



WERABE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

**ROLE OF RURAL SAVING AND CREDIT COOPERATIVES IN
PROMOTING FINANCIAL INCLUSION: A CASE OF HULBAREG
WOREDA**

A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS

**IN PARTIAL FULFILMENT OF A MASTER'S DEGREE IN
DEVELOPMENTAL ECONOMICS**

By:

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WERABE, ETHIOPIA

JUNE, 2026



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DECLARATION

I HENOK TADESSE hereby declare that this thesis entitled ROLE OF RURAL SAVING AND CREDIT COOPERATIVES IN PROMOTING FINANCIAL INCLUSION: A CASE OF HULBAREG WOREDA, Central Ethiopia', has been carried out by me under the guidance and supervision of Dr. Debela Geleta (PhD) and Mr Kedir Abdu (MSc).

The thesis is original and has not been submitted for the award of any degree or diploma at any university or institution.

Researchers' Name

Date

Signature

Henok Tadesse

June, 2026



CERTIFICATE

This is to certify that the thesis, entitled ***ROLE OF RURAL SAVING AND CREDIT COOPERATIVES IN PROMOTING FINANCIAL INCLUSION: A CASE OF HULBAREG WOREDA*** ’’, submitted to the Department of Economics, College of Business and Economics, Werabe University, in partial fulfilment of the requirements for the award of the Degree of **MASTER OF DEVELOPMENTAL ECONOMICS** is a record of original research work done by **Henok Tadesse** during the period 2013 – 2018 (E.C) under my supervision and guidance and the thesis proposal has not formed the basis for the award of any Degree / Diploma / Associate ship / Fellowship or other similar title of any candidate of any University and it complies with the regulation and accepted standards of the university.

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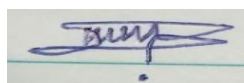
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HENOK TADESSE

List of Acronyms /Abbreviations

AGE	Age of the Respondent
CC	Contingency Coefficient
CSA	Central Statistics Agency
DFS	Digital Financial Service
EAB	Easy Access to Bank
EAFR	Easy Access to RUSACCO
EAMF	Easy Access to Micro Finance
EC / E.C.	Ethiopian Calendar
EDU	Education Level
ETB	Ethiopian Birr
FCA	Federal Cooperative Agency
FCC	Federal Cooperative Commission
FGD	Focus Group Discussion
FIWR	Financial Inclusion with RUSACCO
GENDER	Gender of the Respondent
GoE	Government of Ethiopia
ICA	International Co-operative Alliance
ID	Identification
IFAD	International Fund for Agricultural Development
IL	Income Level
ILO	International Labor Organization
KII	Key Informant Interview
LFS / Ifs	Level of Financial Skill
MFI / MFIs	Microfinance Institution / Microfinance Institutions
MoA	Ministry of Agriculture
MRS	Marital Status

MSc / Msc	Master of Science
NBE	National Bank of Ethiopia
NFIS	National Financial Inclusion Strategy
NPL	Non-Performing Loan
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PhD	Doctor of Philosophy
PSNP	Productive Safety Net Program
RC	Religion and Culture
RUSACCO /	Rural Saving and Credit Cooperative
SACCO / SACCOs	Saving and Credit Cooperative / Savings and Credit
SDGs	Sustainable Development Goals
SOI	Source of Income
TR	Trust for RUSACCO
UN	United Nations
URAG	Use RUSACCO for Advice and Growth
URAL	Use RUSACCO for Accessing Loan
URLP	Use RUSACCO for Literacy Program
VIF	Variance Inflation Factor
WBG	World Bank Group
WOCCU	World Council of Credit Unions
WoFED / WOFED	Woreda Finance and Economic Development
WRU	Werabe University

Thesis approval sheet

This is to certify that the thesis entitled “*The Role of Rural Saving and Credit Cooperatives for Financial Inclusion a case of Hulbareg Woreda*” submitted in partial fulfilment of the requirements for the degree of Master of Science in development economics, the graduate program of the department of development economics and be carried out by under our supervision. Therefore, we recommend that the student has fulfilled the requirements and hence hereby can submit the proposal to the department.

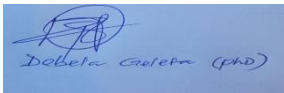
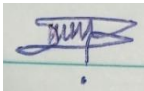
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ABSTRACT

Financial inclusion is recognized as a key driver of poverty reduction, economic empowerment, and sustainable rural development. Despite the expansion of formal financial institutions in Ethiopia, a significant proportion of rural households remain excluded from formal financial services. Rural Saving and Credit Cooperatives (RUSACCOs) have emerged as important community-based financial institutions aimed at improving access to savings, credit, and other financial services in rural areas. This study examined the role of RUSACCOs in promoting financial inclusion in Hulbareg Woreda, Silte Zone, Central Ethiopia Regional State, Ethiopia.

The study employed an explanatory cross-sectional research design using a mixed-methods approach. Quantitative data were collected from 374 rural household heads selected through a multi-stage sampling technique involving stratified and systematic random sampling. Qualitative data were obtained through key informant interviews and focus group discussions involving kebele leaders, development agents, RUSACCO management committee members, and woreda cooperative experts. Descriptive statistics, chi-square tests, and binary logistic regression analysis were employed to analyze the quantitative data, while thematic analysis was used for qualitative information.

The findings revealed that RUSACCOs play a significant role in enhancing financial inclusion by providing accessible savings and credit services, financial literacy support, and financial advice to rural households. Access to RUSACCO services, utilization of loans, participation in financial literacy programs, and use of deposit and withdrawal services were found to positively influence the financial inclusion status of respondents. Qualitative findings further indicated that RUSACCOs contribute to income generation, asset accumulation, and improved household resilience through increased access to financial services. However, challenges such as limited capital, inadequate financial literacy, weak loan recovery mechanisms, and low community awareness constrain the effectiveness of RUSACCOs.

The study concludes that RUSACCOs serve as an important mechanism for expanding financial inclusion in rural areas where formal banking services are limited. The study recommends strengthening institutional capacity, expanding financial literacy programs, improving loan management and recovery systems, increasing public awareness, and

enhancing support from government and cooperative promotion offices to improve the performance and outreach of RUSACCOs.

Keywords: Financial Inclusion, Rural Saving and Credit Cooperatives (RUSACCOs), Savings, Credit Services, Rural Finance, Hulbareg Woreda, Ethiopia.

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Cooperative financial institutions trace their origins to nineteenth-century Europe, where workers and small producers — largely excluded from formal credit markets — began pooling resources and establishing savings mechanisms based on mutual benefit and democratic self-governance (ICA, 2023; McKillop & Wilson, 2011).

The formalization of credit cooperatives in Germany during the mid-nineteenth century is thus a fundamental stage in this evolution. Hermann Schulze-Delitzsch established the first urban credit cooperative in 1850 to address the financing constraints faced by craftsmen and small entrepreneurs, emphasizing economic self-reliance and institutional efficiency. Later, a German Friedrich Wilhelm Raiffeisen would pioneer rural credit cooperatives in 1864, with a focus on agricultural communities and emphasizing social solidarity, mutual self-help, and moral responsibility as central tenants of the movement. While differing in philosophical orientation and organization, both the models emphasized on financial empowerment and contributed in shaping the overall global cooperative movement.

In Africa, cooperative development took a different historical course. However, up to the early 1990s, there was fast cooperative expansion under tight state control, especially in the Anglophone nations. At this time, many cooperatives were formed by government orders rather than by voluntary decisions of the members, with very limited freedom, weak member ownership, and total reliance on state institutions (Wanyama, Develtere, & Pollet, 2009). The following liberalization period aimed at repositioning cooperatives as independent member-based entities within market-oriented economies.

In Ethiopia, indigenous cooperative practices existed long before the coming of the modern legal and institutional. Traditional financial arrangements such as Iqub— a rotating savings and credit association, and Idir—a community-based social insurance system have long been proven as mechanisms for mutual support, risk sharing, and financial solidarity. They continue to play important roles in household welfare, risk sharing, and financial solidarity in rural and low-income neighborhoods, enabling social cohesion (Emana, 2009; Feleke, 2018).

The formal development of modern cooperatives in Ethiopia started in 1960 when the first

cooperative directive was enacted. Since then, the cooperative sector has undergone multiple legislative reforms, including Proclamation No. 241/1966, 138/1978, 85/1995, 147/1998, and Amendment Act No. 985/2016. These reforms are aimed at harmonizing national cooperative legislations with international standards, particularly the International Labour Organization (ILO) Recommendation No. 193 on the Promotion of Cooperatives. The current legal framework emphasizes voluntary membership, democratic governance, member economic participation, and cooperative autonomy (Emana, 2009; ILO, 2002).

Within this framework, SACCOs (Savings and Credit Cooperative Societies) have become an essential part of the financial system in Ethiopia, especially for the marginalized groups. The SACCO movement has over the past two decades taken shape and served the rural and urban dwellers in savings and credit related services at a relatively cheaper rate. According to the FCA (2016) and NBE (2017), the inherently low-cost savings and credit services, coupled with members' proximity, self-management and relatively low administrative costs mean SACCOs play a vital role in harnessing Ethiopia's financial resources at the grassroots level, where banks and microfinancial institutions have limited coverage.

Recent empirical studies indicate that SACCOs in Ethiopia have achieved notable growth in membership, savings mobilization, and asset accumulation. This expansion has however exposed institutional challenges in governance capacity, loan portfolio, liquidity, and regulatory compliance. There is also evidence based on urban and semi-urban SACCOs with case study of the Hawelti sub-city of Mekelle which links SACCOs sustainability and performance to organizational characteristics and internal management practices (Gebrehiwet, 2023).

The SACCOs have numerous socio economic development objectives besides financial intermediation. The research on women-focused SACCO participation in regions such as Oromia shows that access to cooperative credit and dividend distribution improves economic empowerment among women, income diversification, and household welfare (Tesfaye & Abebe, 2022). Such collectively paints a picture of SACCO landscape in Ethiopia proximately defined by tangible outreach and socio-economic impacts but framed conversely by interrelated regulatory, governance, and operational parameters issues in need of systematic analysis.

1.2 Statement of the Problem

Achieving comprehensive financial inclusion is a foundational pillar for sustainable economic development, poverty alleviation, and resilience-building in emerging economies (World Bank, 2024). In Ethiopia, despite successive waves of macroeconomic and financial sector reforms aimed at liberalization and expansion, the formal financial ecosystem remains highly shallow and unevenly distributed (National Bank of Ethiopia [NBE], 2024; Tadesse & Hailu, 2025). Conventional commercial banking institutions and prominent microfinance institutions (MFIs) exhibit a persistent urban bias, clustering their branch networks and high-value credit services within metropolitan centers. Consequently, vast segments of the rural populace—specifically smallholder farmers, pastoralists, women, and low-income households—remain structurally disenfranchised from the formal banking sector (Demirgüç-Kunt et al., 2022; NBE, 2025). This urban-rural financial divide severely restricts grassroots access to affordable savings mechanisms, formal credit lines, and secure payment infrastructures, thereby trapping vulnerable populations in informal, high-risk financial cycles.

To mitigate these deep-seated structural disparities, the Ethiopian government has strategically promoted Savings and Credit Cooperative Societies (SACCOs) as primary, community-based financial intermediaries capable of mobilizing grassroots capital and extending formal outreach to marginalized demographics (International Fund for Agricultural Development [IFAD], 2024; World Bank, 2025). National administrative audits confirm that cooperative financial networks far outnumber commercial bank branches in agrarian districts, underscoring their unique comparative advantage in geographic proximity, socio-cultural alignment, and localized trust (Federal Cooperative Commission [FCC], 2024). This extensive operational footprint directly aligns with the revised directives of Ethiopia's National Financial Inclusion Strategy (NFIS), which explicitly designates cooperative financial structures as critical vehicles for transforming the rural economic landscape (NBE, 2025).

