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SCHOOL OF GRAGUATE STUDIES

**THE IMPACT OF SAVING AND CREDIT COOPERATIVE
SOCIETIES (SACCOS) PARTICIPATION ON MEMBERS'
LIVELIHOOD: A CASE OF AWACH SACCOS**

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**July, 2022
ADDIS ABABA, ETHIOPIA**

**THE IMPACT OF SAVING AND CREDIT COOPERATIVE SOCIETIES
(SACCOS) PARTICIPATION ON MEMBERS' LIVELIHOOD: A CASE OF
AWACH SACCOS**

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF
REQUIREMENTS FOR THE DEGREE OF MASTERS OF ARTS IN
DEVELOPMENT ECONOMICS**

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July, 2022

ADDIS ABABA, ETHIOPIA

DECLARATION

I, Ermias Solomon Getachew, hereby declare that this Thesis work titled “The Impact of Saving and Credit Cooperative Societies (SACCOs) Participation on Members’ Livelihood: A case of Awach SACCOs” is my original work; any assistance I received in the preparation of this thesis is fully acknowledged and disclosed. I have also cited any sources from which I used data, ideas or words, either quoted directly or paraphrased.

Ermias Solomon Getachew

Signature

Date

ENDORSEMENT

The thesis prepared, under my guidance, by Ermias Solomon Getachew titled “The Impact of Saving and Credit Cooperative Societies (SACCOs) Participation on Members’ Livelihood: A Case of Awach Saccos” has been submitted to St. Mary’s University, School of Graduate Studies for examination with my approval as the university advisor.

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Date

APPROVAL OF BOARD OF EXAMINERS

As a member of the Board of Examiners of the Master’s Thesis Open Defense Examination, we certify that we have read and evaluated the Thesis prepared by Ermias Solomon Getachew under the title of “The Impact of Saving and Credit Cooperative Societies (SACCOs) Participation on Members’ Livelihood: A Case of Awach Saccos”. We recommend the Thesis to be accepted as fulfilling requirement for the Degree of Master of Art in Development Economics.

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External Examiner	Signature	Date

DEDICATION

This Thesis work is dedicated to my baby girl and my little angel Hallelujah Ermias. The obstacles on the path of my journey to get here made me weak and I gave up many times. But, if there is one reason on earth for me to stand back on my feet and get the strength to fight again, it is definitely because of you my dear. I am truly thankful for having you in my life. It is just as I always says, HALLELUJAH!!!

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ATE	Average Treatment Effect
ATT	Average of Treatment On Treated
CSA	Central Statistic Authority
FCA	Federal Cooperative Agency
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
ICA	International Cooperative Alliance
MFI	Microfinance Institutions
NBE	National Bank of Ethiopia
NGO	Non-Governmental Organization
SACCOs	Saving and Credit Cooperative Societies
RUSACCOs	Rural Saving and Credit Cooperative Societies
PSM	Propensity Score Matching
UNDP	United Nation Development Program

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ABSTRACT

Saving and credit cooperative societies (SACCOs) are established to encourage saving by mobilizing pooled funds they provide loan service to its members at reasonable rate of interest and promoting financial literacy through training and consultancy service to enable members improve living condition. Thus, this study focused on the impact of saving and credit cooperative societies' participation on improving the condition of members' or well-being in the case of Awach SACCOs. The determined sample size for the study was 382 Awach members (133 members for treatment group and 249 members for controlled group) were randomly selected to participate in the study. Both Quantitative and qualitative data were collected through structured questionnaire and focus group discussions respectively. Descriptive analysis and propensity score matching method were used to describe participant member characteristics and evaluate the impact of SACCOs participant on members living standard respectively. In this scenario, the study found that financial support through microcredit has significant and positive impacts on members' average monthly income, consumption expenditure, Education, health care, employment generations and housing condition of participants of treated group in comparing with participants from controlled group. Therefore, based on the significant finding of the study, it can be recommended, all the stakeholders including the Federal Cooperative Agency (FCA) should cluster to persuade and accelerate the growth of micro-financing sector through expansion, accessibility and improvement to reach out and change the living standards of many poorer societies which are still excluded from any financial participation.

KEYWORDS: *saving and credit cooperative societies, members' livelihood, propensity score matching, Awach SACCOs*

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Ethiopia is one of the poorest and most heavily indebted countries of the world with the population of over 120 million of which rural population accounts about 80% and urban population accounts about 20% of the total population (as per latest estimation of United Nation). Ethiopia is the second most populous country of Africa next to Nigeria and the most populous landlocked country of the continent with a total area of about 1.1 million square kilometers. According to (Amha, 2000) the major causes of the high prevalence of poverty in Ethiopia include lack of asset, employment opportunities, income, skill, education, health is a pervasive and persistent phenomenon due to the interaction of a number of persistent poverty traps like population pressure, low investment in human capital, low levels of infrastructure, agrarian nature of the economy and other related factors, and this is aggravated by poor level of standard of living, drought, civil war, and lacunae in appropriate government policies.

Poverty is one of the main challenges that face the development process in Ethiopia. Poor people suffer social exclusion and lack access to various sources of income, markets, education and health services (Attia, 2008). Among the strategies for combating poverty, programs that promote saving and provided micro financial supports to the society in need are regarded as a mechanism for poverty alleviation and as a way of creating employment opportunities in Ethiopia.

Ethiopia embarked on an economic recovery program to put in place condition to improve the incentive structure and the financial status so as to promote saving mobilization and investment (Wolday, 2003). Providing financial service to the emerging segment of the population is an important development tool. It helps creating employment and increases the income of the segment, reduce poverty and consumption also contribute to the achievement of Ethiopia transformation plan and development (GTP). It has been observing that worker civil servants relatively face more challenges in obtaining loans due to lack collateral and it is difficult to obtain adequate amount of loan and high rate interest from formal financial institution (CPDs, 2014). Therefore, Saving and credit cooperative societies (SACCOs) are established to encourage saving by mobilizing pooled funds they provide loan service to its members at reasonable rate of interest

and other financial related service to enable members improve economic and social condition (Galor,1995).

Savings and Credit Cooperative Societies (SACCOs) are voluntary associations or cooperative financial institution owned and controlled by their members, they operated for the purposes of promoting saving, providing credit at low interest rates and providing other financial services to its members (Waweru, 2011). Members regularly pool their savings, and subsequently may obtain loans, which they may use for different purposes. Generally, the idea behind establishment of SACCOS is to promote savings and make credits available to the members. SACCOS are the important micro-financing institutions for mobilization of financial resources for various development activities.

Awach SACCOs is a community based primary saving and credit cooperative which established to serve micro-financial support for all interested individuals, especially for lower and middle class societies which are excluded by the financial sector of the country. The membership size of Awach increased in an exponential rate from only 41 members at the time of establishment to 54,132 at the end of 2013 E.C. According to the institutions report, the share amount of Awach SACCOs is more than 379 million birr. Awach has mobilized over 1.2 billion birr from members saving and provided over 2.5-billion-birr financial support in the form of loans to its 14,881 member.

Therefore, after having a little insight about the subject matter, the aim of this study is to examine the impact of Saving and Credit Cooperative Societies on improving their members living standards beyond participating on the regular saving and credit schemes focusing on Awach SACCOs and its members.

1.2 Statement of the problem

A mixed perception has arisen, worldwide, concerning the economic impact of saving and credit cooperative societies on facilitating access to financial services for the members (Rabobank, 2012). Empirical evidence on the crucial impact played by saving and credit cooperatives in promoting financial access and improving the livelihood of their participant members in Ethiopia is scarcely available. The possibility that saving and credit cooperative may have an impact on improving the living standards of the society through facilitations of access to credit services that have not been fully explored (Kifle, 2012).

Lack of access to effective formal financial markets may be seen as severe constraints that prevents low-income households from participating and improving their living standards and leads to the persistent poverty Kifle (2012). Addisu (2016) found that the impact of RUSACCOs in mida weromo Women has improved their income per annum and improve their household decision maker. Derje (2017) revealed that microfinance; improve the socio economic condition of members'.

The impact of providing small credit by Dedebit Saving and Credit Institution in Tigray region revealed that the majority of respondents (83%) reported that an initial increase in households' income due to credit services. The incremental income is mainly used for basic household consumption expenditure, clothing and education of children 80%, 60% and 40%, respectively. The provision of credit in response to demand and the impact of credit access and usage has resulted in increasing household income and decreasing poverty levels in the study area which depend on continued access to credit (Abera and Asfaw, 2019).

This study also attempted to explore how effective Awach SACCOs was in improving the income of participating members in Addis Ababa city. Moreover, this study attempts to fill the gap through addressing the following question: What is the contribution SACCOs on the improvement of income of participating members? And how members' livelihood is affected due to participation on SACCOs activities?

1.3 Research Questions

This study attempted to address the following major questions;

- ↳ What is the contribution SACCOs on the improvement of income of participating members?
- ↳ How members' livelihood is affected due to participation on SACCOs activities?

1.4 Objectives of the study

1.4.1 General objective

The general objective of this study is to evaluate the impact of saving and credit societies on their members' livelihood improvement focusing on Awach SACCOs.

1.4.2 Specific objectives

The specific objectives of the study are listed as follows;

- ↳ To examine how members living standard improved due to participating in Awach SACCOs
- ↳ To investigate the impact of SACCOs on improving participating members income

1.5 Hypothesis of the study

Based on the objectives stated above, the following hypothesis would be taken. These hypotheses would be used as guiding assumptions for the investigations.

H₀. Participating in SACCOs activities does not have any improvement impact on members' livelihood.

H₁. Participating in SACCOs activities have an impact on members' livelihood.

1.6 Significance of the study

Information about the impact of saving and credit service on the members' livelihood or wellbeing has important for concerned body. In this regard, the study's finding regarding to the impact of SACCOs on improving members' livelihood or wellbeing, will have significant contributions to revealed members' living condition and SACCOs promotion. In addition to this, this study would contribute to knowledge required by policy makers, development planner, donors, program managers, NGO personnel, researchers, and other stock holders.

1.7 Scope and Delimitation of the Study

The study is focused on accessing the impact of participation on SACCOs to the improvement of members. But, due to financial and other resource constraints the study delimited to cover only 382 sample members from 10 Awach branches located inside Addis Ababa city.

1.8 Limitations of the Study

The basic limitation of the study is the information given by the respondents may not necessarily portray the true fact as some of the information may be purposely concealed by the respondents due to they are being regarded as private life or confidential by most of the societies like monthly income, age and/or expenditures. These are likely to compromise the accuracy of the sought information but this cannot be given as an excuse to discourage the researcher on conducting the study.

1.9 Organization of the study

The rest of this research chapters are organized as follows, Chapter two reviews what other research done on their study which includes a brief theoretical part and empirical literatures related to the topic. The third chapter presents methodology used in the research. Chapter four presents the result, discussion and interpretation of the study. Finally, the conclusion and recommendation of the study presented in the chapter five.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Theoretical Literature

2.1.1 Definition of Terms and Concepts

“A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.” This is internationally accepted definition of cooperatives made by the International cooperative Alliance (ICA) (Tsegay, 2008).

ICA (International Co-operative Alliance) “Is an independent NGO which unites, represents and serves co-operatives worldwide”.

2.1.2 Cooperative Principles

The cooperative principles are guidelines by which cooperatives put their values into practice (ICA, 1995). According to International Cooperative Alliance, there are seven cooperative principles listed as follows;

- **Voluntary and Open Membership:** Cooperatives are voluntary organizations open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.
- **Democratic Member Control:** Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives members have equal voting rights (one member, one vote) and cooperatives at other levels are also organized in a democratic manner.
- **Members Economic Participation:** Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all

of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

- **Autonomy and Independence:** Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.
- **Education, Training, and Information:** Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of co-operation.
- **Cooperation among Cooperatives:** Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.
- **Concern for the Community:** Cooperatives work for the sustainable development of their communities through policies approved by their members.

2.1.3 Definition of SACCOs

SACCOs are user-owned financial institutions that offer both savings and credit services to their members. SACCOs are an 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 (Adalbertus, 2018).

SACCOs is financial cooperative society established by voluntary people based on the philosophy of building self-help society or “people helping people”. SACCOs is owned, managed, and controlled by members. Members have the right to decide on its issues, members have the right to

benefit from its service. SACCOs is formed initially for the poorer to provide financial services such as safe place for savings and providing easily accessible loans to members.

SACCOs is “not for profit or for charity” but serve members at fair profit margins. In SACCOs member’s savings form a good pool of money, from which loans are made to members with fair lending interest and the interest rate is decided by members. In SACCOs once overhead and other expenses are paid, reserve for cushion against any loss, and for expansion of services set aside, the remaining income from loans is returned back to members in the form of dividend on savings, share or both (Getachew, 2006).

