

Wolkite University

College of Business and Economics

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Impact of Self Help Groups (SHG) on women welfare indicators in Waliso Town, South West Shoa Zone, Oromia Region, Ethiopia

THESIS SUBMITTED TO DEPARTMENT OF ECONOMICS IN COLLEGE OF BUSINESS AND ECONOMICS, IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF MASTER OF SCIENCE IN DEVELOPMENT ECONOMICS

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January,2019

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DECLARATION

This research is my original work and has not been presented for a Degree programs in any other university, and that all sources of materials used for the study have been properly acknowledged.

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ACKNOWLEDGEMENT

Above all, thanks to my God. I would like to express my truthful gratitude thanks to my major advisor Dr. Getamesay Bekele for his valuable comments, suggestion, and support through deep follow up without exhausted. He deserves special appreciation for the input he added on my work from the initial title adjustment as well as proposal writing to final thesis. I also thanks to my Co advisor Abebe Mengesha(Msc) for his valuable comments, suggestion, and support. My deepest and sincere gratitude to my family always had been with me throughout my studies and my works. My beloved wife, Asnakech Deshu who always push me and continuous helping with her smile that my works during my studied. My love I remember you anywhere because of no apprehensive action at any time and any work and I thank you so much for all your effort and support me! also My little daughter Bilisuma Misgana ”Buchu” ‘yookan’ “Bilomas” that she give me a time from her playing and My brother Gadisa Gedafa helping me on data collection by sharing his time from preparing himself for national Grade 10^{th} exam. I thanks also to my collogues of My Organization: South West Shewa Zone Planning and Economic development Office:Ato Yazewu Mulatu, Ato Melaku Delesa, Ato Bezu Yadecha, Ato Moti Abera, Ato Gemechis Wakjira, Ato Asefa Degefa,w/r Aberu Tesfaye, w/r Nigist Eshetu,W/r Zerfe Ayalo and other who participate in my works facilitation, that when I fill unwell all of you also fill unwell with me so all of you have great gratitude. Financially Bezu Yadecha by sharing the transport cost as well as by covering of the work which pertaining to me with other my additional work and Yezewu Mulatu also with additional ideal and practical guidance for this work adjacently for supporting me during the whole my works of this studies. My thanks and appreciation also goes to CHAIDET NGO Office representative head Ato Teshome Bekele with great deal of helping me so much with data collection facilitation from the SHG and other his encouragement, provision of relevant information and secondary data identification. Finally but most significantly, I would like to express my deepest thanks to Ass.Prof Tesfaye Ettensa head of Economics department of Wolkite University for his interest to support me during data analysis using STATA and thank you to all who supported me throughout my studies.

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ACRONYMS

ATE	Average treatment effect
ATT	Average treatment effect on Treated
CDD	Community Driven Development
CIA	Conditional independence assumption
CSA	Central Statistical Authority
CoSAP	Consortium of Self Help Group Approach Promoters
DID	Difference in Difference
EKHC	Ethiopian Kale Heywet Church
FDRE	Federal Democratic Republic of Ethiopia
GTP	Growth and Transformation Plan
IGA	Income generating Activities
MCAs	Members of County Assemblies
MPC	Marginal Propensity to Savings
MPS	Marginal Propensity to Consumption
MUDHCo	Ministry of Urban Development, Housing and Construction
NGO	Non Governmental Organization
NN	Nearest Neighbor
OECD	Organization for Economic Co-operation and Development
PSM	Propensity score matching
PC	Propensity to Consumption
PPP	purchasing power parity
SHG	Self Help Group
SNNPR	South Nation Nationalities and Peoples' Region
UN	United Nation
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America
VSL	Village Saving and Loan

Abstract

The study was initiated to assess the impacts of self-help groups in women welfare indicators, investigate the welfare of women, identify the factors by using random sampling technique in cross sectional data types with propensity score match model to evaluate the treated and control group and identify the challenges encountered. Self help groups (SHG) face at unit and system levels and explore the contribution of social organizations in strengthening SHG. The study result revealed that self-help groups (SHG) are playing important role in determining the status of women in self-help groups (SHG) and the level of decision making in the group and at household level. The core point of this paper is that working impact of Self help group which contains the introduction part literature review methodology result and discussion and the conclusion and recommendation. Women are also advocating about women and their families in several occasions and are attracting the attention of the administration at different level as important partner. The income, asset accumulation, food and non food consumption expenditure and saving of women have shown improvement with the amount of loan they borrow from the inbox of the self-help groups (SHG). The welfare indicators that women incurred from the organization in Self help group make them more economically independent. Generally, the impact of self-help groups (SHGs) is magnificent in improving women welfare and makes them to be economically self-reliant. Types of occupation such as traditional alcohol work, preparing and selling dry "enjera", animal fattening, the Communication and experience; saving and access to credit are significant and need more external support are more the focus of this study.

Key words: Self Help Groups (SHG), welfare indicators

CHAPTER ONE

1.1. Background of the study

Historically, people have formed groups with others who have something in common with them, and oppressed people have joined together to overcome the conditions they face. Self Help Groups go back at least to the 1930s. While self help groups have distinct characteristics that make the social, economical and political relationship on their activities between the group members and the philosophies of the self help movement overlap with various other ways of working. Community Development, which became established as a discipline in the late 1980s, shares the concept of welfare indicators. In the past two decades, the self-help movement has mushroomed (the report of Hong Kong, 2014).

Sub-Saharan Africa has registered strong economic growth, and a number of countries have made notable progress regarding economic and democratic governance. Nevertheless, income disparities persist within and between countries, and poverty is generally more widespread than in other regions of Africa (UN, 2017). According to the (UNESCO and Gender Equality in Sub-Saharan Africa Report (2017), 41% of the population of sub-Saharan Africa is living in extreme poverty on less than 1 US dollar per day, and inequalities are more marked than in other developing regions.

Many of Sub-Saharan Africa countries have a vibrant history of self-help groups. The self-help groups to develop the spirit of voluntarism proved to be important because it ultimately paved the way for the establishment of grassroots organization movements that promulgated principles of self-reliance (Linda, 2014).

In Ethiopia, the SHG approach has been practiced along with other conventional approaches, including cooperatives and other traditional practices like IQub, Idir. The Consortium of Self Help Group Approach Promoters (CoSAP) is an umbrella organization of Ethiopian Resident Charities that are engaged in promoting the Self Help Group Approach (SHG) in various parts of Ethiopia. CoSAP is registered as Ethiopian Resident Charity Consortium by FDRE Charities and Societies Agency under registration number 1590. It is a legally mandated consortium to

represent the SHG approaches promoting organizations in Ethiopia (Consortium Self Help Approach, 2013)

According to Consortium Self Help Approach of 2017, around 229,763 women were organized in more than 12,427 SHGs. Currently CoSAP has 28 member organizations who are promoting the SHG program for women's socio-economic enhancement. The SHG approach is being actively promoted in six regions and two administrative cities across Ethiopia such as Afar, Amhara, Benishangul Gumuz, Oromiya, SNNPR, Ethio Somali, and Addis Ababa and Dire Dawa City Administrations.

In Oromia regional state the SHG establishment also expanded after 2002 by Nongovernmental Organization like Facilitator for Change (FC), Education for Development Association (EFDA), Development Expertise Center (DEC), HUNDEE- Oromo Grassroots Development Initiative, Mission for Community Development Program (MCDP), that to help the poor women economically (Consortium Self Help Approach, 2013). Among registered changes caused by the SHG approach, social transformation is highly visible at community level. Social transformation refers to changes occurred with reference to child rearing, child protection, women participation, women and men relationship, health and education.

In Waliso town SHG organizing was takes place as other town in south west shoa zone. In the town the welfare indicators is brought about SHGs, particularly in terms of creating feeling of well-being through participation of the poor women in the SHG.

According to Luttrell (2016), SHG was related to economic welfare indicators, which is one of the most powerful routes for poor women to achieve their potential and advance their economic rights. Therefore this study focused on the impacts of SHGs in waliso town on the women's welfare indicators and identified how they are formed for economically and social sovereignty and concentrated on, from the various situations coming up and put in place for social, legal and economic development interventions, self help group (SHG) practically become a foremost approach strategy then become more flexible and sustainable in the town, were identified in this study. Therefore, in my study the welfare indicators lead women to the economical independency that extracted here.

1.2. Statement of the Problem

Unemployed people and people below poverty line face several problems in day to day life. SHG not adequately available made for poor women and Non availability of such facilities is also a major barrier in the development process in Ethiopia. There are problems, like poverty and unemployment at the grass root level and Women have joined the self help groups that enable to face number of such problems, like household poverty, unemployment, low rate of socio-economic status of life. Women can start self employment project with the help of SHG which is necessary to examine the impact of SHG in women welfare indicators in the country (Linda, 2014).

It was stated also in MUDHCo (2014) the "National Report on Housing & Sustainable Urban Development" outline that the urban populations in Ethiopia, particularly the communities which have low living standard especially women are facing different economic and social problems. The major problems in Ethiopia are lack of sufficient food, unemployment, lack of social services, and lack of housing, slum urban area and overcrowding, lack of access to infrastructure, and unsustainable economic change. The urban poverty rate is increasing with unstable economic changes. Such kind of problem is mostly aggravated by the rapid increase of rural-urban migration, natural disasters, less economic growth and lack of sufficient education.

In this study among the major problems faced by the women residents of Waliso town while conducting businesses include lack of finance, housing problem, large family size, high housing rent, lack of permanent working place, lack of petty trade knowledge, poor business plan, health problems, etc. Although there are many bottlenecks to bring economic change of the women in Waliso town, less attention is given from the government and other organization to solve such kinds of series problems.

Sundaram(2012) tried to stated in the study of "Impact of Self-help Group in Socio-economic development of India" analyzed with descriptive statics by using variable(Sex, Age, Income level). Mekonnen (2013), studied in his study "Exploring the Contributions of Self help Association in the Case of 'Keber Laregawiyan' Organization" analyzed with descriptive statistics by using cross sectional data with the variables (Sex, Age, Income level). Sarah (2013),

addressed on the study "Women's role in economic development: Overcoming the constraints" analyzed with descriptive statics by using (Age, Sex, Marital status, Religion) Variable.

Brody(2015) carried out in the study "Economic Self-Help group Programs for Improving Women's empowerment" conducted a systematic review of the effectiveness of women's welfare indicators in SHG programs, incorporating evidence from quantitative and qualitative data, probit regression, propensity score matching model were used in the studies with five variables(sex , age ,Marital status, education, family-size). Pavithra(2017) conducted on" an analysis of women welfare schemes of india" with cross section data. Gautam (2016) conducted in the study that "Socio- Economic Implications of Self Help Groups and Women empowerment in Geyzing Subdivision of West District of Sikkim" analyzed with descriptive statistics by using cross sectional data with variable (Age, Level of education, Ethnicity, religious, family size, marital status). Tey(2008)conducted on "Household expenditure on food at home in Malaysia" analyzed with the income and expenditure variables.

The studies conducted on the impact of SHG on the women welfare indicators in many ways to identify the problem with women which was explained in different methodology, data types and variable as mentioned above. They were conducted on the impacts of SHGs on welfare indicators of women in different country but there is the variable gap between all the researchers. This brought into view issues pertaining to the achievements and how the problems of the women were solved through the formation in Self Help Groups. The researchers also had their own drawback with lack of full employment of required variable with appropriate methodology in the study. The problem of employing necessary model and use of necessary data type that explains unsolved problem with women extended.

Therefore, in this study the variable, the methodological and data gaps are identified that the other studies didn't look on assessment between the treated and control group with the purpose of the SHG user and the SHG non user. In this case the study was conducted to evaluate the impacts of SHG on the women welfare indicators that match up to the SHG user and non- user in waliso town. It is entirely made out the gap of variable, data types, and methodological analysis of the different literature study marked above and finally this study was tried to fill these gaps.

1.3. Research Questions

This study tries to answer the following research questions;

1. What are the major determinate of women participated in SHG in Waliso town?
2. What is the impact of SHG on women income, food and non food consumption expenditure and Asset accumulation in Waliso town?
3. What are the challenges of joining and participating in SHGs in Waliso town?

1.4. Objectives of the Study

1.4.1.General Objective

The general objective of the study is to examine the impact of Self Help Groups on women welfare indicators in Waliso town, south west shoa zone, Oromia, Ethiopia.

1.4.2.Specific Objectives

1. To identify the major determinate of women participate in SHG in Waliso town.
2. To estimate the impact of SHG on women income, consumption expenditure and Asset accumulation in Waliso town.
3. To identify the challenges of joining and participating in SHGs in Waliso town.

1.5. Scope of the Study

This study is limited to SHG organized in Waliso Town, which was found in South West Shoa Zone, Oromia regional state, Ethiopia and fixed to study impact of Self-Help Group (SHG) on women welfare indicators in Waliso Town. This study assessed the factors which enhances welfare indicators of women. The study focuses on the poor women that need economic assistance and facilitation to form in SHG by giving seed moneys as starting fund and other without seed money within the town. This condition makes the study area importance and successive. Therefore it is decided to conduct the research on economic difference of the poor women that are members and non members of Self Help Group that live in the town.

1.6. Significance of the Study

Undertaking comprehensive studies on Self Help Groups has strong significance. The study takes place in practical terms on the establishment; expansion and strengthening of self help groups to assist poor women through social and economic wellbeing of women in the town. This study intends to investigate the relationship between and the impact on the family and overall income welfare indicators on the expected aspects of individual, family and community development actions into consideration while designing and managing local development plan and implementation in the formation of the SHG. Additionally, the study provided valuable inputs for possible interventions by the government, NGOs, or civic associations in promoting the efforts of existing SHGs. And at finally, the study might serve as a spring board for other researchers who are interested to undertake further investigation in the area of the study.

1.7. Organization of the Study

The paper is organized in five chapters. The first chapter gives the background to the study, problem statement, research questions, and the general and specific objectives, Scope of the Study, the significance of the study and Hypotheses of the study among others. The second chapter dealt with a review of related theoretical and empirical literature on the topic whereas the third chapter covers the detailed methodology. The fourth chapter covers the result and discussion and the fifth chapter is formed with conclusion and recommendations of the Study.

CHAPTER TWO: LITERATURE REVIEW

2.1. Theoretical Literature review

2.1.1. Definition and Concepts of Self Help Groups

According to the report of Characteristic of SHG (2000) defined Self-Help group is a Trust, Belief, and Conviction that the Community, no matter how backward, has resources that can be mobilized for meeting individual's local needs and that of the community for making local improvements and bringing about economic and social change.

Self Help Group (SHG) is an informal self- initiative group of people with a common objective of working together for their economic, social and over all area of development with only technical support of organizations in intervention (Adamu, 2014).

The report of Hong Kong (2014) defines as Self Help Group is about people coming together with others who are affected by a particular issue (experience, disadvantage, discrimination, etc) to support each other and to work together to change the disadvantage affecting them. In activities that groups do include community education, information, and mutual support.

A voluntary association established for poor people, who have similar socioeconomic background organized for support Self-help groups, known as mutual help, mutual aid, or support groups, are groups of people who provide mutual support for each other. In a self-help group, the members share a common problem, often a common disease or addiction (Mekonnen, 2013).

Self-help groups are small informal association of the poor created at the grass root level for the purpose of enabling members to reap economic benefits out of mutual help solitarily and joint responsibility. Self-help groups are formed voluntarily by the urban poor women to save and contribute to a common fund to be lent to its members as per group decision and for working together for social and economic uplift of their families and community. SHGs, also known as mutual aid or support groups, are small voluntary groups that are formed by people related by an affinity for a specific purpose who provide support for each other. They are created with the

underlying assumption that when individuals join together to take action toward overcoming obstacles and attaining social change, the result can be individual, and/or collective welfare indicators. SHG members typically use strategies such as savings, credit, or social involvement as instruments of welfare indicators. The types of SHGs that exist in developing countries are numerous and can include economic, legal, health, and cultural objectives (Brody et al, 2015)

Self-Help Group mostly consists of 10 to 20 members who save some amount of money they can afford. A weekly meeting is organized, where apart from disbursal and repayment of loan, formal and informal discussions are held. The members share their experiences in these groups on many social issues. The minutes of these meetings are documented and the accounts are written. The head, secretary, and treasurer are three official posts in any Self-Help Group. If they are connected with some Organizations, they take part in other social activities of those Organizations (Dessiye et al, 2014).

Sometimes the organization that promotes SHG provides seed money and it is called the facilitator organization. According to (Dessiye et al, 2014).many countries' experience demonstrates that poor women makes investments wisely and earns returns. Meanwhile, the flow of financial assistance to them has been marginal, if they received any financial assistance at all, to enable them to cross the poverty line.

Report of Self help group in Microfinance Industry (2012) puts the concept of Self Help Group is first introduced by Laureate Mohamed Yunus in Bangladesh and nowadays it touched the greatest part of the world. The purpose of the groups is enabling the group members to come together and combine their resource in order to access low-cost financial service with a process of self-management and development. They can be formed and organized by authorized institutions or sometimes they can be formed by the common interest of individuals living in the same life condition. The group members save a certain money together for some period of time that can be used as loan so that they can engage in different small business activities to improve their economic life and living conditions.

According to the report of Self help group in Microfinance Industry (2012) The Self-help groups had its origin in the co-operative philosophy and the co-operators by and large, including the

National Federations in the credit sector, could not think of any better SHG than a primary co-operative credit society itself.

Self- help initiative is one of the potential women welfare indicators strategies designed to alleviate poverty. Self helps is a Self-governing groups, whose members share a common social and economic concern and give each other emotional support and material aid, charge either no fee or only a small fee for membership. And place high value on experiential knowledge in the belief that it provides a special understanding of a situation (Mekonnen, 2013).

The processes of group formation and training are critical stages for stability of the group. Training includes teaching rules and regulations, governing procedures and administrative requirements, maintenance of book of accounts, rules for internal lending and repayment of loans, keeping the group fund intact (Saluja et al, 2010).

There are many governmental, private, and non-governmental agencies professing to offer training in areas such as starting a business, continuing its existence, and expanding it, yet very few women entrepreneurs have access to such training. In addition, many women who own participate in SHG still cannot access this type of training, which they need for the expansion of their livelihoods (Stevenson and St-Onge, 2006). The self-help groups had a variety of strategies that are geared towards the improvement of living standards of members which included access to credit, skill training and income generating activities. One recommendation was that in order to enhance performance of the self-help groups there was need to improve the nature of the self-help groups, enhance strategies of participation, improve marketing facilities and also training should be intensified with basic orientation as well as skill development (Linda, 2014).

2.1.2. Welfare theory

Welfare economics is the economic study of the definition and the measure of the social welfare; it offers the theoretical framework used in public economics to help collective decision making, to design public policies, and to make social evaluations (Baujard, 2013). Welfare economics focuses on the optimal allocation of resources and goods and how the allocation of these resources affects social welfare. This relates directly to the study of income distribution and how it affects the common good. Welfare economics is a subjective study that may assign units of

welfare or utility to create models that measure the improvements to individuals based on their personal scales (Safiullin et al, 2012).

According to the institutional organization Pareto (2015) the first fundamental theorem of welfare says that, under certain assumptions, all competitive equilibria are Pareto optimal. That is, they lie on the Pareto frontier that defines the set of possible allocations among individuals; on the frontier it is not possible to make someone better off without making someone else worse off. This is because much of the inequality we observe in the world is based on luck or extraneous factors, such as the inborn ability to kick a football or the identity of one's great-grandparents.

For all these reasons, for this part of the analysis we write welfare, W, as

$$W = W(Y, I, P) \text{ ---------- } (2.1)$$

Where Y is income per capita and enters our welfare function positively, I is inequality and enters negatively, and P is absolute poverty and also enters negatively. These three components have distinct significance, and we need to consider all three elements to achieve an overall assessment of welfare in developing countries. Welfare economics helps to inform the debate on social issues by forcing us to confront the ethical premises underlying our arguments as well as helping us to see their logical implications. The First Welfare Theorem guarantees that competitive markets exhaust all of the gains from trade: equilibrium allocations achieved by a set of competitive markets are necessarily being Pareto efficient. Such an allocation may not have any other desirable properties, but it necessarily is efficient (Eysenbach, 2008).

The indicator of welfare (that is of consumers' and producers' surpluses and National Dividend) becomes simply the solution of an analytical indicators problem. The condition of welfare indicators is that marginal social costs (benefits) are equal to marginal private costs (benefits) (Pigou, 1920).

Welfare Economics and Utility

According to the properties of utility the most fundamental issue for welfare economics is present in the philosophical and the formal analysis. Social welfare is assessed on the basis of individual utilities. The utility principle says that an individual shall and should promote her/his utility. It also says that the collective aim is to promote social welfare. The duality of the utility principle, defined at the individual and the collective level, generates some tensions. Although the issue of interpersonal comparisons of utilities is not explicitly raised at the time, the problem of the sacrifice of some individuals' utilities for others which is directly linked to it is already important. This may explain the evolution within the family of the utilitarian philosophical theories (Baujard, 2014). Utility refers to the perceived value associated with a particular good or service. The perceived value is intrinsic and relates to whether a buyer feels the amount of value received for a certain good or service is at least equal to or greater than the amount of funds required to purchase it. Additionally, it suggests that a certain unit of currency, such as a dollar, has the same perceived value to an individual as it does to a corporation, regardless of how the income amounts of each entity differ (Caldari, 1932).

2.1.3. Utility Theory

Utility theory is interested in people's preferences or values and with assumptions about a person's preferences that enable them to be represented in numerically useful ways. A utility in economic models of behavior that it is invariably assumed that an individual behaves in such a way that the utility is maximized. In this attempts to maximize utility, that is hampered by one or more constraints. The standard example of this kind of modeling is the neoclassical model of consumption behaviour where the consumer faces the task of spending the income on consumption goods (for food and non food) so as to maximize the utility(Baujard, 2014). Under the weak assumptions, the consumer's purchases are uniquely determined by the income and the prices it has to pay (together constituting the budget constraints) and the form of this utility function (representing the preferences). utility function, i.e. a relationship that tells us for any consumption bundle how much pleasure the consumer derives from it, has to satisfy the requirement that it agrees with the consumer's preference ordering, in the sense that each time the consumer prefers the bundle(Kapteyn, 1985)

Basically then, what are going to do is examine how it expend the resources so that Utility is maximized. Utility theory is interested in people's preferences or values and with assumptions about a person's preferences that enable them to be represented in numerically useful ways (Fishburn, 1968).

In other case Choices concerning what goods and services to produce are choices about an economy's use of its factors of production, the resources available to it for the production of goods and services. The value, or satisfaction, that people derive from the goods and services they consume and the activities they pursue are called utility. Ultimately, then, an economy's factors of production create utility; they serve the interests of people (Kapteyn, 1985).

In the equation of:

$$U = xy \quad \text{---------- (2.2)}$$

U= the utility of the user

X & Y are goods and services that satisfy the users. Consider a two-good world, x and y. The user wishes to maximize utility, denoted U(x, y). By spending her/his income on food and non food consumption with her/his preference she/he maximizes her/his utility.

In economic models of behaviour, it is invariably assumed that an individual behaves in such a way that the utility is maximized. In these attempts to maximize utility, it is hampered by one or more constraints. The standard example of this kind of modeling is the neoclassical model of consumption behaviour where the consumer faces the task of spending his income on consumption goods so as to maximize her/his utility. Under rather weak assumptions, the consumer's purchases are uniquely determined by the income and the prices they have to pay (together constituting the budget constraints) and the form of the utility function (representing the preferences) (Fishburn, 1968).

The formation of Self help group in the changes in welfare indicators related with utility preference of the members. The economic and social change of the group members depend on the satisfaction with what they got from the formation by SHG. This theory has the factors that affect the economy and social changes and participation in the Self Help group of the women. In this theory the user choice take the improved rather than follow in detail action of the individual

members and it has the gap of expressing in detail of the welfare indicators of women in the developing country. In the formation of the Self Help group focusing on women welfare indicators to get the social welfare network to enlarge strong tie between the group members (Baujard, 2014).

Across the different types of welfare indicators programs the women reached the overall outcomes for measurement include growth in both the objective dimension of income or assets and the more subjective dimension of welfare indicators. Increases in income should translate into increased well-being for women – considering both monetary and in-kind income, as well as the allocation of women's time to work and leisure (Bradbury, 2015).

