The Impact of Savings and Credit Cooperatives in Ofla Wereda Tigray Region of Ethiopia

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Abstract

The present study primarily addresses the impact of Rural Savings and Credit Cooperatives (RUSACCO) on the income and family living conditions of members. The study was undertaken in Ofla Wereda Tigray Region of Ethiopia. Ofla Wereda is selected for the study purposively because of the availability of more number of SACCOs, with documented records. The survey was conducted during the year 2010 and a total of four SACCO with 168 members were analyzed. The study has adopted random sampling procedure for the selection of the members. The data analysis employed various statistical tools like correlation and regression. The correlation analysis reveals that the independent variables years of stay in the SACCO, savings, size of loan, and number of times loan availed have significant positive correlation with post income of the respondents. Similarly, there is significant and positive correlation between years of stay in the SACCO, size of loan, and number of times loan availed and profit from economic activities, while the variable savings has significant negative correlation with the profit.

The regression analysis reveals that the independent variables such as savings and number of times loan availed have significant positive relationship with the post income, while the variables education and years of stay in the SACCO have significant negative relationship with the post income, contrary to what was expected. Non members stated that no perceived benefits, lack of information and high interest on loan were perceived as problems of SACCOs. Therefore, concerted efforts are needed to organize seminars and campaigns to create awareness about SACCO. Cooperative Extension Work is to be promoted to persuade the non-members to join SACCO.

Keywords: saving, loan, cooperatives, nonmembers, post income, profit, Ofla Wereda, Tigray Region, Ethiopia

1. Introduction

Ethiopia has implemented various projects and programs that aim at increasing production and food self-sufficiency. For instance, at the beginning of the 1990s, a broad spectrum of reform has been introduced among which the Agricultural Development-led Industrialization Strategy (ADLI) stood as the prime vehicle to address poverty and food security (Yohannes 2002). However, in the context of achieving economic growth, actors of development have not been given the chance to get involved in the whole process of socioeconomic transformation for quite a long time. As a result, deteriorating economic conditions started to be observed in the country. But, nowadays, it becomes a conventional wisdom to argue that development is understood to be a multi-actor process, where government-owned institutions alone couldn't register economic growth. Therefore, if economic growth is to be achieved, NGOs and private sectors should join hands (Elias, 2003; Fitsum, 2002; Helmsing, 2001 and Kirkpatrick, 2001). In this regard, saving and credit cooperatives are integral part of the financial system by which communities are mobilized to engage in productive activities so as to generate income, create employment opportunities, stimulate the economy of a well-defined area and thereby improve their livelihood situation (Gebeyehu,

2002 and Ledgerwood, 1999).

Therefore, the objective of this study is to assess the impact of RUSACCO on the socioeconomic (or well–being) of members in Ofla Wereda Tigray region of Ethiopia, to study the functions of RUSACCO ,also,   assess the factors influencing socioeconomic changes by RUSACCO, and explore the impact of RUSACCO on socioeconomic changes. Post income is the dependent variable, and measured by income derived by the members after they become members of the RUSACCO. However, it is hypothesized for this study that here exist positive correlations among education , age,   family size, credit, saving, number of times loan availed, land size, years of stay in the SACCO ,number of days employed per annum. Thus, this study is organized as follows: the next section following the introduction discusses the relevant literature. Methodology of the study is described in third section. The fourth section provides details of the results and analysis of the available data and the final section presents the main conclusions and recommendation.

2. Review of Related Literature

In Ethiopia, successive regimes, starting from the Imperial period to the EPRDF government, gave due recognition to the role of coops and made deliberate effort to promote the same. However, the principles and approaches followed were markedly different, reflecting the political thinking and ideology of the regimes. In its Five Year Development Plan, the Imperial regime envisaged an important role for coops in transforming smallholding agriculture. Thus, it set the stage by providing the first legal framework (the Farmer Workers Cooperative Decree No. 44 later replaced by the Cooperative Societies Proclamation No. 241/1966). The legal framework was relatively comprehensive and contained most of the essential contents of the legal framework issued more than three decades later in 1998 and coops were rightly viewed as primarily voluntary undertakings. However, success was limited.