However, the operational reality of SACCOs across Ethiopia presents a stark paradox characterized by highly fragmented and volatile institutional performance. While a select cohort of urban and well-capitalized cooperatives demonstrate robust growth in asset accumulation, membership density, and savings mobilization, a significant portion faces

operational paralysis and imminent financial instability (FCC, 2025; World Council of Credit Unions [WOCCU], 2024). Recent empirical evaluations reveal that rural SACCOs (RuSACCOs) are severely constrained by escalating non-performing loan (NPL) ratios, chronic liquidity mismatches, fragile internal control frameworks, and compromised governance structures (Assefa & Mekonnen, 2024; Gebrehiwet, 2023). These compounding vulnerabilities undermine the financial self-sufficiency of cooperatives, eroding member trust and severely curtailing their capacity to fulfill the credit demands of rural communities.

Compounding these institutional challenges is a profound empirical gap in the localized literature. Global cooperative scholarship establishes that financial sustainability is directly contingent upon institutional characteristics such as internal governance quality, management talent, capital adequacy ratios, and membership homogeneity (McKillop et al., 2020; WOCCU, 2024). In the Ethiopian context, however, there is a distinct lack of systematic empirical evidence linking specific SACCO structural determinants—such as board composition, internal audit efficacy, member asset size, and digital financial service (DFS) integration—to definitive performance metrics like portfolio quality, operational self-sufficiency, and depth of outreach (NBE, 2025; FCC, 2025). This oversight is particularly acute for RuSACCOs, which operate under severe infrastructural deficits, including a lack of professionalized management, manual accounting systems, and poor digital connectivity (IFAD, 2024).

Furthermore, the accelerating push toward digitalization presents a critical, unexamined frontier. While global evidence demonstrates that fintech adoption lowers transaction costs, increases financial transparency, and enhances outreach depth (Demirgüç-Kunt et al., 2022; World Bank, 2025), the precise operational and financial nexus between digital adoption and SACCO performance within Ethiopia's unique regulatory and technological framework remains largely unmapped (Bekele & Tekle, 2026; NBE, 2025). Moreover, despite explicit policy assertions framing SACCOs as instruments for socioeconomic transformation, comprehensive, data-driven assessments regarding their actual efficacy in driving micro-level outcomes—such as female economic empowerment, household asset smoothing, and climate-resilient agriculture—are conspicuously absent from the contemporary literature (IFAD, 2024; Tadesse & Hailu, 2025).

Consequently, the core problem this study addresses is the persistent lack of comprehensive empirical knowledge regarding how heterogeneous SACCO characteristics—specifically

governance quality, institutional capacity, financial management structures, and digital technology adoption—impact both internal institutional sustainability and external financial inclusion efficacy in Ethiopia. Without rigorously diagnosing these internal and external dynamics, cooperative sector reforms will remain poorly targeted. Addressing this knowledge gap is critically essential to inform evidence-based policy design, optimize cooperative financial performance, and ensure that SACCOs effectively transition from fragile community entities into resilient, strategic anchors of Ethiopia’s national financial inclusion agenda.

1.3 Research Questions

The study addresses the following research questions:

- What are the major roles played by RUSACCOs in promoting financial inclusion?
- How RUSACCOs play their financial inclusion?
- How can support for RUSACCOs excel in financial inclusion in Hulbareg woreda?

1.4 Objectives of the Study

1.4.1 General objective

The general objective of this study is to assess the role of Rural Saving and Credit Cooperatives (RUSACCOs) in promoting financial inclusion among rural households in Hulbareg Woreda.

1.4.2 Specific Objectives

- To analyze the role of RUSACCO in providing saving and credit services in Hulbareg Woreda.
- To examine the accessibility of RUSACCO services for rural dwellers in Hulbareg Woreda.
- To assess the contribution of RUSACCOs in reducing barriers to financial inclusion among rural communities in Hulbareg Woreda.

1.5 Hypothesis of the Study

H1: Rural Saving and Credit Cooperatives (RSCCs) have a positive role for financial inclusion of Hulbareg Woreda.

HO: Null Hypothesis: Rural Saving and Credit Cooperatives (RSCCs) do not have a positive impact on the financial inclusion of rural communities.

1.6 Significance of the Study

The study contributes to ongoing efforts to understand how community-based financial institutions can advance the Government of Ethiopia's financial inclusion agenda. The findings are directly relevant to policymakers, cooperative promotion offices, development partners, and donor agencies seeking evidence-based strategies to expand financial access among underserved rural communities.

For academic researchers and development practitioners, the study adds to the growing body of evidence on cooperative financial institutions in sub-Saharan Africa and provides a foundation for comparative analysis across different regional and institutional contexts.

1.7 Scope of the Study

This study focuses on the role of RUSACCOs in promoting financial inclusion through saving and credit services in Hulbareg Woreda. The study specifically examines the accessibility of RUSACCO services, their contribution to reducing financial exclusion, and the factors influencing financial inclusion among rural communities. The study is limited to saving and credit cooperatives established under the government cooperative office and primarily engaged in providing financial services to their members. Although the findings may provide useful insights for similar rural settings, the study mainly reflects the conditions of Hulbareg Woreda.

1.8 Limitations of the Study

The study faced several limitations during the research process. Collecting comprehensive primary data from all relevant stakeholders at different administrative levels was difficult due to time and budget constraints. As a result, the research was geographically limited to Hulbareg Woreda, and the findings may not fully represent the situation of RUSACCOs at the national level. In addition, some respondents were reluctant to provide detailed financial information, which may have affected the depth of the data collected. Despite these limitations, the researcher attempted to ensure the reliability of the study by using representative samples and appropriate data collection methods.

1.9 Organization of the Study

This research is organized into five chapters. The first chapter presents the introduction, including the background of the study, statement of the problem, objectives, research questions, scope, limitations, and significance of the study. The second chapter reviews related theoretical and empirical literature concerning the role of saving and credit cooperatives in promoting financial inclusion. The third chapter describes the research design and methodology employed in the study, including sources of data, sampling techniques, methods of data collection, and data analysis procedures. The fourth chapter focuses on data presentation, analysis, and interpretation of the findings. Finally, the fifth chapter presents the summary of findings, conclusions, and policy recommendations of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Basic Concepts of Financial Inclusion

Financial inclusion refers to the capacity of individuals and enterprises to access and meaningfully use a range of suitable, affordable, and responsibly delivered financial products and services — including savings, credit, payments, and insurance (Demirgüç-Kunt et al., 2022; World Bank, 2022). Contemporary definitions have moved beyond a narrow focus on account ownership toward a broader concern with actual usage, product quality, consumer protection, and the financial viability of service providers (World Bank, 2022).

The World Bank defines financial inclusion as an important driver of poverty reduction, economic resilience, and shared prosperity, and its catalytic role in the achievement of the Sustainable Development Goals (SDGs) (World Bank, 2022). Evidence from the Global Findex 2021 shows that access to savings and digital payments has a profound impact on the ability of households to cope with shocks and invest in productive activities (Demirgüç-Kunt et al., 2022).

In rural economies, financial inclusion is especially important for smallholder farmers and informal sector workers who are often constrained by liquidity and susceptibility to income volatility (International Fund for Agricultural Development [IFAD], 2022). IFAD argues that inclusive financial services provide development opportunities for investment in agriculture, value chain integration, and improving household resilience (IFAD, 2022).

Financial inclusion is a national priority in Ethiopia. The National Financial Inclusion Strategy of the National Bank of Ethiopia has identified limited rural access, low savings penetration, and gender gaps as key structural issues (NBE, 2023). The strategy clearly identifies cooperative financial institutions, including SACCOs, as key instruments in improving access to savings and credit in rural areas (NBE, 2023).

2.1.2 Basic Concepts of Saving and Credit Cooperatives

The cooperative movement has its roots in nineteenth-century Europe as a response to financial exclusion faced by workers and small producers (Birchall, 2018). The early savings and credit cooperatives in Germany, especially those founded by Friedrich Raiffeisen, proved the concept of financial intermediation at the community level based on mutual responsibility and solidarity (Birchall, 2018).

The International Co-operative Alliance describes a cooperative as “an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise” (International Co-operative Alliance [ICA], 2023). This definition highlights the importance of cooperative principles such as voluntarism, democratic member control, economic participation and control, autonomy, and concern for community.

The cooperative enterprise is based on values of self-help, self-responsibility, democracy, equality, equity, and solidarity (ICA, 2023). These principles distinguish cooperatives from investor-owned businesses, in which the interests of members are given priority over capital returns (Birchall, 2018).

Financial cooperatives can be organized as primary societies or as higher-order structures such as unions, federations, and apex organizations (Cuevas & Fischer, 2006). In the financial sector, savings and credit cooperatives, also known as credit unions, are member-owned financial intermediaries that mobilize deposits and provide credit to a well-defined membership (McKillop & Wilson, 2015).

In contrast to commercial banks, cooperative financial institutions are collectively owned and democratically controlled, and they allocate surplus funds to members instead of stockholders outside the organization (McKillop & Wilson, 2015). This organizational form promotes member trust and local accountability, which are important factors in determining financial sustainability (Cuevas & Fischer, 2006).

2.1.3 Features and Role of Saving and Credit Cooperatives

Saving and Credit Cooperative Societies (SACCOs) are member-owned financial institutions that pool savings and deliver credit services exclusively or mainly to their members (World

Council of Credit Unions [WOCCU], 2022). Members usually operate as both savers and borrowers, hence promoting self-sustaining capital development and financial recirculation at the grassroots level (McKillop & Wilson, 2015).

One of the key features of SACCOs is their democratic management structure, which is guided by the “one member, one vote” rule, thus promoting equal membership participation irrespective of the amount of capital invested (ICA, 2023). This management framework enhances accountability and promotes sound financial management practices, especially when properly applied (Birchall, 2018).

SACCOs are run on a non-profit but member-profit-making basis. After meeting all expenses, statutory reserves, and provisions for risks, any surplus is shared with members in the form of dividends or reinvested to develop more services (WOCCU, 2022). This approach supports financial sustainability while keeping credit accessible to members (Cuevas & Fischer, 2006).

For developing countries, SACCOs are generally regarded as semi-formal financial institutions that fill the gap between savings groups and formalized banking structures (World Bank, 2022). SACCOs are close to their members and draw on social capital, enabling cooperatives to reach communities that commercial lenders have not served (IFAD, 2022).

In Ethiopia, SACCOs are at the forefront of rural financial intermediation. According to the Federal Cooperative Agency, financial cooperatives far outnumber commercial bank branches in rural areas, making them the key entry point for smallholder farmers and low-income households into the formal financial sector (Federal Cooperative Agency [FCA], 2023). This outreach effort directly helps to achieve national financial inclusion goals (NBE, 2023).

Empirical research shows that SACCO membership leads to better savings practices, improved access to productive loans, and micro-enterprise development (Sebhatu, 2015; IFAD, 2022). However, performance varies widely by region. Recent research identifies governance challenges, liquidity problems, and a lack of digitalization as key sustainability bottlenecks for SACCOs in rural areas (FCA, 2023; Gebrehiwet, 2023).

Internationally, digital financial services are increasingly seen as factors that can enhance the performance of cooperative organizations by lowering transaction costs and increasing transparency (Demirgüç-Kunt et al., 2022). However, in Ethiopia, the impact of digitalization on SACCO outreach, portfolio quality, and efficiency remains an uncharted research area (NBE, 2023).

In summary, SACCOs hold structural advantages rooted in democratic ownership, community embeddedness, and member-driven capitalisation that position them as important drivers of inclusive financial development. Whether these advantages translate into sustained performance depends substantially on institutional capacity, governance quality, and a supportive regulatory environment.