2.1.4. Social Capital Theory

Categorizing and analyzing social capital is difficult, for there are many definitions of the term and what it encompasses. In general, social capital refers to systems that lead to or result from social and economic organization, such as worldviews, trust, reciprocity, informational and economic exchange, and informal and formal groups and associations. Although there is much contention over what interactions and types of organization constitute social capital, there is little disagreement about the role of social capital in facilitating collective action, economic growth, and development by complementing other forms of capital (Grootaert, 1998, Post-Confilict, 2000)

Woolcock's (1998) model of social capital facilitates analysis across various levels by presenting a comprehensive framework that incorporates four dimensions of social capital: strong ties between family members and neighbors; weak ties with the outside community and between communities; formal institutions (including laws and norms); and state-community interactions. The application of this model can help enable the direct targeting of external interventions toward specific dimensions of social capital-both promoting and utilizing existing stocks or building new links that unite affected and disparate groups.

The theory of Social capital has been around for decades and it is with the work of Jane Jacobs (1961), Pierre Bourdieu (1983), James S. Coleman (1988) and Robert D. Putnam, (1993; 2000) that it became prominent. According to Bourdieu(1983) Social capital is the aggregate of the

actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.

A person or entity that has good social capital can ask favors, influence decisions and communicate efficiently. Social capital is of primary importance in politics, business and community organizing. Jason Eaton of Social Thread LLC explained that capital can be in the form of equity or debt. In social capital, a person can ‘owe’ favors or decision-making influence to another person or entity (Roland and Landau, 2011).

From the co-operative societies of the 19th century to Self-help Groups (SHGs) of the 21st century, the principle of self-help and mutual aid has remained a popular approach in development interventions. Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition - or in other words, to membership in a group - which provides each of its members with the backing of the collectively owned capital, a 'credential' which entitles them to credit, in the various senses of the word (Nayak, 2015)

SHG movement involves social capital in form of a large number of networks, many horizontal and mostly vertical. In the horizontal or integrative social capital (Woolcock, 2000), the network, trust and reciprocity among the members do not involve the element of hierarchy as the agents are mostly equals where one can expect a similar return of the gifts (material or nonmaterial) given. In most cases, NGOs, which are humanitarian organizations, and thus have no intention or necessity to control the groups (Nayak, 2015).

Members of self-help groups are often persons who have close social relations in one way or another. Women’s participation in community organizations has been the focus of intensive debates by most international forums in the past years. According to the philosophy of most of the forums, each member state should promote women’s economic independence, which includes the creation of employment, access to resources and credit, the eradication of the persistent and increasing burden of poverty, malnutrition, poor health and illiteracy on women (Linda, 2014).

Women's responsibility for unpaid domestic work makes them time poor as well as more economically dependent on men, yet is vital for ensuring a healthy and productive workforce. While investment in infrastructure such as water, sanitation and electricity is important to ease the time burden associated with these tasks, it does not change how unpaid work and the care economy is conceptualized and valued(Sarah, 2013).The Community Driven Development (CDD) and outcomes that can be directly interpreted as women's welfare indicators. However, it is also true that CDD and greater efficiency of women in activities that fall within existing norms leads to greater self-esteem and confidence and can assist in the process of challenging existing norms that are detrimental to women, thereby catalyzing the process of women's welfare indicators (Swain, 2006).

Women are engaging in income-generating activities (IGAs) and building financial resources independent of their husbands. However it was observed that there had been only a slight shift in male attitudes towards women's position in society, and the SHGs had not entirely transformed behavior around household decision-making. SHGs were established; SHGs provided additional mechanisms for support and enabled members to expand their social capital (Amme, 2017).

Intuitively, then, the basic idea of social capital is that one's family, friends, and associates constitute an important asset, one that can be called upon in a crisis, enjoyed for its own sake, and/or leveraged for material gain. What is true for individuals, moreover, also holds for groups. Those communities endowed with a diverse stock of social networks and civic associations are in a stronger position to confront poverty and vulnerability (Woolcock et al, 2000). Social capital refers to the norms and networks that enable people to act collectively.

Social capital consists of institutions, relationships, attitudes, and values that govern interpersonal interactions and contribute to the wider economic and social development. It is largely the result of the legal, political, and institutional environment, in which economic actors operate, i.e. perform their functions and realize objectives. It is the capital of permanent, and, to some degree, institutionalized relationships between individuals and organizations, which facilitate activities and contribute to the creation of economic and social value (Degenne et al, 2003). The formation of women in group like self help group to work in cooperation make them strong socially, economically and politically as well as create strong tie between their Social

relationship also force them to take in influence in their environment. Therefore, the women welfare indicators emphasizes on the income, total asset and social the changes of the women related to utility theory economically and social capital with social welfare indicators of the women.

2.2. Empirical Literature of the Impact of SHG on Women welfare indicators

Several studies have been conducted in different developing countries regarding self help group performance in terms of women welfare indicators and impacts of it. We begin by those that focus on women welfare indicators in different ways.

According to Development, Financial Africa, Sub-Saharan (2015) conducted on "impact of self help groups on the food security and non-food consumption of weaker sections of the society" stated that the mean value of the per family non-food expenses has increased from INR 3596 [$ 78.17] in pre-SHG situation to INR 6228 [$ 135.39] after SHG impact, thus registering an improvement to the extent of 73.24%. Similarly, NCEAR (2008) study also found 5.1% increase in food expenditure.

Tey(2008)conducted on "Household expenditure on food at home in Malaysia" analyzed with the income and expenditure outcome variables. There are variations in terms of allocation of the food budget across expenditure quartiles in 2004/2005. Lower income groups, Quartile 1 and Quartile 2 allocated 33.03% and 25.92% of total income for food budget respectively. On another hand, higher income groups, Quartile 3 and Quartile 4 recorded lower expenditure share of income on food with 21.2% and 14.63% respectively. Such results are a reflection of "Engel's law",[1] mirroring the effect of income and expenditure on food budget. It can then be generalized that higher income groups allocated smaller budget share for food than lower income groups.

According to Victoire (2015) conducted in "Women Entrepreneurs' Support Projects and Their Contribution on the Welfare of the Beneficiaries in RWANDA " identifying women entrepreneurs 'support projects and their contribution on the welfare of beneficiaries in Rwanda, and increase the existence knowledge on women entrepreneurship questions. The results indicate

that there is positive relationship between some variables that women entrepreneurs' support project use to contribute to the welfare of beneficiaries such as capacity building, innovation, income to household, local development, family development, alleviation of malnutrition ,education . The results indicate that women entrepreneurs 'support project constitute a driving force in the welfare of beneficiaries since they create more jobs, they contribute to house hold income, alleviation of malnutrition, education, they contribute to savings which boost investments and they contribute to the development of the beneficiaries ' families.

Sundaram(2012), stated in his study of "Impact of Self-help Group in Socio-economic development of India" analyzing with descriptive statics by using variable(Sex, Age, Income level). The group formation brought out the hidden talent and leadership qualities among the members. Members generally, got lesser opportunity to interact with outsider like Government officials, NGOs and others in the Pre-SHG period 25 % of the members were not interacting with officials whereas after associating with SHGs, 91% members had interacted with the outsiders and out of total 44 % have interacted more than 4 times with outsiders. This interaction helped them to articulate their problems and improved their self-confidence. Therefore, it can be concluded that after joining the SHG the members have improved their status in family, become helpful in family finance and sometimes helped others too confidentially.

Sarah (2013), addressed on the study "Women's role in economic development: Overcoming the constraints" analyzed with descriptive statics by using (Age, Sex, Marital status, Religion) Variables. The Perception of women as good with money, including being better at paying back loans, has led them to be targeted in finance programmes. Recognition of women as more efficient distributors of goods and services within the household has led to them being targeted with resources aimed at alleviating poverty, such as cash transfer programmes. In this study some of the problem of women which is explain in different researches as mentioned above, which were conducted on SHGs in Ethiopia have brought into view. These issues pertained to the achievements and how the problems of the women solved by the formation in Self Help Groups. Although, most of the people organized in SHG feel that they get more respect, not only in the area but also in their own family members treated as more respectfully and as a model of the area, they are affected by extreme poverty that they reduce by formation in SHG and there is no self confidence, other support for them to overcome the problem.

Linda (2014) studied on the "women's self help groups in Saboti Constituency, Trans-Nzoia Country in Kenya" by using the variables (Age, Education, Marital Status, Occupation, Ethnic Background, Religion and Family Income) by descriptive statistics on Cross Sectional Data. In his study from the majority of the SHGs members 40% have increased their income after joining the self-help groups and as a result their living standards had improved. As far as improvement in technical skills was concerned the data revealed that 28% of the members agreed that their technical skills were improved. After joining the groups, women overcome shyness and freely expressed their views within the group within the family and within the various organizations; the data revealed that 24% of the members had gained confidence. Only 4% of the women members had improved their decision making skills on the purchase and sale of assets. It is evident from the findings that a majority of the participants economic situation had improved as a result of the improved income, however it is noted that most of the women members do not have an upper hand on the sale and purchase of assets which is mostly done by their husbands.

Chisholm (2014), conducted in the studies on "an assessment of empowerment in women's self help groups in rural Rwanda" analyzed by using descriptive statistics with (age, sex, Income, wealth, saving) variables and cross sectional data types. The economic development and welfare indicators of the women in SHGs should be examined in view of broader economic development in Rwanda. That is the economic development of SHG participants an anomaly with its own set of causal factors or is it simply representative of countrywide development and Rwanda is among the fastest developing countries growing economies in the world with GDP growing at an average of 7% between 2001 and 2011 and expected to be a Middle Income Level country by 2025. The Scholars studied in unlike approach on more or less analyzed with descriptive statics and with few variables. This give the study lack of accuracy in typical method because the complete variable and appropriate model and with necessary data type make more accurate of the result but here different studies lack this arrangement.

Brody(2015), carried out in the study "Economic Self-Help group Programs for Improving Women's empowerment" conducted a systematic review of the effectiveness of women's economic SHG programs, incorporating evidence from quantitative and qualitative data with probit regression and propensity score matching model with five variables(sex , age ,Marital status, education, family-size). In this study the women's perspectives on factors determining

their participation in, and benefits from SHGs suggests various pathways through which SHGs could achieve the identified positive impacts on welfare indicators. Women's experiences suggested that the positive effects of SHGs on economic, social, and political welfare indicators run through several channels including: familiarity with handling money and independence in financial decision making; solidarity; improved social networks; and respect from the household and other community members.

Gautam (2016), Conducted in the study of "Socio- Economic Implications of Self Help Groups and Women empowerment in Geyzing Subdivision of West District of Sikkim in India" analyzed with descriptive statistics by using cross sectional data with six variables (Age, Level of education, Ethnicity, religious, family size, marital status). The study discussed Comparison of the economic status of the households within post and pre SHG involvement time revealed that 48% of the respondents believed as their family economic capability showed improvement since they began to be involved in the SHG program. (35%) of the respondents reported that their involvement in the SHG program did not bring economic change within their family. More interestingly, more than 5% (8 families) of the respondents replied that their family income has decreased after joining the SHGs. The capacity and initiatives of the supported group like NGOs to integrate the issue of women in comprehensive manner is very low. For instance, there are very few welfare systems in the developing country that specifically address women problem. In most cases, women are less attention from sustainable welfare indicators programs.

Salomons et al (2016), stated in the studies "An Overview of Savings and Self-Help Groups", by using descriptive statistics and (age, Sex, wealth, saving, Income) variables. The SHGs Contributions to Improved Food Security, and How to improve their function. The Income, which can increase the ability of households to meet their daily needs and plan for future expenses, has also been identified as a positive effect of SHG participation. The informal discussions with group members show that the value of having a safe place to save when they have money after a accumulate, the sale of an asset or a period of employment have a secure place for extra funds, away from the home, protects household resources from cultural pressures to respond to non-emergency requests from relatives and neighbors and spending excessively at times of celebration.

According to Village Saving and Loan (VSL) Associates, who aggregate data from the large majority of SHG programs implemented around the world, returns on assets are averaged at 29.1% for all SHG members. The average return on savings is 26.2% from the accumulated SAVIX data for over 18 Facilitating Agencies. Among SHGs in India, returns on internal investments, or returns on member contributions to the groups' internal funds have been reported to be anywhere from 2% to 15% depending on the location and the facilitating NGO. General improvements in household financial management as a result of SHGs promoting a "culture of savings" are also mentioned in various studies as contributing to household resilience (Salomons et al, 2016). This savings culture, through the funds available to group members, provides an alternative to other coping mechanisms, including the selling of assets such as livestock, cutting expenditures on education and health taking loans from money lenders, friends or family. When households acquire alternatives to these high-risk coping mechanisms, they are generally regarded as being more resilient. Many Scholars carry out numerous studies in qualitative and quantitative discussion and the point of view of different scholars not contain full fill of the gap occurred between them self's because of inappropriate model and less use of variable additionally technical use of appropriate data types.

Amme, (2017), that deal on "The contribution of self-help groups to building resilience in East Africa" states that the research studies provided evidence of women's economic, social and political welfare indicators through cross sectional data and analyzed by Descriptive statics with (age, income, wealth, training, saving) variables. The qualitative data provided direct and indirect evidence of increased income among SHG members. Many SHG members have been able to purchase a variety of household and productive assets through group savings and loans. SHGs over one year old estimated that 88% of their members are benefiting from new IGAs, while 51% of younger group members have acquired business skills and are establishing an IGA. In focus group discussions the older groups reported that 100 % of their members are free from moneylenders.

Atieno(2017) conducted the study on the status of household assets among the respondents however, improved much after joining SHGs. joining SHGs, 22.12% (n=113) of the sampled women traders had solar lighting in their homes; 20.35% of them had super drums; 10.62% had bicycles; 6.19% had wheelbarrows; 1.77% had gas cookers; another 1.77% had pool carts; and

0.88% had electric cookers. Solar panels used for home lighting as well as super drums for water storage were the assets which seemed to be owned by more women (22.12% & 20.35% respectively). However, this was a very small proportion of the total number of women sampled for the study

2.2.1. Empirical Literature on the Impact of SHG on women welfare indicators in Ethiopia

CoS Approach (2013), the "SHG approach in Ethiopia Consortium of Self Help Group Approach Promoters (CoSAP)" explained Women organized in SHGs have registered myriads of economic development. Trainings on business skill development, saving and credit management have played central roles to women's economic progress. Because of their group saving, every SHG member has the opportunity to access to credit services where loan conditions are decided by themselves in a participatory way. Furthermore, the loan conditions are flexible based on members" ability, capacity and purpose of the loan. This helped women in SHGs to open and run small shops, animal husbandry, tea rooms, vegetables production, animal fattening, Injera making, production of local liquors, opening mini restaurants, sanitation works in Universities, grain trades, making fast foods such as chips, and other seasonal and permanent businesses.

Empirical evidences gathered in diverse contexts suggest the impacts of SHG on poor women's economic conditions. A study conducted by Different scholars goes to argue that targeted SHG can be used as a mechanism for enhancing poor women existing socioeconomic conditions and thereby altering the relations between gender and class, to the benefit of the weaker parties. The relationship between poor women's welfare indicators and their participation in SHG programmes will be discussed by many scholars. This has been done by examining quantitative data collection from a representative sample consisting of poor women's from each of the SHG program areas, and the other sample consisting of non-users from counterpart non-program areas with no significant presence of any SHG program.

Mekonnen (2013), studied on "Exploring the Contributions of Self help Association in the Case of 'Keber Laregawiyan' Organization" analyzed with descriptive statistics by using cross sectional data with (Sex, Age, Income level) variable discuses that Elderly women in Addis

Ababa are socially and economically neglected and the government support policy is not able to address multiple problems. Some humanitarian organization have been committed to work in the area of elderly support to reduce the degree of poverty by providing rehabilitation services and community based supports through the initiation of self help in Income generating Activities (IGAs).

Adamu (2014), Analyzed in his studies of "The Role Of Self Help Group /SHG/ In Mother and Child Welfare empowerment in Belay Zeleke Kebele of Bahir Dar Town" by using descriptive statistics with (age, income, training, Credit access, saving) variables by cross sectional data types. He articulated as it is found that 93 % participants in the SHGs have improved timely and quality purchase of school materials, diet, medication, preventive health care, shelter care and house hold facilities. 94.5 % of the participants trained on SHG concepts, entrepreneurship, financial management and organizational developments. 40 % trained for vocational trainings on food preparation and hair dressing. Nearly 98 % of the members have accessed loan at least once from their own respective SHGs at the amount that either equals to the individual saving with no additional guarantee or up to three fold of it with additional other two members of the group, whom did not receive loan, for guarantee.

The Role of SHG (2014), The study conducted on the "The Role of Self-Help Group in Empowering Commercial Sex Workers' Livelihood in Addis Ababa" analyzed in descriptive statics by using three variable(age, Education level and Marital status) using cross sectional data type conducted as empowering women socially, economically and politically, 90% of the respondents were originally from rural areas of which 55% came from the Northern part of the country whereas the least proportion which is 2.5% came from South. When asked why the majority of respondents were from the North, they responded that young aged girls leave their homes and run away not to get married at early age. The remaining 10% were from Addis Ababa and its vicinity. 65% of the respondents have children and 70% of respondents reported that they support their families who live in rural towns. There were only three participants (7.5%) reported to have alternative financial support from their lovers. These respondents were not married but have trusted partners to support them. 85% of respondents acknowledged their friends as source of love, care and support.

The migration from rural to urban is one of the problems of the urban livelihood and the women are the highly affected by this problem in the country. This problem is not effectively calm down by only three variables rather need more variable and assessment.

Women described positive changes in their economic and social assets, as well as more active involvement within their communities. Their skills, knowledge, and – significantly – self-confidence were all increasing as a result of SHG membership. While SHGs had not entirely transformed attitudes towards women's position in society, there was qualitative evidence that women were becoming more independent and having greater influence in the household. Some women were also pursuing business ventures for the first time, and managing their households more efficiently.

As it is discussed in the table 2.1, there were different scholars studied on Self help group. One of the greatest tools used to fight poverty in this century is credit delivered to self-help groups (SHGs). The results of these different scholars showed that on the table identified and triangulated in case of this study.

Table 2. 1 the assessment of the empirical and the gap

No	Name	Title	Variable	Types of Data	Model/Methodology
1	Sundaram(2012)	Impact of Self-help Group in Socio-economic development of India	Sex, Age, Income level	Cross Sectional	Descriptive statics
2	Mekonnen(2013)	"Exploring the Contributions of Self help Association in the Case of 'Keber Laregawiyan' Organization"	Sex, Age, Income level, Occupation	Cross Sectional	Descriptive statics
3	Sarah(2013)	"Women's role in economic development: Overcoming the constraints"	Age, Sex, Marital status, Religion	Cross Sectional	Descriptive statics
4	CoS Approach(2013)	"SHG approach in Ethiopia Consortium of Self Help Group Approach Promoters (CoSAP)"	Age, Sex, Marital status, family size	Cross Sectional	Descriptive statics
5	Adamu(20114)	"The Role Of Self Help Group /SHG/ In Mother And Child Welfare	age, income, training, Credit access, saving	Cross Sectional	Descriptive statistics

		empowerment In Belay Zeleke Kebele Of Bahir Dar Town"			
6	Linda(2014)	"women's self help groups in Saboti Constituency, Trans-Nzoia County"	Age ,Education, Marital Status, Occupation, Ethnic Background, Religion Most, Family Income,	Cross Sectional	Descriptive statistics
7	Chisholm(2014)	"an assessment of e in women's self help groups in rural rwanda"	age, Sex,wealth, saving, Income	Cross Sectional	Descriptive statistics
8	The role of SHG(2014)	"The Role of Self-Help Group in Empowering Commercial Sex Workers' Livelihood in Addis Ababa"	age, Education level and Marital status	cross sectional data	Descriptive statistics
9	Brody(2015)	"Economic Self-Help group Programs for Improving Women's empowerment"	sex , age ,Marital status, education ,family-size	cross sectional data	Probit regression, propensity score matching
10	Gautam(2016)	"Socio- Economic Implications of Self Help Groups and Women empowerment in Geyzing Subdivision of West District of Sikkim"	Age, Level of education, Ethnicity, religious, family size, marital status	cross sectional data	Descriptive statics
11	Salomons et al(2016)	"An Overview of Savings and Self-Help Groups"	age, Sex, wealth, saving, Income	cross sectional data	Descriptive statics
12	Amme(2017)	"The contribution of self-help groups to building resilience in East Africa"	age, income, wealth, training, saving	cross sectional data	Descriptive statics
13	Atieno(2017)	The status of household assets among the respondents however, improved much after joining SHGs	age, income, wealth, training	cross sectional data	Descriptive statics

Different studies conducted on the impact of SHG on the women welfare indicators in many ways to identify the problem with women which was explained in different methodology, data types and variable as mentioned in table above. The researchers had their own downside with lack of full employment of required variable with appropriate methodology and data types. The

dilemma of applied necessary models and the data type used in the study provided unsolved extensive problems with poor women.

Therefore, these studies pull out the gap that the other studies didn't look on assessment between the SHG user and the SHG non user. In this case the study was conducted to evaluate the impacts of SHG on the women welfare indicators that match up to the SHG user and non- user in waliso town. It is entirely made out the gap of variable, data types, and methodological analysis of the different literature study marked above and finally this study was tried to fill these gaps.

2.3. Conceptual Framework

In conceptual framework assesses the impacts of SHGs on women welfare indicators through the access of income independency and in decline sustainability problem within the group. The impact of SHG show the way to Economic independency thereby improved living standard which in turn to increased income, saving, Asset accumulation and improve in spending on food and non food consumption. Self Help Groups go a long way in improving the lives of their members economically, psychologically and socially.

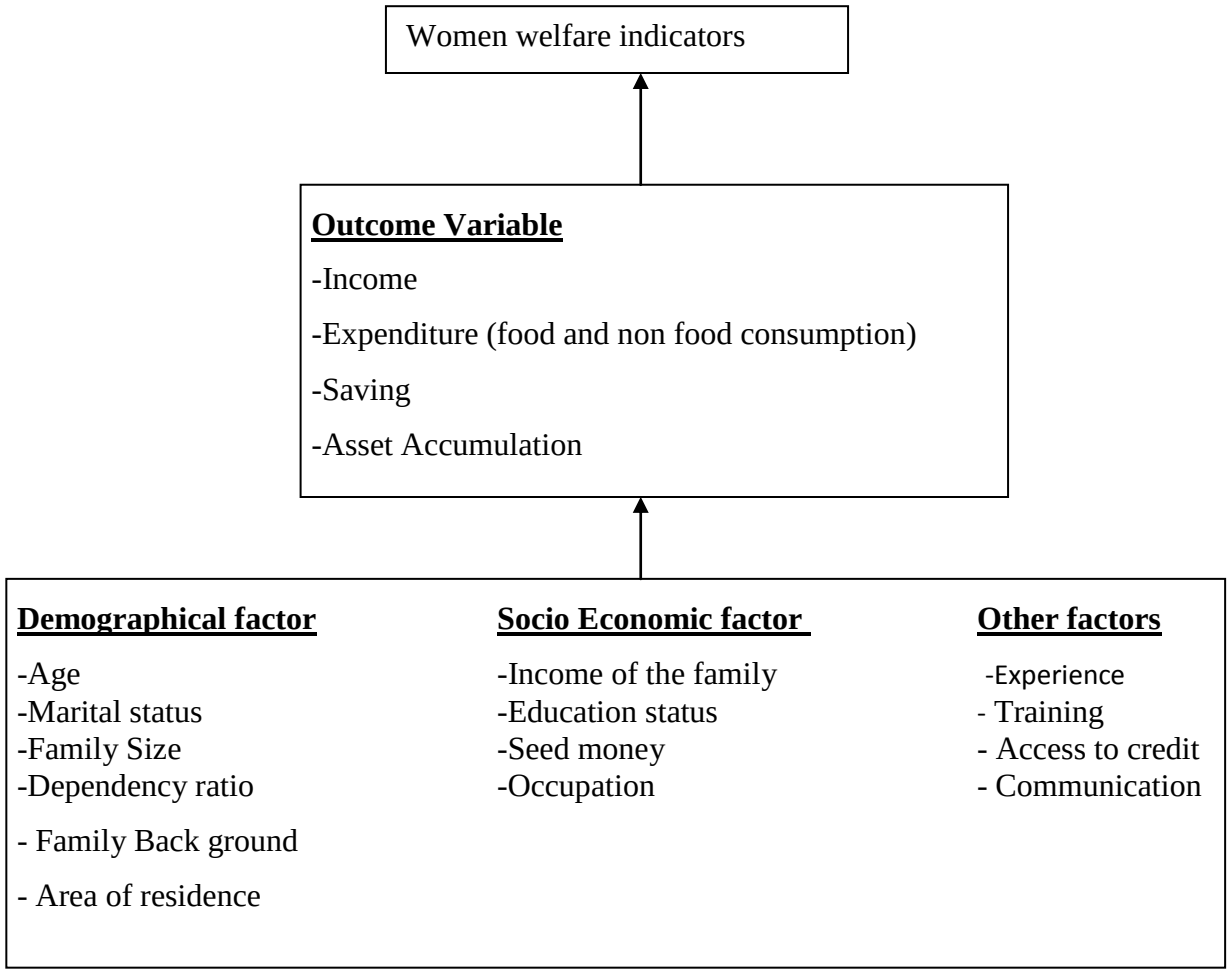
The change come from the formation by SHG from they have weekly meeting, training and other experience as well discuss about them self which develop their social, economical and political additionally on their income. They are economically improved and the attainability to access resource increase, and they also improves their life standards.