The Military regime, which viewed coops as a key instrument to build a socialist economy pursued the cooperatives agenda more aggressively. The approach followed combined coercion with extensive support including priority access to resources, goods and services (such as land, irrigation, bank loans at lower interest rate, capital goods, inputs & extension services, and consumer goods). Whereas number of coops and membership size were relatively large, it is not regarded as a particular success for a number of reasons (for details see Partners Consultancy and Information Services, 2006: P. 16). Coops were so unpopular that following the demise of the Derg regime in 1992 most of them disappeared quickly. What is worse is that they dissolved in such a disorderly manner (e.g. bank loans and other obligations were not settled; no distribution of assets between members; etc.) that it created a lasting suspicion and distrust of cooperatives the stigma of which is haunting cooperatives until today. In an attempt for a fresh start with promotion of cooperatives, the incumbent government issued a new legal framework (Proclamation No. 147/1998 and 402/2004). In addition to being comprehensive it incorporated universally accepted principles of cooperatives.

SACCOs, which were only 495 during the Derg period (with membership of 119,799), reached 5,437 (with membership of 381,212), currently constituting the second most common type of coops (next to housing coops) in the country in terms of both number and membership. As coops, SACCOs are expected to play their share in the bringing about broad based development and poverty alleviation.

Based on the above review of literature, the researcher can say that there are some studies about SACCO in Ethiopia and other countries, however, there is no in depth study has ever been done in Ofla wereda because of probably lack of sufficient information, and because of their unfamiliarity with the   enterprise. The main contribution of this study is to understand the impact of RUSACCO on the income and living condition of members. Like any other study, this study is also not without its limitations. Due to the resource and time constraints, the sample survey was carried out only in four RUSACCO in Ofla wereda, which of course represent Tigray region, but may not represent Ethiopia as a whole.

3. Empirical Multiple Regression Model

This   study   is   intended   to   analyze   which   and   how   much   the   hypothesized   regressors

are related to socioeconomic variables might have brought on the income and living conditions of members. From the mathematical point of view the multiple regression model is used due to its simplicity and flexibility in the analysis of dichotomous outcome variable. (Montgomery 1998)

Therefore, the multiple regression model is specified as follows:

$$Y = \beta_o + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots\ldots\ldots\ldots \beta_k x_k + \epsilon \ldots\ldots\ldots\ldots\ldots..\ldots\ldots \text{ (1)}$$

Where: Y = represents the dependent variable

β_o = denotes the intercept of the regression which is constant.

β_j, j = 0,1,……k, are called the regression coefficients

x_1 , x_2…..x_k = refers to the regressor variables

ϵ = is the error or deviation between y value and the expected value of y given by

$\beta_o + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots\ldots\ldots\ldots \beta_k x_k$

It is a multiple linear regression model with k regressors. The parameters β_j , j= 0,1,….k, are called the regression coefficient. This model describes a hyper plane in the k-dimensional space of the regressor variables x_j. The parameter β_j represents the expected change in the response y per unit change in x_j when all the remaining regressor variables x_i (i $\neq$ j) are held constant. For this reason the parameters β_j , j =1,2,….k, are often called partial regression coefficients.

Selection of Regressors

As the study is all about RUSACCO socioeconomic and institutional impact on members, the vector of regressors lies mainly within these members.

In multiple regression problems certain tests of hypothesis about the model parameter are useful in measuring model adequacy. The test for significance of regression is a test to determine if there is a linear relationship between the response y and any of the regressor variables x_1, x_2, …..x_k. Separate tests of the null hypothesis that individual coefficients are zero can be computed using t-test of the multiple linear regression models (Gujarati, 1988).

This test can be used to see the statistical significance of each coefficient. An overall test of the null hypothesis that all the parameters associated with the explanatory variables in these models are equal to zero is an F-test based on the Ordinary Least Square (OLS) estimation procedure. The Chi-square tests the null hypothesis that the coefficients for all terms in the current model except the constant which is zero.

The appropriate hypotheses are:

Ho: $\beta_1 = \beta_2 = \ldots\ldots..\beta_k = 0$

H1: $\beta_j \neq 0$ for at least one j………………………………………… (2)

Rejection of Ho in the above hypothesis implies that at least one of the regressors x_1, x_2……..x_k contributes significantly to the model

Coefficient of Multiple Determinations

The coefficient of multiple determinations R^2 is defined as

R^2 = SSR/Syy …………………………………………………… (3)

The multiple coefficient of determination represents the percentage of variability in y that is explained by the estimated regression equation. We have $0 < R^2 < 1$ as in the case of simple regression case. However, a large value of R^2 does not necessarily imply that the regression model is a good one. Adding a regressor to the model will always increase R^2 regardless of whether or not the additional regressor contributes to the model. Thus it is possible for models that have large values of R^2 to perform poorly in prediction or estimation. The positive square root of R^2 is

the multiple correlation coefficient between y and the set of regressor variables x1,x2,…..xk. That is, R is a measure of the linear association between y and x1, x2, …xk.