SACCOs is financial institutions designed for people, to have their own efficient financial service giving institutions that empowers themselves in building asset by teaching thrift culture and make themselves accessible to credit in sustainable way (Getachew, 2006).

What makes SACCOs different from other cooperatives and financial institutions is that SACCOs operations are concentrated within their own membership and a person must be a member in order to save, borrow or receive other services from the SACCOs. In developing SACCOs, working funds are comprised mostly of member shares; in mature SACCOs, working funds are mainly deposits. SACCOs “make loans to members, emphasizing primarily the character and ability to repay. SACCOs” rely to a significant extent upon the volunteer efforts of the members; the key element in the development of SACCOs” is volunteerism. The difference between a SACCOs and other forms of co-operatives is that the SACCOs can accept deposits from its members as savings and also issue out loans to qualifying members of the SACCOs (Tesfaye, 2018).

Livelihood improvement is all aspects that involve improved life standards for people, including economic growth, health and education services, assets and investments (Ashley and Hussein, 2000; Krantz, 2001). Poverty leads to poor health, education, social life, and poor environment, spiritual and political conflicts (URT, 2009). Being poor can therefore force to sell physical assets, reduce quantity and quality of food consumed, move to inferior accommodation, postpone medical treatment or withdraw from savings. The hypothetical idea behind SACCOs is that, they improve the livelihood of their members. This has been explained by different groups of people who are getting services from the SACCOs. This was the major intention of the study to identify the impact

of SACCOs in education, assets, medical services, adequate food and diet improvement which all determines the individual livelihood.

2.1.4 Types of SACCOs

According to (Bwana and Mwakujonga., 2013), various types of SACCOs exist, depending on the membership profile and the products extended to the SACCO members differ accordingly. In essence, there are three broad categories of SACCOs: -

- **Community-based SACCOs:** These SACCOs can be found in urban areas or regional towns, but are most frequently encountered on village level. A variety of group and individual loans can be found, including women solidarity loans, business loans for individual members, or loans for small and micro enterprises.
- **Employee-based SACCOs.** These represent SACCOs where all the members are drawn from one employer and these SACCOs are generally located in urban areas or regional level. Specific salary-based loans are extended which are often guaranteed by the employer.
- **Agricultural SACCOs.** To date these, represent primarily small-scale cane growers in areas such as the rural region. Both individual farmers and farmers' associations can be treated of the SACCO. Loans are extended for various purposes, including agricultural production loans.

2.1.5 Types of SACCOs Saving

Getachew Mergia (2006) expresses the terms, concepts and types of SACCOs saving in the following way:

- **Savings:** means the accumulation of money regularly or irregularly by the members of saving and credit cooperative societies to secure or to gain interest rate or both. Saving can be defined simply as holding something back from today's consumption for future use. In the SACCO society, saving is an asset to members, and a liability to the SACCO society. In the SACCO society, saving is collected from member to on lend to members. Saving is sources of income to the SACCO society because it lends to members with interest. In SACCO societies we have three kinds of Savings: 1) Compulsory Savings 2) Voluntary Savings, 3) Contract Savings (Time Deposits).

- **Compulsory savings:** Compulsory saving is a saving that a member forced to save on regular basis; it is a membership saving i.e. must be saved on monthly basis. This compulsory saving is collected to on lend to members. If members fail to save on time they will get penalized based on the saving policy of the society. Unless the members quit from membership, they should save on regular basis. If a member wants to withdraw from the SACCO society, they have the right to take this compulsory saving with one-month priors notes to the Board of Directors. The society will provide interest for this savings.
- **Voluntary savings:** Voluntary savings are deposited and withdrawn as the member sees fit. This maintains the fundamental function of the SACCO and allows individuals with seasonal incomes to be members. Technically speaking, this is referred to as saving up. This ensures regular flow of cash to the SACCO society and promotes members participation. This kind of saving can be withdrawn at any time when the owner needs it.
- **Contract savings (time deposits) or fixed deposit:** This kind of saving will not be invited unless the SACCO society acquires good experience in managing their savings and loans properly. This kind of saving will be invited in the future when the SACCO society is in a good capacity and position of managing its savings and loans properly and if there is a shortage of feasible financial demand by members. This kind of saving can be collected from members and none members but the amount, period of collection and interest for this saving should be decided by the General Assembly of members (Getachew M., 2006).

2.2 Historical Development of SACCOS

The history of SACCOS in the world can be traced based on two origins of modern cooperation. The first modern cooperation emerged in certain working-class environments in European industrial cities in 1840s, particularly in Great Britain and France (Churk, 2015). These pioneers invented models of the consumer and labor cooperative that defend and promote the interest of working class in the face of the social disasters endangered by the Industrial Revolution (Assenga, 2008). The second generation of the pioneers of modern cooperation emerged in certain European rural environments in the late 19th century. The countryside was economically out of sync with the industrial cities; agricultural cooperatives enabled families of farmers and livestock raisers to organize on their own supply system of agricultural inputs and market their products and no longer

depend on the merchants and businessmen in the cities (Assenga, 2008). Also the SACCOS enabled them to no longer depend on money lenders (usurers) and to find the credit necessary to modernize their agricultural operations (MUCCOBS., 2005). In African countries, the first experiences of savings and credit cooperatives were to a large degree the work of foreign missionaries (Mwelukilwa, 2001). Many of the first savings and credit cooperatives emerged in the English- speaking countries, primarily in Ghana 1955, Uganda 1946 and in Nigeria dates back to 1951- (Mbwana, K., and J. Mwakujonga, 2013). In Tanzania SACCOS emerged in 1954, Kenya in 1964, Liberia 1965.

2.2.1 SACCOs in Ethiopia

Saving and credit is the living conditions in Ethiopia and has long year of experience as traditionally. This cooperation's may be assisted by cultural or religious association that makes the people get together. For example, Iddir (focuses on funeral services), Ikuib , (which helps for saving money and self-help to the members), Debo, which is focused on the cooperation on labor peak times, in the rural area at the time harvesting, wedding ,when emergency happened (zerfeshewa,2010)

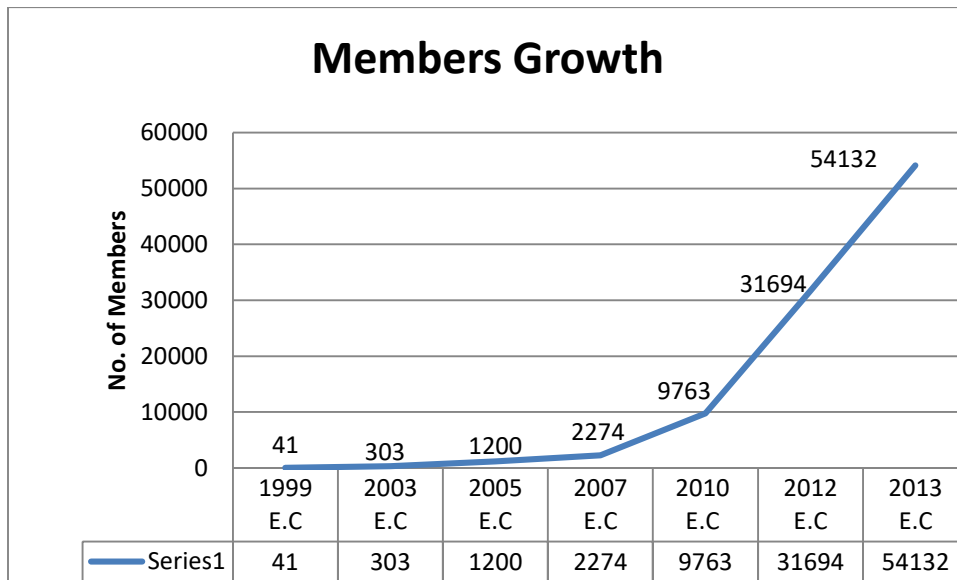
Modern cooperative in Ethiopia was started at the time of emperor Haileseilaie-I in 1961 by decree number 44/1961.and later on proclamation were pass on 1966.With all shortcomings, this legal ground gave contribution for co-operative development in the Ethiopia were pass on 1966 With all shortcomings, this legal ground gave inputs for co-p-operative development in the Ethiopia. During the durg regime, tremendous effort was exerted to organize different types of co- operatives in line with proclamations No 138/1983.During this time, co- operatives were mainly organized to transform rural economy to the socialist style rather than benefiting their members. In this process, internationally accepted cooperative principles were violated which consequently led to the dissolution of co-operations and devastations of their properties during the transitions period (Adisu, 2016).

However, the recent enactment of cooperative society proclamations no.85/1994 and 147/1998 created fertile grounded for restructuring the previous cooperatives and organizing new ones, in line with the mew market oriented economic policy of the government, EPRDF (kifle, 2012)

2.3 Establishment and Successes of Awach SACCOs

Awach SACCOs is a community based primary saving and credit cooperative which endeavors to reach out and serve all interested individuals and especially the lower and middle class societies. Awach SACCOs was established in March 2007 with 41 (33 females and 8 male) founding members and legally registered on the same year Arada sub-city. But due to its gradual increase in membership, it went beyond the sub city’s boundary, and required a registration by Federal Cooperative Agency (FCA) in September 20, 2016 with a registration number No.AG/S/C/005/09. The re-registration provided a legal ground for Awach SACCOs to work throughout Addis Ababa and in the Oromiya special zones around Addis Ababa.

Figure 2.1 Membership growth of Awach SACCOs



As the above line graph shows, the members of Awach SACCOs are shooting up from year to year. Initially, the growth of Awach in membership was very slow, but at the end of year 2013 E.C the total number of members of Awach SACCOs was reported as 54,132.

The other main topic of discussion about Awach SACCOs is the loan amount of borrowers. The loan amount which used to be 10,000 birr for a single borrower during the initial years has gradually increased and reaches up to 2,000,000 birr for a single borrower. Loan default rate is observed to be less than 1% which shows operational soundness of Awach. Most of the loans utilized for housing, purchases of vehicle, business expansion, purchase of assets, and working

capital for existing as well as new businesses and a small proportion for consumption purpose. Until the end of year 2013 E.C, Awach SACCOs provided more than 2.5 billion birr for 14,881 members.

Awach SACCOs have 14 branches including the head office around aware area up to the end of year 2013 E.C. 10 of the branches are located inside the territory of Addis Ababa city and the remaining 4 branches are located on different Oromiya region special zones.

2.4 Impact Assessment Methods

Project impact evaluation studies the effect of an intervention on final welfare outcomes, rather than the project implementation process. More generally, project impact evaluation establishes whether the intervention had a welfare effect on individuals, households, and communities, and whether this effect can be attributed to the concerned intervention.

To know the effect of project on a participating individual, we must compare the observed outcome with the outcome that would have resulted had that individual not participated in the project. However, two outcomes cannot be observed for the same individual. In other words, only the factual outcome can be observed. Thus, the fundamental problem in any social project evaluation is the missing data problem (Bryson *et al.*, 2002; Ravallion, 2005). Estimating the impact of a project requires separating its effect from intervening factors which may be correlated with the outcomes, but not caused by the project. To ensure methodological rigor, an impact evaluation must estimate the counterfactual, that is, what would have happened had the project never taken place (Baker, 2000).

2.4.1. Experimental Method

Experimental method has become the standard method for estimating program impacts. By randomizing observational units into treatment and control groups, it provides a clean estimate of program impacts because both observable and unobservable characteristics get uncorrelated with treatment assignment and thus no selection bias problem arises (Bernard *et al.*, 2010). According to Baker (2000), experimental designs are generally considered as the most robust of the evaluation methodologies.

Random assignment ensures the two groups are statistically similar (drawn from same distribution) in observable and unobservable characteristics, thus avoiding program placement and self-selection biases (Bernard *et al.*, 2010). If implemented appropriately, this design ensures that potential confounders are balanced across program and control units and therefore any differences in the outcomes between the two can be attributed to the program. However, experimental method is usually not available for several reasons such as monetary costs, time consuming in certain situations, in the collection of new data, and the inability to implement experiments for universal entitlements or on-going programs (Alemu, 2010).

2.4.2. Quasi-experimental Method

Quasi-experimental methods can be used to carry out an evaluation when it is not possible to construct treatment and control groups through experimental design (Alemu, 2010). These techniques generate comparison groups that resemble the treatment group, at least in observed characteristics, through which include matching methods, double difference methods, and reflexive comparisons.