The conceptual framework expresses the impacts of SHG on welfare indicators of women by the determinant of Demographical factor, Socio Economic factor and other factors. In the next, the factors are described.

Based on the literature, that women's participation in economic and livelihoods SHGs enabled women to gain access to resources in the form of credit, training, loans or capital. Consequently, these women are experience an increase in income, savings, their asset accumulation and/or loan repayments. In addition, participants exposed to group support and accumulate social capital. As a result of group support and social capital, women experience increased feelings of autonomy, self-confidence and self-efficiency. With both an increase in financial stability and an increase in

feeling of self-confidence, participants able to make meaningful life choices and their patterns of spending and savings changed. As a result of those changes, women might experienced an increased ability to transform their choices into desired actions, which would lead to the emergence of economic, political, social, and psychological changes the direct to welfare indicators outcomes (Kabeer et al, 2008). However, it is also possible that these changes increase tensions within households and communities, which lead to disappointment, stigma and domestic violence.

Figure 2. 1: Conceptual Framework



Source: Developed by the researchers

CHAPTER THREE

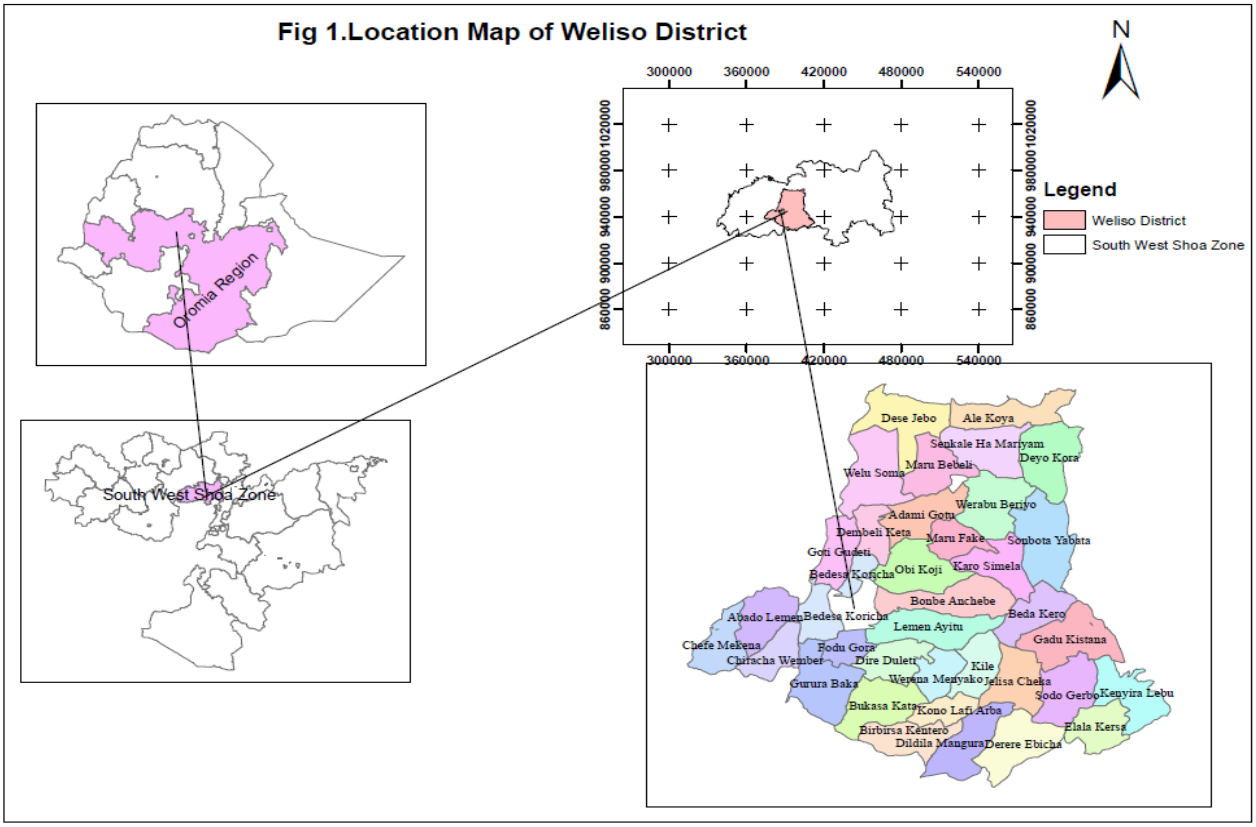
3. THE STUDY AREA AND METHODOLOGY

3.1. The Study Area

The study was conducted in waliso town of Southwest Shoa Zone in Oromia region, Ethiopia. Waliso is the Capital Town of South West Shoa Zone and is sub divided into 4 kebeles such as 1) Ayetu, 2) Ejersa, 3)Burqa Gudina and 4) Hora. It is found at 114 km from Addis Ababa along the Jimma main road. According to 2017/18 Oromia Regional population projection, the total Population of Waliso town is 59,685 (Male 29,749 and female 29,935). It is bounded by 4 rural kebeles of Waliso district from all direction. These are Tombe Anchebi Kebele to the East, Leman Ayetu to the South, Obi koji to the North and Badesa koricha to the West direction of the town(Waliso Town socio Economic Profile, 2017).

According to Waliso Town socio Economic Profile (2017) it is sited between astronomical grids of $8^0$16'00"N-$9^0$02'00"N and 37^0 31'00"E-$38^0$46'00"E and the town is situated on vast plain of 2020 above sea level. About 95 % of its landform is plain and the rest 5% is ups and downs/hill land/. The climatic condition of the town is mostly semi-humid tropical that is warm to cool semi arid and the town's monthly average temperature is about 22.5^0c. Mean annual rain fall of the town is 1300 mm and the dominant soil type which covers the vast plain of the town is vertyisol. The total area of the town is 25.11Km^2 or 2,511 hectares. (Waliso Town socio Economic Profile, 2017)

Figure 3. 1 Location map of Waliso Town



Source: Physical Geography and Socio Economic profile of the woliso town (2018)

3.2. Sampling Technique and Sample Size Determination

A sampling technique was used to select sample respondents women who are SHG users and non users in the Waliso town. Waliso town was selected purposively because, it has the organized and numerous SHGs and that have many members or users. In quantitative data collection random sampling technique was used because it provides equal chances to the population to be included in the research and also believed to avoid bias. The qualitative data collection was collected from the respondents by using focus group discussions based on their particular characteristics and interest, which enables them to answer the research questions.

Nongovernment organizations take the highest share in selecting very poor women and forming SHGs. According to IMF report (2018) about 25.7% of the urban population Ethiopia lives below the national poverty line, and 46.4% is multidimensional poor. Housing quality in

Ethiopia is lower than in neighboring countries, and overcrowded living conditions are the major housing challenges in large urban centers. The same 2015 World Bank study indicates that 70-80% of the population lives in what might be considered slums, and 60% of urban houses are slums. Coverage for sanitation services is very low; only 27% of urban dwellers had access to improved sanitation facilities in 2015(Zerihun, et al, 2016). As mentioned above, Waliso town has a total population of 59,685 (Male 29,749 and female 29,935). Accordingly the Ethiopian population estimation and IMF report of (2014 to 2018) states about 25.7% of the Ethiopian urban populations are live under poverty line. So in Waliso town case out of the total population 59,685 the 29,935 are female and from this about 25.7 % of them (7,693) women are under poverty line.

The size of the sample depends on various considerations, including population variability, statistical issues, economic factors, availability of participants, and the importance of the problem. In inferential statistics, the sample size required depends on how big a difference is between two groups to be identified. With large sample sizes, small differences can be detected. If the sample size is sufficiently large, virtually any population differences are resulted in statistical significance. In other case, the smaller the sample size, the lower the statistical significance. In another way, other things remaining constant, the greater the sample size, the lower the probability of drawing error conclusion that in it (Dessiye, 2014).

In carefully conducted survey research, the sample size determines how closely the sample values approximate the population values. Assuming valid sampling procedures, the larger the sample, the more closely (on average) the sample values approximate the population values. However, the relationship between sample size and sensitivity is a curve of diminishing returns and beyond a certain point, the cost and effort required to achieve greater sensitivity becomes disproportionately large (Mekonnen, 2013).

There is generally a trade-off between the accuracy of the sample in representing population values and the costs associated with sample size. The larger the sample, the more confident we can be that it accurately reflects what exists in the population, but large samples can be extremely expensive and time consuming. A small sample is less expensive and time consuming, but it is not as accurate. Therefore, in situations requiring minimal error and maximum accuracy

of prediction of population values, large samples are required. In cases where more error can be tolerated, small samples did. It is not unusual to use relatively small samples to generalize to millions of individuals (Adamu, 2014).

To reduce the biasness we use the female population under poverty line as our population sample size. In random sampling method, apply the Cochran's formula to determine the sample size. According to the Cochran (1977) sample size formula:

$n_0 = \frac{Z^2 * p * (1-p)}{e^2}$ ---------- (3.1)

Where

n_0 - the sample size

Z^2 - is the z-score, e.g. 1.96 for a 95% confidence interval,

p - The estimated proportion of an attribute that is present in the population

e= margin of error 5% (0.05)

The sample size (n) is calculated according to the formula: $n = \frac{Z^2 * p * (1-p)}{e^2}$

Where: z = 1.96 for a confidence level (α) of 95%, p = proportion (expressed as a decimal),

e = margin of error.

z = 1.96, p = 0.25, e = 0.05

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

$n = \frac{3.8416 * 0.25 * (1 - 0.25)}{(0.05)^2}$

$n = \frac{0.7203}{0.0025} = 288.12$

$n \approx 288$ So, the sample size is equal to 288 for both user and non user of the SHG.

3.3. Data Collection instruments

In collecting the primary data, interview and discussion guides is originally prepared in English and translate later into Afaan Oromo for convenience in the interview and the tools of gathering primary data was collected by communities' survey questionnaire and group discussion conducting with persons familiar with the study area to get deep information about the SHG use

and secondary data collection from different sectors in the study area and other relevant published documents/literatures.

3.4. Model Specification

Refers to the determination of which independent variables should be included in or excluded from a regression equation. In this model the factors that affect the women welfare indicators in the study area were analyzed.

In regression analysis the dependent variable (women welfare indicators), or regressand, is frequently influenced not only by quantitative variables but also by variables that are essentially qualitative or nominal scale, in nature. Qualitative variables seem to influence the regressand and clearly should be included among the explanatory variables, or the regressors like in (Age, ocpt, exper, Educ, train,Marst, FSiz, Smon, ARes,com, Emf, deprf , Fmbackgr e_i). Various methods exist to reduce bias in impact evaluation. Propensity scores are an alternative method to estimate the effect of receiving treatment when random assignment of treatments to subjects is not feasible. Propensity score matching (PSM) refers to the pairing of treatment and control units with similar values on the propensity score, and possibly other covariates, and the discarding of all unmatched units(Centre, 2008). The Impact evaluation in continuous assessment needs the Propensity score matching model which identifies the output of the treated and control group in SHG user and non user.

It provides the 'input' which is modified in the model to change the 'output' which has presumed effect on the dependent variable (Women Welfare indicators) was presented in this study.

f(WWI)=f(Age,ocpt,exper,Educ,train,Marst,FSiz,Smon, ARes,com, Emf, deprf,Fmbackgr,Acc)

The Women Welfare indicator in the economic growth is the function that is affected by the factors which is listed and they are called independent variable. This describes that the change of the dependent variable dependence on the change value of the independent variable which are list on the right side of the function.

$$WWI = \beta_0 + \beta_1 Age + \beta_2\ ocpt + \beta_3 exper + \beta_4\ educ + \beta_5 train + \beta_6\ marst + \beta_7\ fsiz + \beta_8\ smon + \beta_9\ ares + \beta_{10}\ com + \beta_{11}\ imf + \beta_{12}\ deprf + \beta_{13}\ fmbackgr + \beta_{14} Acc + e_i \quad \text{----------(3.2)}$$

WWI = Women Welfare indicators is the dependent variable of the study

Age =Age of the respondent

Ocpt= The Occupation of the respondent

exper = Experience collected of the SHG members for staying in SHGs

Educ=The Education of the respondent

train = Training achieve which is given for the SHG members

Marst = The Marital status of the respondent

FSiz = The Family Size of the respondent

SMon = The Seed Money Given to the SHG for support

ARes = The Area of residence of the respondent

Com= Communication between the respondent

Imf= Income from other family members of the respondent

deprf= Dependency ratio in family of the respondent

Fmbackgr = (Family Back ground like number of siblings, parents income, etc)

Acc = Access to credit of the respondents

Propensity score matching methodology

- Assign the observations into two groups: the treated group that received the treatment and the control group that did not.
- Treatment D is a binary variable that determines if the observation has the treatment or not
  D=1 for treated observations and D=0 for control observations
- Estimate a logit model for the propensity of observations to be assigned into the treated group. Use x variables that may affect the likelihood of being assigned into the treated group.
- The propensity score model is a logit model with D as the dependent variable and x as independent variables.

  P(x) = prob(D=1|x)=E(D|x)

- The propensity score is the conditional (predicted) probability of receiving treatment given pre-treatment characteristics x.

The rest of the analysis is the same.

In the qualitative evaluation that the variables usually indicate the presence or absence of a "quality" or an attribute, they are essentially nominal scale variables. One way we could "quantify" such attributes is by constructing artificial variables that take on values of 1 or 0, 1 indicating the presence (or possession) of that attribute and 0 indicating the absence of that attribute. For example 1 may indicate that a person is a SHG user, and 0 that the person is not, and so on. Variables that assume such 0 and 1 values are called dummy variables and evaluated by Logit model**.** Such variables are thus essentially a device to classify data into mutually exclusive categories such as participant or non participant (Gujarati, 2004)

Propensity score is a conditional probability of assignment to a particular treatment given a vector of observed covariates (Rosenbaum and Rubin, 1983). It summarizes the conditional probability of participation given pre-treatment or exogenous characteristics and, as a probability measure, its value ranges between zero and one ($0<P(x)<1$). It was computed as (Becker and Ichino, 2002): using its different steps as follows; $P(x) = Pr\{D = 1|X\} = E\{D | X\}$…….(1),where D and X refer to participation dummy and a vector of pre-treatment control variables respectively.

3.5. Variables of the study

The socioeconomic, demographic, institutional and location combination factors are used to explain women participation in the SHG as well as the resulting wellbeing outcomes in terms of Income, total asset, savings and Food and non food expenditure. This study considered the outcome of the program in terms of the Income, total asset, savings and expenditure of the women.

3.5.1. Dependent Variables

Women Welfare indicators is the dependent variable is that marginal social costs (benefits) are equal to marginal private costs (benefits). The capacity of women to participate in, contribute to and benefit from growth processes in ways which recognize the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth(Kabeer et al, 2008)

3.5.1.1.Women Welfare indicators

That is understand as the welfare taking steps to change society so that one's own place within it is respected and recognized on the terms on which the person themselves want to live, not on terms dictated by others.

The extent to which any individual or community can determine for themselves who they are and how they choose to relate with others is determined by structures and relations of power. Power from this perspective is manifested and experienced through institutions (rules of the game) and discourses (what is thinkable, visible, and achievable).

Observable disparities between particular social groups or classes (for example in terms of standards of living or representation in parliament) indicate the operation of power working through these institutions and discourses. This is where social welfare comes in as a process whereby people develop a sense of and capacity for agency, individual power within and collective power with others to improve the quality of their social relationships and to secure respect, dignity and freedom from violence, leading purposively or otherwise to changes in the institutions and discourses that are keeping them in poverty. To put on efforts to support people in authorize themselves politically or economically, unless these are complemented by systematic revalorization of people who are stigmatized and regarded as inferior or lacking by society, advocating their recognition as fully human, and as entitled to the same rights and respect as any other humans(Kabeer,2008).

Welfare indicators increases women's access to economic resources and opportunities including jobs, financial services, property and other productive assets, skills development and market

information. Women's economic participation is fundamental to strengthening women's rights and enabling women to have control over their lives and exert influence in society. It is about creating just and equitable societies (Mekonnen, 2013).

Access to and control over assets – physical and financial – and property are crucial for women's financial security and underpin individual and household economic development. A wealth of evidence confirms the importance of control of household resources, including housing, for women's greater self-esteem, respect from other family members, economic opportunities, mobility outside of the home, and decision-making power (Hunt et al, 2016).

The self-help group (SHG) approach is a new paradigm into the field of development which main objectives are to increase the well-being of the poor people, provide access to resources and credit, increase self-confidence, self-esteem and increase their creditability in all aspects of lives. Self-help group is a voluntary and self-managed group of women, belonging to similar socio-economic characteristics, who come together to promote savings among themselves (Narayanan et al, 2002). The poverty alleviation intervention of the SHG is in the form of undertaking economic programmes to provide employment, giving micro finance services to the poor women so that they can get themselves acquinted with skills and occupational diversification. This new initiative was taken up by Swarnajayanti Gram Swarozgar Yojana, implemented to organize the poor women into Self-help group (SGSY, 1999).

The Welfare indicators of women that dependent variable which depends on other factors that are measured and these variables are expected to change as a result of an investigational process of the independent variable. It is the value that were changed or controlled in the model or equation.

Table 2. 2 the sign of the variable on the Women Welfare indicators

No	Variable	Sign in Impact of SHG
1	Women Welfare Indicators	
2	Income	+
3	Income of the other family	+
4	Saving	+
5	Educational status	+
6	Access to Credit	+
7	Seed money	+
8	Age	+
9	Marital status	−
10	Family Size	−
11	Dependency Ratio	−
12	Experience	+
13	Training	+
14	Ares	−
15	Family Back ground	+

3.5.2. Outcome variables

3.5.2.1.Assessing the Impact of Self Help Groups on women Welfare indicators

To assess the impacts of SHGs on women welfare indicators, the study used the outcome variables such as income, saving, expenditure and asset accumulation. The income used to evaluate within the Income always taken as a single indicator to measure poverty because total consumption (food and non food) and essential needs for non food (e.g. transportation and social activities and etc) are difficult to quantify. In other words, income is taken as a proxy for living standards generated because of the membership that was observed from the area (Liu, 1998). The major SHG program run by the non government organization and assisted by Government in the study areas. The SHGs users are those who are under severe poor for a long period of time Adamu (2014). Self help group is successful instrument to combating poverty in a sustainable way. It make powerful with the majority being women socially, economically and politically authorize them to live a life of dignity with their children in the community.

There are the method that was used in this study to match up to user and the non-user of SHG. We can match these two parts using first by using the independent test with respects to different welfare indicators. In other case, the entire sampled respondents are considered. The second

method was involved the use of Propensity Score Matching (PSM) model to identify the impact of SHG. In this second method user is dwell in the SHG involvement areas that commonly faced the economic problem which used as impact of SHG for Women Welfare indicators for the SHG users women. The factors that were supposed to affect both the participation in SHG and the outcome variables income are used in the PSM models.

The other benefits of participation in a SHG is the opportunity to save regularly, access formal savings institutions and participate in the management of the savings. It is hypothesized that SHG have a good impact on members, in their ability to save their hard earned money and others.

A Complete function of the impact of the SHG on Women Welfare Indicators:

f(Impact) = f(Inco, food exp, non food exp Aacculn, Sav,)

Impact = (The outcome generated from Impact of formation in SHG of the respondent)

Inco = (The changed monthly income of the respondent after the impact of SHG)

food exp=Food consumption expenditure of the respondent

non food exp=Non food consumption Expenditure

Sav = (The outcome monthly saving of the respondent)

Aacculn = (The Asset Accumulation of the respondent)

Exp = (The food and non food Consumption expenditure of the respondent)

The impact of the SHGs on the members have been analyzed in terms of their level of income generation, their saving capacity, amount of asset accumulation, their expenditure pattern.

The total change of the income, their saving, the total assets accumulation and their expenditure that the respondents provide are outcome of the impact of the SHG. If there is the change of monthly income of the respondents then there is a positive impact with the changes of monthly saving, change on their assets and consumption expenditure of the respondents. In general the change of these outcome result the women welfare indicators in particular.

According to Deininger (2009) "Longer-Term Economic Impacts of Self-Help Groups in India" reports the estimated Average treatment effect (ATE) on program SHG participants and non participants in treated separately. Contrary to the lack of such significance for the overall sample, we find significant impacts on consumption expenditure, income, saving and asset accumulation for SHG members. None of these variables is significant for non-members, though, suggesting that spillover effects are limited, if at all present.

The outcome variable of the impact of SHGs on women Welfare indicators activities observed received by the member's observation live in SHGs members' period.

Incomes

Income is the outcome of the impact of SHG on women Welfare indicators and it used to measure the wellbeing of households. The women were asked about the sources of income for their families and most of them have more than one source of income for their households include income from their work, their spouses' work and children supporting them. In the data gathering the sampled SHG members and non members asked to estimate the average monthly income and expenditure of their households of SHGs members and for non members also matching with parallel.

Savings

In other case also saving is the result of the impact of SHG on women Welfare indicators which provide change in income results the change of saving and saving is mandatory in each SHG, with minimum amounts being set if there is the impact of SHG on welfare indicators of women and it is easily identified and it is the result for that the SHG members usually save more than the non member of the group.

Asset accumulation

Asset accumulation is an increase in assets leads to asset accumulation as long as saving is greater than not saving. Housing is a complex welfare good that supplements and mediates the flow of other welfare goods and services at the household level, making individuals more or less dependent on the state, market and family for the satisfaction of other needs. But increasingly, as

levels of individual housing property consumption and, subsequently, housing wealth expand, the capacity for households to tap into this wealth for the purchase of welfare goods or to offset retirement needs also increases (Groves et al, 2007).

Essentially, the potential wealth tied up in owner-occupied housing has been considered, more or less explicitly, to be a solution to the fiscal difficulties involved in the maintenance of welfare commitments, and through that, the asset in asset-based welfare has frequently become property or housing asset (Doling, 2010).

In the asset accumulation, the SHG membership leads to give business, saving and other asset creation system training that the women control the welfare of the household members in the sense of related to their housing which includes the number of rooms of their house and other material in the house. The respondents use assets like (Radio, Tape, TV, Fridge, bed, Table, Chair, 'mitad' , and etc).

Expenditure

To determine the living standards of households, income and consumption expenditures are the most popular approaches. Food and non food consumption expenditure are necessary pre-requisites needed to measure poverty, determine the diverse consumption patterns, calculation of consumer aggregate price index, and short-run/long-run availability of food and non food items to the household. (Olubukunmi et al, 2016).

The households living in urban areas make expenditure on different commodities to attain utility and satisfaction. The expenditure on food commodities and items are most important in the household behavior as food is basic nutritional ingredient for every human being. Therefore, in the analysis of consumer behavior, the food consumption is said to be the expenditure made by the consumer on different food commodities that purchases to meet the daily food needs. It is observe that people incurred expenditure on food items like wheat, rice, vegetables, fruits, meat and such other kitchen items. The consumption of these food items of any household is generally the function of income of household, prices of commodities, taste of the consumer and other factors. Non-food items including electricity, clothing, furniture, housing, transport and education; etc. to facilitate the several aspects of human life (Ahmad, 2015)

3.5.3. Independent Variables

The independent variables are those variables that may influence or affect the women welfare indicators i.e., the dependent variable. It is the variable that is stable and unaffected by other variables. It refers to the condition of systematically testing and manipulating in the investigation. It is the presumed cause. The independent variables considered in this study are the overall structure and framework of SHGs and other indirect but vital variables like age, marital status, level of education, family condition, area of residence, job status, and seed money given by NGOs.