The functional relationship between the probability of improvement in income and explanatory variables is specified as follows:

$$Y = \beta o + \beta 1 x 1 + \beta 2 x 2 + …………………………………...\beta k x k + \epsilon …………. (4)$$

Where: Y is average monthly income of respondents

βo is Constant or intercept

$\beta 1, \beta 2$, …………………..βk refers Regression coefficients

x1, x2…………….xk   refers vector of explanatory variables that include: age of the respondents,   family size, saving , education   , number of times loan availed , ownership of land, family   size, access to credit , number of years stay in SACCO , and number of days employed per annum.

4. Data Set

For the purpose of the study both qualitative and quantitative data have been collected through primary and secondary sources.   To accomplish the aforementioned research objectives the data for this study were gathered from four RUSACCO found in the Ofla wereda. Ofla wereda was selected purposively for the present study because of the following reasons availability of more number of SACCOs, member credit history is relatively good, and the records are all well documented.

For this study two stage simple random sampling method was used to select the SACCO and individual sample respondents. Taking in to consideration time and budget for this particular study, the survey covered six administrative *tabias* [2] of the *Wereda*. The study with the sample of four SACCOs viz, Endodo, Meseret, Lemelem Korem, and Embeba Hashenge were selected randomly. The survey was conducted during the year 2010 and all the four selected RUSACCO had four or more years of functioning and more than 50 members each.

As far as the second stage simple random sampling concerned, to select the sample respondents out of 667 members of the four RUSACCOs of the wereda from each sample RUSACCO, 25 percent of the total numbers of members were selected at random from member's entry documents of the cooperative society. Accordingly, from the four RUSACCO a total sample size of 168 members has been selected for this study. The members from each RUSACCO were selected on the basis of Probability Proportionate to Size (PPS). Another sample of 20 respondents has been selected from the non-members of RUSACCO who belong to the same wereda to ascertain why non members have not joined the SACCO. A multistage sampling procedure was followed to select the non-member respondents.

5. Descriptive Analysis

In this section, impact of the SACCO on the respondent is analyzed in terms of change in income and in family living condition. The change in income is measured in terms of change in average income/ profit generated from the income generating activities. The change in family condition is measured in terms of the amount of saving, education, and consumption expenditure.

The sampled households constitute various socioeconomic features. In the study area's description it is stated that male-headed members constituted 60 percent while 40 percent of the households are female-headed. Of the 168 RUSACCO members in the Ofla Wereda greater size of the RUSACCO is run by men i.e. male-headed members are larger in number than female-headed members. The results of the descriptive statistics of members' socioeconomic attributes are presented in table 1. The sampled households' head comprise various age groups ranging from 18 to a maximum of 53 years. These different members' age groups do as well have different educational background. Of the 168 member respondents,

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[2] Tabias (tabia for one) are the lowest administrative ubits in the wereda. A group of *tabias makeup Wereda(District).*

1.8 percent of the respondents are illiterate, 4.8 percent have the ability to read and write, 48.2 percent elementary school graduate, 37.5 percent are with junior and secondary school certificate and 7.8 percent are with higher education.

The average family size is 4.946 slightly above the regional 4.3 and the national average 4.8(National Fact sheet (2004). The large number of dependents (family size) could exert pressure on household access for credit and meager for thrift, since this might lead to greater loan diversion. Loan may be diverted because household expenditures could be higher with larger family size. Members' years of stay in the RUSACCO are largely related with credit avail. The average age of sample respondents is about 36.24 years with the minimum and maximum ages of 18 and 53years, respectively.

Land is considered as the basis of livelihood for the majority of the rural population. Landholding will also lead to some demand for services from SACCO. The average land holding of the sample respondents is 0.3458hectare. The minimum and maximum land holding sizes are 0 and 1 hectares, respectively. The majority of the respondents 61.9 percent are having land. Only 38.1 percent of the sampled beneficiaries don't have access to land. Land ownership serves as a good indicator of the initial endowment position of participating households in the savings and credit cooperatives since the household head may need to borrow loan for input purchasing like fertilizer, chemicals and improved seeds. Conversely, participation in economic activities also determines their economic status. As most of the RUSACCO members in the study area own land, their livelihood basically depends on agricultural activities like crop production and animal husbandry. Majority 50.6 percent of the respondents in the study area are engaged in agricultural activities which are basically land based activities. It is followed by the trading activities, which engage 19.6 percent of the respondents. Among the petty trading activities, most popular activities carried out by RUSACCO members are grain and cereal selling, Kiosk (Small shop), cloth selling, fruits and vegetable selling and utensils trading. On the other hand, only 11.9 percent of the respondents depend on service sector. Which include *sherobet*, pastry and tea, radio and tape repairing and hair cut salon. Furthermore, the service sector is going to be a key driver of growth in the near term, which is evident from the opening up of many service sector units recently. For example, in a small village towns like *Hugumberda*(25km from the Wereda capital, Korem), mobile repair shop, pastry and tea, and hair cut salon have come up in the same street within the last one year.