According to Jalan and Ravallin (2003), a quasi-experimental method is the only alternative when neither a baseline survey nor randomizations are feasible options. The main benefit of quasi-experimental designs is that they can draw on existing data sources and are thus often quicker and cheaper to implement, and they can be performed after a project has been implemented, given sufficient existing data.

Difference in difference method: According to ADB (2006), it entails comparing observed changes in outcome before and after the project for a sample of participants and nonparticipants. Typically, one collects outcome data of both participants and nonparticipants using a baseline survey before the program and repeats this survey at some later point after the program is implemented. For this reason, this approach incurs higher costs and spends more time as compared to propensity score approach.

Regression discontinuity design method: It compares outcomes of a group of individuals just above the cut-off point for eligibility with a group of individuals just below it. The major technical problem of this method is that it assesses the marginal impact of the program only around the cut-off point for eligibility and nothing can be said of individuals far away from it (ADB, 2006).

Propensity score matching method: It is one of quasi-experimental method to estimate causal treatment effects. PSM is a method to match program participants with nonparticipants typically using individual observable characteristics. Each program participant is paired with a small group of non-participants in the comparison group that are most similar in the probability of participating in the program (ADB, 2006). It matches control groups to treatment groups on the basis of observed characteristics or by a propensity score; the closer this score, the better the match.

Unlike econometric regression methods, PSM compares only comparable observations and does not rely on parametric assumptions to identify the impacts of projects and it does not impose a functional form of the outcome, thereby avoiding assumptions on functional form and error term distributions, e.g. linearity imposition, multicollinearity and heteroscedasticity issues. In addition, the matching method emphasizes the problem of common support, thereby avoiding the bias due to extrapolation to non-data region. Results from the matching method are easy to explain to policy makers, since the idea of comparison of similar group is quite intuitive (Alemu, 2010).

Becker and Ichino (2002) and Caliendo and Kopeining (2005) proposed that propensity score matching as a way to correct for the estimation effects of the program controlling for the existence of confounding factors based on the idea that the bias is reduced when the comparison is performed using participants and control subjects who are similar as possible. For the aforementioned reasons, propensity score matching method is selected to study impact analysis of microfinance on the livelihood of small farmers.

2.5 Significance of Saving and Credit Cooperatives

SACCOs are legally constituted cooperative institutions established, in most cases, under national cooperatives law to meet the basic financial service needs of primary low and middle income citizens who generally cannot obtain these services through the existing banking system (Galor, 1995). It is well recognized that SACCOs provide a means to learn the value of regular saving and wise use of credit. Some even consider them as a form of economic empowerment, where members collectively control and manage their own financial institution which provides saving, credit and financial management services (Galor, 1995) As a result; SACCOs are appreciated for creating an opportunity for people to take responsibility for their own financial organization (SACCOL, 2013). SACCOs mobilize local resources and return them to members in the form of loans and hence the

money stays and works within the members. SACCOL in its website listed a number of advantages of SACCOs and among these the notable ones are: better interest rate on both saving and loans, low overhead cost compared to banks, encouraging members to save with the objective of economic empowerment and educating members on prudent handling of money (Ibid, 2013). In SACCO each member is not another customer to the cooperative, he/she is rather a member as well as an owner of the cooperative, who even gets a share of the profit in the form of dividends. Savings are mobilized locally from the members and are returned to them in the form of loans and this way the money stays and works within the members. SACCOs encourage and educate members to regularly save their money and aim at liberating members from dependence on money lenders and unfriendly banking terms.

2.6 Empirical Literature

2.6.1 Empirical Studies in Other Countries

Regarding impact of saving and Credit Cooperative Societies; various literatures were reviewed. The study by Odoyo in Kenya reported that SACCOS enable the members to meet the daily requirements of living including payment for school fees, medical care, furniture and household items (Odoyo, 2012).

Study conducted in Ethiopia by Sebhatu, (2012) revealed that the impact of participation in SACCOS on members' assets indicated that 62.5% of the sampled respondents could make 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 (Sebhatu, 2012). They also recommended that SACCOS contribute in reduction of poverty, through mobilization of members 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 livelihoods situation (Sebhatu, 2012). Nnyanja also indicated that about 31.5% of the borrowers had additional assets worth more than 1000 Birr (More than 80,000/= Tanzania shillings). A study in Uganda reported that the access to financial services enables households to invest in education, start or expand a business, or invest in agricultural inputs. With SACCOS, the key potential linkage between access to financial services and increase of household wellbeing is vital for economic growth among locals or SACCOS" members (Nnyanja, 2017).

A study in East Africa by Lemma et al., (2010) done in Kenya and Tanzania showed that SACCOS' services enable households to invest in activities that are likely to contribute to higher future income and, therefore increasing household income and living standard of members. There were remarkably similar levels of saving and borrowing in Kenya and Tanzania, with just over 70% of the population saving or borrowing in both countries, despite significant differences in the availability of financial services in the two countries. When comparing these two countries, the study reported that Kenyans both borrowed and saved slightly more than Tanzanians (Lemma et al., 2010).

A study in Kenya found that 44% of those surveyed had at some point used savings to undertake productivity-enhancing investment (Ellis et al. 2010). A study conducted in Nairobi Kenya by Mwangi (2011) showed that SACCOS contributed in loan provisions to its members and encouraged borrowing. They also reported that majority 87.7% of the SACCOS" members improved their wellbeing through SACCOS (Mwangi, 2011). Thus, SACCOS have a significant role in loan provision to its members and in encouraging borrowings.

Study in Tanzania by Churk (2015) found that majority (53.7%) of the respondents perceived that no benefit was obtained for being a member or non-member of Muvikima SACCOS, 23.2% benefited only by doing saving in their SACCOS account due to the fact that there was no other financial service provider in the area, and 23.2% acknowledged that SACCOS benefited them through adding capital to their small-scale businesses and agricultural activities (Churk, 2015). Also, Mebane (2013) found that SACCOS in Tanzania have increased the saving for rural household for about 30 million Tanzanian Shillings in the study area.

The study done in Tanzania, on the effect of SACCO to socio economic improvement of its members' income, the researchers revealed that exceptional of few limitations facing Sacco are doing recommendable work on improvement of its members' income. It was found that all interviewed persons were growing at a good rate in terms of business' level and household level. In addition, Sacco's members have improved their socioeconomic status this is due from the 70.70% of the respondents. The researcher used the research design was case study and the collection method used were documentary review Mwanaid(2013)

Tumwine, Mababzi, & Jaya (2015) had studied saving and credit cooperative (SACCOs) services terms and members' socio-economic development in Rwanda. According to the researchers 'members' socio-economic development, Nature of services' terms at Zigma, saving services, opening and running of Saving account, interest rate on saving and members economic development. In addition, the researcher has revealed strong positive and significant relationship between credit services terms and members' economic development, while interest rate on loans was negatively and significantly related to members economic development. The researcher using linear regression analysis from SPSS data base, number of saving services terms in regard to opening and running account were regressed to find out how they impacted on members' economic development.

According to Mecbo (2016), the study done on South Africa on the topic of the role of saving and credit cooperative in promoting access to credit in Swaziland found out SACCOs in Swaziland shows that SACCOS have made significant contributions in promoting access to financial services in Swaziland, and it appears that there are smaller and more occupational oriented. They have managed to provide a large amount of saving and credit services to their members at an affordable price. However, SACCOS in Swaziland have a low level of penetration, at 3.09%. In addition, they have struggled with the amount of outstanding loans which they have accumulated annually, as they are above the amount of loans issued and saving mobilized. Moreover, the result shows that SACCOS in Swaziland have not yet reached financial sustainability, as they underperformed for the four years from 2011 to 2014, as measured by using the international financial cooperative standard.

A study conducted in Kenya, on the effect of saving and credit co-operative societies strategies on members' saving mobilization, that obtained results shows that the effect of financial services has a minimal impact on saving mobilization. These mean that financial service only affected 3.2% of the change in saving mobilization in SACCOs. In addition, the study explored that cooperative strategies have significant positive effect level of statistical significance on members' saving mobilization (Thomas, Catherine & Susan, 2012).

2.6.2 Empirical Studies in Ethiopia

In Ethiopia saving and credit cooperation can be enhanced through having another source of income. This effect on improving the economic condition of membership such as improving their economic and social capabilities, and contribute to the wellbeing of their families' and communities (kifle, 2012).

The study done by Derje (2017) revealed that on the effect of micro finance on poverty reduction in the case of Oromiya credit and saving Share Company. The study found that most of the respondents from the active treated were found to register an increasing trend in their income for the last two years in comparison with new(incoming) treated, from all sample respondents, 190(90.91) of active treated, and 14(42.42%) of new(incoming)treated replied that their income has increased.

The study revealed on the treated savings shows that active treated reported that they have saved monthly an average of 65.75 compulsory and 57.43 birr and 57.43-birr voluntary, whereas new(incoming) treated saved only an average of 10 birr per month. The living conditions of treated survey results on diet condition indicated that more treated have enjoyed diet improvement than new (incoming) treated, 203 (97.13%) of active treated and 16(48.48) of new (incoming) treated reported that their household diet during the last twelve months has improved. The study also indicated that positive effect of the micro finance on the improvement of medical facilities of program participants, 155 (95.68) of active treated and only 3 (16.67) of incoming treated reported that their overall access to medical facilities in the last 12 months were improved.

Concerning impact on the educational facilities of the household the findings of the study revealed that microfinance intervention didn't improve access to education facilities, because 184 (94.83) of sample active treated and 23 (95.83) of sample new (coming) treated reported that the numbers of their family members attending school increased for the last two years.

The study done by Dessalew (2014), revealed that economic value of saving and credit towards members' asset creation in Addis Ababa. The researcher identified that several economic values of SACCO towards members' asset creation like income generate activities; saving, credit, dividend, health insurance and basic business skill training to start their own small business were the economic values cooperative towards members. The provision of such service helps members,

after membership was sitting sofa, Refrigerators, Bed, Chair and tables, small kitchen house, Oven and Stove as a house commodity. Economic values of cooperative play crucial role for asset creation even though their level of influence has variation. Patronage, dividend was found as significance variables for asset creation. Members' 'who have got patronage dividend have two times better in asset creation than those who didn't have patronage dividend. To sum up it, Community based saving and credit cooperative create economic values and asset for members. In deposit account versus investment, where in risk is a lot higher, in economic more broadly (kifle, 2012).

Saving differs from savings, the former refers to the act of increasing one's asset, whereas the latter refers to one part of one's asset, usually deposit in saving account, or to all of one's asset. saving refers to an activity occurring over time, flow variable, whereas saving refers to something that exists at any one time, stock variable. Saving is an asset to members, and liability to the SACCOs society. Saving is collected from members to lend to members. Saving is source of income to the SACCOs society because it lends to members with interest. This loan interest is the main source of income of the SACCOs society (kifle, 2012)

According to Thomas, Catherine & Susan (2012) training on saving mobilization in totally is vital strategy to improve saving mobilization of SACCOs members. Equally important acknowledgment of regular and best saver in form of certificates and other rewards development of new saving products, compulsory saving and rising of saving to loan ration vital for developing of SACCOs. When SACCOs members are guided and encouraged through groups and given reason why it may be necessary for them to save was revealed in the study that training has high multiplier effect on members saving mobilization. The study stated that developing saving habit done by adjusting the focus and change of habit because saving is culture, habit and away life this mean that when culture is developed wealth starts to grow.

Saving can be holding something for future from today's consumptions. Saving means holding something valuable for future use. saving is income not spent, or deferred consumption. Methods of saving include putting money aside in, for example, deposit account, and pension explanation, an investment fund, or as cash. saving also involves reducing expenditure, such as recurring costs, in terms of personal finance, saving generally specifies low risk preservations of money, as in

deposit account versus investment, where in risk is a lot higher, in economic more broadly (Kifle,2012).

Saving differs from savings. the former refers to the act of increasing one's asset, whereas the latter refers to one part of one's asset, usually deposit in saving account, or to all of one's asset. saving refers to an activity occurring over time, flow variable, whereas saving refers to something that exists at any one time, stock variable. Saving is an asset to members, and liability to the SACCOs society. Saving is collected from members to lend to members. Saving is source of income to the SACCOs society because it lends to members with interest. This loan interest is the main source of income of the SACCOs society (Adissu, 2016).

The study done by Addisu (2016) shows that the impact of SACCOs on members 'before and after compared to their life income, the majority,77% had been better after they joined on SACCOs. The study observation explores that the contribution of saving and credit has significant impact on reduce poverty.