In this case the function of the Women Welfare indicators depends on the independent variables of the right side of the functions some of the independent variables are described as follow in their categories like demographic, social and other factors variable.

a) Demographic Factors

i. Age of respondent

This is the number of years lived by the respondent. Property ownership, participation in work and social activities that can affect the welfare indicators can vary with age but not necessarily with linear relationship. The theoretical and empirical literatures on the differential nature of welfare indicators indicate that the old aged respondents are more members than the younger counterparts (Bogale et al., 2005).

ii. Marital status

This variable has affect if the spouses live together and other live alone like widowed, divorce, single or separated households. Marital status is expected to affect both the ways in which resources are created and they are being used. It also affects the respondent's plan for different activities. It is also among the demographic characteristics identified to affect welfare indicators by World Bank (2005) and other studies that dealt with power of women welfare indicators.

iii. Family Size

The family size variable makes difference between the members of SHG and non members of SHG in the area. During the study the participants asked about the major cause of poverty and the risk of vulnerable profoundly associated with having large family size and insufficient resource linked with low house hold income, lack of education and unemployment (Mekonnen, 2013)

iv. Family's background

This variable affects the respondents' income if the parents were poor or non-poor, which was checked from the responded by the respondents. It is also used to capture the effect of initial conditions of the welfare indicators of the respondents. This is also explained by the theory that considers culture as source of poverty (Bradshaw, 2006). One who grows in poor areas and brought up by poor parents are not ready psychologically to take full advantage of improving opportunities that may develop in their lifetime. Dalton et al.,2010) referring to other's works indicate that the sole fact of being poor may affect preferences by constraining aspirations, self-confidence or hope which may in turn limit poor people's ability to participate and alter their own conditions.

Dalton et al (2010) states that poor people may lack the capacity to aspire to contest and alter the conditions of their own poverty and the capacity to aspire are a navigational capacity which includes not only the ability to set goals or aspirations but also the knowledge of how to achieve them.

v. Area of residence

This variable affects the respondent's relationship between each other. As the distance between them come together, their relationship also solid. The social cooperation of the respondent and administrative services which are usually located in the area tie together them and Even if being near to or far from area may not make one respondent prior than the other, the services that are

provided by the supporter are better given to those nearer to each other. Access to services is one of the determinants of the women welfare indicators (Apata et al., 2012).

vi. Dependency ratio

The effect of dependence of the other family on members of SHG makes difference in the impact of SHG on women welfare indicators.

b) Socio Economic Factor

i. Education

This variable affects the respondent economy through the change in education. Education is essential to women's welfare indicators, and it can reduce intergenerational poverty because educated girls marry later and have fewer children, who, in turn, tend to be healthier and better educated. Education is the key to power full to welfare indicators, yet Africa has the largest gender gap in educational attainment, both at the level of enrolment as well as attainment (Key Political Points, 2007).

ii. Income Earned members in family

The application of this variable is how much each person in the family expects to earn for the month in average that the family members are considered in the house. It was estimated whether the source of income was from the SHG enrolled or also other family members generated other income additionally (Applying Providing Info Income, 2007).

iii. Occupation

People in similar occupation tend to be cohesive and group action is often found successful in confronting common problem. To form the SHG organization the members must formed from same occupation and similar in behavior.

iv. **Seed Money**

This variable expresses the direct support by Nongovernmental organization and it describes whether seed money has effect on the Welfare indicators of women or not when they are formed in SHG and when they are not formed in SHG. Some NGOs work on short term transfer without strong follow up and capacity building for their selected beneficiaries rather than help the people to help themselves (Adamu, 2013).

c) Other factor

i. Experience

The economic and social skill that the members of the SHG develop because of the long stay in the organization and what is indicated in the foregoing remarks is that the general principles of the new education do not of themselves solve any of the problems of the actual or practical conduct and management of progressive schools. Rather, they set new problems which have to be worked out on the basis of a new philosophy of experience. The problems are not even recognized, to say nothing of being solved, when it is assumed that it suffices to reject the ideas and practices of the old education and then go to the opposite extreme(Dewey, 1938).

ii. Training

The skill that the members of the SHG develop in terms of business and other economic and social gain from the supporter of the group and that the management of the organization firmly believes that human assets unlike other asset cannot be depreciated and must necessarily be appreciated over entire tenure. Therefore training is regarded as investment and not a cost. Even long term intangible gains such as attitude change, are to be considered as valuable returns. Training is considered as vehicle for effective communication and coordination. Training is catalytic in any man management matrix for cohesiveness, compatibility, and cooperation in every organizational endeavor. Management proclaims Training & Development direction as permanent part & parcel of operational process and not some experiment in isolation. Management is fully committed to lend its total support to training tasks and is dedicated through intense involvement in every phase of this activity (NRCDDP, 2015).

iii. **Access to credit**

A women formation in SHGs has make them access to credit. The economic improvement in a women's access to credit and the members have got the loan from their SHG internal credit of organization. Since the SHG is in its implementation to directly improve women's access to credit, the financial mobility due to participation in the SHG has led to an improvement in the quality of life, and gets access to credit according to some of the successful groups. Overall, many families were able to address their basic needs better than before. Some of NGOs reports have shown that the record on the repayment of loans by women and that women were also more likely to spend the income earned, on their families, leading to improved health and nutrition of the poor population and for improving the quality of their lives (Saravanan, 2016).

iv. **Communication**

This describes that the communication between the members in SHG make women more effective to empower them self economically and social and leads them to welfare indicators. The Stereotyping of women and inequality in women's access to and participation in all communication systems especially in the medias. It required building the capacities of women Members of County Assemblies (MCAs) by equipping them with media and communication skills to advance democratic governance in their countries and encourage country governments to embrace gender equality principles as a prerequisite for sustainable development. During the training, participants learnt how to produce gender-sensitive reports while working with the media and how to leverage gender equality for development (Leadership Inclusive, 2017).

3.6. Data Analyzing Methods

The theoretical and empirical data were analyzed using both descriptive and inferential statistical tools. STATA Software was employed for the analysis of the data.

Data was collected, organized, classified by using suitable tools and analyzed by using suitable models. Logit and Propensity Score Matching (PSM) models are the most important model employed to analysis data in this study. Any item that was not captured through quantitative analysis was analyzed qualitatively based upon interview and Focus group discussion with respondents.

3.7.Evaluation of the impacts of SHG on Women Welfare indicators without bias

An impact evaluation determines whether or not a programme had an effect on a specific outcome and quantifies the magnitude of this impact. The impact of a programme is measured by comparing the outcome some time after the programme has been introduced with what is known as the counterfactual the outcome at the same point in time had the programme not been introduced.

The counterfactual represents the state of the world that programme participants would have experienced in the absence of the programme mathematically; the impact of a programme can be expressed as:

$$\text{Impact} = Y_T - Y_C \text{---------- (3.3)}$$

Where Yt is the treated group and Yc is the control group

To identify the treated and control group the appropriate model is logit and this treated and control group estimated by using PSM model

3.7.1. The logistic regression model

According to Gujarati (2004), in estimating the logit model, the dependent variable is participation which takes a value of 1 if the household participated in a program and 0 otherwise. The variables can be incorporated in regression models just as easily as quantitative variables. As a matter of fact, a regression model may contain regressors that are dummy, or qualitative, in nature.

The logistic regression model is one in which the dependent variable is qualitative and assumes only two values like absence or presence and user or non-user. The logistic regression method keeps the expected value of the dependent variable in the range 0 to 1, and it is easier to use and interpret as compared to other regression methods that deal with qualitative data (Hosmer and Lemeshaw, 1987). The logistic regression equation relating a binary dependent variable Y on set of k explanatory variables X1, X2… Xk is given by

$$Y_i = \beta_1 + \beta_2 D_{2i} + \beta_{3i} x_{1i} + e_i \text{ ---------- (3.4)}$$

Where Y_i = women Welfare indicators

D_{2i} = 1 if the Person is SHG members

= 0 otherwise (i.e., in non members of the SHG)

e_i = Error term

Therefore, the cumulative logistic probability model is econometrically specified as follows:

$$pi = \frac{1}{1+e^{-zi}} = \frac{ezi}{1+e^{zi}} \quad \text{----------(3.5)}$$

Where:

pi= the probability of members of SHG 'i' which ranges from (0-1)

Pi =is observable dummy variable defined by pi=1 if respondent is user

Pi =0 other wise e =is natural logarithm

zi =is a function of m explanatory variable xi which can be also expressed as

$$Zi = \beta o + \sum_{i=1}^{M}(\beta\, ixi + ui) \text{ ---------- (3.6)}$$

Zi = unobservable dependent variable for stimulus for i^{th} members

i= 1, 2, 3…….m are observations on variables for the members model: m are the number of explanatory variables.

$\beta 0$=constant term

ui =error term

βi = is a vector of unknown parameter to be estimated

xi =vector of explanatory variables.

In equation 1 it can be clearly seen that the probability to members, pi is non linear related to z*i* (to β's and X's), it creates an estimation problem**.** And to solve this problem it can be liberalized as follows. If P*i*, the probability to members is given by equation 1, then 1-P*i*, the probability of not the members of the SHG is given by

$1 - Pi = \frac{1}{1+e^{zi}}$ Therefore we can write $\frac{pi}{1-pi} = \frac{1+e^{zi}}{1+e^{-zi}} = e^{zi}$

Now $\frac{pi}{1-pi}$ is simply the odds ratio in favor of membership.

The ratio of probability that the membership to the probability that the women participated SHG to member (Gujarati, 2004).

3.7.2. Propensity Score matching (PSM)

Propensity score matching model is used to address the objectives to assess the impact of participation in SHG on asset accumulation, on sustainable use of the SHG and Heckman's two step model is used to address also this objective.

Heckman et al. (1997) were first to demonstrate that the PSM estimator removes selection on both users and non users. In one of the first empirical applications, Smith and Todd (2005) apply PSM and PSM estimators to estimate the impact of SHG on welfare indicators and find that the PSM estimator is the most robust among the estimators.

A. Propensity score estimation procedure: Estimation of propensity score is the first step in PSM technique. Rosenbaum and Rubin (1983) revealed that matching can be performed conditioning only on P(X) rather than on X, where P(X) = Prob(D=1|X) is the probability of participating in the program conditional on X. According to these authors, if outcomes without the intervention are independent of participation given X, then they are also independent of participation given P(X) which reduces a multidimensional matching problem to a single dimensional problem.

Estimating the propensity score involves decision on two choices; what model to be used for the estimation and what variables should be included in this model. Regarding the decision of choosing the type of model to be used, for the binary treatment case, where we estimate the probability of participation versus non-participation, both probit/logit models often yield similar results. Therefore, it is not a critical problem. However, due to the complexity of estimation procedure of probit model than the logit model, logit is widely used (Caliendo and Kopeinig, 2008). To capture this advantage, the logit model was used for estimating the propensity score in this study.

Regarding the choice of what variables should be included in the model, a matching strategy should be built on the conditional independence assumption (CIA) that requires the outcome variables must be independent of treatment conditional on the propensity score. Therefore, implementing matching method is based on choosing a set of variables *X* (covariates) that reasonably satisfy this condition (Caliendo and Kopeinig 2008).

Assign the observations into two groups: the treated group that received the treatment and the control group that did not.

- ✓ Treatment *D* is a binary variable that determines if the observation has the treatment or not
- ✓ *D*=1 for treated observations and *D*=0 for control observations
- ✓ Estimate a logit model for the propensity of observations to be assigned into the treated group. Use *x* variables that may affect the likelihood of being assigned into the treated group.
- ✓ The propensity score model is a logit model with *D* as the dependent variable and *x* as independent variables.

  P(x) = prob (D=1|x) =E (D|x) ---------- (3.7)
- ✓ The propensity score is the conditional (predicted) probability of receiving treatment given pre-treatment characteristics *x*.

Match observations from treated and control groups based on their propensity scores

- ✓ Several matching methods are available: kernel, nearest neighbor, radius, stratification
- ✓ Calculate the treatment effects: compare the outcomes *y* between the treated and control observations, after matching

$$y = \begin{cases} y1 \; if \; D = 1 \\ y0 \; if \; D = 0 \end{cases}$$ ---------- (3.8)

Counterfactual situation: compare the outcome of the treated observations with the outcome of the treated observations if they were not treated (find a close match using the control observations and use their outcome) (Centre, 2008)

Average treatment effect (ATE)

It is interesting estimation on the average effect of a binary treatment on a scalar outcome. If assignment to the treatment is exogenous or unconfounded, that is, independent of the potential outcomes given covariates, biases associated with simple treatment- control average comparisons can be removed by adjusting for differences in the covariates. Rosenbaum and Rubin (1983) show that adjusting solely for differences between treated and control units in the propensity score removes all biases associated with differences in covariates

ATE is the difference between the outcomes of treated and control observations.

$\Delta = y_1 - y_0$ ---------- (3.9)

ATE= E (Δ) =E (y1|x, D=1)-E (y0|x, D= 0) ---------- (3.10)

- ✓ A simple t-test between the outcomes for the treated and control groups.
- ✓ ATE is fine for random experiments but in observational studies, it may be biased if treated and control observations are not similar (Katchova, 2013).

The basic idea of matching was to compare a participant with one or more non-participants who were similar in terms of a set of observed covariates, X. In a next step, the differences in outcome variables for participants and their matched nonparticipants was calculated, i.e. the average treatment effect on the treated (ATT) is the mean difference between participants and matched non-participants. It was also called conditional mean impact, conditional on participating in the program (Ravallion, 2001).

Where the outer expectation is over the distribution of (P (Xi) |Di=1) and Y1i and Y0i denote outcome in the absence of participation and outcome of participation respectively. Matching estimators was developed based on the Conditional Independence Assumption (CIA), also called unconfoundedness (Katchova, 2013), which was the key assumption made by all comparison group methods (Ravallion, 2001).

Using their assertion that 'treatment assignment is strongly ignorable' which means that every unit in the population has a chance of receiving treatment, Rosenbaum and Rubin (1983) show that, for non-randomized observations, outcome and treatment are conditionally independent given the propensity score, P (x), which was the conditional probability of receiving treatment given pre-treatment characteristics:

$(Y_0, Y_1) \mid D \mid P(x)$ ..... (3.11)

A Balancing Condition needs to be satisfied for propensity score matching. The balancing condition shows the conditional independence of participation in terms of control variables given the propensity score (Rosenbaum and Rubin, 1983):

$D \mid X \mid P(x)$ ..... (3.12)

Alternatively, the balancing condition indicates that for individuals with the same propensity score assignment to treatment is random. Thus, if the balancing condition is satisfied, observations having the same propensity score have the same distribution of observable characteristics irrespective of treatment (Katchova, 2013).

Another condition in PSM was the Common Support requirement (Heckman et al, 1998) also called the assumption of overlap, which ensures that individuals compared with the participant and non-participant groups were, comparable. Specifically, it ensures individuals with the same observable characteristics have a positive probability of being in both participant and non-participant groups. This requirement can be imposed such that estimation was performed on individuals that have common support.

After the average treatment effect on the treated (ATT), Since it do not condition on all covariates but on the propensity score, it has to be checked if the matching procedure is able to balance the distribution of the relevant variables in both the control and treatment group. These procedures can also, help in determining which interactions and higher order terms to include for a given set of covariates X. The basic idea of all approaches is to compare the situation before and after matching and check if there remain any differences after conditioning on the propensity score. If there are differences, matching on the score was not (completely) successful and remedial measures have to be done, e.g. by including interaction-terms in the estimation of the propensity score. A helpful theorem in this context is suggested by Rosenbaum and Rubin (1983) and states that:

$$X \perp\!\!\!\perp D/P(D = 1/X): \quad \text{---------- (3.13)}$$

3.7.2.1. Sensitivity measurement of the Propensity Score Matching

i. Nearest neighbor matching

The most straightforward matching estimator is nearest neighbor (NN) matching. The individual from the comparison group is chosen as a matching partner for a treated individual that is closest in terms of propensity score. Several variants of NN matching are proposed, for example NN matching `with replacement' and `without replacement'. In with replacement case, an untreated

individual can be used more than once as a match, whereas in the without replacement case it is considered only once. Matching with replacement involves a trade-off between bias and variance. If we allow replacement, the average quality of matching increase and the bias decrease. This is of particular interest with data where the propensity score distribution is very different in the treatment and the control group (Centre, 2008).

This can be overcome by allowing replacement, which in turn reduces the number of distinct non-participants used to construct the counterfactual outcome and thereby increases the variance of the estimator (Smith and Todd, 2005). A problem which is related to NN matching without replacement is that estimates depend on the order in which observations get matched. Hence, when using this approach it should be ensured that ordering is randomly done. It is also suggested to use more than one nearest neighbour (`oversampling').

This form of matching involves a trade-off between variance and bias, too. It trades reduced variance, resulting from using more information to construct the counter- factual for each participant, with increased bias that results from on average poorer matches Smith (1997).

For each treated observation *i*, select a control observation *j* that has the closest *x*.

$$\min \| p_i - p_j \| \quad \text{----------} \quad (3.14)$$

ii. Caliper matching

Nearest neighbor NN matching faces the risk of bad matches, if the closest neighbour is far away. This can be avoided by imposing a tolerance level on the maximum propensity score distance (caliper). Imposing a caliper works in the same direction as allowing for replacement. Bad matches are avoided and hence the matching quality rises. However, if fewer matches can be performed, the variance of the estimates increases. Applying caliper matching means that those individual from the comparison group is chosen as a matching partner for a treated individual that lies within the caliper (`propensity range') and is closest in terms of propensity score. As Smith and Todd (2005) note, a possible drawback of caliper matching is that it is difficult to know a priori what choice for the tolerance level is reasonable.

iii. Radius matching

Dehejia and Wahba (2005) suggest a variant of caliper matching which is called radius matching. The basic idea of this variant is to use not only the nearest neighbour within each caliper but all of the comparison members within the caliper.

A benefit of this approach is that it uses only as many comparison units as are available within the caliper and therefore allows for usage of extra (fewer) units when good matches are (not) available. Hence, it shares the attractive feature of oversampling mentioned above, but avoids the risk of bad matches. Each treated observation *i* is matched with control observations *j* that fall within a specific radius.

$$\| p_i - p_j \| < r \quad \text{---------- (3.15)}$$

iv. Kernel matching

As Smith and Todd (2005) note, kernel matching can be seen as a weighted regression of the counterfactual outcome on an intercept with weights given by the kernel weights. Weights depend on the distance between each individual from the control group and the participant observation for which the counterfactual is estimated. It is worth noting that if weights from a symmetric, nonnegative, unimodal kernel are used, then the average places higher weight on persons close in terms of propensity score of a treated individual and lower weight on more distant observations. The estimated intercept provides an estimate of the counterfactual mean.

- ✓ Each treated observation *i* is matched with several control observations, with weights inversely proportional to the distance between treated and control observations.
- ✓ With matching based on propensity scores, the weights are defined as:

$$w(i.j) = \frac{k(\frac{pi-pj}{h})}{\sum_{j=1}^{n0} k(\frac{pi-pj}{h})} \quad \text{---------- (3.16)}$$

Here *h* is the bandwidth parameter.

3.8. Diagnostic Testing

3.8.1. Multi collinarity Test

Strictly speaking, multicollinearity refers to the existence of more than one exact linear relationship, and collinearity refers to the existence of a single linear relationship. But this distinction is rarely maintained in practice, and multicollinearity refers to both cases (Gujarat, 2004).

A model that presumes the dependent variable is a multiplicative function of the explanatory variables rather than an additive function and the full collinearity in these models when they attempt to include "interaction terms" or ratio variables. partial multicollinearity When two or more explanatory variables overlap, such that they are correlated with each other in a sample, but still contain independent variation. This condition limits the extent to which analysis can distinguish their causal importance, but does not violate any assumptions required for regression. It occurs when two or more of the explanatory variables in a sample overlap. Because of the overlap, methods of analysis cannot fully distinguish the explanatory factors from each other or isolate their independent influence (Voss, 2004).

3.8.1.1.Variance Inflation Factors (VIFs)

• **Easy way**: compute correlations between all pairs of predictors. If some r is close to 1 or -1, remove one of the two correlated predictors from the model.
• **Another way**: calculate the variance inflation factors for each predictor xj:

$$VIF = \frac{1}{1 - R^2} \quad \text{---------- (3.1)}$$

• If V IFj > 10 then there is a problem with multi collinearity.

The higher the VIF, the more the standard error is inflated, and the larger the confidence interval and the smaller the chance that a coefficient is determined to be statistically significant.

The **variance inflation factor** *(VIF)* quantifies the extent of correlation between one predictor and the other predictors in a model. It is used for diagnosing *collinearity/multi collinearity*. Higher values signify that it is difficult to impossible to assess accurately the contribution of predictors to a model.

Variance inflation factor is a measure of the amount of multi collinearity in a set of multiple regression variables. A multiple regression is used when a person wants to test the effect of multiple variables on a particular outcome. The dependent variable is the outcome that is being acted upon by the independent variables, which are the inputs into the model. Multi collinearity exists when there is a linear relationship, or correlation, between one and more of the independent variables or inputs. Multi collinearity creates a problem in the multiple regressions because since the inputs are all influencing each other, they are not actually independent and it is difficult to test how much the combination of the independent variables affects the dependent variable, or outcome, within the regression model (Willis et al, 1978).

To ensure the model is properly specified and functioning correctly, there are tests that can be run for multi collinearity. Variance inflation factor is one such measuring tool. Using variance inflation factors helps to identify the severity of any multi collinearity issues so that the model can be adjusted. Variance inflation factor measures how much the behavior (variance) of an independent variable is influenced, or inflated, by its interaction/correlation with the other independent variables (Williams et al, 2015).

3.8.2. Heteroskedasticity Test

The existence of heteroscedasticity is a major concern in the application of regression analysis, including the analysis of variance, as it can invalidate statistical tests of significance that assume that the modelling errors are uncorrelated and uniform—hence that their variances do not vary with the effects being modeled. The variability of a variable is unequal across the range of values of a second variable that predicts it (Halunga, 2017).

The presence of heteroskedasticity affects the estimation and test of hypothesis. The heteroskedasticity can enter into the data due to various reasons. The tests for heteroskedasticity

assume a specific nature of heteroskedasticity. Various tests are available in literature for testing the presence of heteroskedasticity(Li, 2018).

3.8.2.1.Breusch Pagan test

This test can be applied when the replicated data is not available but only single observations are available. When it is suspected that the variance is some function (but not necessarily multiplicative) of more than one explanatory variable, then Breusch Pagan test can be used. The Breusch-Pagan test is designed to detect any linear form of heteroskedasticity (Schmidheiny, 2009).

3.8.3. Ramsey Retests

Ramsey has proposed a general test of specification error called RESET (regression specification error test).

One quite useful approach to a general test for functional form misspecification is Ramsey's RESET (regression specification error test). The idea behind RESET is quite simple; if we have properly specified the model, no nonlinear functions of the independent variables should be significant when added to our estimated equation (Bradley, 2007).

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

This chapter presents the main results and discussions of the study. It starts with simple descriptive statistics and tests of hypotheses and moves on to econometric models in order to give the full implications of the findings. The econometric sections explains econometric results estimation, which include estimation of propensity score, matching algorisms, treatment effect results and sensitivity analysis respectively.

4.1. Description of Sample respondents' Characteristics

This sub section has been discussed by using descriptive and inferential statistics outputs. They are important tools to present research results clearly and concisely. They can also help one to have a clear picture of the characteristics of sample units. By applying descriptive statistics such as mean, minimum, maximum, standard deviation, the two groups of sample respondents were compared and contrasted with respect to socio-economic, demographic and other characteristics so as to draw some important conclusion. Both continuous and discrete variables were used in order to describe the sample respondents included in this study. As already described above, there were various observable respondents characteristics that are used to describe both program participant and non-participant respondents.

4.1.1.Age of the respondent

As shown on table 4.1. The average age of the sampled respondents was 41.30 years with standard deviation of 7.59 where the minimum age was 18 years and the maximum was 67 years. The average age of SHG user was found to be 40.67 years with standard deviation of 6.94. The average age and standard deviation of non-user respondents are 41.92 years 8.15 respectively. The table shows that almost the data collected explains the average of the respondents around 40 years' respondents and in the formation they make group with around the same age level. This may indicate that, age has influence on participation of SHG formation.

