit cooperative
2) Equib
3) At home
4) With friends/relatives
5) In the form of life stock/durables
6) Lending to others with higher interest
7) In the formal bank
8) Others (specify)_____

57. Have you /your household faced any difficulty for savings for the last 12 months?

1= yes 0=no

58. If 'yes' what did you do to solve the problem you faced?

1) Sold household assets
2) Borrowed from families/friends
3) Borrowed from local money lends
4) I did not save for the last 12 months
5) Lending to others with higher interest
6) In the formal bank
7) Others/specify_____

59. Did you get any training from saving and credit cooperatives (if be a member)

1) Yes 0) No

60 If the answer for no 59 is 'yes', list the type of training

1) _____
2) _____
3) _____

61.are you participating in saving and credit cooperatives?

1. Yes 0. No

62. Did you participate in any other types cooperative services? 1. Yes 0. No

63. If 'yes' for question no 4 in which types of cooperative you involve?

1) Multipurpose cooperatives
2) Irrigation cooperative
3) Housing cooperative
4) Saving and credit cooperative

5) Producers 'cooperative societies

6) Other specify_____

64. If 'yes' for question no 4, how long years have you been involved in the cooperatives?

1) Below one year 2) From 1_3 years

3) From 4_5 years 5) Above 5 years

65. How do you perceive the extent of importance to be organized in saving and credit cooperatives? 1) Important 0) Not important

66. If your answer for question no 9 is important or highly important, in what ways

Does the cooperative useful for you?

1) Provide access to credit
2) Supply of inputs
3) Provide dividend to members
4) Organize training and workshop to members
5) Provide access to market information
6) Defend the interest of members
7) Others specify_____

67. What changes in your livelihood (in the form of asset ownership) has come as a result

Of the services/ benefits you received from cooperatives (SACCOs)

Asset Ownership	Before membership	After membership
Oxen ownership (in quantity)		
Milking cows (in quantity)		
Honey bee colony (in quantity)		
Goat /sheep (in quantity)		
Poultry (in quantity)		
Hand pump (in quantity)		
Motor pump (in quantity)		
Sprayer (springliler) (in quantity)		
Plowing set (in quantity)		
Mahresha (in quantity)		

68. Do you think that the decisions of the management committee of cooperatives in your local area are made in a transparent way? 1. Yes 0. No

69. Is there general assembly meeting with members? 1. Yes 0. No

70. If your answer to question 69 is **YES,** how often it is conducted?.....

71. Have there been any disputes in relation to the issues of cooperatives Management? 1. Yes 0. No

72. Whenever disputes occur, how are they addressed?

1. Through members 2. Through elderly mediation
3. Court arbitration 4. Others; (specify)_____

73. Is your cooperative audited on regular basis? 1. Yes 0. No

74. Is the audit report discussed in the general assembly meeting? 1. Yes 0.No

75. If your answer to question 74 is **YES,** have you seen any deviation from the bylaws Of the cooperative? 1. Yes 0. No

76. If your answer to question 75is **YES,** what measures have been taken to correct The deviation?

1. Suspension 2. Financial penalty
3. Dismissal of wrongdoer 4. Others; (specify)_____

77. Did you believe that participating in RUSACCOs improve your income?

1. Yes 0.N0

78. Challenges that faces household in participation of saving and credit cooperatives

Rate the constraints in that usually faces in saving and credit cooperatives in their order of importance

No	list of constraints	Least importance	Important	Very important
1	Poor participation			
2	Negligence			
3	Unable to repay loans on time			
4	Do not respect the bylaws of the cooperatives			
5	Cheating			
6	Poor financial capacity			
7	Less awareness of the bylaws of The cooperative			
8	Financial constraint			
9	Shortage of available of facilities			
10	Inefficient management of resources			
11	Absence of market information			
12	Lack of market for their product			
13	Shortage of qualified staff			
14	Shortage of store and transparent facility			
15	They provide poor services			
16	Limited leadership capacity			
17	Corruption and nepotism			
18	Poor technical support			
19	Shortage of qualified staff			
20	Poor implementation capacity			
21	Policy related problems			
22	Poor infrastructure			
	Others, (specify) 1.			
	2.			
	3.			

Note-from 1-7 questions related with expected constraints from members of RUSACOO

8-17 questions related with expected constraints from the institutions

18-22 questions related with expected constraints from the government point of view.

79. Specific suggestions

Please indicate your specific suggestions to improve the level of satisfaction of cooperative members to participate actively in RUSACOO.

No	**Suggestions**	Least importance	Important	Very important
1				
2				
3				
4				
5				
6				

80. Is the cooperative (SACOOs) serves as a center for the commul. Yes 0. No

81. How are your perceptions about the services that the saving and credit cooperative provides?

Saving and credit services	Rate				
	Excellent (5)	Very good (4)	Satisfactory (3)	Fair (2)	Poor (1)
Interest rate					
Loan size					
Loan time					
Household participation					
Women's participation					
Sufficiency in dividend					

82. Are you believe that the service of your cooperative is better than other financial institutions found in your local area? 1. Yes 0. No

83. If the answer for no 3 is no, what are the problem of your institution you perceive?

1) ._____

2) _____

3) _____

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Code B

This questionnaire consists of two parts: organizational background and its services. In this case, the organizational staff members including the managers answer the questions.