Characteristics of the population

Table2 in the Annex brings out the fact that the proportion of borrowers by gender and level of educational status in the study areas. Out of 168 sample household respondents, 68.5 percent of the respondents are availed loans, while 31.5 percent didn't borrow loans. Categories of borrowers using productive loans were mostly men (68.7 percent) and only 31.3 percent are women. Hence, it can be concluded that there are significant differences between men and women in terms of loans borrowing. This difference may be basically due to men dominated the membership. Moreover, the mean of borrowed loan of members, are1670birr, the standard- devation is1301 birr, the minimum and the maximum value of the observations are 0 and 4000 birr respectively.

Purpose for which borrowed

The loans delivered to the respondents through the SACCO have been invested in variety of micro and small enterprise such as agriculture, trade and service activities. Results of the study show that 31.5 percent of the respondents are not borrowed loan either for farm or nonfarm activities whereas majority (40.5 percent) of the respondents in the study area have taken loan for agricultural activities like crop production, vegetable and fruit crops, and animal husbandry. The reason being in remote rural areas their livelihood depends on agricultural activities. It is further observed that 20.8 percent borrowed loan for trading activities like petty shop, cloth selling, vegetable and fruit selling, selling read-made garment and salt business. Only 7.2 percent of respondents have taken credit for service activities like tea/coffee shop; hair cut saloon and blacksmith work. On other hand, the share of loans for agriculture is higher (59.4 percent) than the other economic activities. This may be attributed to the fact that the respondents borrowed for the purchase of agricultural inputs like fertilizer, chemicals, pesticide and improved seeds.

Number of times loan availed

The continued access to SACCO loans has many implications for both SACCO as well as to the members. Due to the continued access to loans, members can reduce dependence on other sources of borrowing (money lenders) in exorbitant interest charge and as they get timely and usually a higher repeat loan; they can seize the emerging business opportunities in a better way. Table 3 in the Annex presents the number of times loan availed by the sample respondents in the study area. It is found that 31.5 percent of the respondents have not availed loan. Conversely, 7.8 percent of the respondents stated that they have been borrowed at least one time after affiliated to the cooperatives. Besides, 19.6 percent of of respondents have aviled loans two times after affiliated to the cooperatives. Where as, the percentage of respondents who availed loans for three times (37.5 percent) are higher than the other category. Only 3.6 percent of the respondents availed loans for more than three times.

By availing repeated loan, the SACCO members can make investment to start new business and expansion of the existing business, which will improve the income and the living standard of the members. Continued credit access by members creates a good credit history in the SACCO. Interest rates on SACCO loans generally range between 7 and 14 percent. Respondents indicated that most SACCOs had to raise their lending interest rates following the rise in the minimum deposit interest rate from 3 per cent to 4 per cent which increased their cost of funds. SACCOs keep their funds with banks wherever bank branches exist partly because they have no cash vaults for safe keeping. They usually pass on part of the interest income from deposits of these funds to their member depositors. However, most rural SACCOs lack such access; hence have no opportunity to earn interest on temporarily idle funds. Yet, they have to pay interest to their member-depositors.

Assets creation

The impact of participation in SACCO on member's assets can be seen from the table 4 in the annex, indicated that 62.5 percent of the sampled respondents could made additional assets creation in the form of construction of new houses, repairing old ones, livestock purchase like sheep, goat, cow, oxen, donkey, chicken and purchase of household equipment like tape recorders, radio, television, chairs, and tables. The rest 31.5 percent of the respondents have not acquired any additional assets. It can also be observed that the asset creations are lower for women than men.

Majority (31.5 percent) of the borrowers had the asset worth more than 1000 Birr. It is further found that 17.9 percent and 19 percent of the borrowers had the asset worth up to 500 and between 500 and 1000 Birr respectively. Access to property is one important aspect of empowerment for women. The lack of effective access to and control over important resources by the majority of women in rural areas is a major obstacle to women's socioeconomic empowerment. In addition, property is a status symbol underscoring women's low social and economic status. Since power is always related with ownership of assets particularly in rural areas which is results in women to experience a certain level of empowerment. Generally the impact of the SACCO participation on women's empowerment through extra asset creation is not significant as compared with men. Overall impact of the SACCO participation on additional household assets is significant

Shift in income category

One of the primary objectives of the SACCO program is to improve the income of the members through the provision of organized financial services. This is accomplished by engaging participants in income generating activities at the household and community level. Among SACCO members, there is bound to be income inequality due to various reasons. This income inequality is further compounded by the phenomenon that various members use the loan for running their petty business and get incremental income, where as some respondents use the credit not for productive purpose and divert it for unproductive purpose, which will not add further income accruals.