However, saving and credit cooperative are considered as vehicle to cultivate a culture of saving and credit of saving for low-income earners that lack access to formal financial institution services (Mcebo, 2016). Another study identifies that the impact of saving and credit on members are satisfied with the product in the market. It found out that 48% satisfied. The mean score was 3.23 that mean the respond at agreed that the impact of SACCOs satisfied (Tomas, Catherine & Susan, 2012). However, the authors' stated that SACCOs has the significant effect on the improvement of members 'socio-economic condition.

The study done by Kifle (2012) stated that the impact of saving and credit cooperative in Olfa Wereda Tigray region of Ethiopia. The study revealed that consumption expenditure on the members in the family that 52.98% of the respondents' income is spent on the important in living standards, like on nutrition, health and education. Results of the study show that expenses which have increased are food, health and appliances. Expense which grew that least is clothing and celebration. It seems that certain expense cannot be reduced and their level is stable (fuel and transportation).

The study confirms that growth it felt more for prime necessity goods than for other items. It shows that there is 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.

Improving access to education of the borrower 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/and dependents to school or the capacity to pay for tuition fees would increase. Kifle (2012) revealed that 53% of respondents' reported that expense for education increased after joining SACCO; whereas 47% 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-enrolment and school dropouts in high school education.

2.7 Conceptual Framework

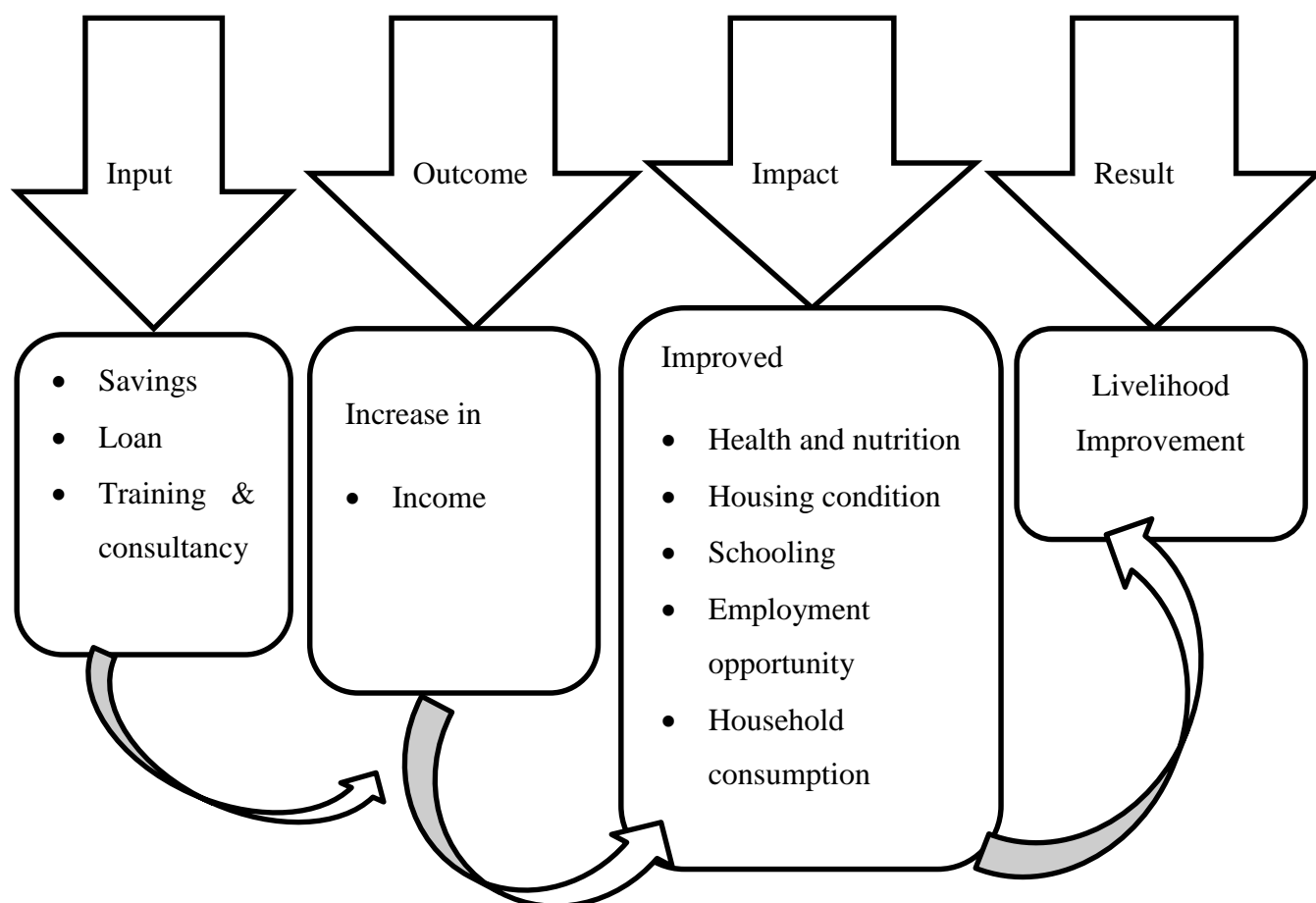
A conceptual framework is structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at and frame their questions and find suitable literature and it also used to give explanation of how the researcher perceives the relationship between variables deemed to be important in the study. The transmission through which SACCOs participation is expected to impact living conditions of households is intricate. They involve inputs, outputs, and outcome and this is related to the theory of change which explains the assumption that connects causal relationship from policy to outcome. Thus figure 2.1 below shows the pathway through which SACCOs participation offered to members in the form of microcredit, saving service, training and consultancy services on how to utilize loan and the outcomes which leads to increase income, improved housing condition, health care, nutrition, saving deposit and asset accumulation and all of this improvement leads to poverty reduction

Micro-credit service: - Micro-credit access positively contributes to reduce poverty by providing finance to low income earners, less educated, and those in the informal sectors which helps in expansion of business, acquisition of better residential places and acquisition of education, health and improved welfare.

Saving service: - The amount of saving influence the amount of loan received from SACCOs which means, the higher the amount on saving the higher amount of loaned enables them to expand their business and for instance it used to improve their living standards.

Training and consultancy service: - Since most of the customers of microfinance were in the informal employment, thus the training provided by the institution enable the participants to develop their skills and talents as well as to have knowledge on how to save, on how to get credit and properly utilization of the resources. Therefore, Training enabled treated to save more than non-participant (non-treated) and led them to better usage of amount loaned by microfinance institution.

Figure 2.2 Conceptual framework of the impact of SACCOs on Household livelihood



Source: - Author's own creation

CHAPTER THREE

3. METHODOLOGY

3.1 Description of the Study Area

Addis Ababa is Ethiopia's capital, located in the geographic epicenter of the country, and surrounded by the regional state of Oromia. It is the largest city in the country and plays a central political, economic and symbolic role in Ethiopia. Constitutionally, Addis Ababa is a self-administered city, accountable to the federal government. (Ezana, 2021)

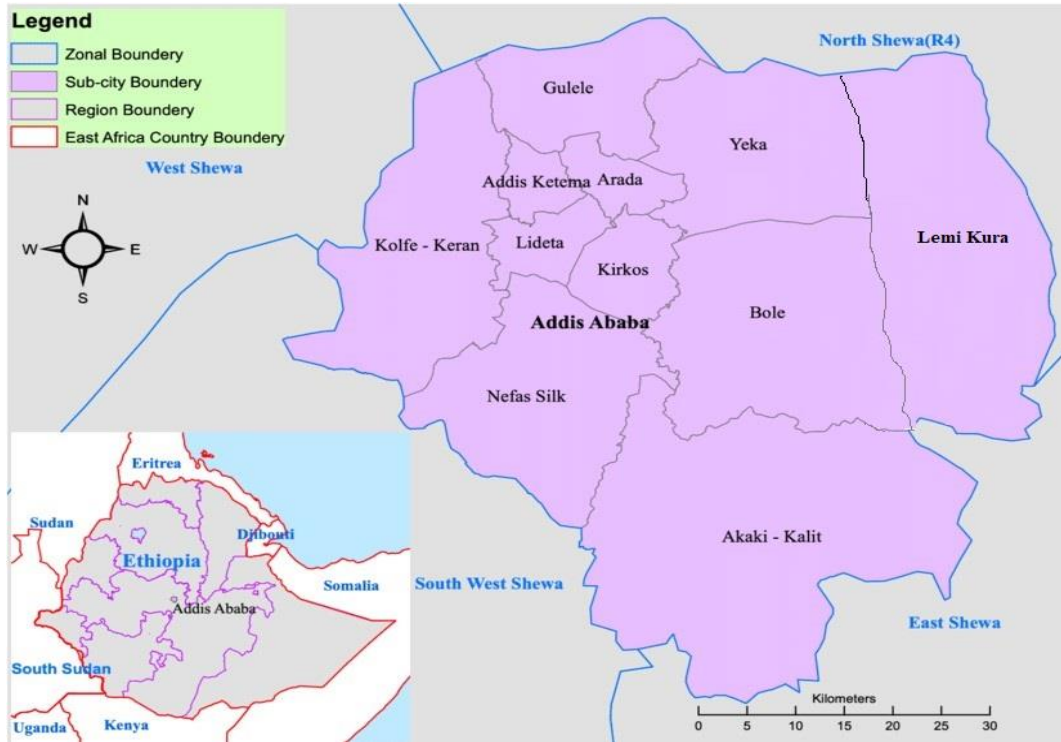
Addis Ababa's population is almost ten times larger than Ethiopia's second-largest city, Gondar. Most of Ethiopia's administrative, diplomatic and commercial activities are concentrated in the city. The city serves as a node for the flow of goods and services to other parts of the country. Addis Ababa has also led to rapid urbanization in eight satellite towns surrounding the city, located within the Oromia region. (CSA, 2013a).

Addis Ababa grew from a settlement of an estimated 15,000 people in 1888 to more than 3.6 million in 2020. According to the Central Statistical Agency, the population is estimated to surpass 5 million in 2036. However, the city's growth rate has declined in the last couple of decades – from 6.9% annually over the 1961-62 period to 2% from 2007 to 2013. (UN-Habitat, 2017)

Addis Ababa is the economic powerhouse of Ethiopia. It generates 29% of Ethiopia's urban GDP and 20% of national urban employment. The service sector (trade, repair and other) comprises 32.5% of the total city's employment, followed by domestic personnel (11.2%) and construction (9.7%). Together, services (63%) and industry (36%) sectors account for almost all of the city's GDP. (UN-Habitat, 2017)

Although the EPRDF government's development policies resulted in a reduction of poverty inequality and unemployment in Addis Ababa, double-digit inflation in the post-2005 period significantly impacted the urban poor's purchasing power. Youth unemployment is a major challenge; about 25% of young people (aged 15-29) in Addis Ababa were unemployed in 2020. There is also significant in-migration to Addis Ababa, and most recent migrants endure economic hardship and a poor quality of life. (CSA, 2020b)

Figure 3. 1 Map showing Addis Ababa Sub cities



(Source: Shape file from Ethiopian Karta Agency)

3.2 Source and Method of Data Collection

For this study, both primary and secondary data was used. Secondary source of data was obtained from brochures, annual magazines, yearly reports, website and articles and previous researches was reviewed to make the study fruitful. Primary data would be obtained through structured questionnaires to the members of Awach SACCOs. For the purpose of simplicity, the researcher classified members of Awach SACCOs as treated and controlled from this point on ward. Treated of Awach SACCOs are those frequent loan service users (at least more than three successful and consecutive borrowing records). And the remaining controlled of Awach SACCOs are those members who did not participated on any of the credit schemes yet.

As the issues to be addressed in the study, both qualitative and quantitative methods of data collection would be used. Quantitative data was collected by using open and close ended questions to get information. While qualitative data was collected through key informant interviews. The questionnaires contained both close-ended and open-ended questions which were distributed to all respondents by translating to Amharic language. The questionnaires were issued to the respondents

at the time of visiting Awach. Accordingly, the researcher would be used this instrument to collect the reliable data from those who are selected.

3.3 Sampling Techniques

Awach SACCOs, as mentioned at the beginning of this chapter, has 14 branches from which 10 of them are inside Addis Ababa city administrative territory. Therefore, for the study purpose, sample members from all Addisu Gebeya, Sidest Killo, Silassie, Lideta, Jemo, Sehalite Mihret, Stadium, Bole, Kality branches and including the head office are willingly participated to reflect their responses to the questions provided to them.