2.2 Types of SACCOs

According to Bwana and Mwakujonga (2013), there are various kinds of SACCOs, depending on the membership profile and services extended to the SACCO members differ accordingly. In essence, there are three broad groups of SACCOs:

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

2.3 Principles of SACCOs

As stated by NRECA (2016), cooperatives around the world operate according to the same set of core principles and values, adopted by the International Co-operative Alliance. Cooperatives trace the roots of those principles to the primary modern cooperative founded

in Rochdale, England in 1844.

Cooperative Principles

I. Open and Voluntary Membership

Membership in a cooperative is open to all persons who can reasonably use its services and who are willing to accept the responsibilities of membership, without gender, social, racial, political, or religious discrimination.

II. Democratic Member Control

Cooperatives are democratic organisations controlled by their members, who actively participate in setting policies and making decisions. Representatives elected by the membership are accountable to the membership. In primary cooperatives, all members have equal voting rights on the basis of one member, one vote.

III. Members' Economic Participation

Members contribute equitably to, and democratically control, the capital of their cooperative. At least a portion of that capital is retained as common property. Any surplus is allocated for purposes determined by the membership, which may include developing the cooperative, establishing reserves, providing benefits proportional to transactions, or supporting other approved activities.

IV. Autonomy and Independence

Cooperatives are autonomous, self-help organisations controlled by their members. Where they enter into agreements with other organisations or raise capital from external sources, they do so on terms that preserve democratic control and their cooperative identity.

V. Education, Training, and Information

Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to cooperative development. They also inform the general public — particularly young people and opinion leaders — about the nature and benefits of cooperation.

VI. Cooperation among Cooperatives

Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional, and international structures.

VII. Concern for Community

Cooperatives work for the sustainable development of their communities through policies approved by and accountable to their members.

2.4 Cooperative Movement in Ethiopia

2.4.1 Indigenous Cooperative Traditions

Ethiopia has a history of people working together. This is called cooperation. It started a time ago before modern cooperative institutions. People in the community would share what they had help each other when things were tough and support each other in times of need. There are two institutions in Ethiopia that do this. They are called Iqub and Idir. Iqub is like a savings club. People put in money each time and then they take turns getting the money back. This way people can get a lot of money at once without having to go to a bank. Idir is like a safety net. It helps people when someone dies or when there is an emergency. It gives them money and also emotional support.

In the countryside people also work together to do jobs. They do things like plant crops, harvest and build houses. This is called labor-sharing. It helps people get things done that they could not do by themselves. These traditions show that people in Ethiopia have always helped each other. This is what cooperative movement is about. Some scholars say that these old institutions helped create the cooperatives in Ethiopia.

2.4.2 Emergence of Modern Cooperatives (1961–1974)

The modern cooperative movement in Ethiopia started in the 1960s. The government made a law to help create cooperatives. This was called Cooperative Societies Decree No. 44/1961. It was meant to help farmers and people in the countryside. Later the government made another law called Cooperative Societies Proclamation No. 241/1966. This law helped cooperatives by giving them a structure.

During this time most cooperatives were about farming. They wanted to help people use their land better grow crops and save money.. Some research shows that these cooperatives mostly helped rich farmers. This is because you had to own land to be a part of the cooperative. So people who did not own land like farmers could not join. This meant that the cooperatives did not help the people who needed it the most.

2.4.3 Cooperatives under the Socialist Regime (1974–1991)

After the Ethiopian Revolution in 1974 the new government changed the cooperatives. They wanted cooperatives to help with the governments development plans and farming policies. The government made a law called Cooperative Societies Proclamation No. 138/1978. This law encouraged people to form cooperatives and work together.

Many cooperatives were created, in the countryside.. People were often forced to join and the government controlled what the cooperatives did. This meant that the cooperatives were not really in charge of themselves. They were like tools for the government. This made it hard for the cooperatives to survive when the government changed and Ethiopia started to have a market-based economy.

2.4.4 Market-Oriented Cooperative Reforms (1991–Present)

After 1991 Ethiopia changed its system to be more market-based. This changed the sector a lot. New laws were made, like Cooperative Societies Proclamation No. 147/1998 And later Proclamation No. 402/2004. Proclamation No. 985/2016. These laws followed cooperative principles, such as people being able to choose to join and having a say in how the cooperative is run.

A new structure was made for cooperatives with levels like primary cooperatives, unions, federations and leagues. This was to help cooperatives work together and be stronger. The Federal Cooperative Commission was also created to help cooperatives and make sure they followed the rules.

2.4.5 Growth of Savings and Credit Cooperatives (SACCOs)

Savings and Credit Cooperative Societies or SACCOs are very important in Ethiopia. They help people save money and get loans in areas where banks are not available.

There are over 23,600 SACCOs in Ethiopia with about 8.3 million members. Almost half of these members are women. Most SACCOs are in areas and they help people with everyday expenses, farming and small businesses.

Some SACCOs focus on helping people. For example the 2024 Kefeta Youth SACCO has over 7,800 members and has collected almost 60 million birr in savings. This shows that SACCOs can help solve problems like unemployment and lack of access to money, for people.

However SACCOs face some challenges. They need management, stronger leadership and more financial knowledge. They also need to use technologies more. If they can do these things SACCOs can. Compete with other financial institutions.

2.5 Empirical Literature Review and Research Gaps

2.5.1 Determinants of Financial Inclusion through SACCOs

Empirical studies consistently demonstrate that Savings and Credit Cooperatives (SACCOs) play a significant role in expanding access to financial services among underserved populations. Recent evidence indicates that access to savings products, credit facilities, financial literacy programs, and institutional trust are among the most important determinants of financial inclusion. According to the World Bank (2022), individuals who actively participate in community-based financial institutions are more likely to save formally, access credit, and utilize other financial services compared to non-members. Similarly, studies conducted in Ethiopia and other African countries have found that member participation, governance quality, financial literacy, and institutional capacity significantly influence SACCO performance and outreach (Ergano et al., 2023; Wanyama, 2024). Furthermore, demographic characteristics such as age, education, income level, and occupation have been shown to affect the utilization of cooperative financial services and inclusion outcomes.

2.5.2 Barriers to Financial Access in Developing Country Settings

Despite notable progress in expanding financial services, financial exclusion remains a major development challenge in many low- and middle-income countries. According to the Global Findex Database, approximately 24 percent of adults worldwide remained unbanked in 2021, with the highest concentration found in rural areas of Sub-Saharan Africa and South Asia (World Bank, 2022). Demand-side barriers include low income, inadequate financial literacy,

limited awareness of financial products, and cultural constraints. Supply-side barriers include high transaction costs, insufficient branch networks, collateral requirements, and limited availability of products tailored to the needs of rural households (Demirgüç-Kunt et al., 2022). In Ethiopia, these barriers are further exacerbated by geographic dispersion, weak infrastructure, and limited digital financial service penetration in remote areas, resulting in persistent financial exclusion among rural populations (National Bank of Ethiopia, 2021).

2.5.3 Institutional Challenges Facing Cooperative Financial Institutions

Although SACCOs have demonstrated considerable potential in promoting financial inclusion, their effectiveness is often constrained by institutional challenges. Previous studies have identified weak governance systems, inadequate managerial capacity, limited capitalization, poor record-keeping practices, and insufficient technological integration as key barriers affecting cooperative performance (Mwakajumilo, 2011; Wanyama, 2024). In Ethiopia, Rural Savings and Credit Cooperatives (RUSACCOs) continue to face operational challenges related to loan recovery, financial management, internal control systems, and member participation. These challenges can negatively affect sustainability, outreach, and the ability of cooperatives to meet the financial needs of their members. Recent studies also emphasize that limited adoption of digital financial technologies may reduce the competitiveness and efficiency of cooperative financial institutions in an increasingly digital financial environment (ILO, 2023).

2.5.4 Unequal Distribution of Financial Access

Access to financial services remains unevenly distributed across demographic and socioeconomic groups. Evidence from developing countries suggests that women, rural residents, low-income households, and individuals with limited educational attainment are more likely to experience financial exclusion (Demirgüç-Kunt et al., 2022). The Global Findex 2021 report revealed that a substantial gender gap persists in account ownership and formal financial service utilization in many developing economies (World Bank, 2022). In rural Ethiopia, access disparities are influenced by distance to service providers, limited financial literacy, inadequate collateral, and socio-cultural factors that restrict participation in formal financial systems. Consequently, many households continue to rely on informal savings groups, rotating credit associations, and family networks to meet their financial needs.

2.5.5 Research Gaps and Study Rationale

The existing literature provides substantial evidence regarding the contribution of SACCOs to savings mobilization, credit provision, poverty reduction, and rural development. However, several important gaps remain. First, many previous studies have focused primarily on institutional performance and governance issues while giving limited attention to the broader concept of financial inclusion and its determinants among SACCO members. Second, empirical evidence examining the combined effects of demographic characteristics, income factors, financial literacy, service utilization, institutional trust, and socio-cultural influences on financial inclusion remains limited, particularly in the Ethiopian context.

Third, although Ethiopia has made significant progress in implementing its National Financial Inclusion Strategy (2021–2025), there is insufficient empirical evidence assessing the extent to which RUSACCOs contribute to achieving financial inclusion objectives at the grassroots level. Furthermore, recent developments in digital finance and financial technology have created new opportunities and challenges for cooperative financial institutions, yet little research has examined how these changes affect financial inclusion outcomes among rural cooperative members.

The motivation for the present study therefore stems from the need to address these empirical and contextual gaps. Specifically, the study seeks to evaluate the role of RUSACCOs in promoting financial inclusion and to identify the demographic, economic, institutional, behavioral, and socio-cultural factors that influence financial inclusion among members in Hulbareg Woreda. By generating evidence from a rural Ethiopian setting, the study contributes to the growing body of literature on cooperative finance and provides practical insights for policymakers, cooperative promotion agencies, and development partners seeking to strengthen financial inclusion through cooperative-based financial institutions.

2.6 Description of Framework Variables and Interactions

The conceptual framework of this study is anchored in two complementary theoretical perspectives: Financial Inclusion Theory and Financial Intermediation Theory. Financial Inclusion Theory posits that individuals' access to and usage of formal financial services are influenced by a combination of demographic, socioeconomic, institutional, and behavioral factors that either facilitate or constrain participation in the financial system (Demirgüç-Kunt et al., 2022; Ozili, 2021). Financial Intermediation Theory, on the other hand, explains how

financial institutions mobilize savings, allocate credit, reduce transaction costs, and overcome information asymmetries to improve access to financial services and economic opportunities (Diamond, 1984; Dirse & Japee, 2025). Together, these theories provide a comprehensive framework for understanding how Rural Savings and Credit Cooperatives (RUSACCOs) contribute to financial inclusion among rural households.

Within the context of this study, financial inclusion is viewed as the outcome of interactions between individual characteristics, economic capacity, institutional service delivery, financial behavior, and socio-cultural influences. Recent evidence from the Global Findex Database indicates that financial inclusion significantly improves household resilience, facilitates productive investment, enhances savings mobilization, and promotes poverty reduction, particularly among rural and low-income populations (Demirgüç-Kunt et al., 2022). In Ethiopia, where access to formal banking services remains unevenly distributed across rural and urban areas, RUSACCOs have emerged as critical financial intermediaries capable of extending financial services to underserved communities (National Bank of Ethiopia, 2021; Mossie, 2023).

2.6.1 Dependent Variable: Financial Inclusion

The dependent variable of this study is financial inclusion. Financial inclusion refers to the access to and effective utilization of affordable, appropriate, and sustainable financial services by individuals and households. The concept extends beyond mere access and includes active usage of financial products such as savings accounts, loans, payment services, insurance, and financial education opportunities (World Bank, 2022). In the context of this study, financial inclusion is measured through respondents' participation in and utilization of financial services provided by RUSACCOs.