It will be of interest to know whether the SACCO promotes the income inequality among the members or

paves way for the creation of more growth with equity in the respondents. The respondents shift from one category in pre- income to another category in post-income period has been analyzed and results are presents in table 5 in the annex. It is observed that 7.1 percent of the respondents were in the 300 Birr income category during the pre- income period and this category was reduced to 3.5 percent during the post-income period. It is noted that majority (84 percent) of the respondents were in the 300 to 600 Birr income category during the pre- income period and this category has reduced to 73.9 percent of the respondents during the post- income period. It is further found that 8.9 percent of the respondents were in the 600 to 900 Birr income category during the pre- income period and this category has increased to 22.6 percent of the respondents during the post- income period. No respondents were above 900 Birr income category either in the pre- income or post- income period. Hence it can be concluded that the members who have joined the SACCO, when they were in lower level of income ladder and moved upwards during the post- income period. Furthermore, average monthly member income before affiliation totaled at 442.02 birr. This average income lies below the medium income category of the wereda population. While the average monthly member income before affiliation totaled at 522.3.

Consumption expenditure

Participation in SACCO aims at triggering improved living conditions of the members. This is, particularly seen in the level of consumption expenditure in the family. One can understand from the table below that 52.98 percent of the respondents' increase their consumption expenditure after joining SACCO. Whereas, 47.02 percent of the respondents reported that their consumption expenditure did not increase even after affiliation to the cooperatives. Hence, it is possible to conclude that more than half (52.98 percent) of respondents' income is spent on the improvement in living standards, like on nutrition, health and education.

Results of the study show that expenses which have increased are food, health and appliances. Expenses which grew the least are clothing, and celebrations. It seems that certain expenses cannot be reduced and their level is stable (fuel and transportation). This analysis confirms that growth is felt more for prime necessity goods than for other items. It shows that there is a significant difference in the number of times member households expenditure for the purchase of food, health, and appliances after affiliation as compared to before affiliation per year. The member respondents said that even though their income improved, they did not want to express it in terms of frequency of eating. Rather; they focused on improving the quality of food consumed and cloth purchased.

Access to Education

An improvement in access to education of the borrowers and the borrowers' family in general is one important successful impact indicator of SACCO. The rise in income through income generating activities could enable the member to send their children or/ and dependents to school or the capacity to pay for tuition fees would increase. Majority (53 percent) of the respondents reported that expenses for education increased after joining SACCO; where as 47 percent of the respondents said that educational spending did not increase even after joining SACCO. From this it is inferred that SACCO has led to better access for education for the household, because lack of money for living cost is the major cause of non-enrollment and school dropouts in high school education.

Savings behavior

All respondents must have share or deposit accounts in SACCO as part of a membership requirement. Also all respondents have compulsory saving accounts. Results of the study show that the percentage of sample households which use the savings services of SACCO. The average deposit size of respondent in the study area per member is Birr 1080 and the minimum and maximum deposit amount is Birr 700 and Birr 1500 respectively. Also from the analysis it is observed that 66.1 percent of the respondents have up to 1000 Birr deposit and 33.9 percent have between1000 and1500 Birr deposit. Gender also plays an important role in deposit accounts. About 61.6 percent of men and 75 percent of women deposited up to 1000 Birr, while 38.4 percent of men and 25 percent of women respondents deposited between1000 and 1500 Birr.

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6. **Econometric Results**

The regression analysis is applied for analyzing the factors influencing the economic change by RUSACCO among members and the Pearson test was used to determine correlations between post income and profit and the continuous independent variables such as age, education, land size, years of stay in the SACCO by the member, savings, family size, credit amount, number of times loan availed, and number of days employed.

Prior to running the regression analysis all the quantifiable continuous variables were checked with multi-collinarity test and it is found that there is no multi-collinarity problem. Hence, no variable was removed and all the nine continuous independent variables have been used in the analysis. Likewise, the results of the computation of Pearson test correlation revealed that there is no serious problem of association among continuous variables. The summary statistics of the independent variables used in the analysis is depicted in table 6 in Annex and table 7 in Annex.