Table 4. 1 Age of the respondent

wwm	mean(age)	min(age)	max(age)	Freq.	sd(age)
SHG Non User	41.9172	22	65	145	8.155182
SHG User	40.6783	18	67	143	6.944043
Total	41.3021	18	67	288	7.590274

Source: Own econometric result (2018)

4.1.2. Marital status of the respondent

During survey, respondents were asked to tell on their marital status. The result presented on table 4.2 shows that about 0.68% of the SHG non user were single , 44.75% were married, about 34.48 are widow women while 20.68% of them were divorced of SHG non user respondents. Among SHG user respondents 62.23% of them were married, 3.49% were single respondent 20.27% and 13.28% of them were widow and divorced respectively. The greater percents of the women were married in the second part widow women are participated in the SHG formation. Thus as it showed on the table from both User and Non User women with married take the highest percent that explains women's need external support for economic independency.

Table 4. 2 Marital status of the respondent

wwm	Single	Married	Widow	Divorce
SHG Non User	0.68%	44.75%	34.48%	20.68%
SHG User	3.49%	62.23%	20.27%	13.28%

Source: Own econometric result (2018)

4.1.3.Family size of the respondent

As shown on table 4.3 below, the average family size of the total sample respondents was 4.30, And 1 and 11 were the minimum and the maximum family size respectively. The average family size of SHG user and non-user household was found to be 4.77 and 3.84 respectively. This indicates that respondents that are users of SHG have more family size than non-user respondents. In Non User respondents had high but in average they have less that the user. This shows that from the table more or less to participate in SHG the family size influences that the high family size affected negatively and vis versa on economy of the women.

Table 4. 3: Family Size of the respondent

wwm	mean(fsiz)	min(fsiz)	max(fsiz)	sd(fsiz)	sem(fsiz)	t	P>|t|
SHG Non User	3.84828	1	11	1.510753	.1254612	5.35	0.000
SHG User	4.77622	1	8	1.431141	.119678	0.88	0.378
Total	4.30903	1	11	1.540958	.0908018		

Source: Own econometric result (2018)

4.1.4.Education level of the respondent

The level of educational status is seen on the Table 4.4 from the frequency distribution of literacy rate shows that 25.52% of the SHG Non user respondents and 20.97% of SHG user were illiterate, 28.96% and 26.57% were read and write, 31.03% and 37.06% Primary school, 11.03% and 10.48% Secondary, 2.75% and 4.48 preparatory and 0.68% and 0 in higher educational level of Non user and User of SHG Respectively. As indicated on the table the educational level of the non user and user of SHG more in illiterate read and write and primary School. This shows that more of them didn't focus on education but the more they focus on education the more they are user of the SHG.

Table 4. 4: Education level of the respondent

Educational Categories	**SHG Non User**		**SHG User**	
	Frequency	Percent	Frequency	Percent
Illiterate	37	25.52	30	20.97
Read& write	42	28.96	38	26.57
Primary	45	31.03	53	37.06
secondary	16	11.03	15	10.48
Preparatory	4	2.75	7	4.48
Higher education	1	0.68	0	0

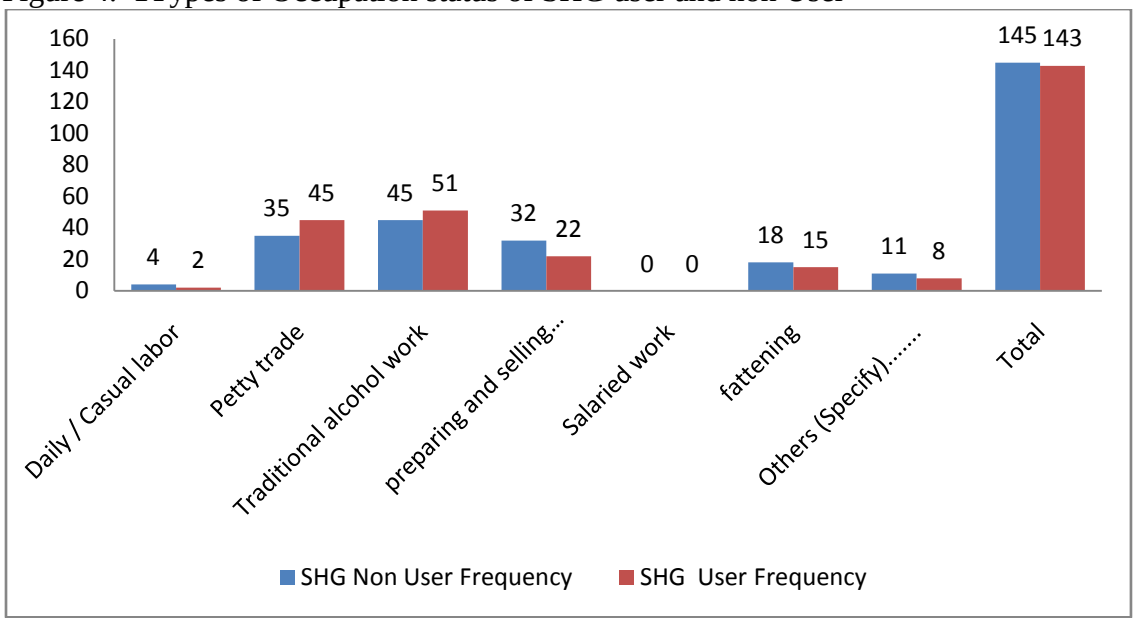
Source: Own econometric result (2018)

4.1.5. Occupation status of the respondents

The result presented on fig 1 shows occupation status of the respondent. Accordingly, it was found that from total sample respondents, about 45(31.03%) and 51(35.66%) of the Non user and

user of SHG respondents respectively focused on traditional alcohol work and about 35(24.13%) of non user and 45(31.46%) of user SHG were focus on petty trade (more of this work is on the road buying fruits like oranges, banana and other to sale) 32(22.06%) non user of SHG and 22(15.38%) of SHG user are prepare or baking "enjera" and sell on the road, and the rest as the graph shows work on daily labor works 4(2.75)of Non User and 2(1.39%) user, and the other were works on animal fattening 18(12.41%) non user of SHG and 15(10.48%) of SHG user. The other on the graph shows the work of cloth washing in the neighbor house, hair working (Shirruba in local language) in their house or in the request house and other 11(7.58%) non user of SHG and 8(5.59%) of SHG user. There was no government employed. This occupation types is the work that the poor community and less capacity, less capital, less force are employed on it.

Figure 4. 1Types of Occupation status of SHG user and non User



Source: Own econometric result (2018)

4.1.6. Income level of the respondents

The results on table 4.5 indicates that participation of women in SHG activities highly contributed to the increased in both individual and group member's income. This finding of this study is similar to Shivakumar (2008) findings. As shown on table 4.5 the average monthly income of from the sampled respondents were 669.517Birr for SHG Non User and 1939.86Birr for SHG User. The tables shows also that the SHG Non User respondent's have the minimum income of 300Birr and the Maximum Income of 1500Birr with standard deviation of 232.5831

while the SHG User respondents have the minimum income of 700Birr and the maximum income of 3200Birr with standard deviation of 607.7133. This indicates that the SHG group members have the advantages of the income generation technique and other consultancy for more income generation and the government gave priority to access SHG for those respondents not formed by SHG having low income status.

Table 4. 5: Income level of the respondents

wwm	mean(inco)	min(inco)	max(inco)	Freq.	sd(inco)
SHG Non User	669.517	300	1500	145	232.5831
SHG User	1939.86	700	3200	143	607.7133

Source: Own econometric result (2018)

4.1.7. Total Income of the family

From the total sample respondents (SHG Non users and users) Average Income of the Non User respondent's family was 1000.51Birr and the SHG User respondents family income was 2414.27Birr. The Minimum and maximum income of the SHG Non user respondents family income was 300 and 3500 Birr respectively with standard deviation of 491.8209 while the Minimum and maximum SHG User family income was 700Birr and 4000Birr respectively with standard deviation of 736.6105. This result indicated as the Non User of SHG total family income is very less than the SHG users that organizing self help group influence on their families income independency additionally.

Table 4. 6 The total income of the family

wwm	mean(imf)	min(imf)	max(imf)	Freq.	sd(imf)
SHG Non User	983.269	300	3500	145	491.8209
SHG User	2414.27	700	4000	143	736.6105

Source: Own econometric result (2018)

4.1.8. Food consumption Expenditure

According to NCEAR (2008) study conducted on "impact of self help groups on the food security of weaker sections of the society" stated that the mean value of per family increases 5.1% in food expenditure.

Food consumption expenditure valued in Birr by what they are consumed monthly in quantitative market value interims of current condition. The average monthly expenditure for SHG Non User was 456.069 and the minimum 100Birr and maximum 900Birr monthly expenditure with standard deviation of 162.8321 while The SHG Users mean expenditure 737.622 and the minimum 300Birr and maximum 1570Birr monthly expenditure with standard deviation of 216.4013. This indicates, because of the formation in SHG the organized group influenced than the non organized group that shows organizing in SHGs has advantage for poor women.

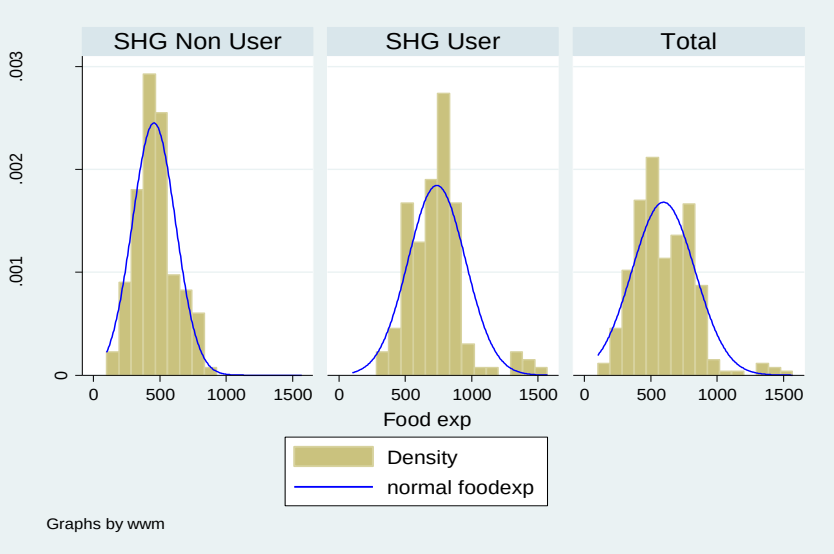
Table 4. 7 the food consumption expenditure of the respondents

wwm	mean(food~p)	min(foodexp)	max(foodexp)	Freq.	sd(foodexp)
SHG Non User	456.069	100	900	145	162.8321
SHG User	737.622	300	1570	143	216.4013

Source: Own econometric result (2018)

It is shown also in graph that the density of the expenditure in both SHG Non user and SHG User that the Non user upper hand of the sample respondent monthly expenditure is around 300Birr to 500Birr while the SHG user are 700Birr to 900Birr

Figure 4. 2 Food Consumption Expenditure



Source: Own econometric result (2018)

4.1.9. Non Food Expenditure

Non food Consumption expenditure valued in Birr by what they are used yearly changed into monthly use of it and in quantitative market value interims of current conditions. This Non food expenditure includes clothing, transport, house rent, kid's education (uniform, pen, pencil…), healthcare, social expenses (Idir, ekub, mahiber, birth, etc) and so on.

According to Development, Financial Africa, Sub-Saharan (2015) conducted on "impact of self help groups on the non-food consumption of weaker sections of the society" stated that the mean value of the per family non-food expenses has increased from INR 3596 [$ 78.17] in pre-SHG situation to INR 6228 [$ 135.39] after SHG impact, thus registering an improvement to the extent of 73.24%.

This finding approved this that result of the average Non food expenditure for SHG Non user was 332.152birr and the maximum non food consumption expenditure also800birr.The minimum was zero because some of them lived in continuer or other plastic covered place that has no rent and they wear the cloth taking from other rather than buying by them self's. All materials are from other that has no market values. The average Non food expenditure for SHG user was 838.552birr and the minimum 100 and the maximum 2000birr.This shows that the SHG users have more potential than SHG Non User.

Table 4. 8 Non food Consumption Expenditure

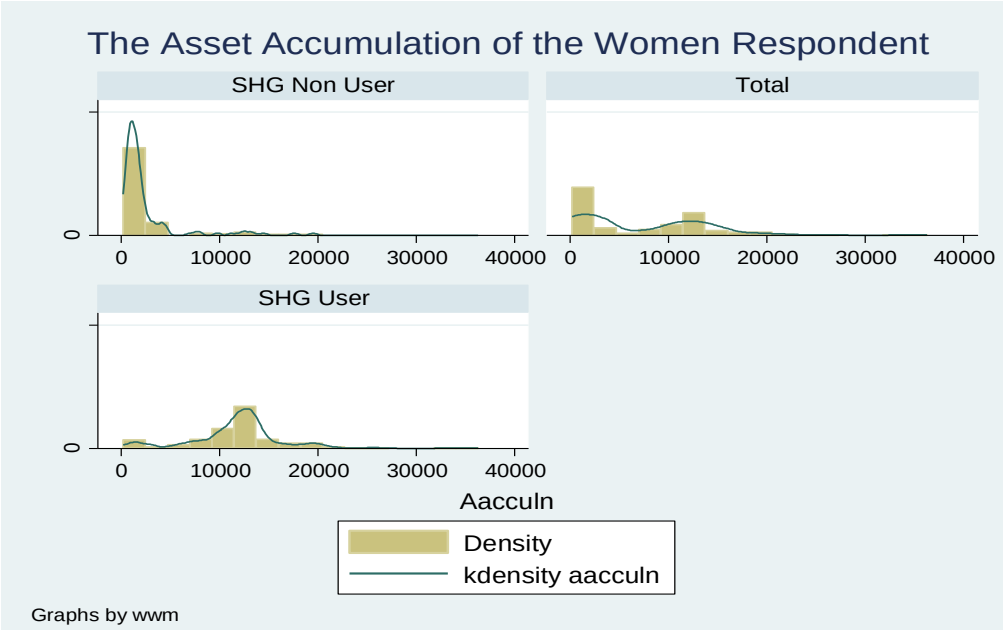
wwm	mean(nonf~p)	min(foodexp)	max(nonfo~p)	Freq.	sd(nonfoo~p)
SHG Non User	332.152	100	800	145	154.2359
SHG User	791.35	300	2000	143	298.8766

Source: Own econometric result (2018)

4.1.10. The Asset Accumulation of the Women Respondents

As it was shown on the graph the asset accumulation of the women respondents that are the user of the SHG and Non user of SHG were described. Almost both of them were poor and have not such much assets but the Non user are nearly no assets and the SHG User have.

Figure 4. 3 The asset accumulation of the respondents



Source: Own econometric result (2018)

4.1.11. Saving status of the respondents

As shown on table 4.9 the average monthly saving of SHG Non User of the sampled respondents 10.48Birr and the maximum monthly saving of SHG Non user respondents was 10birr with standard deviation of 2.15. Few of SHG Non user respondents have monthly saving other have no saving. SHG User of the sampled respondent's average monthly saving was 23.66Birr and the

minimum and maximum monthly saving of SHG user respondents 5birr and 40birr respectively with standard deviation of 11.89.

Table 4. 9: Saving of the respondents

wwm	mean(sav)	min(sav)	max(sav)	Freq.	sd(sav)
SHG Non User	.482759	0	10	145	2.150915
SHG User	23.6643	5	40	143	11.89623

Source: Own econometric result (2018)

4.1.12. Family's background

This variable affects the respondents' income if the parents were poor or non-poor, which was checked from the responded by the respondents. It is also used to capture the effect of initial conditions of the welfare indicators of the respondents. This is also explained by the theory that considers culture as source of poverty (Bradshaw, 2006). The parent's heritance had influence on their current life but in the sample respondent there few of them who had got the house heritance only. As it showed on the table the min respondent got heritance was 1 and the maximum was 2 from both SHG Non and User.

Table 4. 10 Family Backgrounds of the respondents

wwm	mean(fmba~r)	min(fmbac~r)	max(fmbac~r)	Freq.	sd(fmbackgr)
SHG Non User	1.97931	1	2	145	.1428366
SHG User	1.95804	1	2	143	.201198

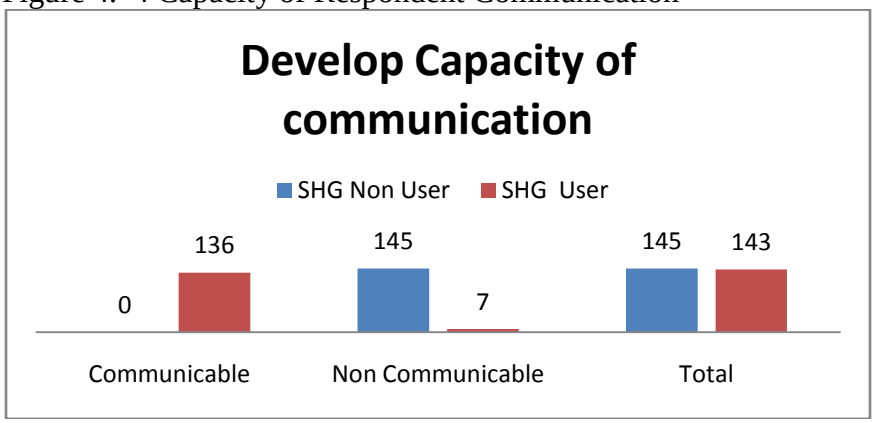
Source: Own econometric result (2018)

4.1.13. Communication

This describes that the communication between the members in SHG make women more effective to empower them self economically and social .Stereotyping of women and inequality in women's access to and participation in all communication systems. On the fig 4.4 the SHG Non Users were no communication advantages with respect to the SHG User. AS the respondent explains there is weekly meeting at the SHG user and it was the formal communication between the members that they develop their communication ability and they formalized their problem

and discussed on it by them self. But in SHG Non User there is no such formalized and they use to solve their problem.

Figure 4. 4 Capacity of Respondent Communication



Source: Own econometric result (2018)

4.1.14. Experience

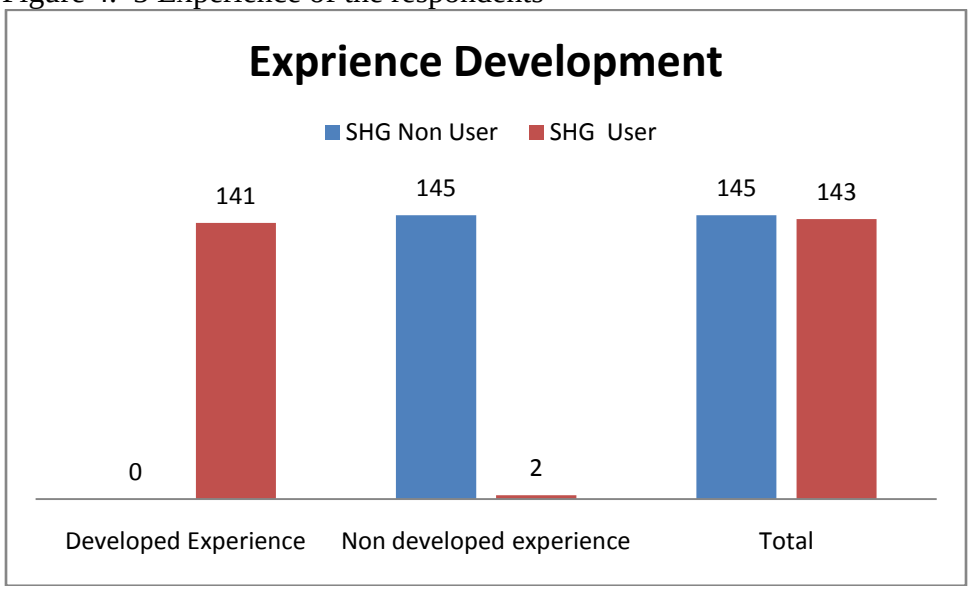
The economic and social skill that the members of the SHG develop because of the long stay in the organization and what is indicated in the foregoing remarks is that the general principles of the new education do not of themselves solve any of the problems of the actual or practical conduct and management of progressive schools. Rather, they set new problems which have to be worked out on the basis of a new philosophy of experience. From the sample respondents In SHG Non user there was no experienced developed within them self and In SHG User as they had the problems they come together and discusses on the problem and develop their experience also and the table 4.11 also shows this point.

Table 4. 11.The experience of the respondents

wwm	Developed Experience		Non developed experience		Total
	Frequency	Percent	Frequency	Percent	Frequency
SHG Non User	0	0	145	100	145
SHG User	141	98.60	2	1.39	143

Source: Own econometric result (2018)

Figure 4. 5 Experience of the respondents



Source: Own econometric result (2018)

4.1.15. Access to credit service

From the sample respondents of SHG Non user 13(8.33%) of them got credit access and about (91.67%) of the SHG User got credit from the SHG box that they deposited monthly. The Credit the SHG members got from the SHG box with 10% interest. Capacity of their credit increases with their performance. The members who have high performance and pay back the credit they took in the next credit the amount of loan they got increase with some amount.

Table 4. 12 .Access Credit service of respondents

Women Welfare Mizimization	Freq.	Percent	Cum.
SHG Non User	13	8.33	8.33
SHG User	143	91.67	100.00
Total	156	100.00	

Source: Own econometric result (2018)

4.1.16. Dependency of the family

The number of dependency ratio on the respondents that depended on the basic necessity look upon on the family source that demanded additional income for family members. In average the

family members dependency for SHG Non User 2.31 and for SHG User 3.13 and the maximum dependency ratio for Non user was 5 and for SHG user 7 with standard deviation of 1.23 and 1.27 respectively. Thus the proportion of number of family members who generate income and who are dependent on the respondents, as dependency of the family size increase the income they got from the membership activities shared to all family members and this leads to increase the dependency.

Table 4. 13 Dependency of the respondent's family

wwm	mean(deprf)	min(deprf)	max(deprf)	med(deprf)	sd(deprf)
SHG Non User	2.31724	0	5	2	1.234366
SHG User	3.13287	0	7	3	1.279512

Source: Own econometric result (2018)

4.1.17. Dependency Ration

The number of dependency ratio on the respondents that depended on the basic necessity look upon on the family source that demanded additional income for family members from the total family in the ratio of their income. In average the family members dependency for SHG Non User 1.62 and for SHG User 1.61 and the maximum dependency ratio for Non user was 4 and for SHG user 3 with standard deviation of 1.5 and 1.5 respectively.

Table 4. 14 Dependency ratio of the respondent's family

wwm	mean(der)	min(der)	max(der)	sd(der)	med(der)
0	1.61828	0	4	.6786776	1.5
1	1.61818	0	3	.4081177	1.5

Source: Own econometric result (2018)

4.1.18. Seed money

Seed money comes from nongovernmental organization to facilitate the SHG user. The Non User of SHG had no seed money given for them. In SHG User the nongovernmental organization visit the group and adjust the formation of the group and facilitate by giving loan and seed money for the group rather than individual members but the members share the seed money by them self as they explain it. The tables also show this more.

Table 4. 15 Seed Money given for the respondents

Women Welfare Mizimization	mean(smon)	min(smon)	max(smon)	Freq.	sd(smon)
SHG Non User	0	0	0	145	0
SHG User	776.112	500	1666	143	306.4258

Source: Own econometric result (2018)

4.1.19. Training

In table 4.15 summarized that the SHG Non user had not got training and the SHG user got the skill development training and business training from nongovernmental organization that organize them and facilitate for their formation. The tables also show this point.

Table 4. 16 Training of the respondents

Frequencies of Training

Women Welfare Mizimization	Training 1	2	Total
SHG Non User	0	145	145
SHG User	143	0	143
Total	143	145	288

Source: Own econometric result (2018)

4.1.20. Area of residency

The area of residence determines the participation in SHG group because the members that live in condensed area leads to discuss how to work together and the advantages of living in joint area raise the involvement in SHG group. As shown on the table below community that lived in joint place come together and make group and the other which was far from each other didn't come together even when they join the organization the organization had no sustainability. As the informant people said the members living place area was one criteria for the formation of the group and their living place in assumption within the five hundred radius. The community living in five hundred radiuses has advantages that they meet easily, no need of transportation to meet; they know each other, easy of communication and other.