Financial inclusion is expected to improve household economic welfare by enabling members to mobilize savings, access affordable credit, invest in income-generating activities, smooth consumption, and cope with financial shocks. Consequently, understanding the determinants of financial inclusion is essential for designing interventions aimed at improving financial access among rural populations.

2.6.2 Demographic Variables

Financial Inclusion Theory emphasizes that demographic characteristics shape financial behavior and influence participation in formal financial institutions. Gender, age, marital

status, and educational attainment are therefore included as explanatory variables within the framework.

Gender: remains one of the most widely studied determinants of financial inclusion. Evidence from developing countries suggests that women continue to face greater barriers to accessing financial services due to lower income levels, limited asset ownership, and socio-cultural constraints (Demirgüç-Kunt et al., 2022). Age is also expected to influence financial inclusion because older individuals typically possess greater financial experience, stronger social networks, and more stable income-generating activities, all of which facilitate participation in financial institutions (Allen et al., 2016).

Education: is particularly important because it improves financial literacy, enhances understanding of financial products, and increases the ability to make informed financial decisions. Recent Ethiopian studies have shown that educational attainment significantly improves participation in formal financial systems and increases the likelihood of utilizing cooperative financial services (Giday, 2023; Hussen & Mohamed, 2023). Similarly, marital status may influence financial inclusion through household responsibilities, economic obligations, and decision-making dynamics.

Age: is another important determinant of financial inclusion. Older individuals generally possess greater life experience, social networks, and financial knowledge, which may increase their likelihood of participating in savings and credit activities. Previous studies suggest that age positively influences financial service utilization because older individuals tend to have more stable income sources and greater financial responsibilities (Allen et al., 2016).

Marital Status: may affect financial inclusion through household structure and economic responsibilities. Married individuals often face greater financial obligations and may therefore be more inclined to participate in financial institutions to access savings and credit services. Additionally, household decision-making dynamics may influence participation in cooperative activities.

Education Level: plays a crucial role in financial inclusion because education enhances financial literacy, information processing abilities, and awareness of available financial products and services. Individuals with higher educational attainment are generally better

equipped to evaluate financial opportunities, understand loan conditions, and manage financial resources effectively (Demirgüç-Kunt et al., 2022).

2.6.3 Socioeconomic Variables

Socioeconomic variables represent an individual's financial capacity and ability to participate in formal financial markets. Financial Inclusion Theory suggests that individuals with higher and more stable incomes are more likely to access and utilize financial services because they possess greater capacity to save, borrow, and repay loans.

Source of Income: influences financial inclusion because stable and diversified income sources increase an individual's ability to save regularly and qualify for credit. Households engaged in multiple income-generating activities often possess greater financial flexibility and are more likely to participate in cooperative financial institutions.

Income Level: affects both the demand for and utilization of financial services. Higher-income households typically have greater capacity to save, invest, and repay loans, making them more attractive clients for financial institutions. Conversely, low-income households may face challenges in maintaining regular savings and meeting credit requirements (World Bank, 2022).

2.6.4 Institutional Variables

Financial Intermediation Theory provides the primary explanation for the institutional variables included in this study. According to the theory, financial intermediaries improve financial access by mobilizing savings, allocating credit, reducing transaction costs, and providing information that reduces market imperfections (Diamond, 1984).

Access to Financial Services: reflects the availability, affordability, and convenience of financial services. Greater access reduces transaction costs and encourages participation in formal financial systems. The National Bank of Ethiopia (2021) identifies physical and economic access as fundamental pillars of financial inclusion.

Increase Access to Loan: represents the ability of members to obtain affordable and timely credit from RUSACCOs. Access to credit enables households to finance agricultural production, small businesses, education, and emergency expenditures. Numerous studies

identify credit access as one of the most important mechanisms through which cooperatives contribute to poverty reduction and financial inclusion (Wanyama, 2024).

Deposit and Withdrawal Services: facilitate financial transactions and encourage active participation in formal financial systems. Regular use of these services promotes savings mobilization, financial discipline, and continuous engagement with cooperative institutions (World Council of Credit Unions, 2023).

Financial Literacy Programs: enhance members' understanding of financial concepts, savings practices, loan management, and investment decisions. Financial literacy is widely recognized as a key determinant of financial inclusion because informed individuals are more likely to utilize financial services effectively (OECD, 2023).

Advisory and Guidance Services: provide members with technical support and information regarding financial management, business planning, and cooperative participation. Such services improve decision-making and encourage greater utilization of available financial products.

2.6.5 Behavioral Variables

Behavioural factors represent individual financial practices and attitudes that influence participation in financial systems. Financial Inclusion Theory recognizes that access alone does not guarantee utilization; rather, individuals must possess the motivation, confidence, and skills required to engage with financial institutions effectively.

Saving Habit: is considered one of the strongest predictors of financial inclusion. Individuals who regularly save are more likely to establish relationships with financial institutions and utilize additional financial products such as loans and insurance services (World Bank, 2022).

Trust in RUSACCOs: is fundamental to cooperative success. Cooperative financial institutions rely heavily on member confidence and collective participation. Higher levels of trust encourage greater savings mobilization, loan uptake, and long-term commitment to cooperative activities (Birchall, 2013).

Level of Financial Skill: refers to the practical ability of individuals to budget, plan expenditures, manage debt, and evaluate financial alternatives. Financial skills complement

financial literacy and contribute significantly to effective utilization of financial services (OECD, 2023).

2.6.6 Socio-Cultural Variables

Religion: influence attitudes toward savings, borrowing, investment, and participation in collective organizations. Cultural norms and religious beliefs may either encourage or discourage engagement with financial institutions. In many rural communities, social norms play a significant role in shaping financial behavior and service utilization patterns (Beck et al., 2009).

2.6.7 Interaction among Variables

The framework assumes that financial inclusion is not determined by a single factor but rather by the interaction of multiple variables. Demographic characteristics influence financial inclusion directly and indirectly through socioeconomic and behavioral channels. For example, higher educational attainment may improve financial literacy and financial skills, which subsequently increase the likelihood of utilizing savings and credit services.

Similarly, income level may strengthen saving habits and improve access to credit, leading to higher levels of financial inclusion. Institutional factors such as loan access, deposit services, financial literacy programs, and advisory support are expected to exert direct positive effects on financial inclusion. Behavioral factors, particularly trust and saving habits, may reinforce the effectiveness of institutional services by encouraging active participation and long-term engagement with RUSACCOs.

Socio-cultural factors are expected to moderate these relationships by influencing individual attitudes and willingness to participate in cooperative activities. Consequently, the framework proposes that financial inclusion among RUSACCO members results from the dynamic interaction of demographic, socioeconomic, institutional, behavioral, and socio-cultural factors. Understanding these interactions provides a comprehensive basis for assessing the contribution of RUSACCOs to financial inclusion and identifying policy interventions that can enhance their effectiveness in rural Ethiopia.

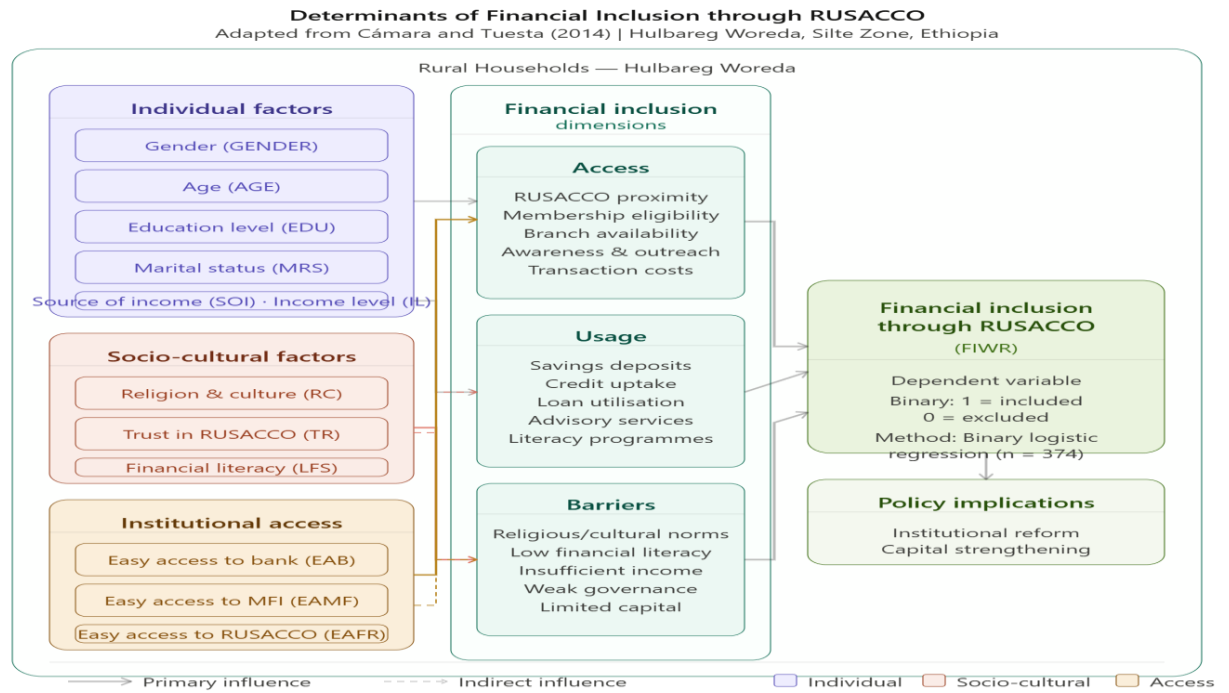


Figure 1: Conceptual frame work

Source: Own compilation based on theoretical and empirical literature review (2025).

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Description of the Study Area

Hulbareg Woreda is one of the ten woredas in Silte Zone, covering a total area of 335.556 km². The woreda was established in 1998 E.C. and is situated 15 km to the south-west of Worabe town, 143.2 km to the north-west of Hawassa City, and approximately 188 km from Addis Ababa. It is bordered to the north by Alichu and Silti woredas, to the north-east by Worabe, to the east by Dalocha Woreda, to the south-west by Hadiya Zone, and to the south-east by Misrak Azernet Berbere Woreda. Natural boundaries include Achengero Mountain to the north, Anbericho Mountain to the south, Agam Mountain to the east, and Kalkal Mountain to the west. The absolute location of the woreda is 7°45'42" to 8°05'11" North latitude and 38°46'41" to 39°07'12" East longitude. The woreda comprises 11 kebeles, with Kerate serving as the woreda capital, located along the main Addis Ababa-Hossana road (WoFED, 2016 E.C.).