The results of the measures of correlation are presented in table 6 in Annex. The Pearson test is used to determine correlations between post income as well as profit and the independent variables. These four variables deserve attention (Years of stay in SACCO, saving, loan size, and number of times loan availed). Positive significant correlation have been observed between seniority, saving, size of loan, number of times loan availed and post income of the respondents (P=.001, .001, .000 and .000 respectively). Similarly for profit, there is significant and positive correlation between seniority, the size of loan and number of times loan availed and profit from economic activities (P=.000, .000 and .000 respectively).While the variable saving had significant negative correlation with the profit (P=.000). It is therefore possible to explain change in post-income and profit is due to these variables. No other statistically significant correlation could be observed among the variables for income and profit.

It can therefore be concluded from this analysis that there are some variables that represent highly significant correlation between post income and profit. However, it may be surprising to observe that age, land size, education, family size and number of days employed have no significant correlation to profit and income.

Multiple regression analysis (See table 7 in Annex) was used to identify the relative importance of various factors which influence the income of the respondents after joining in SACCO. As there are several factors which contribute to the post income of the respondents in varying measures, multiple regression is considered to be the most appropriate statistical tool to assess the influence of independent variables on dependent variable.

In the multiple regression model used in this study, post income of the respondents is taken as the dependent variable and quantifiable variables like education in number of years, age in years, number of family members of the respondents, number of school age children, amount of loans, number of times loan availed, years of stay in the SACCO by the member, savings, and number of days employed per annum are taken to be the independent variables.

The joint effect of a group of the independent variables on the post income of the respondents is studied by framing the multiple regression equation of the variable **"Y"** on the other independent variables. The following model with nine independent variables is used.

The values arrived using the Statistical Package for Social Sciences (SPSS, Version 13.0), are presented in table 7 in Annex. It shows regression coefficient of the independent variable estimated through regression analysis along with their **"t"** values and co-efficient of multiple determination (R^2).

Out of the nine variables hypothesized to influence the economic change by SACCO, four (education, savings, number of times loan availed, and years of stay in the SACCO by the member) were found to be statistically significant.

The co-efficient of determination (R^2) is 0.206. It denotes that only 20.6 percent of the total variation of the dependent variable "Y" (post income of the respondents) is explained by the independent variables included in the regression analysis. Therefore, one must look beyond the listed independent variables in order to find

out factors influencing economic changes for the increases in post income of the respondents, who have undertake economic activities. Hence, the actual reasons for the increase of post income of the respondents in the farm sector may be the different factors such as mixed cropping, crop rotation, switching to cash crop, proper supply of agricultural inputs like quality seeds, fertilizers, pesticides and technology, control of pest and diseases and flourishing dairy activities.

The F ratio is also found significant. From the value of "t" statistic corresponding to the regression coefficient, it is found that the four variables x_1 (education), x_5 (savings) x_6 (number of times SACCO loan availed) and x_7 (years of stay in the SACCO by the member) are found to be statistically significant, indicating the importance of these four variables which influence an increase in the post income of the respondents.

The independent variables such as savings and number of times availed have significant positive relationship with the post income, while the variables education and seniority have significant negative relationship with the post income, contrary to what was expected. From table 7 in Annex, it can be observed that one unit of increase in compulsory savings (share) *cetaris paribus* would increase the post income by Birr 0.762.This implies that when the members increase the share capital (monthly compulsory saving) this enables to absorb large amount of credit since in order to obtain credit the amount of share capital is the major determinant factor.

One unit of increased in loan availed times *cetaris paribus* would increase the post income by Birr 359. Number of times SACCO loan availed is found be a significant variable in increasing post income. Their loan availed time should be increased in order to improve the performance of the business as well as living condition of the family. When respondents' status in education and seniority increased *cetaris paribus* will bring down the post income by Birr 65 and 321 respectively.

Non -Member Response

Obviously, ensuring the ongoing viability and vitality of SACCO is of utmost importance. This part discusses the important issue of increasing SACCO membership as a means of maintaining this viability. The general perception held by non-members is that SACCO is more people oriented and friendly than other financial institutions. They are seen as understanding of people's needs, financial situations and as being willing to help. Overall image held by non members seems to be a very positive one. Why, then, have these individuals not joined the saving and credit cooperatives?. Non-members' replies to this question provided diverse and very interesting and an overview is provided of the opinions of these respondents.

In response to the question 'why have you not joined the SACCO? Half of respondents said that the SACCO had not given any benefit for them; hence, they could see no purpose in joining. This response although relatively innocuous at face value has many underlying dimensions. The reply perhaps reflects a basic misunderstanding of what the SACCO actually does and why and for whom the SACCO was established to serve. Basically the SACCO was established purely for people who needed loans and that these loans were particularly for people who are in financial difficulty. This basic misunderstanding of SACCO and their purpose and function within non-members can be solved through creating awareness by campaigns, seminars etc which would clearly explain the functions of the SACCO and for whom it was set-up.