On classification of respondents as treated and non-treated, the total number of members (which is 54,132) is considered to be the population of the study and from the sample population of 382 (which will be explained in detail on the next sub-topic) 65% of the respondents (249 members) are chosen from the non-treated members. The remaining 35% of the respondents (133 members) are chosen from the treated members. This proportion is purposely made by the researcher by considering the number of non-treated members from the total number of members it way greater than from those members who received financial/credit support from Awach at least once (only 14,881 members, to be exact, received loan service up to the end of 2013 E.C).

3.4 Sample size

The total number of Awach SACCOs members are considered to be the population of the study and the number of sample respondents for this study is determined by using sample size determination formula from Kothari, C.R. (2004).

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

Where; n= sample size

N= population Size

Z= the desired confidence level which is 95% in our case and the value 1.96 is obtained from table

p= sample proportion & q= (1-p) which is 0.5

e= acceptable error or error term, which is equal to 0.05

$$n = \frac{(1.96)^2 * 0.5 * 0.5 * 54,132}{(0.05)^2(54,132 - 1) + (1.96)^2 * 0.5 * 0.5}$$

$$n = \frac{51,988.3728}{136.2879}$$

$$\underline{n = 381.5 \approx 382}$$

3.5 Method of Data Analysis

Both descriptive statistics and empirical method of data analysis was used to investigate the impact of saving and credit cooperative activities on the livelihood of the members. Various statistical tools have employed to investigate the difference in the livelihood of the treated and controlled. Descriptive statistics were used to describe relevant aspects of variables and to provide detailed information about socio economic and demographic characteristics of participant members. The study employs Propensity Score Matching method to identify the impacts of saving and credit cooperative activities on members' livelihood. And the result from Propensity Score Matching estimation was presented in tables using different statistical techniques.

3.5.1 Impact Assessment at Individual/Household Level

At household level, the impact of saving and credit cooperative societies (or microfinance in general) intervention can be observed in association mainly with income, assets, and social empowerment of the frequent borrowers by comparing with the controlled. In order to evaluate the impact of Awach SACCOs on members livelihood, the methodology suggested by Fidler and Webster (1996), which is the evaluation of changes in user livelihoods as a result of micro financing scheme is employed in which it compares the livelihood of treated and controlled. In line with this, assessing impact at particular level requires adjustment to control for difference in unobservable household characteristics and the impact of the program is assessed at household level based on average yearly income of the household. Change in income affects access to education, access to medical facilities, nutritional status, savings, employment generation and empowerment among others, which are indicators of poverty. This has been done using propensity

score matching method in comparing the livelihood of treated and controlled of household in the sample study.

3.5.2 Microfinance Impact Assessment Approach

Different approaches can be used to assess the impact of microfinance in improving the incomes of participants. In this study, in order to evaluate the impacts of microfinance in increasing the members' income, the methodology used by Amin et al (2005) was employed. According to these scholars, comparing the livelihood of treated and non-treated can be used to examine the effectiveness of microfinance on household livelihood.

Schuler and Hashemi (2011) used combining and comparing participants and non-participants with residents of village without credit-programs in order to look the effectiveness of the program. The method of making comparison between treated and controlled (control group) is the most common cross-sectional design used in evaluation research. Therefore, it is believed that the method of comparing participant and non-participant with respect to improvement in income is the most promising and useful tool and is the most valid of the cross-sectional approaches. In line with this, study also used to compare participant's and non-participant's income improvement by using propensity score matching method as it is an appropriate method to impact evaluation in comparing treated and control group when there is no-random assignment (Rosenbaum and Rubin, 1983).

3.6 Model Specification

3.6.1 Propensity Score Matching (PSM)

Propensity score matching is the most popular method used to find the match between treated and control groups. Propensity score can be estimated using models such as discriminate analysis. Probit or logistic regression is widely used (Stuart, 2011). However, this paper deals with probit model to estimate propensity score matching. Propensity score π for an individual (i) defined in Rosenbaum and Rubin, (1983) is a conditional probability (p) of assigning participant to a particular treatment or comparison group (T) given a set of covariate (xi) expressed as

$$\pi_i = p(T = \frac{1}{x_i})$$

In this study the analysis was used to examine the impacts of microfinance intervention on poverty reduction by incorporate participant and non-participant household in the study area. Average treatment effect on the treated is useful to evaluate the effects on those for whom the program is actually intended and it is the difference between the potential outcome of intervention group and the potential outcome of non-participant and it is expressed as follows;

$$\Delta_i = Y_i^T - Y_i^C$$

Where; Δ_i is the impacts program intervention

Y_i^T is the outcome of Treated variable

Y_i^C is the outcome of control variable

The average treatment effect (ATE) is the mean effect of the program on individuals randomly selected from both control and intervention group of population and this value is computed as follows:

$$ATE = E(\Delta_i) = E(Y_i^T - Y_i^C) = E(Y_i^T) - E(Y_i^C)$$

To match the scores of those who were a part of the intervention to those not, propensity score matching model was used as it was chosen over other methods. Primarily, as a model is non-experimental method, it applied in this study considering microfinance intervention does not have experimental non-participant individuals (control groups). In addition, others model like after and before and difference in difference was not applicable as they require base line data.

On the other hand, the model was preferred over regression discontinuity method as it does not require large number of respondents in order to draw a significant result. Although instrumental variables and encouragement design approach can be used, finding an appropriate instrumental variable that affects participation and not the dependent variables on ex post evaluation is proven to be difficult, despite the approach's ability to solve the problem of self-selection. The PSM assumes, in addition to the difference in treatment between intervention and non-intervention groups, there exists a variation in characteristics that affect outcome between the two groups.

The PSM model was helpful to analyse the extent of influence that the intervention of microfinance has improve the livelihood of the beneficiary compared to the non-participants. After calculating

for the propensity score, each individual participant of the microfinance was matched to a non-participant with a similar propensity score. There are four types of matching methods which can be used to compare the outcome of a program beneficiary individual with the outcome of the control. These are:

Nearest Neighbour Matching – In this approach a match with the closest propensity score is found for the intervention group from the control group. A match from the control group can be used once without replacement or more than once with replacement. This choice can be made based on the sufficiency of the data because replacement can cause trade-off between bias and variance in analysis.

Radius Matching – This approach is similar to nearest neighbour matching, with an addition of a tolerance level on size of propensity score of the beneficiary and non-beneficiary individual. This makes the radius matching method more likely to drop bad matches, yet it also might have fewer matches because of this.

Kernel Matching – This matching method uses weighted averages of all individuals in the control group to estimate the counterfactual outcome. It uses more information, hence lowering the variance. Yet, it is more prone to the use of bad matches causing a trade-off between bias and variance similar to the others.

Stratification Matching – This method uses an interval in order to divide the common support of propensity score and then match the intervention and control groups within each interval. Although a rich dataset is needed, it has an advantage over the others as the estimation is based on many more observations enabling it to provide better matches.

A matching algorithm is picked for a research study based on the sample data collected, with an inevitable difference between bias and variance. Bias can be reduced through the quality of the information used to construct the counterfactuals, which causes lower variance and hence a better match for the intervention group. All intervention group observations whose propensity score is higher than the maximum or lower than the minimum propensity score of the control group have to be dropped. There is also a common support condition which can be used as a guide in selection of matching methods. This condition is more important when the nearest neighbour with replacement and kernel methods are used as the counterfactuals (Sianesi, 2001).

There are still some shortcomings associated with matching. Amongst these is the need for quality covariates as unobserved variables might cause selection bias. However, it is advantageous as in the absence of baseline data; it finds close matches from the control group to the intervention group. Therefore, first, a propensity score on the basis of a probit model was estimated for this study. Then a matching approach was selected based on the aforementioned pros and cons to the approaches. For this study a stratification approach was used for interpretation of the results as it provides better matches compared to nearest neighbour and creates intervals making interpretation that much easier. Despite this, ATT and t value of every approach was presented for comparison in this study. The common support condition was also checked to see if it was satisfied.

The first step taken in calculating the propensity score is to define the intervention and control group and the relevant outcome variables. The two groups of the target populations in this study were the treated and non-treated of Awach as explained earlier in this chapter. Then the selection of the control group was done after a detailed description of the intervention group was finalized. This was done so as to make the control group most similar in demography as well as socio-cultural background to the intervention group. After the selection and assignment of the SACCOs intervention and control groups, an effort was made to find observable characteristics that might affect the outcome of the program. These variables were first selected through review of previous works concerning the microfinance program participation and then used for matching. These are then used to control for background information which could possibly influence the outcome indicator of an individual. For this particular study, the variables age, marital status, Household size and literacy were considered. This measure is assumed to identify households that would be similarly affected by the intervention and hence are most comparable.

3.6.2. List of the Dependent and Independent Variables

Table 3. 1 Description of variable

Variable	Description	Variable type
Average Monthly Income	The average members monthly income Continuous variable	Dependent/ Outcome
Trend of Income	Trend of Income in the form of dummy variable Dummy variable; Increased=1 or Not increased=0	Dependent
Consumption expenditure	The respondent's perception of increased average household monthly consumption expenditure. Dummy variable; better=1, same or worse=0	Dependent
Education	Respondent's perception of improved education status which is measured in terms of spending on schooling or the ratio of completed years of education compared to years that should be completed with respect to age. Dummy variable; better=1, same or worse=0	Dependent
Health care	Respondent's perception of improved access to health care which is reflected in ability to spend on medication or access to health care facilities. Dummy variable; better=1, same or worse=1	Dependent
Housing condition	Respondent's perception of improved housing conditions which are reflected in the overall condition of the house (interior walls, and roof). Dummy variable; better=1 same or worse=0	Dependent
Employment generation	Dummy variable; better=1 Same or worse=0	Dependent
Gender	Dummy variable; Male =1, Female=0	Independent/ Covariates

Literacy	The respondents' educational achievement Continuous variable	Independent/ Covariates
Marital Status	Dummy variable; Married=1, Single, divorced or widowed=0	Independent/ Covariates
Household size	The number of family living together Continues variable	Independent/ Covariates
Age	Age of respondents Continues variable	Independent/ Covariates

CHAPTER FOUR

4. RESULT AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the findings of the study received through data collected from the respondents. This study aimed at examining the impacts of Awach SACCOs on members' livelihood. The data used for this study was collected from members of Awach branches inside Addis Ababa city. The collection of these data was done using questionnaire which was administered to respondents, and it involved closed and open ended questions. It gives answer to the research question raised before the research was conducted.

4.2 Descriptive Data analysis

4.2.1 Demographical characteristics of the respondents

Gender of the respondents

The study consists of both men and women members of the SACCOs for both the treated and non-treated group of respondents. The selection of the respondent gender was completely random and it was summarised in the following table as follows:

Table 4.1 Sample respondents by sex

Treatment	Gender		Total
	Male	Female	
Controlled	118 (60%)	131 (71%)	249
Treated	79 (40%)	54 (29%)	133
Total	197	185	382

Source: - Own Survey 2022

From the above table 4.1 we can consider that among 382 of sample respondents, 133 are from treated group and 249 are from controlled group. In this case, we should have to consider that the number of treated and controlled respondents were proportionally taken depend on the number of treated and non-treated members of Awach SACCOs credit scheme. Therefore, controlled

respondents are greater than treated respondents and the interpretation of the result depend on the percentage.

From the total sample population of 382, 197 respondents which constitute 52% of the respondents are male members and 185 respondents constituting of 48% were female.

Marital Status of Respondents

In most case it is believed that those with more responsibilities engaged in many activities than the others. Married people are assumed to have more responsibilities inside their houses, like for example; take care of their family which includes providing the basic needs to the family, school fees, medical fees, and clothes.

Table 4. 2 Marital status of Respondents

Marital status	Types of the respondents		Total	Percentage share from the sample respondents
	Treated	Controlled		
Single	11(8.3%)	63(25%)	74	19%
Married	113(85%)	162(65%)	275	72%
Divorced	6(4.5%)	16(7%)	22	6%
Widowed	3(2.2%)	8(3%)	11	3%
Total	133 (100%)	249 (100%)	382	100%

Source: Own Survey 2022

This result shows that from the total 382 respondents, 74 (19%) of them were single, 275 (72%) of them were married and the rest 22 (6%) and 11 (3%) of the respondents were divorced and widowed respectively.

These result showed that the majority of respondents were married in both the treated and controlled members of Awach SACCOs. This could be attributed to the fact that married person were more participate in business activities or income generating activities than other else since they are more responsible for their families.