Table 4. 17 The Area of residence for the respondent

wwm	mean(ares)	min(ares)	max(ares)	sum(ares)	sd(ares)
SHG Non User	2	2	2	290	0
SHG User	1.06993	1	2	153	.2559255
Total	1.53819	1	2	443	.4994068

Source: Own econometric result (2018)

4.2. Focused Group Discussion and Key informant interviews

This section used for cross check in the asked respondents report and what the focused group discussion and key informant interview approved. The focused group discussion people collected from the SHG Non Users and SHG Users which had greater than seven people in one discussion. In Non SHG user they told us if something was needed which approve their life and in the SHG formation they had no know how even what the SHG means and no information as a whole. In other case SHG user approve what the information collected by interview of the respondents report. In review of the SHG formation manual and focus group discussions conducted and key informant interview it was checked that the SHG formation criteria depends and it was able to understand that the age, sex, were the selection criteria of participation in SHG formation. In addition, similar level of income, living in the same area, and mutual interests to help each other, were given due consideration to select the members group.

According to the key informant SHG members, the minimum age of eligibility for membership is 18 and above. In the focused group discussion to make membership they have internal rule and regulation this means must participate on the weekly meeting, sign agreement between the members, must have weekly saving, must obey the rule and regulation of the group, must have the similar sex with the members, must ask the loan after six month of member ship, must obey the amount of loan depends on the amount of weekly saving and the performance of the individual. In the focus group discussions and key informants interviews, it was clearly stated that the SHG formation has its own bye-law that all members should stand with it. This bye-law was developed and approved by all members' free discussion and consent. Currently, it is being used as a guiding rule and regulation for all activities performed by members of the SHG.

Accordingly, the focused group discussion explained that their skill development training increases their working trust and skill to get income, due to the increment in their monthly

income; they sent their children to schools. The participants of the discussion also shared their experience that after their involvement in the SHG, they became profitable in their small business and were able to develop their capita to start own work.

4.3. Consistency Testing

4.3.1. Cronbach's alpha

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha is one way of measuring the strength of that consistency (Torres, 2007).

Cronbach's alpha is computed by correlating the score for each scale item with the total score for each observation (usually individual survey respondents or test takers), and then comparing that to the variance for all individual item scores: In table 4.18 the alpha test before standardizing and the total result Show 0.6013(60.13%) (Consistency with questionable) and that is less consistence. So to increase the reliability or make more consistence must standardized and table 4.19 shows the total result 0.8607(86.07%) (Good consistency) that explains the more internal consistencies as well as the reliability measurement.

Table 4. 18 Consistency Testing

Test scale = mean(unstandardized items)

Item	Obs	Sign	item-test corr.	item-rest corr.	interitem cov.	alpha	Label
wwm	30	+	0.6176	0.6175	14629.01	0.6027	Women Welfare Mizimization
inco	30	+	0.7445	0.6233	8859.272	0.5006	Income of the Women
foodexp	30	+	0.7195	0.6634	11367.85	0.5436	Food expenditure of the women
nonfoodexp	30	+	0.5600	0.5004	12646.31	0.5689	Non food expenditure of the Women
totalexp	30	+	0.7888	0.7193	9678.495	0.5092	Total exp
sav	30	-	0.0593	-0.0112	14674.31	0.6065	Saving of the Women
age	30	+	-0.0617	-0.0649	14644.77	0.6030	Age
ocpt	30	+	0.1922	0.1917	14629.66	0.6027	Occupation
exper	30	-	0.6001	0.6000	14629.2	0.6027	Exprience
educ	30	+	0.2487	0.2483	14628.74	0.6027	Education
train	30	-	0.6176	0.6175	14629.01	0.6027	Training
marst	30	-	0.3026	0.3024	14630.11	0.6027	Marital Status of the Women
fsiz	30	+	0.4327	0.4321	14618.82	0.6025	Family Size
smon	30	+	0.3268	0.1136	13425.81	0.6111	Seed money
ares	30	-	0.4247	0.4246	14630.75	0.6027	Area of Residence
com	30	-	0.5526	0.5525	14629.55	0.6027	Communication
imf	30	+	0.6731	0.3570	8993.405	0.5909	Income of the Family
deprf	30	+	0.3812	0.3807	14623.67	0.6026	Dependency Ratio Of the Family
fmbackgr	30	+	0.1861	0.1860	14633.11	0.6027	Family Backgroun
acc	30	+	0.7094	0.4344	8215.582	0.5526	Access to credit
der	30	+	0.2344	0.2342	14631.61	0.6027	
Test scale					13240.43	0.6013	mean(unstandardized items)

Source: Own econometric result (2018)

Standardize items in the scale to mean 0, variance 1.A standardized test is any form of test that requires all test takers to answer the same questions, or a selection of questions from common collection of questions, in the same way, and that is scored in a “standard” or consistent manner, which makes it possible to compare the relative performance of individual or groups of items.

Table 4. 19 The standardized Consistency Test

Test scale = mean(standardized items)

Item	Obs	Sign	item-test corr.	item-rest corr.	interitem corr.	alpha	Label
wwm	30	+	0.8546	0.8263	0.2079	0.8400	Women Welfare Mizimization
inco	30	+	0.5731	0.5057	0.2239	0.8523	Income of the Women
foodexp	30	+	0.6180	0.5556	0.2214	0.8504	Food expenditure of the women
nonfoodexp	30	+	0.5447	0.4745	0.2255	0.8535	Non food expenditure of the Women
totalexp	30	+	0.7115	0.6609	0.2161	0.8464	Total exp
sav	30	-	0.2599	0.1707	0.2417	0.8644	Saving of the Women
age	30	+	0.1561	0.0641	0.2476	0.8681	Age
ocpt	30	+	0.4934	0.4184	0.2284	0.8555	Occupation
exper	30	-	0.8224	0.7887	0.2098	0.8415	Exprience
educ	30	+	0.0590	-0.0337	0.2531	0.8714	Education
train	30	-	0.8546	0.8263	0.2079	0.8400	Training
marst	30	-	0.2601	0.1708	0.2417	0.8644	Marital Status of the Women
fsiz	30	+	0.4798	0.4037	0.2292	0.8561	Family Size
smon	30	+	0.5752	0.5081	0.2238	0.8522	Seed money
ares	30	-	0.6906	0.6372	0.2172	0.8473	Area of Residence
com	30	-	0.7304	0.6825	0.2150	0.8456	Communication
imf	30	+	0.4148	0.3337	0.2329	0.8586	Income of the Family
deprf	30	+	0.5532	0.4839	0.2250	0.8531	Dependency Ratio Of the Family
fmbackgr	30	+	0.3556	0.2708	0.2363	0.8609	Family Backgroun
acc	30	+	0.5847	0.5186	0.2233	0.8518	Access to credit
der	30	+	0.1997	0.1086	0.2451	0.8666	
Test scale					0.2273	0.8607	mean(standardized items)

Source: Own econometric result (2018)

4.3.2. Diagnostic Testing

4.3.2.1.Multi Collinarity Test

4.3.2.1.1. Variance Inflation Factors

This section presents the result of logistic regression, the first step in propensity score matching, to estimate propensity score for matching SHG user with non-user respondents. Before running logistic regression, the existence of multicolinearity problem between chosen explanatory variables of the study was tested by using Variance Inflation factor (VIf) for continuous independent variables. The table shows that the mean result of vif is less than ten and this test analyses indicates that there is no multicolinreatiy problem between independent variables of the study. Therefore, all variables that their vif result less than 10 were used in the impact analysis method. First the presence of strong multicollinearity among the independent variables using variance inflation factors (vif) and correlation, the hetroskedastic test and ramsey RESET test.

Table 4. 20 the result of the variance inflation factor test

Variable	VIF	1/VIF
ares	5.80	0.172455
smon	3.42	0.292262
acc	3.33	0.300140
imf	2.87	0.347870
age	1.41	0.711693
educ	1.33	0.752932
fmbackgr	1.27	0.789625
marst	1.24	0.805611
der	1.19	0.839338
ocpt	1.04	0.959667
Mean VIF	2.29	

Source: Own econometric result (2018)

4.3.2.2. Heteroscedasticity Test

4.3.2.3.Breusch-Pagen test

The existence of problem of heteroscedasticity was tested using Breusch-Pagen test. This test shows there was no heteroscedasticity problem with chi^2 values of 0.16 and corresponding p-value of 0.6897 which reject the null hypothesis that accept the alternative hypothesis.

Table 4. 21 The result of Heteroscedasticity Test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of wwm

         chi2(1)      =     0.16
         Prob > chi2  =   0.6897
```

Source: Own econometric result (2018)

4.3.2.4.Ramsey Test

Ramsey has proposed a general test of specification error called RESET (regression specification error test). The steps involved in RESET are as follows: One quite useful approach to a general test for functional form misspecification is Ramsey's RESET (regression specification error test).

The idea behind RESET is quite simple; if we have properly specified the model, no nonlinear functions of the independent variables should be significant when added to our estimated equation (Bradley, 2007). As it was shown in the following result the null hypothesis model has no omitted variables the good result and the p-value p (0.4779) is insignificant that rejects the null hypothesis and accepted alternative hypothesis that the model has no omitted variables.

Table 4. 22 the result of Ramsey reset test

```
. ovtest

Ramsey RESET test using powers of the fitted values of wwm
       Ho:  model has no omitted variables
                  F(3, 281) =      0.83
                   Prob > F =      0.4779
```

Source: Own econometric result (2018)

4.4. Econometric Analysis

Based on theoretical background and review of literature on related studies, logistics model was employed for this study to estimate the effect of hypothesized explanatory variables to identify the SHG user and SHG Non User. The dependent variable is the women welfare indicators. The econometric analysis followed to identify the impact of SHG use on the outcome variables such as income, food consumption expenditures, non food consumption expenditure and asset accumulation and saving. It explains the estimation of propensity score matching, matching algorism, testing sensitivity matching, and calculating average treatment effect on treated.

4.4.1. Estimation of propensity score

As explained in the methodology section, the first step of the econometric approach is to estimate the propensity score, i.e. the probability to participate in SHG membership on observable variables.

To generate the propensity scores for the matching process, the probability of respondents SHG users were estimated using the logit model. The variables included in the model are ages of the respondents, educational status of the respondents, marital status of the respondents, family size, training, area of residence of the respondents, Communication of the respondents, Types of Occupation of the respondents, Dependency ratio, Family back grounds of the respondents, Credit Access ability of the respondents, Seed money given from nongovernmental organization, Total income of the families of the respondents and Experience they got from communicating between each other or by other consultancy were the variables used in the study.

4.4.2. Results of the Logistic Regression Econometric Model

In the econometric model, the logistic regression model was employed to identify the SHG users and Non SHG users by giving the value 1 for users and 0 for non users. Before undertaking the economic estimation, different econometrics assumptions were tested using relevant techniques. To control the hetroscedasticity problem among the explanatory variable robust standard error calculation of logit model has been employed. According to the model result there is no serious multicollienraity among the variables. Binary logistic regression was used for the logistic regression results and for the interpretation of the results shown on table 4.23.

The logistic regression result in the table 4.23 revealed that there were different variables that determine respondents probability of participation in SHG at different statistical significance levels. There were variables hypothesized to determine respondent's probability of participation in SHG use and fitted to the model. Among them, four were found to be significant while the rest variables were not significant in explaining the variations in the dependent variable of the result. Based on this family size, total income of the family, dependency of the family and family background are variables identified by logistic regression model that influence respondents' probability of participation in SHG use. The pseudo-R^2 value of the estimated model result is 0.62 which is middle coefficient. The result, therefore, suggests that treatment more or less have less expanded characteristics and hence obtaining a good matched between treatment and control respondents.

Table 4. 23 The logistic regression results

Source	SS	df	MS	Number of obs =	288
Model	70.3466607	12	5.86222172	F(12, 275) =	977.12
Residual	1.64986711	275	.005999517	Prob > F =	0.0000
				R-squared =	0.9771
Total	71.9965278	287	.250858982	Adj R-squared =	0.9761
				Root MSE =	.07746

wwi	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
age	-.000778	.0007162	-1.09	0.278	-.0021879	.0006319
ocpt	-.0036964	.0030788	-1.20	0.231	-.0097574	.0023647
exper	-.7068946	.0435934	-16.22	0.000	-.7927138	-.6210754
educ	-.007978	.0047918	-1.66	0.097	-.0174114	.0014554
fsiz	.0142043	.0095903	1.48	0.140	-.0046754	.033084
ares	.0131464	.0458575	0.29	0.775	-.0771299	.1034227
com	-.2731593	.0604229	-4.52	0.000	-.3921094	-.1542091
imf	-.000016	9.17e-06	-1.75	0.082	-.0000341	2.04e-06
deprf	-.0102854	.010806	-0.95	0.342	-.0315583	.0109876
fmbackgr	-.1274832	.0345537	-3.69	0.000	-.1955067	-.0594598
acc	.0000177	5.96e-06	2.96	0.003	5.93e-06	.0000294
der	.0073377	.0098533	0.74	0.457	-.0120599	.0267352
_cons	2.23405	.0882127	25.33	0.000	2.060391	2.407708

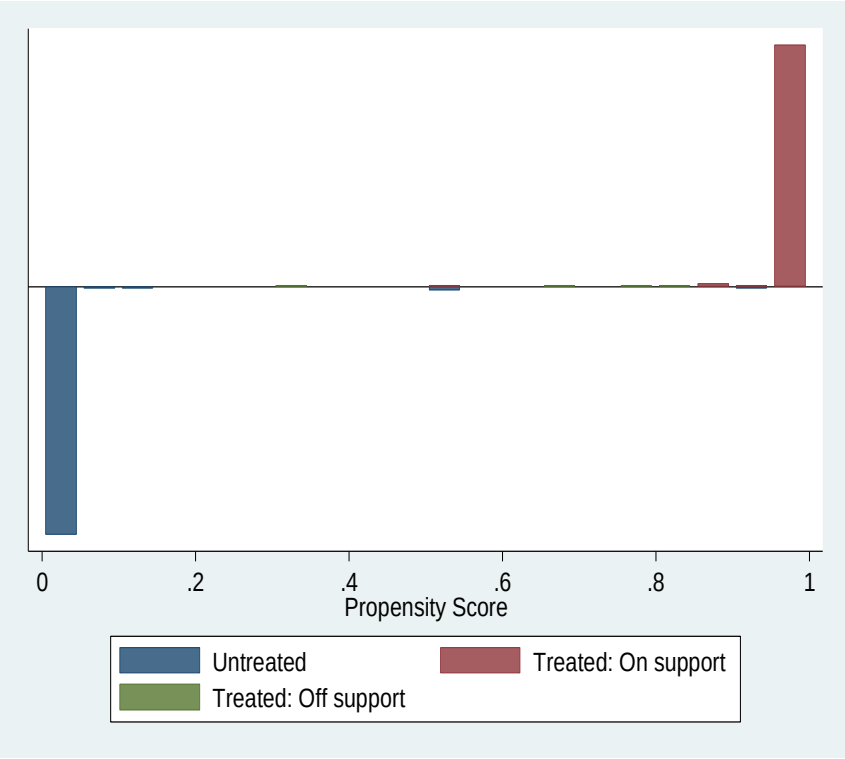
Source: Own econometric result (2018)

Graphical representation of the propensity score

Once the propensity score estimation of the covariates has been estimated, the common support region should be imposed on the propensity score distributions of both sample groups.

Importantly a common support was improved by dropping treatment observations whose estimated propensity score is greater than the maximum or less than the minimum of the comparison group propensity scores. In the same manner, comparison group observations with a propensity score below the minimum or above the maximum of the treatment observations were also dropped (Figure 4.6)

Figure 4. 6 Propensity Score Matching



Source: Own econometric result (2018)

As shown in Table 4.24, the estimated propensity scores vary between 0.021 and 1 (mean =0.94) for program or treatment respondents and between 0.0011 and 0.99 (mean =0.055) for non-user (control) respondents. The common support region would then lie between 0.00 and 1.00. In other words, respondents whose estimated propensity scores is less than 0.00 and larger than 1.00 are not considered for the matching exercise.

Table 4. 24 the distribution of common support condition

```
. sum _pscore if wwm ==1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
_pscore	143	.9434832	.1688672	.0213063	1

```
. sum _pscore if wwm ==0
```

Variable	Obs	Mean	Std. Dev.	Min	Max
_pscore	145	.0557373	.116959	.0011317	.9999747

```
. sum _pscore
```

Variable	Obs	Mean	Std. Dev.	Min	Max
_pscore	288	.4965278	.4676245	.0011317	1

Source: Own econometric result, 2018

The results of the restriction 10 respondents (10 treated and 0 control respondents) are discarded. This shows that the study does not have to drop many treated respondents from the sample in computing the impact estimator

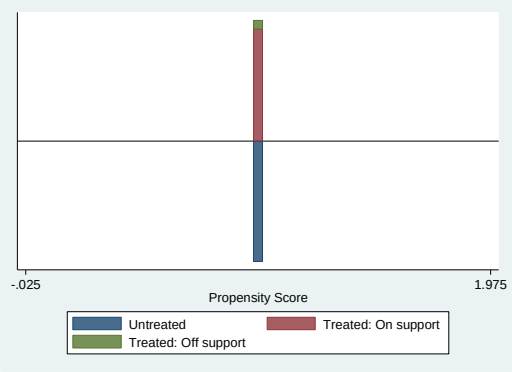
Table 4. 25: Common support region identification

psmatch2: Treatment assignment	psmatch2: Common support		
	Off suppo	On suppor	Total
Untreated	0	145	145
Treated	10	133	143
Total	10	278	288

Source: Own econometric result (2018)

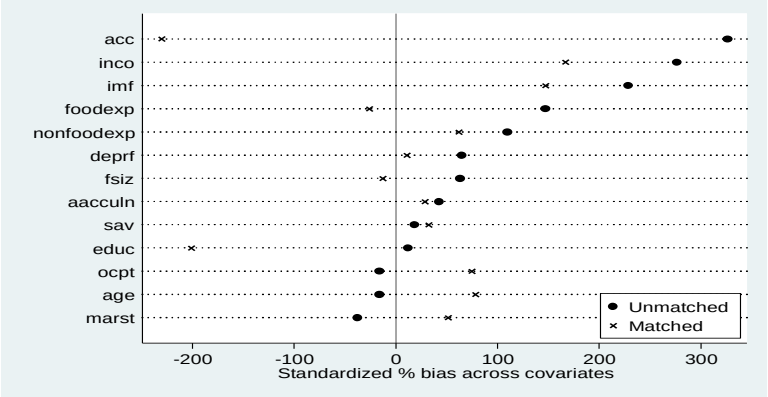
Figure 4.7 below shows the distribution of propensity score and common support region. The bottom halves of the histogram shows the propensity score distribution of SHG non user respondents and the upper halves shows the propensity score distribution of SHG user respondents. The green colored upper of the treated is the (treated off support) and the red colored (the lower of the treated off support is (treated on support) indicates the observations in the SHG user group and non-user group that have a suitable comparison.

Figure 4. 7 common support



Source: Own econometric result (2018)

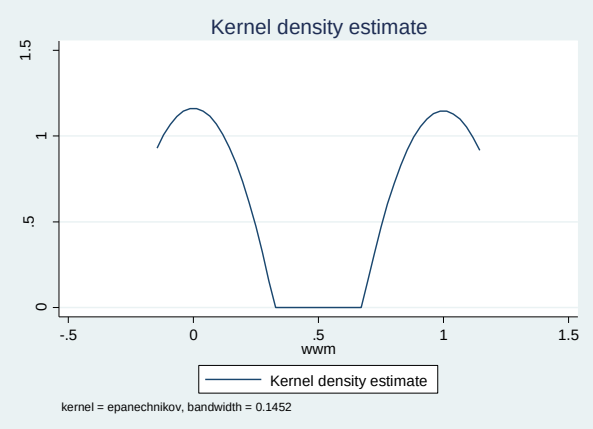
Figure 4. 8 standardized bias across covariate



Source: Own econometric result (2018)

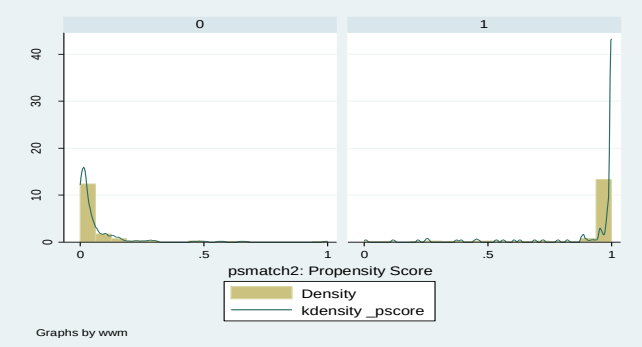
Figure 4.9 describe the distribution of the respondents with respect to estimated propensity scores. In case of treatment respondents, most of them are found in the left and the right side of the distribution. On the other hand, the control respondents are found in the left side and the treated respondents are found in the right side of the distribution.

Figure 4. 9 Kernel density of propensity scores



Source: Own econometric result (2018)

Figure 4. 10 Histogram _pscore, kdensity by (wwm)



Source: Own econometric result (2018)

4.4.3.Matching algorithm

Alternative matching estimators were tried in matching the treatment and control groups in the common support region. The final choice of a matching estimator was chosen by different criteria such as equal mean test referred to as the balancing test, t-test and matching sample size specifically a matching estimator which balances all explanatory variables (i.e. results in insignificant mean difference between the two groups), bears allow pseudo-R2 value 0.777 and results in large matched sampled size is preferable as well as significance of the p- value and results in large matched sampled size is preferable. Table 4.25 shows that the estimated results of test of matching quality based on the above mentioned performance criteria; accordingly matching algorithm with the best estimator for the data in this study. Therefore, the significance of the ocpt, marts, fsiz, imf, deprf and acc are best matched with high t-values.

Table 4. 26 the matching algorithms

Variable	Mean Treated	Control	%bias	t-test t	p>|t|	V(T)/ V(C)
_pscore	40.678	40.636	0.6	0.05	0.959	1.06
age	40.678	40.636	0.6	0.05	0.959	1.06
ocpt	3.3497	4.3287	-63.1	-4.90	0.000	0.65*
educ	2.5175	2.5734	-5.1	-0.43	0.664	0.99
marst	2.4545	2.8322	-47.8	-4.02	0.000	0.99
fsiz	4.7762	3.8462	63.2	5.08	0.000	0.75
imf	2414.3	943.27	234.9	19.85	0.000	2.24*
deprf	3.1329	2.5455	46.7	3.92	0.000	1.04
fmbackgr	1.958	1.972	-8.0	-0.64	0.521	1.48*
acc	2749.6	248.25	306.6	24.09	0.000	2.65*
der	1.6182	1.5445	13.2	1.20	0.232	0.44*

* if variance ratio outside [0.72; 1.39]

Ps R2	LR chi2	p>chi2	MeanBias	MedBias	B	R	%Var
0.777	308.10	0.000	71.8	46.7	345.7*	3.86*	45

* if B>25%, R outside [0.5; 2]

Source: Own econometric result (2018)

4.4.4.Matching SHG users with SHG non-users

Matching procedures are based on the original objective of constructing a representation of the counterfactual and attempting to create a control group that is as similar as possible to the treatment group. The idea of matching is to construct a comparison group that is as similar as possible in terms of the observable characteristics prior to the program.

There are several matching methods. In the basic case, each individual in the treated group is matched to an individual with the same observable characteristics in the untreated group. To estimate the impact of a program, the method compares the outcomes between the treatment group and the control group, which is composed of individuals with characteristics identical to the treated individuals. Given that both groups have the same observable characteristics before the program, it is expected that the only difference after the program due to having been exposed to the program. The result evaluations of the outcome variables income, Food consumption expenditure, Non Food consumption Expenditure, Asset Accumulation and saving were explained. The estimation results are presented in (Table 4.27) below.

Table 4. 27 matching SHG user and SHG Non user

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1944.02985	1173.8806	770.149254	287.84158	2.68
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	730.447761	778.059701	-47.6119403	253.932836	-0.19
nonfoodexp	Unmatched	838.552448	332.151724	506.400723	54.337248	9.32
	ATT	844.761194	539.776119	304.985075	185.154636	1.65
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	30258.6194	11982.2388	18276.3806	32287.6743	0.57
sav	Unmatched	23.6643357	10.4827586	13.181577	8.55598476	1.54
	ATT	23.6940299	9.47761194	14.2164179	385.280348	0.04

Source: Own econometric result (2018)

The impact of SHG on the Income

Income is one of the most commonly used measures of poverty status of women and other community. The respondents in the study area more of them get income from petty trade, local alcohol preparing and selling, preparing and selling dry ‘enjera’ and fattening sheep, goat and other like cattle and other are their source of income . The survey results (Table 4.28) shows that the average treated effects income of the SHG users is 1939.86Birr and the SHG Non Users is 712.58Birr and the difference is about 1227.27Birr.