Then, lack of information is further emphasized by 30 percent of non-members directly stating that they had not joined the SACCO because they knew very little about the cooperatives philosophy and concepts. They said that they might be encouraged to become a member if relevant information was made available. Conversely, more than 20 percent of non-members who were interviewed stated that they had not joined because the SACCO charges high interest on loan than other financial institution. This is a very important point in terms of marketing SACCO services to non-members. Even though interest is too high on loan than other financial institutions, it is for the benefit of the members in the form of dividend at the end of the year. So it is important to inform the reason for high interest on loan in order to encourage future membership.

Conclusion

The importance of this study may be viewed from its contribution to fill an important gap in literature. That is, findings of this study can add to the existing body of the literature, and can serve as a starting point on which future studies can be done. On the practical dimension, this study may help wereda cooperative officials to focus on the major SACCO activities that may increase the product thereby improve the living standard of the members. Such information also helps the management committee of SACCO in creating appropriate financial strategies for attaining the required planned financial performance.

The sampled households constitute various socioeconomic features. In the study area's description it is stated that male-headed members constituted 60 percent while 40 percent of the households are female-headed. These different members' age groups do as well have different educational background. The average family size is 4.946 slightly above the regional and the national average. Members' years of stay in the SACCO are largely related with credit avail. The average age of sample respondents is about 36.24 years with the minimum and maximum ages of 18 and 53years, respectively. Moreover, the average land holding of the sample respondents is 0.3458hectare. The minimum and maximum land holding sizes are 0 and 1 hectares, respectively.

This study examined the Pearson test used to determine correlations between income as well as profit and the independent variables. Only four variables deserve attention (seniority, saving, loan size, and number of times loan availed). Positive significant correlation have been observed between seniority, saving, size of loan, number of times loan availed and post income of the respondents. Similarly for profit, there is significant and positive correlation between seniority, the size of loan and number of times loan availed and profit from economic activities while the variable saving had significant negative correlation with the profit. It is therefore possible to explain change in post-income and profit is due to these variables. No other statistically significant correlation could be observed among the variables for income and profit.

The regression analysis of the study   revealed   that out of the nine variables hypothesized to influence the economic change by SACCO, four (education, savings, number of times loan availed, and members' years of stay in the SACCO) were found to be statistically significant. The independent variables such as savings and number of times availed have significant positive relationship with the post-income, while the variables education and seniority have significant negative relationship with the post-income, contrary to what was expected.

The study also came out with a range of reasons in response to the question 'why have non-members not joined the SACCO?. Non members stated that no perceived benefits, lack of information and high interest on loan are the critical problems of SACCO.

References

Elias Berhanu.(2003), "The Role of Micro and Small Enterprises (MSE) in Local Economic Development (LED)": The Case of MSEs in Awassa, Capiutal of SNNPR.

Fitsum Gebrewold. (2002), "Business Development Services (BDS) for Small and Micro Enterprises in Ethiopia: Current Status and Future Prospects. In: Gebrehiwot Ageba (ed).

Gebeyehu Tebeje. (2002), "Sustainability: The Prime Criteria of Successful Micro finance Institutions" ,In: Gebrehiwot Ageba (ed), "Micro finance Development in Ethiopia: Prospects,Sustainability and Challenges on Poverty Reduction," "*Proceedings of the Conference on Micro finance Development in Ethiopia*", Adama (Nazreth), Ethiopia

Gujarati, Damodar N. (1988) Basic Econometrics.   Second Edition.   McGraw-Hill Book

Helmsing, A.J. (2001), "Local Economic Development in Africa": New Generations of Actors, Policies and Instruments. **"*Working Paper No. 12, RLDS*"**, Addis Ababa, Ethiopia.

Kirkpatrick, C. (2001), "Private Sector Investment in Developing Countries": International Experience. A Paper read at the Workshop on Private Sector Investment in Ethiopia: Constraints and Opportunities, May 2001, Ethiopia, pp15-16.

Ledgerwood, J. (1999), *Sustainable Banking with the Poor*: *Micro finance hand Book*, An *Institutional and Financial Perspective*, Washington, D.C.

Montgomery Douglas C. & Peck Elizabeth A. (1998), *Introduction to Linear Regression(*2nd edition*)*

Partners Consultancy and Information Services. (2006), "Developments in Saving and Credit Cooperatives in Ethiopia: Evolution, Performances, Challenges and Interventions with Particular Emphasis on RUSACCOs" September, Addis Ababa, Ethiopia.