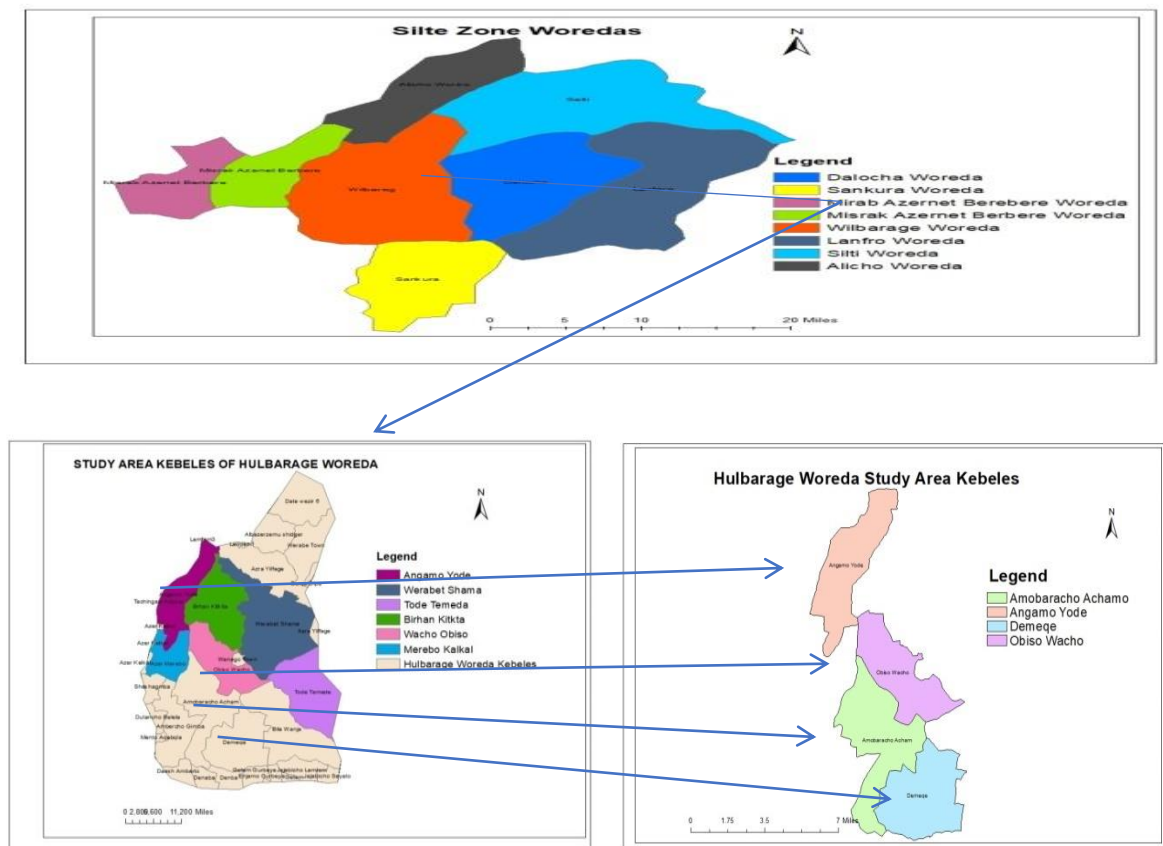


Figure 2: Administrative Map of Hulbareg Woreda

3.2 Population Characteristics

The total population of Hulbareg Woreda — combining rural and urban residents — is estimated at 119,258, of whom 48 per cent are male and 52 per cent are female. Rural dwellers constitute 95.76 per cent of the population, with the remaining 4.24 per cent living in urban areas. In terms of age structure, persons aged between 0 and 14 years and those aged 65 years and above together account for 50.7 per cent of the total population, indicating a predominantly young dependency structure (WoFED, 2017 E.C.).

The dominant livelihood system in the woreda is mixed crop-livestock farming. Livestock plays a central role both as a source of household income and as a productive input, providing traction power for land preparation, threshing, and transportation, as well as manure for soil fertilisation. Crop production complements livestock farming through the provision of feed in the form of crop residues and stalks, while livestock manure is an important source of household energy and can generate additional income for farmers living near the town.

According to the 2016 annual report from the woreda livestock work process, the total livestock population during the 2015/2016 E.C. production year was estimated at 461,310. The land use pattern of the woreda is presented in Table 1.

Table 1: Land Use Pattern of Hulbareg Woreda

S.No	Land Use	Hectare	Percentage (%)
1	Cultivable	2,119	6.6
2	Cultivated	19,574	61.07
3	Grazing	5,500	17.16
4	Residential	4,862	15.17
	Total	32,055	100.00

Source: Hulbareg WOFED (2017 E.C.)

3.3 Livestock Population

Table 2 presents the livestock composition of Hulbareg Woreda for the 2016 E.C. production year. The total livestock population was estimated at 97,855, with poultry constituting the largest share at 61.33 per cent. Oxen represent the primary source of traction power in the

woreda, and cattle ownership is generally prioritised by farmers relative to other livestock categories.

Table 2: Livestock Population of Hulsebereg Woreda (2016 E.C.)

S.No	Type of Livestock	Number	% of Total
1	Cattle	13,700	13.99%
2	Sheep	6,700	6.85%
3	Goats	7,950	8.12%
4	Equine	9,505	9.71%
5	Poultry	60,000	61.33%
	Total	97,855	100%

Source: Hulsebereg Woreda Agriculture Office, Livestock Work Process Report (June 2017 E.C.)

3.4 Financial Institutions in Hulsebereg Woreda

Access to formal financial services in Hulsebereg Woreda is limited. The woreda is served by two commercial banks — the Commercial Bank of Ethiopia and Wegagen Bank — as well as one microfinance institution. In addition, 12 Rural Saving and Credit Cooperative Societies (RUSACCOs) operate at the kebele level, representing the most geographically accessible financial institutions for the majority of the rural population.

3.4.1 Rural Cooperatives

Table 3 presents the number, membership, and capital of the various types of cooperatives operating in the rural areas of Hulsebereg Woreda as of 2017 E.C. RUSACCOs recorded 3,927 total members with a combined capital of ETB 1,353,791, making them the most community-embedded financial cooperative type in the woreda. Female membership (2,413) exceeded male membership (1,514) across the RUSACCO category, a pattern consistent with women's higher participation in cooperative savings activities in the study area.

Table 3: Number, Membership, and Capital of Cooperatives in Hulbareg Woreda (2017 E.C.)

No.	Type of Cooperative	No.	Male	Female	Total	Capital (ETB)
1	Multipurpose Farmers' Cooperatives	10	8,187	3,200	11,387	2,358,733.34
2	Rural Saving and Credit Cooperatives	12	1,514	2,413	3,927	1,353,791.00
3	Housing Cooperatives	31	355	79	434	7,591,371.00
4	Crop Development Cooperatives	24	279	41	320	317,979.27
5	Shoat Fattening Cooperatives	6	77	48	125	101,265.00
6	Irrigation Cooperatives	8	58	40	98	126,455.00
7	Beekeeping Cooperatives	10	71	22	93	1,250,000.00

Source: Hulbareg Woreda Cooperative Office Report (June 2017 E.C.)

3.4.2 RUSACCO Institutional Performance Trends (2011–2017 E.C.)

The growth of RUSACCOs in Hulbareg Woreda in terms of membership, savings mobilisation, and loan disbursement is presented in figures 2, 5, and 6.

Annual Growth of RUSACCO Membership (2011–2017 E.C.)

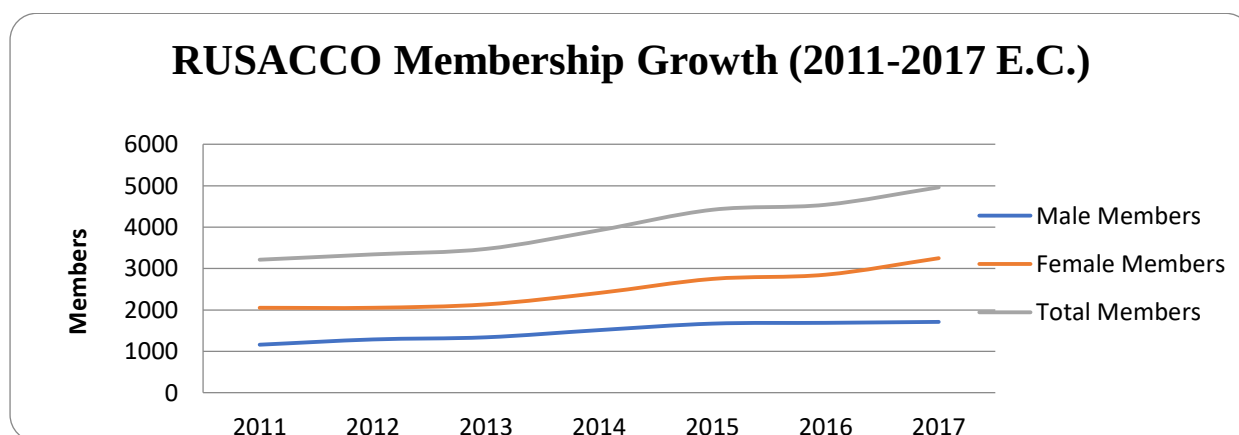


Figure 3: Annual Growth of RUSACCO Membership (2011–2017 E.C.)

Source: Self-compiled from Hulbareg Woreda Cooperative Promotion Office annual reports (2011–2017 E.C.)

Total membership grew steadily from 3,214 in 2011 E.C. to 4,962 in 2017 E.C. Female membership consistently exceeded male membership throughout the study period, reflecting women’s comparatively higher participation in cooperative financial services. Annual growth was moderate between 2011 and 2013 (approximately 4%), accelerated significantly in 2014 and 2015 (12.95% and 12.61% respectively), moderated in 2016 (2.74%), and recovered to 9.27% in 2017. The overall trend indicates sustained expansion in RUSACCO membership and growing community engagement with cooperative financial institutions.

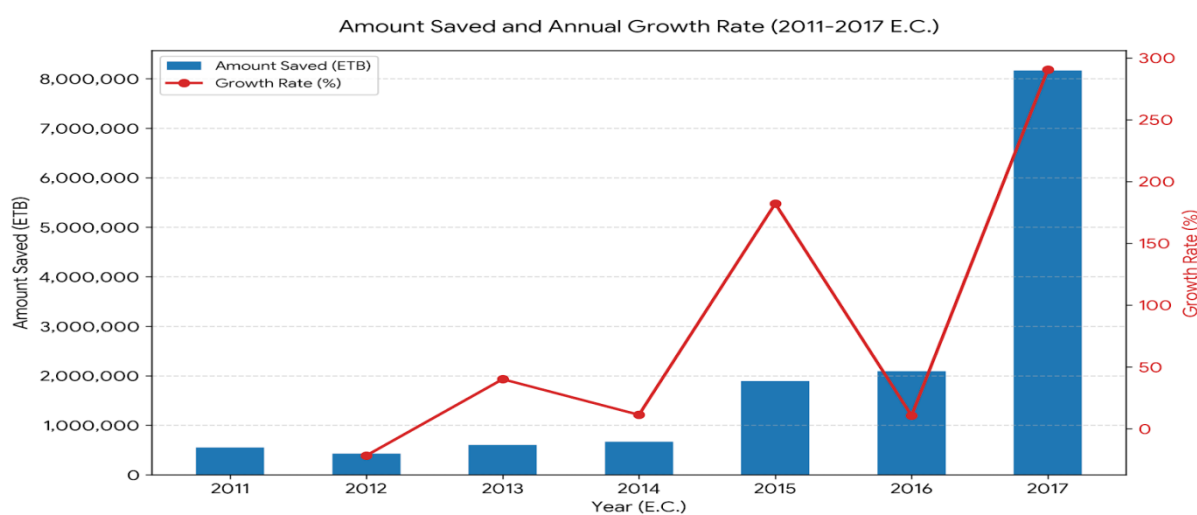


Figure 4: Annual Savings Mobilisation Trend (2011–2017 E.C.)

Source: Self-compiled from Hulbareg Woreda Cooperative Promotion Office annual reports (2011–2017 E.C.)

Savings mobilisation fluctuated in the early years of the study period, declining 21.70 per cent in 2012 before recovering 40.06 per cent in 2013 and growing a further 11.24 per cent in 2014. A substantial acceleration occurred in 2015, with savings rising 182.16 per cent, followed by moderate growth of 10.58 per cent in 2016. The most dramatic expansion was recorded in 2017, when savings increased by 290.50 per cent to reach ETB 8,162,910 — a clear indicator of deepening member engagement and growing institutional confidence in RUSACCO financial services.