Table 4. 28 ATT of the impact of SHG on the Income of the respondents

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1939.86014	712.587413	1227.27273	108.393327	11.32

Source: Own econometric result (2018)

The impact of SHG on the Asset accumulation

Asset accumulation is very important outcome that can best used to evaluate the impact of SHG. Thus, SHG participants appear to have been saving some of the transfers through increased asset holdings as a way to insure against future food security shocks and eventually overcome probable poverty traps.

As revealed in the table 4.29, participation in SHG had brought a positive impact on accumulation of asset. This can infers that by participating in the program an individual is expected to accumulate more on and the average treatment effects for SHG users in terms of birr 30501.22Birr and for SHG Non user 5021.32Birr of asset accumulation where as the difference average treatment effect of the treated and control group is 25479.89birr expresses that the impact of SHG on assets accumulation between treated and control group.

Table 4. 29 ATT of the impact of SHG on the Asset accumulation

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	30501.2238	5021.32867	25479.8951	6952.58386	3.66

Source: Own econometric result (2018)

The impact of SHG on the Food Consumption Expenditure

Increase and decrease in the families ‘expenditure is one of the indicators of SHG‘s impact on the life of the participant respondents. In order to be acquainted with the respondent families’ average monthly expenses have been made and responses had been gathered. Studying the expenditure pattern of families of SHGs found that expenditures increased in almost all types of expenses. Majority of the respondents stated that their family‘s average monthly expense has increased with their income and the average monthly expense of the SHG non users are inversely that there is no change in their family‘s food expenditure.

Household food security is highly related to poverty of the household and food poverty can trigger other types of poverty. Household food security can be seen in terms of the frequency of feeding the family and the adequacy of food consumed by the family. It was found that Average treatment effects on the treated (ATT) of the treated group is 737.62 where as the ATT of the control group is 483.14 and the difference between the SHG users (treated) and the SHG non user (control) group is about 254.47Birr that express the SHG user have more benefit able than the SHG non users which shows there is the positive impact of SHGs as explained on table 4.30 below. As shown in the table 4.30, SHG participants had brought positive impact on food consumption expenditure.

Table 4. 30 (ATT) of the impact of SHG on the Food Consumption Expenditure

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	737.622378	483.146853	254.475524	59.7643044	4.26

Source: Own econometric result (2018)

The impact of SHG on the Non Food Consumption Expenditure

As shown in the table 4.31, SHG participants had brought positive impact on non food consumption expenditure. The implication of results are that SHG participants have more expense because they have more income that they got from the sake of formation in SHG that the control group. As table 4.31 shows that the SHG has positive impact on non food consumptions expenditure of the SHG users. The Average treatment effects on the treated (ATT) of the impact of SHG on the Non Food Consumption Expenditure SHG users is 791.34Birr where as the ATT for SHG non users is 347.23Birr as well as the difference of the two is 444.11 that describes the positive impact of SHG on Non Food Consumption Expenditure of the user respondents.

Table 4. 31 ATT of the impact of SHG on the Non Food Consumption Expenditure

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
nonfoodexp	Unmatched	791.34965	332.151724	459.197926	27.9710974	16.42
	ATT	791.34965	347.237762	444.111888	58.9154963	7.54

Source: Own econometric result (2018)

The impact of SHG on the saving

As shown in the table 4.32, SHG participants had brought positive impact on saving. The implications of results are that SHG participants saving from their minimum income that they generate from their each participation of SHG influence their life. The impact of SHG on monthly saving from the SHG users have shown on the table 4.32 below and the Average treatment effects on the treated (ATT) of the SHG users is 23.66birr and the SHG non users is 2.72birr that the difference is almost 20.93birr between the treated and control group as well as this shows the positive impact of SHG on saving of the user respondents.

Table 4. 32 ATT of the impact of SHG on the saving of the respondents

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
sav	Unmatched	23.6643357	.482758621	23.181577	1.00414584	23.09
	ATT	23.6643357	2.72727273	20.9370629	1.38085338	15.16

Source: Own econometric result (2018)

4.5. Average Treatment Effect (ATE) Test

In order to attain the main objectives of this study, this section evaluated the program's impacts on the outcome variables for their significant impact on SHG user, after the pre-intervention differences were controlled. The impact indicators which were considered as outcome variables are Income, Food consumption expenditure, Non Food consumption Expenditure, Asset Accumulation and Saving. Their estimated average treatment effect (ATE) is income (1251.45), Food consumption expenditure (305.86), Non Food consumption Expenditure (419.19), Asset Accumulation (59334.94) and saving (6.312).

Table 4. 33 Average Treatment Effect (ATE) Test

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1939.86014	712.587413	1227.27273	108.393327	11.32
	ATU	669.517241	1944.82759	1275.31034	.	.
	ATE			1251.45833	.	.
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	737.622378	483.146853	254.475524	59.7643044	4.26
	ATU	456.068966	812.62069	356.551724	.	.
	ATE			305.868056	.	.
nonfoodexp	Unmatched	838.552448	332.151724	506.400723	54.337248	9.32
	ATT	838.552448	347.237762	491.314685	75.3103536	6.52
	ATU	332.151724	680.227586	348.075862	.	.
	ATE			419.197917	.	.
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	30501.2238	5021.32867	25479.8951	6952.58386	3.66
	ATU	5228	97951.0345	92723.0345	.	.
	ATE			59334.9479	.	.
sav	Unmatched	23.6643357	10.4827586	13.181577	8.55598476	1.54
	ATT	23.6643357	23.006993	.657342657	61.8444209	0.01
	ATU	10.4827586	22.3724138	11.8896552	.	.
	ATE			6.3125	.	.

Note: S.E. does not take into account that the propensity score is estimated.

Source: Own econometric result (2018)

4.6. Sensitivity analysis

The estimation of treatment effects with matching estimators is based on the selection on observable characteristics. However, if there are unobserved variables which affect assignment into treatment and the outcome variable simultaneously, a 'hidden bias' might arise. It should be clear that matching estimators are not robust against this 'hidden bias' (Caliendo, 2008).

In this study, sensitivity analysis was carried out on the estimated average treatment effect using alternative matching estimators for all outcome variables, which were mentioned earlier. All matching estimators resulted in statistically significant effects of the program on participating in SHG resulted on the outcome variables such as income, Asset accumulation; total expenditure and saving are the outcome variables that express the impact of SHG on women welfare indicators.

Deciding which variables should be included in a statistical model is one of the unsolved and probably most debatable issues in observational study (Abera, 2015). According to (Kevin, 2006), relevant but omitted variables but which is relevant to the matching SHG users with non-user respondents cause bias in outcome of intervention. The standard response to this knowledge has been to include additional control variables under the belief that the inclusion of every additional variable serves to reduce the potential threat from omitted variable bias. However,

reality is more complicated, and the control variable strategy does not protect from omitted variable bias (Rosenbaum, 2002).

To reduce the above problem, sensitivity analysis has got a great attention on this day. Recently, it became an increasingly important topic in the applied evaluation literatures (Caliendo and Kopeinig, 2008). In order to check for unobservable biases, using Rosenbaum Bounding approach sensitivity analysis was performed on the computed outcome variables with respect to deviation from the conditional independence assumption (Caliendo and Kopeinig, 2005). The basic question to be answered here is whether the finding about treatment effects may be affected by unobserved factors (hidden bias) or not.

Based on this, sensitivity analysis was conducted for outcome variable (income, asset accumulation, food and non food consumption expenditure and saving) as significant impact was observed on these variables. The results show that inference for the impact of SHG use does not change, even though the participant and non-participant respondents were allowed to differ in their odds of being treated up in terms of unobserved covariates. That means for all outcome variables estimated, at various level of critical value of the p- critical values are significant which further indicate that the study has considered important covariates that affected both participation and outcome variables. Thus, it is possible to conclude that impact estimates (ATT) of this study for each outcome variables were insensitive to unobserved selection bias.

4.6.1. Nearest Neighbor

The most straightforward matching estimator is nearest neighbor (NN) matching. The individual from the comparison group is chosen as a matching partner for a treated individual that is closest in terms of propensity score. This is of particular interest with data where the propensity score distribution is very different in the treatment and the control group (Centre, 2008). If we allow replacement, the average quality of matching increase and the bias decrease. The positive average treatment of the matched of the treated and controlled group expresses the positive impact of the program participation. The table below shows that the nearest neighbor matching have positive average treatment effect for outcome variable income, asset accumulation, non food consumption expenditure and saving have positive average treatment effect where as the

food consumption expenditure has negative average treatment effect that the nearest neighbor matching does not match with it.

Table 4. 34 Nearest Neighbor

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1905.35714	1191.07143	714.285714	292.761523	2.44
	ATU	731.235955	733.707865	2.47191011	.	.
	ATE			399.104478	.	.
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	719.464286	791.964286	-72.5	229.656799	-0.32
	ATU	481.797753	498.651685	16.8539326	.	.
	ATE			-32.9353234	.	.
nonfoodexp	Unmatched	791.34965	332.151724	459.197926	27.9710974	16.42
	ATT	801.633929	554.241071	247.392857	130.474835	1.90
	ATU	343.393258	313.483146	-29.9101124	.	.
	ATE			124.606965	.	.
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	31660.3125	10620.625	21039.6875	9727.09949	2.16
	ATU	7732.69663	200565.169	192832.472	.	.
	ATE			97107.1393	.	.
sav	Unmatched	23.6643357	.482758621	23.181577	1.00414584	23.09
	ATT	24.0892857	.803571429	23.2857143	4.67194325	4.98
	ATU	.786516854	22.3483146	21.5617978	.	.
	ATE			22.5223881	.	.

Note: S.E. does not take into account that the propensity score is estimated.

Source: Own econometric result (2018)

4.6.2. Kernel matching

Typically in kernel-based matching the common support is additionally imposed on treated individuals at the boundaries: those treated whose propensity score is larger than the largest propensity score in the non-treated pool are left unmatched. A more refined procedure is suggested by Heckman, (1997), who organized the common support region of those treated falling where the comparison group density, though strictly positive, is still considered too thin to produce reliable estimates.

As Smith and Todd (2005) note, kernel matching can be seen as a weighted regression of the counterfactual outcome on an intercept with weights given by the kernel weights. Weights depend on the distance between each individual from the control group and the participant observation for which the counterfactual is estimated. It is worth noting that if weights from a symmetric, nonnegative, unimodal kernel are used, then the average places higher weight on persons close in terms of propensity score of a treated individual and lower weight on more distant observations. The estimated intercept provides an estimate of the counterfactual mean. In

this table the outcome variable income, asset accumulation and saving have positive average treatment effect where as the food and non food consumption expenditure are negative average treatment effect that the kernel matching does not match with them.

Table 4. 35 Kernel matching

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1905.35714	1161.60704	743.750098	214.438196	3.47
	ATU	731.235955	750.812215	19.57626	.	.
	ATE			423.096011	.	.
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	719.464286	786.379297	-66.9150112	159.046898	-0.42
	ATU	481.797753	550.008464	68.2107113	.	.
	ATE			-7.08322363	.	.
nonfoodexp	Unmatched	791.34965	332.151724	459.197926	27.9710974	16.42
	ATT	801.633929	541.62171	260.012218	138.635442	1.88
	ATU	343.393258	325.837707	-17.5555514	.	.
	ATE			137.109077	.	.
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	31660.3125	10689.7957	20970.5168	24318.2163	0.86
	ATU	7732.69663	126332.416	118599.72	.	.
	ATE			64199.3679	.	.
sav	Unmatched	23.6643357	.482758621	23.181577	1.00414584	23.09
	ATT	24.0892857	.60521953	23.4840662	2.60590869	9.01
	ATU	.786516854	24.085787	23.2992702	.	.
	ATE			23.4022411	.	.

Note: S.E. does not take into account that the propensity score is estimated.

Source: Own econometric result (2018)

4.6.3. Caliper Matching

As Smith and Todd (2005) stated the nearest neighbor NN matching faces the risk of bad matches, if the closest neighbour is far away. This can be avoided by imposing a tolerance level on the maximum propensity score distance (caliper). Imposing a caliper works in the same direction as allowing for replacement. Bad matches are avoided and hence the matching quality rises. However, if fewer matches can be performed, the variance of the estimates increases. Applying caliper matching means that those individual from the comparison group is chosen as a matching partner for a treated individual that lies within the caliper (`propensity range') and is closest in terms of propensity score. The table 4.36 expresses the caliper matching on the outcome variable that more need treatment. In this table the outcome variable income, asset accumulation, Non food consumption and saving have positive average treatment effect where

as the food consumption expenditure are negative average treatment effect that the caliper matching does not match with them.

Table 4. 36 Caliper Matching

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
inco	Unmatched	1939.86014	669.517241	1270.3429	54.0849609	23.49
	ATT	1333.33333	866.666667	466.666667	.	.
	ATU	866.666667	1333.33333	466.666667	.	.
	ATE			466.666667	.	.
foodexp	Unmatched	737.622378	456.068966	281.553412	22.5470627	12.49
	ATT	513.333333	600	-86.6666667	.	.
	ATU	633.333333	513.333333	-120	.	.
	ATE			-103.333333	.	.
nonfoodexp	Unmatched	791.34965	332.151724	459.197926	27.9710974	16.42
	ATT	581.666667	416.666667	165	.	.
	ATU	400	581.666667	181.666667	.	.
	ATE			173.333333	.	.
aacculn	Unmatched	30501.2238	5228	25273.2238	6973.19748	3.62
	ATT	107083.333	5390	101693.333	.	.
	ATU	4656.66667	107083.333	102426.667	.	.
	ATE			102060	.	.
sav	Unmatched	23.6643357	.482758621	23.181577	1.00414584	23.09
	ATT	22.6666667	0	22.6666667	.	.
	ATU	0	22.6666667	22.6666667	.	.
	ATE			22.6666667	.	.

Source: Own econometric result (2018)

4.6.4. Radius matching Test

Dehejia and Wahba (2005) suggest a variant of caliper matching which is called radius matching. The basic idea of this variant is to use not only the nearest neighbour within each caliper but all of the comparison members within the caliper.

A benefit of this approach is that it uses only as many comparison units as are available within the caliper and therefore allows for usage of extra (fewer) units when good matches are (not) available. Hence, it shares the attractive feature of oversampling mentioned above, but avoids the risk of bad matches. Each treated observation is matched with control observations that fall within a specific radius.

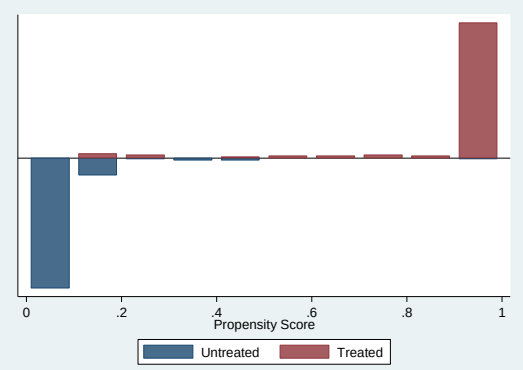
Table 4. 37 Radius matching Test

```
Logistic regression                                     Number of obs   =        288
                                                        LR chi2(5)      =     385.10
                                                        Prob > chi2     =     0.0000
Log likelihood = -7.0686141                             Pseudo R2       =     0.9646
```

wwm	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inco	.0067605	.0046277	1.46	0.144	-.0023096	.0158306
foodexp	-.0000106	.0079134	-0.00	0.999	-.0155206	.0154994
nonfoodexp	.0120164	.0084201	1.43	0.154	-.0044868	.0285195
aacculn	.0001317	.0001521	0.87	0.386	-.0001663	.0004297
sav	.5823239	.2330744	2.50	0.012	.1255063	1.039141
_cons	-20.67284	10.23905	-2.02	0.043	-40.74102	-.6046623

Source: Own econometric result (2018)

Figure 4. 11 Sensitivity analysis



Source: Own econometric result (2018)

Finally, after matching there should be no systematic differences in the distribution of covariates between both groups and therefore, the sensitivity analysis in this four evaluation and the more appropriate estimator that the outcome variable food consumption expenditure that affected negatively and the other outcome variable matched with nearest neighbor, kernel and caliper matching that are appropriate matching and significant with highest t-test that support the hypothesis that both groups have the same distribution in covariates after matching.

4.7. Challenges Encountered

As key informants and participants of the FGDs argued, even with the achievements of SHG with respect to benefits to members, the SHG has encountered several challenges that partly slowed down its progress and sustainability. In this regard, the informants mentioned that the lack of legal status of the SHG, lack of working places for members' small businesses, and inadequate loans provided by the SHG, constitute the most unnecessary problems of the SHG. It

was underlined in the FGDs that the SHG representing all members formally requested of the SHG, and getting proper places of work to help members run their businesses. However, as the FGD participants explained, the reactions of the administration were not hopeful. This could be further illustrated by the respondents that Absence of comprehensive legal provisions at higher level and through different Administrative structures coupled with minimum support from local administration adversely affects our activities.

According to the respondents response within the group members there are many challenges that made the barrier of the sustainability of the memberships in the group. Within the group members borrow and break away from the group without paying back the borrowed birr, the problem of trust ship among the members, if it was exist the problem of cooperation communication because of the remoteness of their house from each other, problem of individual behavior exist in the group,

The majority of the respondents were not in need to involve in loan. The main reason identified were fear of taking legal responsibility to take credit which must be repaid in a given time. Because of old age, lack of confidence and fear of uncertainty, their physical weakness, poverty and old age they are not convinced to access credit that has interest. This study also came up with some major problems the elder face to get the loan from the SHG inbox through saving and loan facility. During the focus group discussion and in depth interview the majority of the participant were reported even if their Income Generation through business requires financial support they didn't have the capacity to save and the obligatory amount to access loan. Adding to that they said we didn't want to take credit to our family who pay if we passed away. It assumes that individuals establish and continue social relations based on the expectation of mutual advantage. This mutual advantage is framed in concepts such as reward and punishment, pleasure and pain, cost and benefits.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

In the women welfare indicators programmes supported the unprivileged groups of society, especially the vulnerable sections, which include listed deprived social group, listed deprived family and women.

The formation and springing up of women groups especially in developing world has become a tool of accelerating development of communities particularly in the exposed areas. Self-help groups have been influential in women welfare indicators especially at the vulnerable community level. SHGs are small informal associations created for the purpose of enabling members to get in economic benefit out of mutual help, solidarity and joint responsibility. Some of the basic characteristics of SHGs include small membership size and homogeneity of composition which bring about cohesiveness and effective participation of members in the functioning of the group. The group based approach not only enables the poor women to accumulate capital by way of small savings but also helps them to gain access to formal credit facilities. Through women participation in SHGs there are improvements realized in terms of most of the group members acquiring skills, improving their living conditions and enhancing their participation in decision making among others. The overall development of a human society depends upon the level of actualization of the peoples potentialities. Make powerful women in a society enhance the realization of the required development.

From the field observations and data analysis result, it can be concluded that women in the areas of study have substantially benefited from the SHGs. It is observed that from FDG and key informant the SHGs are playing a significant role for betterment of women and the effect of welfare indicators. In addition, these SHGs are providing platforms to these poor women to build their capacities and thereby, self-empower themselves. This would carry to towards the power of decision-making both at the household level as well as at the community level in the areas. The study further supports the observations and put forward of SHG that creates confidence, prepares platform to create awareness among them and construct vehicle for promotion of economic activities among the deprived sections of women.

5.2. Recommendation

The following recommendations are drown based on the results of the assessment:

- ✓ The types of occupation such as traditional alcohol work, preparing and selling dry "enjera", Animal fattening and other like these have positive impact on income, asset accumulation and food and non food consumption expenditure and saving of the women participated in SHG organization. As it was observed from FDG and key informant they need more funding and training on this works needed from the external body that facilitates these activities.
- ✓ SHG organization program should consider deprived women who have lack of information and experience on the formation in the group.
- ✓ There is the need of know how about SHG in the communities and forming the women in SHG results take the women to economic independency. Taking in to account, the socio economic contributions of SHGs different funding system is needed. The government and Nongovernment Organizations need to work closely with these social organizations and provide the necessary support as well as the SHG organization program should expand its service further and provide its accessibility for the other deprived women who have lack of communication with other.
- ✓ As it was observed from FDG and key informant the kebele administration, finance institutions and Nongovernmental Organizations should work closely with SHGs in securing working space, capacity building activities, support and ensure the legality of SHGs capital is very small so that they cannot satisfy the needs of loan clients. Therefore, additional trainings on saving and injection of capital from partner Nongovernment Organizations, facilitating loan system are critical function.
- ✓ Policy makers should support the SHG organization by formation in law; participation in benefit of the country's economy and legal system of participation on economic growth of the country.

5.3. Areas of Further Study

There is need to carry out a comprehensive future study on the following.

- ➢ The equivalent study may be carry out in the rest of the constituency.
- ➢ The extent of achievement of objectives of self-help groups could be assessed and researched.
- ➢ The sustainability problem needs further investigation on Self help group organization.

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Annex I: Questioners

Welkite University

College of Business and Economics

Department of Economics

Objective of the Questionnaire

This Questionnair**e** is developed to collect data from SHG of Waliso Town for the purpose of studying the impact of SHG on women welfare indicators of to use for fulfill the requirements of acquiring MSc degree in Development Economics from Welkite University.

The data collected from the respondents kept confidential and not forwarded for anybody for similar studies.

Misgana Gedafa Kitesa

General Instructions to Enumerators;

- ❖ The purpose of the interview should be introduced to the respondent;
- ❖ Please ask the question clearly and patiently until the respondent understands;
- ❖ Please fill up the interview schedule according to the respondent replies;
- ❖ Please do not use technical terms while discussing with the respondents;

Name of the enumerator ---------- Sign. ---------- Date----------

Name of the SHG----------
Research Site: Region: **Oromia** Zone: **South West Shewa** Town: **Waliso**
Kebele……..……..
Respondent full name: …….. Date of Interview…….

A. Demographic and Socio Economic Characteristics of Respondent

1. Are you a SHG member? (1) Yes (2) No
2. Age: _____
3. Education level: (1) Illiterate (2) write and read (3) Primary (1-8) (4) Secondary (9-10) (5) (11-12) (6) College/University
4. Marital status of respondents

(1) Single (2) Married (3) Widow (4) Divorce

5. Do you have children and other family members? (1) Yes (2) No
6. If your answer #5 is (1), how many family sizes do you have? _____
7. If your answer #5 is (1), Ages of the children:

No	Numbers of Children	Age Categories
1		<18
2		18-30
3		31-50
4		>50

8. How much Number of children is attending school? _____

   And how much Number of children is not attending school? _____

9. If the answer on # 8, much of the children are not attending school, what is the Reason for not attending,

   (1) Low income; (2) below school age; (3) distance of School; (4) other, please specify

10. Who is the head of family (1) Husband (2) Wife (3) Son (4) Daughter (5) Uncle (6) Grandfather (7) Aunt (8) Relative
11. What is your approximate monthly average income? ----------
12. What is your source of income? _____

    Do you have other income source?_____

13. What is the Source of income of your family(Occupation)?(multiple choice is possible)

(1) Daily / Casual labor (2) Petty trade (3) Traditional alcohol work (4) Small Scale Business like preparing and selling enjera (Ethiopian flat bread) (5) Salaried work; (6) fattening (7) Others

14. How many family members contribute to the family income? _____

    And From the family members who contribute to the family income?

(1) Husband and wife (2) wife; (3) husband; (4) husband, wife and children (5) children (6) Others (Specify).....

15. Do you have parent (father and mother)? (1) yes (2) No
16. If the answer for #15 is (1) do they support you economically?(1)yes (2) No
17. If the answer for # 16 is (1) what types of support they give you? _____
18. What is the average monthly income of your family? _____
19. What is your family Occupation type? (multiple choice is possible)

(1) Government employee (2) Private (3) NGO (4) others (Specify)..... If # 19 is 2 what types of occupation (1) Daily / Casual labor (2) Petty trade (3) Traditional alcohol work (4) Small Scale Business like preparing and selling enjera (Ethiopian flat bread) (5) Salaried work; (6) fattening (7) Others (Specify).....