Wikipedia (2004),"National Fact sheet" . (2004), http://www.etharc.org/infokit/nationalfact.htm [accessed 2004].

Yohannes Mekonnen. (2002), "Food Security Problems and Public Actions in Ethiopia", In: GebrehiwotAgeba et al (eds) in "Policy Reform, Implementation and Outcome in Ethiopia", *Proceedings of the 11th annual conference on the Ethiopian Economy*, Nazreth: Ethiopia, pp18-32

Table 1. Descriptive Statistics of members' socioeconomic attributes

Household Features	N	Mean	Minimum	Maximum	Range	Std. Deviation
Sex (1=female, 0=male)	168	0.67	-	-	-	0.473
Member Education	168	4.79	0	13	13	2.743
Member age	168	36.24	18	53	35	9.070
Family size of the member	168	4.946	1	10	9	1.858
Years of stay in RUSACCO	168	4.899	2	6	4	0.8089
Land in hectare	168	0.3458	0	2	2	0.3351

Table 2. Productive credit borrowers by gender

Gender	Yes (68.5)		No (31.5)		Total	
Men	79(68.7)		33(62.3)		112	
Women	36(31.3)		20(37.7)		56	
Total	115(100.0)		53(100.0)		168	
Variable	N	Mean	StDev	Minimum	Maximum	Range
Borrowed Amount	168	1670	1301	0	4000	4000

* Figures in parentheses indicate the percentage

Table 3. Number of times loan availed

Number of times loan availed	Number	Loan amount
None	53(31.5)	–
One times	13(7.8)	8590(3.4)*
Two times	33(19.6)	42550(16.7)
Three times	63(37.5)	175820(69.1)
More than three times	6(3.6)	27400(10.8)
Total	168(100.0)	254360(100.0)

* Figures in parentheses indicate the percentage

Table 4. Asset created by respondents

Additional assets	Men	Women	Total
None	33	20	53(31.5)
Up to 500	19	11	30(17.9)
>500 to 1000	20	12	32(19.0)
>1000 to 1500	17	9	26(15.5)
>1500 to 2000	11	1	12(7.1)
>2000 to 2500	8	3	11(6.5)
Above 2500	4	—	4(2.4)
Total	112	56	168(100.0)

* Figures in parentheses indicate the percentage

Table 5. Shift in income category

Respondent income category	Pre–SACCO income		Post–SACCO income	
	Number	Percentage	Number	Percentage
Up to 300*	12	7.1	6	3.5
>300 to 600	141	84.0	124	73.9
>600 to 900	15	8.9	38	22.6
Total	168	100.0	168	100.0
variable	N	Mean	StDev	Minimum	Maximum	Range
Income before	168	442.02	114.43	120	720	600
Income after	168	522.3	150	120	900	780

* birr' is the money unit in Ethiopia which currently exchanges for 0.041648(1 Euro= **24**.0105 birr)

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Table 6.   Measures of correlation (Pearson Test)

Variable	Correlation test for post-income			Correlation test for profit		
	Correlation	P value	Result	Correlation	P value	Result
Age	.057	.461	NS	-.031	.869	NS
Education	-.034	.659	NS	.008	.916	NS
Land size	-.042	.593	NS	-.019	.809	NS
Years of stay in SACCO	.246	.001	SF	.269	.000	SF
Savings	.256	.001	SF	-.303	.000	SF
Family size	-.029	.711	NS	.041	.595	NS
Credit amount	.286	.000	SF	.305	.000	SF
No of times loan availed	.339	.000	SF	.440	.000	SF
No of days employed	.055	.475	NS	-.135	.354	NS
NS: Not Significant at the 0.01(2-tailed) **SF**: Significant at the 0.01(2-tailed)						

Table7.   Regression model

Variable	**Regression coefficient**	**Std. error**	**"t" Statistic**	**Sig**
Intercept	4675.597	1645.159	2.842	.005
Education(x_1)	-65.286*	37.581	-1.737	.084
Age(x_2)	6.612	19.606	.337	.736
Family size(x_3)	-7.579	93.393	-.081	.935
Credit amount (x_4)	.086	.132	.650	.516
Savings(x_5)	.762***	.228	.345	.001
Number of times(x_6)	359.216**	159.815	2.248	.026
Years of stay in SACCO(x_7)	-321.350*	189.928	-1.692	.093
Land(x_8)	-773.949	540.532	-1.432	.154
No of days employed(x_9)	1.331	4.398	.303	.763
Notes: * Significant at 0.1 level **Significant at 0.05 level ***Significant at 0.01 level				
R^2.206 **F** value 3.983 **df** 10 **P** valve = 0.000				