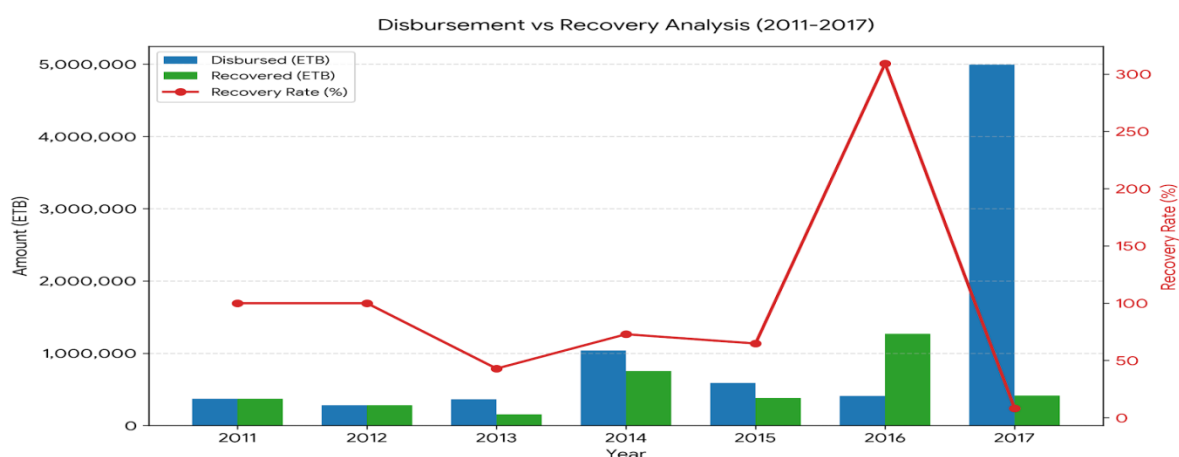


Figure 5: Loan Disbursement and Recovery Trend (2011–2017 E.C.)

* The 2016 recovery rate exceeded 100% because repayments included outstanding loans disbursed in prior years.

Source: Self-compiled from Hulbareg Woreda Cooperative Promotion Office annual reports (2011–2017 E.C.)

Loan disbursements expanded considerably over the study period, growing from ETB 369,870 in 2011 to ETB 4,995,000 in 2017. Recovery performance was strong in the early years, with 100 per cent recovery rates recorded in both 2011 and 2012. Performance then declined, reaching 42.9 per cent in 2013, before partially recovering to 72.9 per cent in 2014 and 64.8 per cent in 2015. The anomalously high recovery rate of 309.11 per cent in 2016 is explained by the repayment of prior-year outstanding loans during that period. The sharp decline in the loan recovery rate to 8.25 percent in 2017, despite the substantial increase in loan disbursement, indicates serious weaknesses in loan monitoring, follow-up mechanisms, and recovery enforcement practices, which require immediate institutional intervention.

3.5 Research Design

This study adopted an explanatory cross-sectional research design, combining quantitative survey methods with qualitative data collection techniques. The explanatory design was chosen because the study seeks not only to describe the characteristics of financial inclusion in the study area but also to identify and explain the causal relationships between individual-level factors and RUSACCO participation. Cross-sectional data were collected at a single point in time, allowing for analysis of the current state of financial inclusion and its determinants across the sample population.

A mixed-methods approach was employed to ensure triangulation of findings. Quantitative data from a structured household survey provided the basis for statistical and econometric analysis, while qualitative data from key informant interviews and focus group discussions offered contextual depth and institutional insight that the survey instrument alone could not capture.

3.6 Target Population and Sampling Strategy

The target population for this study comprised rural household heads residing in Hulbareg Woreda who are either current members or eligible non-members of RUSACCOs. The study employed a multi-stage sampling procedure that combined stratified random sampling, systematic random sampling, and purposive sampling to ensure a representative and analytically appropriate sample.

3.6.1 Sample Size Determination

The required sample size was determined using Cochran's (1977) formula for estimating a representative sample from a large population:

$$n_o = Z^2 \times p \times q / e^2 \dots\dots\dots (1)$$

Where:

- n_o = required sample size
- Z = critical value at the desired confidence level (1.96 at 95% confidence)
- p = estimated proportion of the attribute in the population (0.5, assuming maximum variability)
- $q = 1 - p = 0.5$
- e = desired level of precision ($\pm 5\%$, i.e., 0.05)

Substituting these values:

$$n_o = (1.96)^2 \times 0.5 \times 0.5 / (0.05)^2 = 384.16 \approx 385$$

A total of 385 questionnaires were distributed. Of these, 374 were properly completed and returned, representing a usable response rate of 97.1 per cent. The 11 incomplete or unreturned questionnaires were excluded from the analysis.

3.6.2 Multi-Stage Sampling Procedure

The sampling followed three sequential stages, each employing a different sampling technique appropriate to the unit of selection at that stage.

Stage 1: Stratified Random Sampling — Selection of Kebeles

In the first stage, the 11 kebeles of Hulbateg Woreda were stratified by their distance from the woreda administrative centre (Kerate town) into three strata: near (0–5 km), intermediate (5–10 km), and distant (more than 10 km). Stratified random sampling was applied so that each distance stratum was represented proportionally, thereby ensuring that geographic variation in RUSACCO accessibility was captured in the sample. Four kebeles were systematically selected from across the three strata, one from the near stratum, two from the intermediate stratum, and one from the distant stratum.

Stage 2: Systematic Random Sampling — Selection of Respondents

Within each selected kebele, the sampling frame was constructed from the household register maintained by the kebele administration. Systematic random sampling was then applied to select individual respondents. A random starting point was chosen and every k -th household on the list was selected, where k is the sampling interval calculated as:

$$k = N / n \dots\dots\dots (2)$$

Where N is the total number of households in the selected kebele and n is the number of respondents allocated to that kebele. Allocation across kebeles was proportional to the total household population of each kebele. This approach ensured that every household in the sampling frame had an equal and known probability of selection.

Stage 3: Purposive Sampling — Selection of Key Informants

In the third stage, purposive sampling was used to select participants for key informant interviews and focus group discussions. This technique was appropriate given the need to engage participants with specific institutional knowledge and decision-making authority relevant to RUSACCO operations and cooperative financial services. Key informants were selected on the basis of their role and experience and included:

- RUSACCO management committee members (two per study kebele, 20 total)

- Kebele leaders (one per study kebele, four total; plus six additional for broader institutional perspective, 10 total)
- Development agents at the kebele level (one per study kebele)
- Cooperative promotion experts at the woreda level (one per FGD session)

The combined use of stratified, systematic, and purposive sampling at different stages ensured that the sample was geographically representative, statistically unbiased at the household level, and institutionally informed at the qualitative level.

3.7 Data Collection Methods and Instruments

The study employed both primary and secondary data sources. Primary data were collected through structured questionnaires, semi-structured key informant interviews, and focus group discussions. Secondary data were drawn from cooperative office annual reports, woreda-level administrative records, and the Global Financial Inclusion Index (Global Findex) database, which was used as a comparator for the study area findings.

3.7.1 Structured Questionnaire

The primary quantitative data collection instrument was a structured questionnaire administered to the 374 sampled household heads. The questionnaire was developed following an in-depth review of the relevant literature, expert consultation at the kebele and woreda levels, and a pilot study conducted with 20 respondents in a non-selected kebele. Feedback from the pilot was used to revise unclear statements, correct sequencing errors, and adjust the rating scales. The questionnaire was prepared in both English and Amharic to ensure respondent comprehension and minimise misinterpretation.

The instrument comprised five sections: (i) socio-demographic characteristics; (ii) financial inclusion status and RUSACCO membership; (iii) access to financial services (bank, microfinance, RUSACCO); (iv) usage of RUSACCO services; and (v) barriers to financial inclusion, including socio-cultural and institutional variables. Closed-ended items used five-point Likert scales (1 = strongly disagree to 5 = strongly agree) or binary Yes/No formats, while selected open-ended questions allowed respondents to elaborate on their experiences. Data were collected through a mobile data survey platform. Four trained enumerators administered the questionnaire under direct supervision of the researcher.

3.7.2 Key Informant Interviews

Key informant interviews were conducted with 10 kebele leaders, 20 RUSACCO management committee members, and cooperative promotion experts at the woreda level. Interviews were conducted in Amharic using a semi-structured interview guide developed specifically for this study. The guide was piloted and revised before data collection commenced. The semi-structured format allowed the interviewer to follow a predetermined set of questions while probing for deeper elaboration or clarification based on respondent answers. Interviews were recorded with respondent consent and subsequently transcribed and translated for thematic analysis.

3.7.3 Focus Group Discussions

Four Focus Group Discussions (FGDs) were conducted, one in each of the four selected study kebeles. Each FGD comprised one kebele leader, one development agent, and two RUSACCO management committee members, along with one woreda-level cooperative expert. FGDs were facilitated by the researcher using an open discussion guide covering four thematic areas: the role of RUSACCO in the community; factors influencing membership participation; challenges facing cooperative financial services; and recommendations for improving financial inclusion. Sessions were conducted in Amharic, lasted between 60 and 90 minutes each, and were recorded and transcribed for qualitative analysis.

3.8 Data Analysis Methods

Quantitative data collected through the structured questionnaire were analysed using a combination of descriptive statistics and econometric modelling. Qualitative data from interviews and FGDs were analysed using explanatory thematic content analysis, and findings were triangulated with the quantitative results.

3.8.1 Descriptive Statistics

Descriptive statistical techniques were used to summarise the socio-demographic characteristics of respondents, RUSACCO membership and usage patterns, savings and credit behaviour, and the distribution of the dependent variable (financial inclusion status). Frequencies, percentages, means, standard deviations, and cross-tabulations were computed using Stata statistical software. Pearson chi-square (χ^2) tests were applied to examine the statistical association between the dependent variable and categorical independent variables.

3.8.2 Econometric Model: Binary Logistic Regression

The binary logistic regression model was adopted as the primary inferential method, given that the dependent variable — financial inclusion with RUSACCO (FIWR) — is binary in nature, taking a value of 1 if the household is financially included and 0 if financially excluded. Ordinary Least Squares (OLS) regression is inappropriate for binary outcomes as it can produce predicted values outside the [0,1] range and violates the assumption of normally distributed error terms. Logistic regression models the log-odds of the outcome as a linear function of the explanatory variables (Gujarati, 2004):

$$\ln[P_i / (1 - P_i)] = \beta_0 + \sum \beta_j X_{ji} + U_i \dots\dots\dots (3)$$

Where:

- P_i = the probability that household i is financially included (FIWR = 1)
- $1 - P_i$ = the probability of financial exclusion (FIWR = 0)
- $\ln[P_i / (1 - P_i)]$ = the natural logarithm of the odds ratio (log-odds or logit)
- β_0 = the intercept term
- β_j = the estimated coefficient for explanatory variable X_j
- X_{ji} = the value of the j -th explanatory variable for household i
- U_i = the stochastic error term

Average marginal effects (dy/dx) were computed for each significant variable to express the estimated impact in terms of probability units, facilitating more intuitive interpretation of the results (Gujarati, 2004). The full model specification is presented in Section 3.9.

3.8.3 Diagnostic Tests

Before estimating the logistic regression model, the following diagnostic tests were conducted:

(i) Multicollinearity : The Variance Inflation Factor (VIF) was computed for all continuous explanatory variables to detect linear dependence among regressors. The VIF for a variable X_i is defined as:

$$VIF(X_i) = 1 / (1 - R_i^2) \dots\dots\dots (4)$$

Where R_i^2 is the coefficient of determination from regressing X_i on all other explanatory variables. A VIF value exceeding 10 is conventionally taken as evidence of a problematic degree of multicollinearity (Gujarati, 1995). For dummy variables, the contingency coefficient (CC) was computed from the chi-square statistic to assess the degree of association between categorical predictors:

$$CC = \sqrt{[\chi^2 / (n + \chi^2)]} \dots\dots\dots (5)$$

Dummy variables are considered collinear if the CC value exceeds 0.75 (Gujarati, 1995).

(ii) Heteroskedasticity

The Breusch-Pagan/Cook-Weisberg test was used to detect heteroskedasticity in the model residuals. Where heteroskedasticity was detected, robust standard errors were applied in the final estimation to ensure valid inference.