Number of Household Dependent

The effect of household size on the livelihood of an individual is ambiguous depending on the composition of household size. If the household has a high dependency ratio (i.e. higher proportion of children below 15 years of age and elderlies above the age of 65), then household size will have a negative effect on household livelihood, otherwise the reverse is true. The number of dependents featured as contributory factor to the need and utilization of the loan from microfinances. This is due to the fact that, the bigger the number of dependents, the greater the demands for the basic needs like food, clothing, shelter, and education. The following table shows the number of dependent of the respondent household

Table 4.3 the number dependent on household

No of Household Dependents	Treatment		Total
	Controlled	Treated	
0	2	0	2
1	31	6	37
2	64	4	68
3	64	20	84
4	75	63	138
5	12	24	36
6	1	10	11
7	0	6	6
Total	249	133	382

Source: - own survey 2022

Table 4.3 shows the number of household dependents which ranges from 0 to 7. The most frequent number of household dependents for treated and controlled group of respondents is 4. Households those have dependent may not be able to improve their livelihood even they committed too. Because, the higher the dependency the poorer the livelihood improvement.

Impacts of SACCOs on Income

One of the immediate impacts of having access to credit or any financial support from SACCOs or any other microfinance institutions is on income. Participating in saving and credit activities will have a positive impact on members. The positive impact of SACCOs may result if the financial supports received from the SACCOs are used for start-up or expansion of business, then business earning will increase. Secondly, even if loans are used for smoothing household expenditure (such as for household consumption, education fee of children, improvement of housing condition, medical care expenditure), intuitively this has the potential to improve household livelihood. Since most of the respondents do not keep records on their business activities or flows of their income, the income figures may not be accurate but the trends of estimated yearly income for the last five years of the respondents serve for the study.

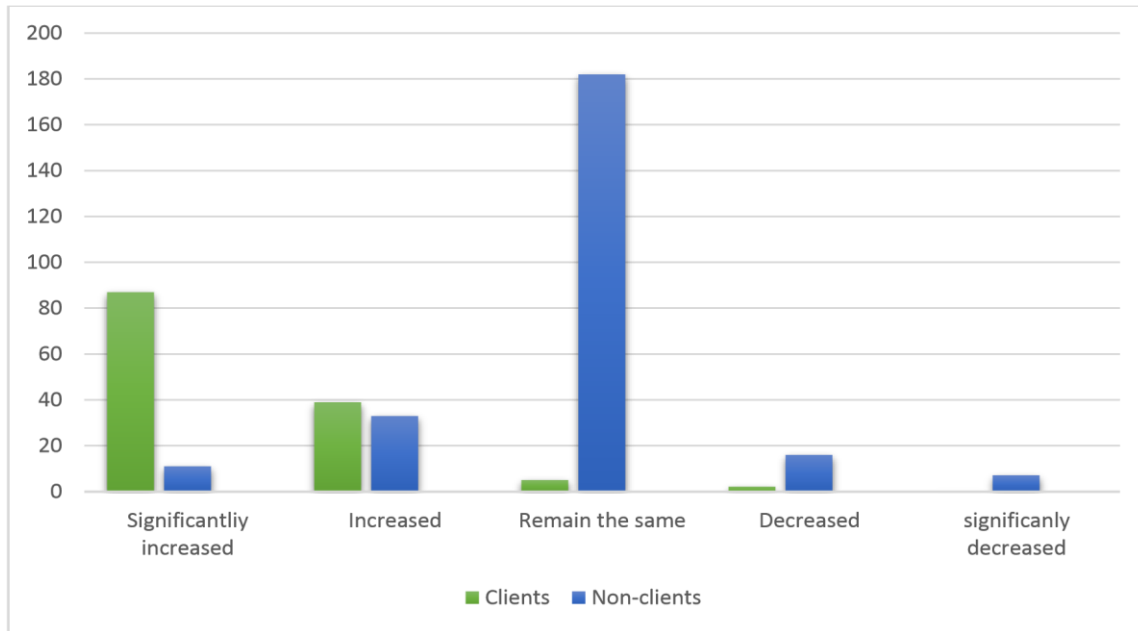
Table 4. 4 the impact of SACCOs on members' income

Respondents Trends of income for the last five years	Types of the respondents		Total
	Treated	Controlled	
Significantly increased	87	11	98
Increased	39	33	82
Remain the same	5	182	177
Decreased	2	16	18
Significantly decreased	0	7	7

Source: - own survey result 2022

Table 4.4 indicate that out of 133 treated respondents, the trend of income of 126 (95%) of the respondents had been increased or significantly increased for the last five years due to participating on SACCOs. Whereas, with non-treated respondents it is only 44 (17.4%) of them shows improvement on their trend of income in the same period. The other basic information we can get from the above table is that, the income of 182 (73%) of non-treated respondents remains the same for the last five years. From this point we can say that those who are participating on saving and credit scheme are more likely to have improved their level of income than those who did not participate.

Figure 4. 1 Trends of respondent's income



Source: - own survey result 2022

From the respondents of sample treated who reported the increase in their level of income, 126 (95%) reported that access of finance from SACCOs for working capital and start-up a new business helps them to able to purchase business assets, expand existing business activities and petty trade. On the other hand, from the sample of controlled who reported the increment in their level of income 44(17.4%) of them reported as the cause of improvement in their income are having businesses with no financial support need and petty trade from their own working capital. Out of the sample treated who reported that the trend of their income was remained the same; not eligible to get any financial supports from other financial institutions, high number of household dependents, illness or death of the family were reported as main problem. Some of controlled identified that lack of access to credit was the most significant reason for the problems in their business activities. Therefore, the responsiveness achieved in relating with income from program participants shows a clear indication that access to credit has enabled the treated to generate disposable income that could be spent on better facilities which could improve the living standard of the households concerned.

Impacts of SACCOs on Household Consumption

Having access to credit has also impact on household basic consumption status. This indicator is simply to capture the direction of change in type and quality of household consumption expenditure. Since the respondents may not have records on their daily, monthly or yearly expenditure on type of meals or quality of meals, information on their average yearly consumption expenditure were taking in to consideration. According to Teferi Zewdu (2000), the immediate impact of microfinance program is on income and this induced income is expected to have an impact on another outcome like increase in consumption expenditure that leads to better household diet and living condition. Thus the trend of average yearly consumption expenditure of each respondent was collected. This is also used to compare the consumption expenditure of Treated and controlled members' household consumption. To understand this, the observed expenditure reported by respondents was used and it was indicated in the following table.

Table 4. 5 Trend of consumption expenditure of Respondents

The respondent's Trends of Consumption expenditure for the last five years	Types of respondents		Total
	Treated	Controlled	
Increased	116(87%)	48(19%)	164
Not increased	17(13%)	201(81%)	218

Source: - own survey result 2022

Concerning consumption expenditure, it assumed that the improvement in consumption expenditure leads to better household diet and living condition. This concept tells us whether the status of household consumption has been improved or not for the last five years. It is obvious that SACCOs intervention is expected to support program participants in ensuring food security which is the prime concern of all poor households. The findings of this study also confirmed that 116 (87%) of sample treated respondents reported as the trend of their consumption expenditure has increased while only 48 (19%) of sample controlled respondents are reported as their household consumption expenditure have been improved over the last five years. Only 17 (13%) of treated and 201 (81%) of controlled respondents reported as their type and quality of consumption expenditure have not been improved over the last five years. These results indicate that more treated have enjoyed diet improvements than controlled. Program participants have more chance if improving their diet in comparison to non-participants.

Impacts of SACCOs on Medical care

Being one of the dimensions of poverty, access to basic health services by an individual predicts his/her level of poverty. In order to understand that, respondents were asked to recall their medical expenditure trends and medical service facilities. Since a number of members of households who are ill or injured within a given year might be different, the responsiveness of respondent's demand for medical care is considered in the study.

Table 4. 6 the respondent's medical care

Trend of medical service Status	Types of respondents		Total
	Treated	Controlled	
Improved	94(70%)	73(29%)	167
Non-improved	39(30%)	176(71%)	215

Source: - own survey result 2022

This result shows that 94(70%) of sample respondents and only 73(29%) of controlled reported as their responsiveness toward access to medical facilities has been improved. However only 39 (30%) of sample treated and 176(71) of controlled reported the trend that their ability to get access to medical service has not been improved. This result clearly shows that participating in microfinance service have improved their ability to respond to the demand for medical care. The study finds difference in responsiveness of demand for medical care between the two groups. Therefore, we can conclude that program participants have been benefited from the SACCOs credit scheme.

Impacts of SACCOs on Educational attainment

Education is another dimension of poverty and therefore, educational attainment by an individual shows her/his level on poverty. Education level was expected to have a positive on household income. The rationale is that education is the form of human capital development which increases the productivity of labour and employment opportunities which result in higher incomes. In order to identify the impacts of SACCOs on educational attainment, respondents were asked about the status of their educational attainment improvement.

Table 4. 7 Status of respondent's educational attainment

Status of respondent's educational attainment	Types of respondents		Total
	Treated	Controlled	
Not improved	8(6%)	206(82.6%)	214
Improved	125(94%)	43(17.4%)	168
Total	133(100%)	249(100%)	382

Source: -own survey data, 2022

From table 4.7 we can understand that, 125 treated and 43 controlled reported as their educational attainment was improved while 8 treated and 206 controlled were reported as their educational attainment was not improved. These findings show that majority of treated respondents had a better access to educational service while majority of controlled access to education was same as before. Midgley (2003), said that we can know the poverty status of an individual by checking his/her educational attainment and better educational attainment of treated respondents implies that there is decrease in the rate of poverty of individual where by loan they receive leads to increase their income and this improvement of income can be used to take them and their children to school.

Impacts of SACCOs on Employment

SACCOs services and employment have always gone hand-to-hand. The theory of change that launched the cooperative movement posited that microcredits would empower low-income borrowers to create self-employment and opportunities through entrepreneurship. So, to have a good image of the real impact of access to finance for SACCOs members, the sample respondents were asked whether their trend of job opportunities and creations had been improved or not. And here is the result obtained from their response.

Table 4. 8 Job opportunities of respondents

Status of respondent's job opportunity	Types of Respondents		Total
	Treated	Controlled	
Improved	97 (73%)	41(16%)	138
Non-Improved	36(27%)	208(84%)	244
Total	133(100%)	249(100%)	382

Source: - own survey result, 2022

From table 4.8 we can understand that, out of total sample treated and non-treated respondents, 97 (73%) and 41 (16%) of respondents reported that the trend of their employment opportunities have been improved respectively for the last five years. On the other hand, only 36 (27%) of treated and 208 (84%) controlled respondents reported that there is no improvement of job opportunities or creation in the given period. This implies that micro credit services to the low-income borrowers/members have positive impacts on employments generation.

4.3 Econometrics Analysis

4.3.1 Propensity Score Matching

Assessing impact at the individual level requires adjustment to control for the difference between frequent borrower (treated) and those who are looking for credit that taken as controlled. Since these two groups may have differences in observed characteristics and it may bias the result if we use the whole non-participant of Awach SACCOs as a comparison group for those are participant, we must find non-participant household from non-participant sample that observationally match with participants. To do this or to make comparison of control with treatment (treated) group, the researcher applied propensity score matching based on observed data. Propensity score matching is one of the methods in impact evaluation which can better match control and treatment units based on observed characteristics (Khandker, 2010). In the absence of baseline data, the model found close matches from the control group to that of the intervention and compared them. There is close socio-economic similarity between the beneficiary (treated) and controlled (non-beneficiaries) of Awach SACCOs. In the course of the analysis, the variable which includes gender, marital status, education (literacy), family size and age were used to match between the household intervention and control groups.

The outcome variable average monthly income and the dependent variables which are being tested for change as a result of program intervention were education status, health care, housing condition and consumption expenditure. It is necessary to run the multicollinearity and hetroskedasticity tests in most of economic related research studies. However, these tests were not conducted in this study because of the fact the fact that hetroskedasticity error term has little influence on the estimated intervention effect in propensity score matching (Williams, 2011). Since multicollinearity implies a linear relationship among some or all explanatory variables of

regression model, there was also no need to run multicollinearity tests in this study (Gujarati, 2004).

To calculate propensity score, probit model was used where the outcome variable regressed against the age, marital status, literacy, and family size. The results for the regression are shown in the table 4.9 below.