Organizational Back Ground

1. Name of the organization_____
2. Year of establishment:_____
3. Number of staff members_____
4. Educational background of the staff
    1. Certificate and less_____
    2. Diploma_____
    3. BA degree_____
    4. MA and above_____
5. Current organizational capital _____
6. Current number of clients by sex: male _____female _____total_____
7. Amount of loan dispersed as of sene 1999E.C._____
8. Amount of save from clients_____
9. What are the major objectives of saving and credit cooperative_____

    _____

    _____
10. Have you ever evaluate the effectiveness of your cooperative's objectives?

    1. Yes 2. No

11. if yes for question no 10,how did you get its result with your intended objectives?_____

    _____

11. If no, put your reasons shortly _____

_____

12. How do you evaluate the level of satisfaction for your clients? if so at what frequency? What istheoutcome?_____

_____

13. How do you see the sustainability of your services?

_____

14. How do you see the participation of women in the cooperatives? What do you think the major problems of them? _____

_____

_____

_____

15. Is there any potential defaulter from your cooperatives? If so what are the main reasons to be defaulter?

_____

_____

16. Did you face any constraints in providing the loan? If yes please mention some of them_____

_____

17. Do the clients pay their loan on time? a) Yes b) no

18. Do you think that the loan you provided improved the lives of poor in the local area?

1. Yes 2. No

18.1 If the above response is 'yes' please mention some of the improvement

_____

_____

18.2 If your response is no please listing some of the possible major reasons

_____

_____

_____

19. What are your the major problems as a service provider? _____

_____

19 What do you think the performance of saving behavior of your organization?

_____

_____

_____

21. Do you have any comment about your organization and performance? _____

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Regional and local development studies (RLDS)

Code c

Check lists for focus group discussions and key informants.

1. How is the well-being of members of saving and credit cooperative in your local area? (In terms of education, health services, income earning and control over resources for the women).

_____

_____

2. Do you believe that the rural poor got access to credit services?

_____

3. How do you feel the changes (positive or negative) that appeared on the members of cooperatives after they are joined to the institution? (In terms of decision making on the institution, participation in socioeconomic and political affairs, availability of drinking water, house sanitation, health care, quality of house and other infrastructure services).

4. What are the main constraints in relation to saving and credit cooperative services?

_____

_____

_____

5. What should be done to maximize the benefits for the rural poor from the provided cooperatives?

_____

_____

_____

Appendix 2: Variance Inflation Factor (VIF) for continuous Explanatory variables

Explanatory variables	Collinearity Diagnoses	
	R-square	VIF
Age of the household head	0.001	1.001
Expenditure on vegetable items of households	0.186	1.228
Expenditure on drinking items of household	0.242	1.320
Expenditure on water utilities of households	0.113	1.272
Expenditure on cleaning items of household	0.307	1.443
Expenditure on wood and fuel items of household	0.179	1.246
Total size of rented land holding of the household	0.315	1.459
Expenditure on social celebration of the household	0.186	1.229
Experience of the household in credit use	0.348	1.533
Amount of first loan taken by the household	0.72	1.373

Source: Model output

Appendix 3: Contingency coefficient (CC) for discrete variables

	Income	Ekubmem	Lendmony	credittak	loanrep	loanprofit	loanamout	Saving	Training	anycooppa
Income	1	0.066	0.037	0.166	0.115	0.048	0.055	0.153	0.060	0.019
Ekubmem		1	0.100	0.196	0.176	0.148	0.068	0.257	0.156	0.138
Lendmony			1	0.179	0.127	0.001	0.084	0.084	0.306	0.306
credittak				1	0.146	0.055	0.099	0.256	0.318	0.264
laonrep					1	0.650	0.140	0.422	0.163	0.286
laonprofit						1	0.226	0.336	0.040	0.099
loanamout							1	0.183	0.030	0.169
saving								1	0.235	0.465
training									1	0.328
anycooppa										1

Source: Survey data, 2008

Appendix 4: Saving and credit co-operatives in Ethiopia (1983 – 1999)

Year	No of cooperatives	Member-ship	Contribution and savings	Outstanding loans	Reserves	Total assets
1983	160	27,556	7,528,691	8,136,677	437,895	9,996,753
1984	17	30,815	9,421,332	9,153,030	7,233,338	14,084,043
1985	217	38,116	12,970,879	12,561,829	881,672	19,239,674
1986	264	56,885	22,925,673	23,517,531	1,738,320	29,887,557
1987	309	63,540	23,300,011	23,644,390	1,676,556	30,332,813
1988	371	68,366	30,845,398	33,375,253	2,148,308	42,053,667
1989	419	98,973	50,406,195	52,104,599	2,173,238	69,926,742
1990	484	118,037	68,959,446	69,834,856	4,019,913	90,781,491
1991	495	119,799	78,772,710	79,919,665	4,497,197	102,168,244
1992	420	109,231	87,035,927	89,200,462	5,097,756	109,756,427
1993	426	101,299	86,105,842	87,474,898	5,484,551	112,286,156
1994	497	112,664	99,767,864	100,394,074	7,396,965	135,371,088
1995	522	116,619	111,173,060	93,582,753	8,163,985	150,707,746
1996	578	129,216	124,441,325	118,878,606	9,392,965	168,612,385
1997	620	147,302	159,865,849	148,491,188	10,989,767	196,132,447
1998	670	150,468	167,059,812	155,173,291	15,538,636	207,900,393
1999	716	156,938	174,577,503	162,311,262	16,626,340	220,374,417

Source: (Amaha, 2001)

Declaration

I declare that this research thesis is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been duly acknowledged.

Name Girmay Kahsay G/Meskel

Signature _____

Date: October, 2008

I confirm that this research paper has been submitted with my approval as a University Advisor of the same.

Gezahagn Ayele (Ph.D) _____ 21/02/09

Signature Date