20. What is your approximate monthly expenditure? ----------

21. For what purpose you spent your Income (your expenditure for food and non food) and their values.

No	Food expenditure		Non food expenditure	
	in Kinds	Value in birr	in Kinds	Value in birr
1				
2				
3				

22. Do you have any starting capital/wealth support from the family? (1) Yes (2) No
23. If the answer for # 22 is (1) what kinds of support you have got from the family? (multiple choice is possible) (1) House (2) Cash (3) Land (4) Kinds of animal (5) Others (Specify).....
24. List your Asset accumulation

SN	Asset accumulation	
	Quantity in # Assets	Value in birr
1		
2		

25. What types of house you live in? (1) owned house (2) rental (3) Kebele or municipality house (4) Family gifted dependent (5) other specify
26. If the answer for # 25 is (1), what types of house it is? (multiple choice is possible) (1) Condominium; (2) villa; (3) Traditional worked house with tin roof (4) if other, please specify_____
27. If your answer for #25 is (2), how much do you pay monthly in birr?

    _____
28. Do you have monthly saving (1) Yes (2) No
29. If your answer for #28 is (1), how much you save per month? _____
30. What is the purpose of your saving? (multiple choice is possible)

    (1) For asset creation (2) to meet emergencies (3) to entrepreneurial activities (4) others ----
31. Where do you save your personal money? (1) Banks (2) OCSA (3) In SHG membership saving Box (4) Other _____
32. Is your saving capacity in increasing order? (1) Yes; (2) No
33. If your answer for #32 is (1), by what amount? _____
34. Did you get any support from others to treat your family capacity? (1) yes (2) No
35. If your answer for #34 is (1), what kind of support did you get from the supporter? (multiple choice is possible)

(1) Training support; (2) Counseling support; (3) Granted seed money; (4) Loan; (5) New IGA skill; (6) If other, please specify_____

If the support is in cash, by what method you obtain it? _____

Is the support money returnable? _____

Is the support money having interest rate? _____if yes for how much? _____how much you pay ?_____for how many time you get ?_____for how many cycle?_____

36. Do you get credit/Loan (1) yes (2) No
37. If your answer for #36 is (1), from where you get the Loan? (multiple choice is possible) (1) From individual creditors (2) From the Bank (3) From OCSA (4) From SHG inbox (5) Other specifies _____
38. If your answer for #37 is (1) what amount of loan do you get?

    _____
39. If your answer for #36 is (1) for what purpose you use the loan/the money? (multiple choice is possible) (1) for consumption (2) for treatment (3) to pay debt or other related purposes (4) for establish and run a small business or entrepreneurial activities (5) other ----------
40. If your answer for #36 is (1) do you managed to return the loan without difficulties? (1)Yes (2) No
41. If your answer for #40 is (1), by what way you return? (multiple choice is possible) (1) from monthly income (2) from labor work (3) from petty trade (4) from the stored asset (5) if other specify_____
42. Have your borrowing capacity is increasing? (1)Yes (2) No
43. If the answer for # 42 is (1) by how much it increase from the first cycle? _____
44. Have you ever Attended Training? (1)Yes (2) No
45. If your answer for # 44 is (1) Who provided the training ? _____
46. If your answer for # 44 is (1) How was the training (1) Effective (2) not effective
47. If your answer for #46 is (1), what kind of support you get from training? (multiple choice is possible) (1) Benefits of Asset accumulation; (2) to get new IGA skills; (3) Saving and its benefits; (4) Business planning; (5) Record keeping; (6) capacity of market managing; (7) If other, please specify_____

48. If your answer for # 44 is (2) are you need training (1)Yes (2) No
49. If your answer for # 48 is (1) what types of training you need? (multiple choice is possible) (1) Business skill training (2) Business plan preparation training (3) Business management training (4) other, specify_____
50. Have you ever participated in a community based organization (CBO) in your environment? (1) yes (2) No
51. If your answer for # 50 is (1) what types of community based organization (CBO) you participated in your area? _____
52. If your answer for # 50 is (1) is there any discussion between each other?(1) yes (2) No
53. If your answer for # 50 is (1) is there any meeting ajendas which you discussed on? (1) yes (2) No
54. If your answer for # 53 is (1) what types of ajenda rise for the discussion? _____
55. What benefit you get from ajenda you discussed on? (multiple choice is possible) (1)Benefits of social development; (2) New IGA skills; (3) Saving and its benefits; (4) Business planning; (5) Record keeping; (6) Market development; (7) If other,
56. In your area densely populated?(1) yes (2) No
57. If your answer for # 56 is (1) is there any advantage living together in densely populated area?(1) yes (2) No
58. If your answer for # 57 is (1) what kinds of advantage it has? list _____
59. Because of the formation in group, have you got free communication, support each other on your problem and for experience sharing? (1) yes (2) No
60. In organization you participated in, is there democratic election of leaders?(1) yes (2) No
61. If your answer for # 60 is (1) by what way you vote your leaders? _____
62. Do you think all members' right respected equally? (1) yes (2) No
63. If your answer for # 62 is (1) how you improve it? _____
    If your answer for # 62 is (2) how you improve it? _____
64. If formation in group is advantages, how you know its benefit and by what way you help each other? _____
65. If you think that living together in one environment has disadvantage when we compare with living apart, what is the benefit of it? _____
66. Is there advantage of working in group? (1) yes (2) No

67. What you think about advantages of working together? _____

And working individually? _____

68. What problem you encountered because of participation in SHG? _____

NB: NGO-Nongovernmental Organization

OCSA-Oromia Credit and Saving Association

SHG-Self Help Group

IGA –Income generating Activities

Part 2: interview guide for key informant

Date:

My name is Misgana Gedafa, a Masters Student at the Welkite University taking a course in Economics (Msc in Development Economics). I am conducting research on the Impact of Self Help Groups in women Economic empowerment. Your response goes in helping to establish whether participation of women in SHGs leads to welfare indicators. I assure you that your response is treated with utmost confidentiality.

Tick where appropriate

1. Name_____
2. Age _____
3. What is your level of education? (1) Illiterate (2) Primary (3) Secondary (4) College/University and above
4. Main Occupation?

   (1) Professional (Specify) _____ (2) Businessman (Specify) _____ is there any specific rule that require following in order to operate (3) Other (Specify)____

To identify the systems and structures that SHGs have in place

1. Do you think organizing women in SHG have advantage in your area? (1)Yes (2) No

   If yes what is its benefit? _____
2. Would you think they are well structured? (1) Yes (2) No
3. If yes for #2, are all group members Actively participated (1) Yes (2) No
4. Do you know the main Objectives of Self Help groups? Yes ( ) No ( )

   If yes, mention them……
5. How many Women Self Help Groups are functioning in your locality _____

6. Have you witness Women organizing in SHG change their income (1) Yes(2) No
7. If yes for #6 how much are the income they increase? _____ Decrease? _____
8. Have you observe Women organizing in SHG optimize food and non food consumption expenditure for them self (1) Yes (2) No

   If yes for #8 how much are the expenditure they increase? _____
9. Have you witness Women organizing in SHG generate assets for them self (1) Yes(2) No
10. If yes for #6 what are the assets they generate? _____
11. Do you believe that SHGs can contribute for Women welfare indicators? (1) Yes (2) No if yes how? _____

    If no what is your ideas?
12. How you identify the relationship of the members in the SHG?

    How you identify the relationship of non members of the SHG in the live together?
13. Have you seen any form of economic activities that the women in the groups are involved in? (1) Yes (2) No If yes Please specify it_____
14. Would you think it's profitable and positively influence on their day to day lives? (1) Yes (2) No

If yes Please specify it_____

15. What you know about the spending power of women on (food and non Food consumption expenditure) of women formed in SHG? _____.
16. Do you know the women Organized in SHG practice saving? ___
17. What are the women organizations in SHG contributes to economic development in your area? _____

To identify the challenges of joining and participating in SHGs

18. What challenges do women face when they want to register a SHG in the area? _____
19. Have the women reported any challenges that they face when operating the Self Help Groups? (1) Yes (2) No

If yes list the challenges; ……..……

Yunversiitii Walkixxee

Koollejii Biizinesii fi Ikkonomiksii

Muummee Ikkonomiksii

Kaayyoon Gaafannoo

Gaafannoon kun kan qophaa'ee ragaa Dubartoota waldaa wal gargaarsaa keessatti gurmaa'anii fi kanneen waldaa walgarsaa kanaan hin gurmoofne gargaarsa barbaadanii funaanuun qorannoo barnoota Digrii Lammataa Barnoota ikkonomiksiin guutachuuf gaggeefamuuf Dubartootni Waldaa Wal gargaarsaan gurmaa'uun jijjirama jireenya isaanii irratti fidee fi warri Waldaa Wal gargaarsaan hin gurmoofne immoo wal bira qabamee yeroo ilaalamu warra gurmaa'aniin jireenyi isaanii maal akka fakkatu adda baasuu dha.

Ragaan kun Nama Sadaffaa kamiifuu kan hin dabarre ta'uu fi hojii qorannoo Barnoota kana qofaaf kan oolu ta'uu ni hubachiifna.

Misgaanaa Geeddafaa Qixxeessaa

Qajeelfama armaan gadii ilaali

- ✓ Kaayyoon Gaafannoo kana gaafatamaf ifa ta'uu qaba.
- ✓ Gaaffiin gaafatamaa gaafatamu haala ifa ta'ee fi bifa gaaluu fii danda'uun ta'uu qaba.
- ✓ Gaafannoon kan guutamu akkaataa gafatamaan deebiseen ta'uu qaba.
- ✓ Gaafannoon yeroo gaafatamu gaafataan jechoota gaafatamaan hubachuu hin dandeenyetti fayyadamuu hin qabu.

Maqaa Gaafataa_____Mallattoo_____

Maqaa Waldaa(yoo waldaa ta'e)_____

Bakka Qorannoon itti gaggeefamu:Naannoo Oromiyaa, Godina Shawa Kibba Lixaa Magaalaa Walisoo Ganda/Aradaa_____

Maqaa Guutuu

Gaafataamaa_____Guyyaa_____

A. Haalaa Hawaasaa Diinagdee fi jireenyaa Gaafatamaa

1. **Miseensaa** Waldaa Wal gargaarsaatii (1) Eyyee (2) Lakki
2. **Umurii** _____

3. **S**adarkaan **Barnoota** keessanii(1) hin baranne (2) Barnoota Bu'uura(barreessuu fi dubbisuu) (3) Sadarkaa 1ffaa(1-8) (4) Sadarkaa 2ffaa(9-10) (5) Qopha'ina(11-12) (6) Yuniversiitii /koollejii fi isaa ol
4. **S**adarkaan **Maatii** keessanii akkamii (1) Gaa'ila Kan hin Qabne (2) Gaa'ila Kan Qabdu (3) kan irraa du'e (4) Kan hiikte
5. Ijoollee Qabdaa? (1) Eyyee (2) Lakkii
6. Deebiin kee gaaffii Lakkofsa 5f (1) yoo ta'e **baay'inni maatii** keessanii meeqaa? _____
7. Umuriin Ijoollee :

Lakk	Baay'ina Ijoollee	Umurii
1		<18
2		18-30
3		31-50
4		>50

8. Lakkoofsi Ijoollee umuriin isaanii ga'ee mana barumsaa galan meeqaa?_____
   Umuriin isaanii ga'ee mana barumsaa kan hin gallee hoo meeqaa?_____
9. Deebiin kee gaaffii Lakkofsa 8f irratti ijoolleen mana barumsaa yoo hin galle ta'e Sababa ijoolleen mana barumsaa hin dhaqneef maalii?
   (1) hir'ina maallaqaatiin (2) umuriin waan hin geenyeef (3) Manni barumsaa fagoo waan ta'eef (4) kan biroon yoo jiraate adda baasa-------
10. Kan mana bulchu eenyuu? (1) Abbaa Warraa (2) Hadha Warraa (3) Mucaa (4) Intala (5) Heessuma (6) Akakayyuu (7)Akkoo(8) Adaadaa (9) fira (10) Kan biro____
11. Tilmaamaan **Galiin** ji'aa keessan gidduu galeessaan meeqaa? _____
12. **Maddi Galii** keessanii maalii? (1)Hojii guyyaa/humnaa (2) Daldaala xixiqqoo (3)Dhugaatii aadaa kan akka Haraqee fi farsoo gurguruu (4) Biddeena goggogaa/duwwaa gurguruu (5) miindaan (6)hoolaa, re'ee fi kan biroo horsiisuun (7) kan biraan yoo jiraate ibsaa_____
    Madda Galii addaa kan biraa hoo qabduu? _____
13. Maddi Galii Maatii keessanii maalii? (filannoon tokkoo ol ni danda'ama) (1)Hojii guyyaa/humnaa (2) Daldaala xixiqqoo (3)Dhugaatii aadaa kan akka Haraqee fi farsoo gurguruu (4) Biddeena goggogaa/duwwaa gurguruu (5) miindaan (6)hoolaa, re'ee fi kan biroo horsiisuun (7) kan biraan yoo jiraate ibsaa_____
14. Maatii keessa galii kan argamsiisu nama meeqaa?_____
    Isaan hoo Maatii keessa galii kan argamsiisu maqaan eenyuu ? (1) Abbaa Warraa fi Haadha Warraa (2) Hadha Warraa (3) Abbaa Warraa (4) Abbaa ,Haadha fi ijoollee (5) ijoollee

15. Gargaarsi Haadhaa fi Abbaa kee irraa argatte jiraa?(1) Eeyyee(2) Lakki
16. Deebiin kee gaaffii Lakkofsa 15f (1) yoo ta'e gargaarsi isaan si godhan jiraa?(1)eeyyee(2)lakki
17. Deebiin kee gaaffii Lakkofsa 16f (1) yoo ta'e gargaarsi isaan sii kennan maalii?_____
18. Tilmaamni **Galii maati** gidduu galeessan kan ji'aa meeqaa?_____
19. **Hojiin keessanii maalii(occupation)**? (filannoon tokkoo ol ni danda'ama) (1)Hojii Mootummaa (2) Hojii Dhunfaa (3) Dhabbata miti Mootummaa (4)Hojii kan hin qabne (5) kan biraan yoo jiraate ibsaa_____

    Yoo # 19 (2) ta'e hojii akkamiitii (1)Hojii guyyaa/humnaa (2) Daldaala xixiqqoo (3)Dhugaatii aadaa kan akka Haraqee fi farsoo gurguruu (4) Biddeena goggogaa/duwwaa gurguruu (5) Gurgurtaa biqilaa fi geeshoo (6)hoolaa, re'ee fi kan biroo horsiisuun (7) kan biraan yoo jiraate ibsaa_____
20. Tilmaamaan **Baasiin** ji'aa keessanii giddu galeessaan meeqaa? _____

21. Baasiin baaftan maal maaliif oolaa(gabatee armaan gadii guutaa)

Lak	Baasii waan nyaataaf ba'u		Baasii waan nyaataaf hin taaneef ba'u	
	Gosa nyaataa	Tilmaama baasii birrin	Gosa nyaataan alaa	Tilmaama baasii birrin
1				
2				

22. **Qabeenyi/Dhaalli Warra keessan** irraa argattan ni jiraa? (1) Eyyee (2) Lakki
23. Deebiin kee gaaffii Lakkofsa 22f (1) yoo ta'e dhaala akkamii argattee (1)Mana jireenyaa (2) qarshii calla (3) Lafa(4) Gosa horii (5) kan biroo _____
24. Qabeenya Qabdanii fi tilmaama gatii isaanii waliin

SN	Kuufama Qabeenyaa	
	Gosa qabeenyaa	Tilmaama gatii isaa birr'n
1		
2		

25. Mana jireenyaa akkamii keessa jiraattaa? (filannoon tokkoo ol ni danda'ama) (1) kan dhuunfaa (2) Kan kiraa (3) Kan maatii (4)kan biroo yoo jiraate adda baasi
26. Deebiin kee gaaffii Lakkofsa 25f (1) yoo ta'e kan akka miitii? (1) kondominiyeemii (2)Mana qorqoorroo dhoqqeen hojjetame (3) viillaa (4)kan biroo yoo ta'e adda baasaa
27. Deebiin kee gaaffii Lakkofsa 25f (2) yoo ta'e,Ji'aan meeqa kaffaltaa?_____
28. **Qusannaa Ji'aa** ni qabdaa? (1) Eyyee (2) Lakki
29. Deebiin kee gaaffii Lakkofsa 28f (1) yoo ta'e ji'aan meeqa qusattaa? _____

30. Deebiin kee gaaffii Lakkofsa 28f (1) Kaayyoon qusannaa kee maalii? (1) qabeenya horachuuf (2) Rakkoon addaa yoo si qunname itti fayyadamuuf (3) ittiin hojii uummachuun hojjechuuf (4) Kan biroo yoo jirate_____
31. Deebiin kee gaaffii Lakkofsa 28f (1) Essatti qusattaa? (1) Baankii (2) Dhabbata Waldaa Liqii fi Qusannaa(Microfinance institution) (3) Bakka qusannaa Waldaa wal gargaarsaatti (SHG membership Box) (4) kan biroo yoo jiraate_____
32. Deebiin kee gaaffii Lakkofsa 28f (1), dandeettin qusannaa kee hin daballee? (1) eeyyee (2) lakki
33. Deebiin kee gaaffii Lakkofsa 32f (1) yoo ta'e hangamiin dabalee?_____
34. Gargaarsa qaama biraa irraa argattee beektaa? (1) eeyyee (2) lakki
35. Gargaarsi qaama biraa irraa argattanii beektan maalii? (1)Leenjii (2) Gorsa (3) Qarshii (4) Liqii (5) haala galii argamsiisan(IGA) (6)Hordoffii wal irraa hin cinne(7)Muuxannoo wal jijjiiruu(8)Gargaarsa meeshaalee(inkinds) (9) kan biroo yoo jiraate ibsi___
    Gargaarsi argattan qarshiin yoo ta'e,meeqaa?_____ akkamiin sinii kennamee?___
    Qarshiin gargaarsaan fudhattan kun ni deebi'aa?____
    Qarshiin gargaarsaan fudhattan Kun ala qabaa? ____Yoo ala qabaate alli isaa hangamitti_____ ala meeqa kaffaltuu?_____yeroo hangamitti deebiftuu?_____marsaa meeqa fudhattuu?_____
36. **Liqii ni argattaa**? (1) eeyyee (2) lakki
37. Deebiin kee gaaffii Lakkofsa 36f (1) yoo ta'e liqii eessaa argattaa?_____
38. Deebiin kee gaaffii Lakkofsa 36f (1) yoo ta'e **Liqii hangam** argachuu dandeessaa?___
39. Liqii argattan maaliif olchituu? (1) jireenya mana keessaa fi gargaarsaa dhunfaaf (2) liqii deebisuu fi kan biroof (3) Hojii ittiin hojjechuu fi daldaala xixiqqoof, (4) kan biroon yoo jiraate_____
40. Liqii fudhatte kana osoo sitti hin ulfaatiin deebisuu dandeessaa?(1) eeyyee (2) lakki
41. Deebiin kee gaaffii Lakkofsa 40f (1) yoo ta'e liqii kan deebiftu madda kam irraatii_____
42. Dandeettiin isin liqii liqeeffatanii ittin hojjettanii Dabaleera? (1) eeyyee (2) lakki
43. Deebiin kee gaaffii Lakkofsa 42f (1) yoo ta'e marsaa duraa irraa hangamiin? _____
44. **Leenjii** fudhattanii beektuu? (1) eeyyee (2) lakki
45. Deebiin kee gaaffii Lakkofsa 44f (1) yoo ta'e Leenjii dhabbata maal jedhamutu sii kennee?_____
46. Deebiin kee gaaffii Lakkofsa 44f (1) yoo ta'e bu'aan leenjicha akkamii?
    (1) Bu'aa qabeessa (2) bu'aa hin qabu

47. Deebiin kee gaaffii Lakkofsa 46f (1) yoo ta'e Bu'aa akkamiitii Leenjii irraa argattee_____
48. Deebiin kee gaaffii Lakkofsa 46f (2) yoo ta'e Leenjii ni barbaaddaa? (1) eeyyee (2) lakki
49. Deebiin kee gaaffii Lakkofsa 48f (1) yoo ta'e Leenjii akkamii barbaaddaa?_____
50. Naannoo keessanitti waldaan gurma'anii wal gargaaruun ni jiraa?(1) eeyyee(2) Lakki
51. Deebiin kee gaaffii Lakkofsa 50f (1) yoo ta'e Waldaa akkamiitii?_____
52. Deebiin kee gaaffii Lakkofsa 50f (1) yoo ta'e mariin waliin mari'atame waldaalee isin keessatti hirmaattanii beektan jiraa? (1) eeyyee (2) lakki
53. Deebiin kee gaaffii Lakkofsa 52f (1) yoo ta'e yeroo hirmaattan ajandaan marii Maal turee?_____
54. **Gurmaa'uu irraa Muuxannoon argattee** beektu jira? (1) eeyyee(2) Lakki
55. Deebiin kee gaaffii Lakkofsa 53f (1) yoo ta'e ajandaa marii irraa maal hubattanii?_____
56. Naannoo **jireenya keessanitti namoonni baay'inaan** ni jiraatuu? (1) eeyyee(2) Lakki
57. Deebiin kee gaaffii Lakkofsa 56f (1) yoo ta'e baay'atanii naannoo tokko keessa jiraachuun Faayidaa qaba jettaa?(1) eeyyee (2) Lakkii
58. Deebiin kee gaaffii Lakkofsa 57f (1) yoo ta'e muuxannoon,beekumsi fi dandeettiin waliin gurma'anii hojjechuu irraa barattan jira? (1) eeyyee (2) Lakkii
59. Sababa waliin ijaaramanii waliin jiraataniif **waliin mari'achuun(communication)** jiraa? (1) eeyyee (2) lakki
60. Yeroo waliin ijaaramtanitti nama isin hogganu filannoon jiraa?(1)eeyyee(2)Lakki
61. Deebiin kee gaaffii Lakkofsa 60f (1) yoo ta'e filannoo akkamitti gootuu?_____
62. Mirgi miseensa waldaa walgargaarsaa hundaa wal qixa kabajamaa?(1) eeyyee(2) lakki
63. Deebiin kee gaaffii Lakkofsa 62f (1) yoo ta'e maaliin mirkaneefattuu?_____
Deebiin kee gaaffii Lakkofsa 62f (2) yoo ta'e maaliin mirkaneefattuu?_____
64. Waldaan ijaaramanii waliin hojjechuun faayidaa qaba yoo ta'e maal maalirratti wal gargaartuu?
_____
65. Baay'atanii naannoo tokko keessa jiraachuun Faayidaa hin qabu yoo jette walirraa fagaachuun waliin hojjechuu irratti dhiibbaa maal qaba jettaa?
66. Waliin gurmaa'anii hojjechuun bu'aa maal qaba jettee yaaddaa? _____
67. Sababa waldaa wal gargaarsaan gurmooftaniif rakkooleen sin qunnaman jiraa?_____
68. Sababa waldaa wal gargaarsaan gurmooftaniif **rakkooleen sin qunnaman** yoo jiraate maalii?_____

Gaaffiilee marii Naannawaa Teessoo irratti godhamuuf ta'u(FGD)

1) Naannoo jiraattanitti waldaan gurmaa'anii wal gargaaruu fi dhunfaan wal garuun ni jira? Yoo waldaan gurmaa'anii wal gargaaruun jiraate bu'aa qaba jettee yaaddaa?
2) Waldaa ijaarame keessatti hirmaattee beektaa? Yoo hirmaattee beekta ta'e waldaa akkamii keessatti hirmaattee?Muuxannoon ati irraa argatte hoo jiraa?Yoo muuxannoo argatte ta'e muuxannoo akkamii argattee?
3) Sababa waldaan gurmoofteen Galiin kee dabale jiraa?yoo jiraate galiin waldaan gurmaa'uun argamuu fi osoo waldaan hin gurmaa'iin argamuu garaa garummaa qabaa?
4) Baasiin kee sababa waldaan gurmoofteef jijjirame jiraa?Baasiin kan warra waldaan hin gurmoofnee waliin wal bira qabdee yoo ilaalte maal fakkaataa?
5) Qabeenyi keesan sababa gurmooftaniin horattan jiraa? Osoo gurmaa'uu baattaniitu ta'ee kan dhabdanoo jiraa?