Table 4. 9 Probit regression for calculating propensity scores

Probit regression	Number of obs =	382
	LR chi2(5) =	59.55
	Prob > chi2 =	0.000
Log likelihood = -217.11511	Pseudo R2 =	0.1206

Treatment	Coef.	Std. Err.	Z	P> Z	[95% Conf. Interval]	
Gender	-1.137747	0.2103553	-5.41	0.000	-1.55004	-0.7254577
Marr_Stat	0.5073034	0.1717924	2.95	0.003	0.170597	0.8440103
Age	-0.0312069	0.0169774	-1.84	0.066	-0.06448	0.0020683
Lite_Cy	0.6964988	0.1406906	4.95	0.000	0.42075	0.9722474
Hh_Size	-0.0387898	0.0732577	-0.53	0.596	-0.18237	0.1047927
_Cons	0.6243795	0.6274992	1.00	0.320	-0.6055	1.854255

Source: - own survey result 2022

From the above output we can also see that, higher age, more female and people having high family size are less likely to participate in the microfinance. While married and high educated were more likely to participate in the SACCOs as they were statistically significant.

The balancing property was satisfied and 133 of treated and 224 of controlled were matched in the calculated common support regions. The common support region was between [0.0691845, 0.66801918]. This means that the highest propensity score was 0.66801918 while the lowest was 0.0691845. The mean propensity score was 0.37 which means the probability for the respondent to participate in SACCOs program is 37%. The estimated propensity score and the common support are depicted in the appendix. The final number of blocks estimated was five. These numbers of blocks ensure that the mean propensity score is not different for intervention and control groups in each block. This information is used in the analysis as a basic for stratification. The blocks of strata were used to satisfy the balancing property of the propensity score.

4.3.2 Impacts of SACCOs

4.3.2.1 Impacts of SACCOs on Members' Monthly Income

The impact of SACCOs on Members' income depends on the duration of stay in the SACCOs, amount of loan received and the training on the loan utilization. The loans provided by the SACCOs meets the capital requirement for new start-ups or expansion of existing business activity and it meets requirements on-going production activity which brings to members income increment. Schuler and Hashemi (2011), used combining and comparing participants and non-participants with the institution without credit-programs in order to look at the participation effects and also a membership duration variable is used to test the impact of credit programs on members income whether it increases over time or not. In assigning scores to all respondents, the outcome was summarized as it was depicted in table 4.10. The result shows those who participate in SACCOs credit activities had higher mean income of 8,665.414 ETB than those who did not participate in the SACCOs service. However, this result might be explained through the existing difference among independent variable, respondents participating in the SACCOs credit schemes have high literacy rate, marital status compared to non-participate in the SACCOs credit schemes and this result was summarized in table 4.10 below.

Table 4. 10 Summary of household income sorted by Microfinance intervention

Treatment = 0					
Variable	Obs	Mean	Std. Dev.	Min	Max
Avg_Income	249	5,837.751	1,447.112	4,000	13,000
Gender	249	1.526104	0.5003238	1	2
Marr_Stat	249	0.6506024	0.47774	0	1
Age	249	31.90763	5.062861	20	44
Lite_Cy	249	1.919679	0.9078368	1	4
Hh_Size	249	5.02008	1.258679	2	8
Treatment = 1					
Variable	Obs	Mean	Std. Dev.	Min	Max
Avg_Income	133	8,665.414	2,373.53	5,000	16,000
Gender	133	1.406015	0.4929441	1	2
Marr_Stat	133	0.8496241	0.3587909	0	1
Age	133	32.23308	4.14489	20	44
Lite_Cy	133	2.263158	0.911997	1	4
Hh_Size	133	5.278195	1.275369	2	8

Source: - own survey result 2022

Using the propensity score model, the observation under each of identified variables was compared for the desired outcome. Following to this, the aggregate scores were then incorporated in to the propensity score matching model to see the impact of the SACCOs service on the targeted members. The 133 Awach SACCOs beneficiary (treated) were matched to 224 non beneficiaries (controlled). The propensity scores are classified into intervals based on the range of values. Each interval consists of treated and controlled subjects on average have equivalent propensity scores. The difference between the outcomes of the treatment and control groups are calculated to obtain average treatment effect. It is an average of outcomes of a treatment per block weighted by the distribution of treated subjects across the blocks. For this study radius matching method was used for the interpretation of the results as it provides better match compared to nearest neighbour and other matching methods. According to Cochran, (1968), using five strata or grouping the sample into quantile will eliminate more than 90-95% of covariate bias. In this study, the result generated by employing radius matching approach indicate that, the average monthly income of participant members was higher by 2,635.71 than the income of non-participant and it was significant as t-values were greater than two. This shows that participating in the SACCOs activities enable to increase the average monthly income of beneficiary compared to non-beneficiary and this result confirm the descriptive result explained earlier. The result of Awach SACCOs impacts on members' income using all matching method was presented in the appendix

Table 4. 11 The impacts of Awach SACCOs on members income using all matching method

Matching Method	Treated	Controlled	ATT	Std. Err.	t
Nearest Neighbour	133	135	2635.714	253.203	10.409
Radius	133	224	2701.861	235.771	11.46
Kernel	133	224	2672.728	265.086	10.083
Stratification	133	224	2683.86	235.828	11.381

Source: - own survey result 2022

4.3.2.2 The impacts of SACCOs participation on member’s consumption expenditure

One of the outcomes to SACCOs participation is the change in member’s consumption expenditure. In order to see the change in members’ consumption expenditure, the desired outcome was summarized by participating on SACCOs activities. As shown in Table 4.12 those members who benefit from the institution had higher household consumption expenditure than non-participant as the mean consumption expenditure of beneficiary is higher by 0.67941 than controlled.

Table 4. 12 Summary of household consumption expenditure sorted by SACCOs intervention

Treatment = 0					
Variable	Obs	Mean	Std. Dev.	Min	Max
Consumption exp.	249	0.192771	0.39527	0	1
Gender	249	1.526104	0.5003238	1	2
Marriage	249	0.6506024	0.47774	0	1
Age	249	31.90763	5.062861	20	44
Literacy	249	1.919679	0.9078368	1	4
No of Dependent	249	5.02008	1.258679	2	8
Treatment = 1					
Variable	Obs	Mean	Std. Dev.	Min	Max
Consumption exp.	133	0.872181	0.33515	0	1
Gender	133	1.406015	0.4929441	1	2
Marriage	133	0.8496241	0.3587909	0	1
Age	133	32.23308	4.14489	20	44
Literacy	133	2.263158	0.911997	1	4
No of Dependent	133	5.278195	1.275369	2	8

Source: - own survey result 2022

4.3.2.3 The impacts of SACCOs on health care

Health is a critical driver for growth in developing countries. Participating in SACCOs activities can influence health outcomes indirectly by improving people’s economic status, or directly by offering health related service. Many studies conducted on the impacts of microfinance on health care and found that positive impacts of microfinance. In similar way, Leather and Dunford, (2010) found that microfinance is related with better maternal health and sanitation practice in Bolivia and Ghana.

To identify the impacts of participating in SACCOs on the health care, the respondent's responsiveness for health care which is reflected by in ability to spend on medication or access to health care facilities was entered into propensity score matching. Table 4.14 shows the summary of members responsiveness for health care that sorted by SACCOs intervention.

Table 4. 13 Summary of members' responsiveness for health care sorted by SACCOs intervention

Treatment = 0					
Variable	Obs	Mean	Std. Dev.	Min	Max
Medical care	249	0.293173	0.45613	0	1
Gender	249	1.526104	0.5003238	1	2
Marriage	249	0.6506024	0.47774	0	1
Age	249	31.90763	5.062861	20	44
Literacy	249	1.919679	0.9078368	1	4
No of Dependent	249	5.02008	1.258679	2	8
Treatment = 1					
Variable	Obs	Mean	Std. Dev.	Min	Max
Medical care	133	0.706767	0.45697	0	1
Gender	133	1.406015	0.4929441	1	2
Marriage	133	0.8496241	0.3587909	0	1
Age	133	32.23308	4.14489	20	44
Literacy	133	2.263158	0.911997	1	4
No of Dependent	133	5.278195	1.275369	2	8

Source: - own survey result 2022

Table 4.13 shows that, the mean of treated responsiveness for health care was higher by 0.413594 than controlled. This result indicates that participating on SACCOs activities have positive impact on the members' responsiveness for health care. That means, it improves the ability to spend for health care in increasing their income.

4.3.2.4 The impacts of SACCOs participation on education

Educations are among the areas in which SACCOs participation is expected to have positive impacts. In developing countries increased expenditure on education is necessary components of an effective anti-poverty as it enhances people's productivity in the informal rural economy. Education is regarded as a primary driver of economic growth as well as an effective way out of poverty (Cheng.F.2013). Thus many studies have been conducted assessing the impacts of

microfinance on education. According to Littlefield (2003), the first thing that poor people do when they receive loans from microfinance is to invest in their children's education and he found that children tend to stay longer in schools when their family receives loans from microfinance institutions. Khandker (2009) similarly found in Bangladesh that microfinance program increase schooling and the contraceptive behaviour of families. To examine the impacts of SACCOs participation on education the respondent's perception to education status (trends) of their children was gathered and entered to PSM model and matched using different method of matching. This result was summarized in below Table 4.14

Table 4. 14 Summary of the respondent's educational attainment sorted by SACCOs participation

Treatment = 0					
Variable	Obs	Mean	Std. Dev.	Min	Max
Education attainment	249	0.172691	0.37874	0	1
Gender	249	1.526104	0.5003238	1	2
Marriage	249	0.6506024	0.47774	0	1
Age	249	31.90763	5.062861	20	44
Literacy	249	1.919679	0.9078368	1	4
No of Dependent	249	5.02008	1.258679	2	8
Treatment = 1					
Variable	Obs	Mean	Std. Dev.	Min	Max
Education attainment	133	0.939850	0.23866	0	1
Gender	133	1.406015	0.4929441	1	2
Marriage	133	0.8496241	0.3587909	0	1
Age	133	32.23308	4.14489	20	44
Literacy	133	2.263158	0.911997	1	4
No of Dependent	133	5.278195	1.275369	2	8

Source: - own survey result 2022

From table 4.14 we can conclude that the ratio of education attainment of the participant members is higher by 0.767159 than those non-participant members.

4.3.2.5 The impacts of SACCOs participation on employment generation

The other, immediate impacts of participating in SACCOs scheme are on employment generation. In order to understand these trends of employment opportunities and the type of business activities that the respondents engaged in were collected. Poor members' participant in SACCOs programs

in the expectation that borrowing increase their income and sustain self-employment. It is expected that enterprise can benefit from microcredit programs by improving access to their capital, which helps them to expand their business and this can increase production, profit and create job opportunities to their household and community. To determine the impacts of SACCOs participation on employment generation, PSM, model was used and different method of matching method was used. The results of this finding were shown in the

Table 4. 15 The impacts of SACCOs participation on Employment generation

Treatment = 0					
Variable	Obs	Mean	Std. Dev.	Min	Max
Employment generation	249	0.164659	0.37162	0	1
Gender	249	1.526104	0.5003238	1	2
Marriage	249	0.6506024	0.47774	0	1
Age	249	31.90763	5.062861	20	44
Literacy	249	1.919679	0.9078368	1	4
No of Dependent	249	5.02008	1.258679	2	8
Treatment = 1					
Variable	Obs	Mean	Std. Dev.	Min	Max
Employment generation	133	0.729323	0.44599	0	1
Gender	133	1.406015	0.4929441	1	2
Marriage	133	0.8496241	0.3587909	0	1
Age	133	32.23308	4.14489	20	44
Literacy	133	2.263158	0.911997	1	4
No of Dependent	133	5.278195	1.275369	2	8

Source: - own survey result 2022

Table 4.15 shows that, the mean of treated employment generation was higher by 0.564664 than controlled. This result indicates that participating on SACCOs activities have positive impact on the members' employment generation activities. That means, it improves the ability to create new job opportunities to themselves and others to increase their income.

4.4 Perception of Sample Members

Perceptions of sample members of Awach SACCOs in the study area were also collected to show the direction of change about the program. The perceptions are in relating with benefits received from the program, their satisfaction and dissatisfaction about the program and recommendations.

Selecting from major benefits of the participation in SACCOs, the perception of members regarding the benefits they receive from the program were collected on income increase, house improvement, household diet, access to education, access to medical care, employment opportunities and Saving habits. In line with the result generated from descriptive and econometric shows that participating in SACCOs schemes enabled to improve the livelihood of the treated' respondents compared to the controlled and this indicate that participation in SACCOs enable to improve the household's livelihood in the study area.

Satisfaction/Dissatisfaction of treated about the program was collected using open questions and majority of the treated satisfied with appropriate time of loan disbursement, appropriate time of loan repayment, appropriate interest rate. However, even if it is hard for the researcher to categorise the following comments as dissatisfaction, there are some complains about the loan application time frame (which is only one day per three months), the outreach and accessibility of training and consultancy services on how to manage finance, insufficient loan size specially for first time borrowers and length of loan repayment schedule.