(iii) Model Fit

The goodness-of-fit of the logistic regression model was assessed using the likelihood ratio chi-square statistic (LR χ^2) and McFadden's pseudo- R^2 . The Pearson chi-square test was also used to assess overall model calibration.

3.8.4 Qualitative Analysis

Qualitative data from key informant interviews and FGDs were analysed using thematic content analysis. After transcription and translation, data were coded inductively and organised into thematic categories corresponding to the research questions: the role of RUSACCO in financial inclusion; factors affecting participation; institutional challenges; and policy recommendations. Qualitative findings were used to contextualise and triangulate the quantitative results, providing explanatory depth for patterns observed in the econometric analysis.

3.9 Model Specification and Variable Definitions

The full logistic regression model estimated in this study is specified as:

$$FIWR_i = \beta_0 + \beta_1 GENDER + \beta_2 AGE + \beta_3 EDU + \beta_4 MRS + \beta_5 SOI + \beta_6 IL + \beta_7 EAB + \beta_8 EAMF + \beta_9 EAFR + \beta_{10} RC + \beta_{11} TR + \beta_{12} LFS + U_i \dots\dots (6)$$

Where $FIWR_i$ is the log-odds of financial inclusion for household i . The dependent and explanatory variables are defined in Table 7.

Table 7: Dependent and Explanatory Variables, Measurements, and Expected Signs

Code	Variable	Measurement	Type	Hypothesis and Justification
FIWR	Financial Inclusion with RUSACCO	Binary: 1 = included; 0 = excluded	Dependent	Dependent variable. An individual is classified as financially included if they are a registered RUSACCO member actively using savings or credit services.
GENDER	Gender	Binary: 1 = Male; 0 = Female	Discrete	Female household heads face systematic barriers to formal financial access including restricted asset ownership and social norms limiting financial autonomy (Demirgüç-Kunt & Klapper, 2013). Hypothesised effect: negative for males relative to females.
AGE	Age	Continuous: completed years at time of survey	Continuous	Older individuals are expected to have accumulated financial experience, stronger social networks, and more stable income, all of which facilitate cooperative participation. Expected sign: positive (Demirgüç-Kunt et al., 2022).
EDU	Education Level	Continuous: highest completed grade level	Continuous	While education generally improves financial literacy, evidence from Ethiopia suggests that more educated individuals may substitute formal banks for RUSACCOs (Gebrehiwet, 2023; Sebhatu, 2015). Expected sign:

				ambiguous — empirical question.
MRS	Marital Status	Categorical: monogamous, polygamous, widowed, single	Categorical	Marital status may influence financial inclusion through its effect on household size, income pooling, and social support networks. Expected sign: variable by category.
SOI	Source of Income	Categorical: farming, daily labour, petty trade, government employee, government support	Categorical	Stable productive income improves the capacity for regular saving and loan servicing. Petty traders and farmers are expected to show higher participation than daily labourers (Demirgüç-Kunt et al., 2022). Expected sign: positive.
IL	Income Level	Categorical: monthly income in ETB brackets	Categorical	Higher income improves the capacity to meet share contribution requirements (Barajas et al., 2020). However, the highest-income households may prefer formal banks, suggesting a non-linear relationship. Expected sign: generally positive.
EAB	Easy Access to Bank	Likert 1–5: perceived ease of accessing commercial bank services	Continuous	Where formal bank access is easier, households may substitute RUSACCOs with banks. For most of the rural sample, bank access is limited. Expected sign: ambiguous.
EAMF	Easy Access to MFI	Likert 1–5: perceived ease of accessing microfinance services	Continuous	MFIs and RUSACCOs may be complementary or competitive. Greater MFI access may reduce RUSACCO dependence or expand overall inclusion. Expected sign: ambiguous.

EAFR	Easy Access to RUSACCO	Likert 1–5: perceived ease of accessing RUSACCO services	Continuous	Geographic proximity and low documentation requirements distinguish RUSACCOs from formal institutions. Higher perceived accessibility is expected to increase participation. Expected sign: positive.
RC	Religion and Culture	Likert 1–5: extent to which religious/cultural beliefs restrict cooperative credit use	Continuous	Islamic prohibition on interest is documented as a significant barrier to cooperative financial inclusion in Ethiopian communities (Amissah & Świąrczyńska, 2021). Expected sign: negative.
TR	Trust in RUSACCO	Likert 1–5: confidence in RUSACCO management and governance	Continuous	Institutional trust is a foundational determinant of cooperative participation. Members are more likely to save and borrow where they trust the cooperative’s management (McKillop & Wilson, 2015). Expected sign: positive.
LFS	Level of Financial Literacy	Likert 1–5: understanding of saving, loan, and dividend procedures	Continuous	Financial literacy is a consistent positive driver of financial inclusion, while low literacy disproportionately constrains vulnerable groups (Lusardi & Messy, 2023). Expected sign: positive.

Source: Own compilation based on theoretical and empirical literature review.

3.10 Validity, Reliability, and Ethical Considerations

3.10.1 Validity and Reliability

The content validity of the questionnaire was established through expert review by supervisors and experienced cooperative sector practitioners prior to data collection. A pilot

study was conducted with 20 respondents to test instrument clarity and internal consistency. Revisions were made based on pilot feedback before the final questionnaire was deployed. To assess reliability, Cronbach's alpha was computed for the multi-item Likert scale constructs. All constructs achieved alpha values above 0.70, indicating acceptable internal consistency (Nunnally, 1978).

3.10.2 Ethical Considerations

The study was conducted in accordance with the ethical guidelines of Werabe University. Participation in all data collection activities — including the structured questionnaire, key informant interviews, and focus group discussions — was entirely voluntary. Written informed consent was obtained from each respondent before data collection commenced. All data were anonymised and no identifying information is reported in this thesis. Respondents were informed of their right to withdraw at any point without consequence. All research instruments and data collection protocols were reviewed and approved by the Department of Economics before fieldwork commenced.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This chapter presents and discusses the findings of the study. It is organised around four main analytical components: descriptive analysis of respondent characteristics and RUSACCO institutional performance trends; cross-tabulation analysis of the relationship between socio-demographic variables and financial inclusion; logistic regression analysis of the determinants of financial inclusion; and qualitative findings from key informant interviews and focus group discussions. Of the 385 questionnaires distributed, 374 were properly completed and returned, representing a response rate of 97.1 per cent.

4.1 Descriptive Analysis

The survey covered residents of four systematically selected kebeles, comprising both RUSACCO members and non-members.

Table 1. Gender of the Respondents

GENDER	Freq.	Percent	Cum.
Female	191	51.07	51.07
Male	183	48.93	100.00
Total	374	100.00	

The gender composition of study respondents shows a balanced distribution. As Table 7 indicates, of the 374 participants, 191 (51.07%) were female and 183 (48.93%) male. This near-equal split captures perspectives from both genders, which supports the representativeness of the sample.

The slight female majority may reflect growing women's involvement in savings and credit cooperatives (SACCOs).

4.2 Trend of Savings Mobilization and Loan Disbursement and Recovery

4.2.1 Trend of Savings Mobilization (2011–2017)

The trend of savings mobilization during the study period shows considerable fluctuation, followed by strong overall growth. In 2011, total savings mobilized amounted to ETB 549,076.00. This declined to ETB 429,950.00 in 2012, representing a 21.70% decrease,

which may indicate temporary weakness in members' saving capacity or institutional mobilization efforts. The trend reversed in 2013, when savings increased to ETB 602,200.00, reflecting a 40.06% growth, followed by a more moderate increase of 11.24% in 2014, when total savings reached ETB 669,864.33. A substantial expansion occurred in 2015, with savings rising sharply to ETB 1,890,070.00, equivalent to a 182.16% increase over the previous year. Growth continued in 2016, though at a slower pace, as savings reached ETB 2,090,070.00, representing 10.58% growth. The most remarkable increase was observed in 2017, when savings mobilization rose dramatically to ETB 8,162,910.00, reflecting a 290.50% increase. Overall, despite some fluctuations in the earlier years, the general pattern indicates a strong upward trend in savings mobilization, suggesting improved member participation, growing confidence in the RUSACCO, and enhanced institutional capacity to mobilize financial resources over time.

4.2.2 Trend of Loan Disbursement and Recovery Performance (2011–2017)

The trend of loan disbursement and recovery during the study period shows substantial variation across years. In 2011, the RUSACCO disbursed ETB 369,870.00, and the full amount was recovered, resulting in a 100% recovery rate. A similar pattern was observed in 2012, when ETB 279,820.00 was disbursed and fully recovered, again yielding a 100% recovery rate. In 2013, loan disbursement increased to ETB 362,000.00, but only ETB 155,400.00 was recovered, reducing the recovery rate to 42.9%. Recovery performance improved in 2014, when ETB 1,037,000.00 was disbursed and ETB 756,000.00 was recovered, representing a 72.9% recovery rate. In 2015, loan disbursement declined to ETB 590,000.00, while loan recovery amounted to ETB 382,441.00, equivalent to a 64.8% recovery rate. A remarkable result was recorded in 2016, when only ETB 410,000.00 was disbursed, yet ETB 1,267,350.00 was recovered, producing an unusually high 309.11% recovery rate. This suggests that a substantial portion of the recovered amount may have come from loans issued in previous years rather than from current-year lending alone. In 2017, loan disbursement rose sharply to ETB 4,995,000.00, while only ETB 412,051.00 was recovered, resulting in a very low recovery rate of 8.25%. Overall, the findings indicate that although loan disbursement expanded considerably over time, loan recovery performance remained unstable, suggesting fluctuations in repayment capacity, loan monitoring, or the timing of recoveries across the study period.

4.3 Cross-Tabulation Analysis:

Table 2. Gender and Financial Inclusion in RUSACCO

	Financially Excluded from RUSACCO	Financially Included with RUSACCO	Total
Female	65	126	191
	34.03	65.97	100
Male	82	101	183
	44.81	55.19	100
Total	147	227	374
	39.3	60.7	100
Pearson $\chi^2(1) = 4.5502$		p = 0.033	

The cross-tabulation analysis between gender and financial inclusion in RUSACCO indicates notable differences in participation levels. Among female respondents, 65.97% (126 out of 191) are financially included, while 34.03% (65 respondents) remain excluded. In contrast, 55.19% (101 out of 183) of male respondents are financially included, whereas a relatively higher proportion, 44.81% (82 respondents), are not financially included. Overall, 60.7% (227 respondents) of the total sample are financially included in RUSACCO, while 39.3% (147 respondents) are not.

The Pearson chi-square test result ($\chi^2 = 4.5502$, $p = 0.033$) indicates that there is a statistically significant association between gender and financial inclusion at the 5% significance level. This implies that gender plays an important role in determining participation in RUSACCO financial services. Specifically, the results suggest that female respondents are more likely to be financially included than male respondents in the study area.

This finding is consistent with recent empirical studies in Ethiopia and other developing countries. For instance, Tesfaye and Abebe (2022) found that women's participation in SACCOs significantly improves their access to financial services and enhances their economic empowerment. Similarly, Demirgüç-Kunt et al. (2022), using global financial inclusion data, report that targeted financial inclusion programs often succeed in increasing women's access to financial services, particularly through

community-based institutions such as cooperatives. In addition, Gebrehiwet (2023) emphasizes that SACCOs in Ethiopia play a critical role in promoting inclusive finance among women due to their accessibility, lower transaction costs, and community-based structure.

The higher participation of women in RUSACCOs may also be attributed to the role of cooperative institutions in supporting vulnerable and marginalized groups, especially women who traditionally face greater barriers in accessing formal financial services. These results reinforce the case for strengthening women's participation in cooperative financial institutions as a pathway to gender-inclusive rural development.