Members attitude to continue or stay in the program were also collected and almost all of the respondents gave their opinion to continue their membership with Awach SACCOs

4.5 Major Challenges of Awach SACCOs

In general, the very nature of Awach SACCOs establishment and success is very unique. It did not establish for the sake of establishing a SACCOs, rather it was established to fill the gap in access to finance and financial inclusion and it did so in unprecedented manner. Its uniqueness arises from the fact that it is not limited to one particular area; it rather extended its access to a wider range of societies by opening branches in different locations. This, among other things makes Awach a unique SACCOs. It is creating access to the financial services to the unbanked group of society in and around Addis Ababa city. So, it is playing a great role in the industry. It managed to mobilized saving from the poor, it provides loan to the poor and the middle income group of

societies and it is introducing an Ethiopian cooperative movement to the rest of the world; but not without facing challenges and obstacles.

The major challenges of Awach SACCOs are the restricted working area of Awach SACCOs, lack of willingness to form (establish) a cooperative bank, even though promulgated in the cooperative proclamation 985/2009 and bureaucracy in Addis Ababa City Administration to get land to build a cooperative house that could serve more than 44,000 of its members.

Taking the well-focused attention of the government of Ethiopia for granted, and considering the great contribution of Awach SACCOs to the community's economic and social development, it is the strong believe of Awach SACCOs that things will change for the members and participants benefit.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusions

Saving and Credit Cooperative Societies (SACCOs) are being practical all over the world as one of the major strategies being used to reduce poverty through the delivery of financial service such as credit, saving, insurance, training which enable to improve participants livelihood. Currently, provisions of credit and saving mobilization are one of the major strategies to alleviate poverty especially in developing countries such as Ethiopia. One of the purpose for the establishment and outreach in different locations in and around Addis Ababa of Awach SACCOs is to meet this end.

The objective of this study was to identify the impact of SACCOs participation on members' livelihood. To do this, it tried to examine the impact of the program on socio-economic activities of the members using controlled as control group and treated as treatment group, which is used in comparison of the change of their living standards of the two groups by using propensity score matching.

The study found out that, program intervention leads to change that is different from that would have happened without the intervention which was summarized as follows

- ↳ SACCOs participation leads to improvement of members' income. As the descriptive result indicate that 94.5% of the treated reported their average yearly income has been increased and the result generated by Propensity score matching also indicate the significance difference of the SACCOs participants average yearly income which means the average yearly income of the treated was higher than controlled as well.
- ↳ SACCOs participation enabled to increase the treated consumption expenditure which leads to better household diet and living conditions and both the descriptive and propensity score matching results indicate the consumption expenditures of the beneficiary households improved in comparison to no-treated (non-beneficiary households).

- ↳ The treated' responsiveness to medical care has been increased because of participation in SACCOs scheme. As the descriptive result showed that 95% of the treated respondent's trends of responsiveness toward medical care were increased. The study also found difference in responsiveness of demand for medical care between the two groups.
- ↳ SACCOs participation improves job opportunities by enabled to create new business or expanding the existing business which leads to increase employment opportunities of the treated. The result generated by PSM also indicate that SACCOs participation have positive impacts on employment opportunities.
- ↳ There is a significance difference of children's school enrolment between treated of and controlled Awach SACCOs which confirm that SACCOs participation have positive impact on children's school enrolment.
- ↳ Therefore, all the result obtained through different methods confirms that SACCOs participation of the sample study has improved the household's livelihood and hence H_1 hypothesis was accepted and H_0 was rejected.

5.2 Recommendations

The findings of this study are important to implicate policies recommendation for the impact SACCOs participation in Addis Ababa City. Hence this study draws the following policy implication and recommendations that the researcher believes is crucial to get more similar benefits of the industry.

- ↳ As we saw the overall impact of saving and credit cooperative societies on improving the livelihood of members', the government of Ethiopia should create a favourable environment bureaucracy free policies for development and outreaches of similar cooperative institutions for those who are in need.
- ↳ As of the final date this study was prepared, Awach SACCOs has only 14 branches in and around the city. So, the researcher believes that it is impossible to meet the need for cooperative institutions of the society by a single institution. Therefore, taking in to consideration of the findings of this study, we have to have as much SACCOs as possible around every corner of the country because, there

is still millions of citizens who are excluded from the formal financial sector and needs the attentions of inclusion.

- ↳ There is an observed gap on properly addressing financial literacy to the members. The researcher believes providing credit access to the poor is not enough, but instead empowering them by training on how to properly use the credit provided and how to utilize the limited resources are very crucial.
- ↳ Proper mobilization of saving is very critical of the eventual success of SACCOs because, if they could mobilize more saving they can able to provide the required amount of credit needed to their member. Therefore, SACCOs must have good saving mobilization strategies like introducing different saving products to the society in order to attract and address more members and savings.

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Annex-1 Questionnaire

ውድ የዚህ መጠይቅ ተሳታፊዎች

ስሜ ኤርሚያስ ሠለሞን ጌታቸው ይባላል። የቅድስተ ማሪያም ዩኒቨርሲቲ የዲቪዥን መንግሥት ኢኮኖሚክስ የሁለተኛ ዲግሪ ተመራቂ ተማሪ ነኝ የገንዘብ ቁጠባና ብድር መሰረታዊ የህብረት ስራ ማህበራት ተሳትፎ በተሳታፊ አባላት የኑሮ ደረጃ ለውጥ ላይ ያለውን ተፅዕኖ በማጥናት የመመረቂያ ፅሁፍን ለማዘጋጀት እንዲረዳኝ ይህንን መጠይቅ አዘጋጅቻለሁ። እርሶም የአዋጭ የገንዘብ ቁጠባናብድር መሰረታዊህብረት ስራ ማህበር አባል በመሆኖና ይህንን መጠይቅ ለመሙላት በመፍቀድዎበመጀመሪያ ክልብ አመሰግናለሁ። በመቀጠልም በዚህ መጠይቅ ላይ የሚሞሉት ማንኛውም መረጃ የእርስዎን ግላዊ ማንነት የማይጠይቅና ለመመረቂያ ፅሁፍ ማሟያነት ብቻ የሚውል መሆኑን እያረጋገጥኩ ለሚሰጡኝ ቅን ምላሽ በድጋሚ ክልብ ላመሰግን እወዳለሁ።

ክፍል አንድ :- የተሳታፊ መላሾች አጠቃላይ መረጃ

1. የመላሽ ያታ ሀ) ወንድ ለ) ሴት
2. የመላሽ የጋብቻ ሁኔታ
 - ሀ) ያገባ
 - ለ) ያላገባ
 - ሐ) የተፋታ
 - መ) የትዳር አጋሩን በሞት ያጣ
3. የመላሹ እድሜ _____
4. የመላሹ የትምህርት ደረጃ
 - ሀ) እስከ ሁለተኛ ደረጃ የተማረ
 - ለ) የዲፕሎም ምሩቅ
 - ሐ) የመጀመሪያ ደረጃ ምሩቅ
 - መ) የሁለተኛ ዲግሪና ከዛ በላይ ምሩቅ
5. የመላሹ የቤተሰብ አባላት ቁጥር
6. በመላሹ ገቢ የሚተዳደሩ የቤተሰብ አባላት ቁጥር

ክፍል ሁለት :- የመላሹ አጠቃላይ የኑሮ ሁኔታ

1. የመላሹ አጠቃላይ የወር ገቢ በአማካይ _____
2. ባለፉት አምስት አመታት የመላሹ የገቢ ሁኔታ
 - ሀ) በጣም ጨምሯል
 - ለ) ጨምሯል
 - ሐ) ምንም ለውጥ የለውም/ ተመሳሳይ ነው
 - መ) ጽኑ እንደውም ቀንሷል
 - ሠ) በጣም ቀንሷል
3. ባለፉት አምስት አመታት መላሹ ከሚያገኘው አጠቃላይ ገቢ የፍጆታ ወጪዎች ድርሻ
 - ሀ) ተሽሽሏል
 - ለ) ተመሳሳይ ነው
4. ባለፉት አምስት አመታት መላሹ ከሚያገኘው አጠቃላይ ገቢ የቤተሰብ ጤና እንክብካቤ ወጪዎች ድርሻ
 - ሀ) ተሽሽሏል
 - ለ) ተመሳሳይ ነው
5. ባለፉት አምስት አመታት መላሹ ከሚያገኘው አጠቃላይ ገቢ የተማሪዎች የትምህርት ወጪ ድርሻ
 - ሀ) ተሽሽሏል
 - ለ) ተመሳሳይ ነው
6. ባለፉት አምስት አመታት የመላሹንም ሆነ የሌሎችን ገቢ የሚጨምር /የሚፈጥስ ስራ የመፍጠር ሁኔታ
 - ሀ) ተሽሽሏል
 - ለ) ለውጥ የለውም
7. ባለፉት አምስት አመታት የመላሹ የመኖሪያ ቤት ሁኔታ
 - ሀ) ተሽሽሏል
 - ለ) ተመሳሳይ ነው

ክፍል ሦስት :- የመላሹ ነፃ እና የግል አስተያየቶች

1. የአዋጭ ገንዘብ ቁጠባና ብድር መሠረታዊ ህብረት ስራ ማህበርአባል እንደመሆንዎ ቅር የተሰኙበት፣ ቢጨመር ወይም ቢሻሻል ብለው የሚያስቡት ነገር ካለ ቢያጋሩን

ክፍል አራት :- ለአዋጭ ሠራተኞች ብቻ

1. አዋጭ ከተቋቋመበት አላማና ሊያሳካው ከሚያስበው ግብ አንፃር እንደ ማነቆ የምትጠቅሱትና ቢቀረፍ የምትሉት ችግር ካለብታጋሩን

Annex-2 Stata Results

Frequency of Treated and Controlled Participation

```
*****
Algorithm to estimate the propensity score
*****
```

The treatment is treatment

treatment	Freq.	Percent	Cum.
0	249	65.18	65.18
1	133	34.82	100.00
Total	382	100.00	

Probit Regression Result

```
Probit regression                               Number of obs   =       382
                                                LR chi2(5)      =       59.55
                                                Prob > chi2     =       0.0000
Log likelihood = -217.11511                    Pseudo R2      =       0.1206
```

treatment	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
gender	-1.137747	.2103553	-5.41	0.000	-1.550036	-.7254577
marr_stat	.5073034	.1717924	2.95	0.003	.1705965	.8440103
age	-.0312069	.0169774	-1.84	0.066	-.064482	.0020683
lite_cy	.6964988	.1406906	4.95	0.000	.4207503	.9722474
hh_size	-.0387898	.0732577	-0.53	0.596	-.1823722	.1047927
_cons	.6243795	.6274992	1.00	0.320	-.6054964	1.854255

Propensity Score Estimation in region of Common Support

Note: the common support option has been selected
 The region of common support is [.0691845, .66801918]

Description of the estimated propensity score
 in region of common support

Estimated propensity score				
	Percentiles	Smallest		
1%	.0752917	.0691845		
5%	.1089303	.0691845		
10%	.1409183	.0752917	Obs	357
25%	.2282518	.0752917	Sum of Wgt.	357
50%	.3667386		Mean	.3675649
		Largest	Std. Dev.	.1679722
75%	.5371123	.6422403		
90%	.6042493	.6422403	Variance	.0282147
95%	.6280811	.6680192	Skewness	.0610213
99%	.6422403	.6680192	Kurtosis	1.842165

ATT Result Using Nearest Neighbor Matching Method

The program is searching the nearest neighbor of each treated unit.
 This operation may take a while.

ATT estimation with Nearest Neighbor Matching method
 (random draw version)
 Analytical standard errors

n. treat.	n. contr.	ATT	Std. Err.	t
133	135	2635.714	253.203	10.409

Note: the numbers of treated and controls refer to actual
 nearest neighbour matches

ATT Result Using Radius Matching Method

The program is searching for matches of treated units within radius.
This operation may take a while.

ATT estimation with the Radius Matching method
Analytical standard errors

n. treat.	n. contr.	ATT	Std. Err.	t
133	224	2701.861	235.771	11.460

Note: the numbers of treated and controls refer to actual matches within radius

ATT Result Using Kernel Matching Method

ATT estimation with the Kernel Matching method
Bootstrapped standard errors

n. treat.	n. contr.	ATT	Std. Err.	t
133	224	2672.728	265.086	10.083

ATT Result Using Stratification Matching Method

ATT estimation with the Stratification method
Analytical standard errors

n. treat.	n. contr.	ATT	Std. Err.	t
133	224	2683.860	235.828	11.381