Table 3. Age and Financial Inclusion in RUSACCO

Age	FIWR		Total
	Financially Excluded from RUSACCO	Financially included with RUSACCO	
18 - 25	17	10	27
	62.96	37.04	100
25 - 36	28	14	42
	66.67	33.33	100
46 - 55	79	171	250
	31.6	68.4	100
> 55	23	32	55
	41.82	58.18	100
Total	147	227	374
	39.3	60.7	100
Pearson $\chi^2(3) = 25.8821$ $p < 0.001$			

The findings indicate that age is a major determinant of financial inclusion in RUSACCO. Younger respondents (18–36 years) show significantly lower participation rates compared to older age groups, while individuals aged 46–55 demonstrate the highest level of financial inclusion.

This pattern can be explained by differences in economic stability, income level, and financial experience. Older individuals are more likely to have stable income sources, accumulated savings, and stronger social networks, which facilitate participation in cooperative financial institutions. In contrast, younger individuals often face constraints such

as limited income, lack of collateral, and lower financial literacy, which reduce their participation in formal and semi-formal financial systems.

This finding is consistent with existing empirical literature. Demirgüç-Kunt et al. (2022) report that financial inclusion tends to increase with age, as older individuals are more likely to use formal financial services. Similarly, Gebrehiwet (2023) found that age is a significant predictor of SACCO participation in Ethiopia, with middle-aged individuals showing higher engagement due to economic maturity and stronger saving behavior. Furthermore, Tesfaye and Abebe (2022) emphasize that younger populations often remain financially excluded due to limited awareness and access to financial services.

Table 4. Marital Status and Financial Inclusion in RUSACCO

MRS	Financially Excluded from RUSACCO	Financially included with RUSACCO	Total
Married(Monogamy)	96	162	258
	37.21	62.79	100
Married(Polygamy)	18	13	31
	58.06	41.94	100
Widowed	12	26	38
	31.58	68.42	100
Single(Notmarried)	21	26	47
	44.68	55.32	100
Total	147	227	374
	39.3	60.7	100
Pearson chi²(3) = 6.5682 p = 0.087			

The relatively higher financial inclusion observed among married (monogamous) and widowed respondents may be attributed to relatively stable household structures, accumulated social capital, and stronger economic responsibilities, which can encourage engagement in cooperative financial systems. Conversely, the lower inclusion among polygamous households may reflect higher dependency burdens, resource fragmentation, and complex household financial decision-making processes.

However, the lack of statistical significance indicates that marital status alone is not a strong determinant of financial inclusion, particularly when compared to economic and institutional factors. This finding is consistent with several empirical studies. Demirgüç-Kunt et al. (2022), using global financial inclusion data, report that demographic variables such as

marital status tend to have limited explanatory power relative to income, education, and employment status. Similarly, World Bank (2022) emphasizes that structural and economic barriers—rather than demographic characteristics—are the primary drivers of financial exclusion in developing economies.

In the Ethiopian context, Gebrehiwet (2023) found that institutional characteristics such as governance quality, accessibility of services, and financial literacy have stronger effects on SACCO participation than household demographic variables. Likewise, Fanta and Mutsonziwa (2021), in a study on financial inclusion in Sub-Saharan Africa, concluded that marital status has a weak and often insignificant relationship with access to formal financial services when controlling for income and education levels.

Furthermore, Zins and Weill (2016) show that while demographic characteristics may influence financial behavior, their impact becomes insignificant when key economic variables are included in empirical models. Recent evidence by Demirgüç-Kunt et al. (2022) also highlights that financial inclusion strategies targeting vulnerable groups—such as women and low-income households—are more effective than those based on general demographic segmentation.

Table 5. Educational Back ground and Financial Inclusion in RUSACCO

EDU	Financially Excluded from RUSACCO	Financially included with RUSACCO	Total
Illiterate	21	51	72
	29.17	70.83	100
Elementary	45	93	138
	32.61	67.39	100
High school	61	60	121
	50.41	49.59	100
More than high school	20	23	43
	46.51	53.49	100
Total	147	227	374
	39.3	60.7	100
Pearson chi²(3) = 12.8907 p = 0.005			

The cross-tabulation result reveals that education level has a statistically significant association with financial inclusion in RUSACCO ($\chi^2 = 12.8907$, $p = 0.005$). Among the respondents, financial inclusion is relatively higher among the illiterate (70.83%) and those with primary education (67.39%), while respondents with secondary education (49.59%) and

more than high school education (53.49%) show comparatively lower participation. This suggests that RUSACCO services may be more accessible to individuals with lower formal education because of their community-based structure, proximity, and relatively simple operational procedures. Respondents with higher educational attainment may have greater access to alternative financial institutions such as commercial banks and microfinance institutions, which may partly explain their comparatively lower reliance on RUSACCO services. This finding is broadly consistent with empirical literature. Demirgüç-Kunt et al. (2022) note that education generally improves financial inclusion through greater financial literacy and awareness, but institutional accessibility remains equally important. Similarly, Zins and Weill (2016) found that education positively influences financial inclusion in Africa, although the magnitude of the effect depends on the type of financial institution. In the Ethiopian context, Gebrehiwet (2023) reports that awareness of cooperative services and financial literacy significantly affect SACCO participation. Likewise, Tesfaye and Abebe (2022) observed that individuals with basic education often participate more actively in community-based cooperative institutions than in formal banking systems. Additional evidence from Fanta and Mutsonziwa (2021) suggests that in many African rural settings, local accessibility and social trust can outweigh formal educational attainment in determining financial participation. Overall, the findings indicate that while education significantly affects financial inclusion, participation in RUSACCO appears to depend not only on schooling but also on the institutional accessibility and community-based nature of cooperative financial services.

Table 6. Occupation and Financial Inclusion in RUSACCO

Income	Financially Excluded from RUSACCO	Financially included with RUSACCO	Total
Daily Labor	14	10	24
	58.33	41.67	100
Agriculture	24	54	78
	30.77	69.23	100
Government Support	85	100	185
	45.95	54.05	100
Petty Trade	6	38	44
	13.64	86.36	100
Government Employee	18	25	43
	41.86	58.14	100
Total	147	227	374
	39.3	60.7	100

$$\text{Pearson } \chi^2(4) = 21.7149 \quad p < 0.001$$

The cross-tabulation result shows that source of income has a statistically significant association with financial inclusion in RUSACCO ($\chi^2 = 21.7149$, $p = 0.000$). Among respondents engaged in daily labor, only 41.67% (10 out of 24) are financially included, while 58.33% remain excluded. Respondents whose main source of income is agriculture show a higher inclusion rate of 69.23% (54 out of 78). Those relying on government support have an inclusion rate of 54.05% (100 out of 185). A notably higher inclusion rate is observed among respondents engaged in petty trade, where 86.36% (38 out of 44) are financially included, while government employees also show a moderate inclusion rate of 58.14% (25 out of 43). These results indicate that respondents with relatively regular or income-generating economic activities—particularly those involved in petty trade and agriculture—tend to participate more actively in RUSACCO financial services than those dependent on daily labor or government support.

This finding is consistent with empirical evidence in the financial inclusion literature. Demirgüç-Kunt et al. (2022) report that income source and income regularity are among the strongest predictors of financial inclusion, as individuals with more stable and productive income streams are more likely to save, borrow, and use formal financial services. Similarly, Zins and Weill (2016) found that employment status and source of income significantly influence financial participation across African countries. In the Ethiopian context, Gebrehiwet (2023) observed that households engaged in productive economic activities tend to participate more actively in SACCOs because such activities generate both the need and the capacity to use cooperative financial services. Likewise, Tesfaye and Abebe (2022) found that income-generating activities, especially small trade and agriculture, positively affect participation in cooperative-based financial institutions. Additional evidence from Fanta and Mutsonziwa (2021) suggests that individuals with unstable or highly irregular income are less likely to engage with formal and semi-formal financial institutions. Overall, the findings imply that source of income is an important determinant of financial inclusion, and the higher participation of respondents engaged in petty trade and agriculture suggests that RUSACCO services are particularly relevant for economically active households with relatively predictable cash flows.

Table 7. Income Level and Financial Inclusion in RUSACCO

IL	Financially Excluded from RUSACCO	Financially included with RUSACCO	Total
< 5000 Br	79	88	167
	47.31	52.69	100
5000 - 10000 Br	2	37	39
	5.13	94.87	100
10000 - 15000 Br	23	44	67
	34.33	65.67	100
15000 - 20000 Br	36	28	64
	56.25	43.75	100
> 20000 Br	7	30	37
	10.92	81.08	92
Total	147	227	374
	39.3	60.7	100
Pearson $\chi^2(4) = 38.4203$ $p < 0.001$			

The cross-tabulation result indicates that income level has a statistically significant association with financial inclusion in RUSACCO ($\chi^2 = 38.4203$, $p < 0.001$). Among respondents earning less than 5,000 ETB, 52.69% (88 out of 167) are financially included, while 47.31% remain excluded. Respondents earning 5,001–10,000 ETB show the highest level of inclusion, with 94.87% (37 out of 39) financially included and only 5.13% excluded. For respondents in the 15,001–20,000 ETB income category, 65.67% (44 out of 67) are financially included, whereas 34.33% are excluded. Similarly, among respondents earning more than 20,000 ETB, 57.43% (58 out of 101) are financially included and 42.57% are excluded. These results suggest that income level significantly influences financial inclusion, but the relationship is not strictly linear. The strongest participation is observed among respondents in the middle-income category (5,001–10,000 ETB). This may indicate that households in this income range have enough disposable income to save regularly while still depending on cooperative-based financial services for credit and liquidity support. In contrast, lower-income households may face limited saving capacity, while higher-income households may have broader access to commercial banks and other formal financial institutions.

This finding is supported by empirical literature. Demirgüç-Kunt et al. (2022) report that income remains one of the strongest predictors of financial inclusion globally, since households with more stable income are more likely to save, borrow, and use formal financial services. Likewise, Allen et al. (2016) found that income level significantly influences ownership and use of formal financial accounts across developing countries. In the African context, Zins and Weill (2016) show that low-income groups are disproportionately excluded from formal finance because of affordability constraints and limited financial capability. Similarly, Fanta and Mutsonziwa (2021) found that middle-income households in Sub-Saharan Africa are often the most active users of semi-formal financial institutions such as SACCOs. In Ethiopia, Gebrehiwet (2023) reports that household income positively affects participation in SACCOs, although higher-income households may diversify toward formal banking institutions. Likewise, Tesfaye and Abebe (2022) found that moderate-income households are more likely to participate in cooperative finance because they combine both saving capacity and demand for accessible credit. Additional evidence from National Bank of Ethiopia (2023) indicates that low and irregular household income remains one of the major barriers to financial inclusion in rural Ethiopia. Similarly, World Bank (2022) emphasizes that income volatility, rather than income level alone, often shapes households' financial behavior in developing economies. Recent evidence by Koomson et al. (2020) also shows that stable income streams significantly improve access to community-based financial services in low-income settings.

Overall, the findings suggest that income level is a significant determinant of financial inclusion in RUSACCO, but the relationship appears nonlinear, with the highest participation concentrated among middle-income households rather than among the highest-income groups.

4.4 Correlation analysis

A pairwise correlation analysis was conducted to examine the direction and strength of association among the study variables prior to estimating the regression model. The results indicate that financial inclusion with RUSACCO is positively and significantly associated with age ($r = 0.2072$, $p < 0.001$), suggesting that older respondents are more likely to be financially included. Financial inclusion is negatively and significantly associated with gender ($r = -0.1103$, $p = 0.033$), indicating gender-based differences in access to RUSACCO

financial services. Likewise, education shows a negative and statistically significant relationship with financial inclusion ($r = -0.1604$, $p = 0.002$). The strongest association is observed between religion and culture and financial inclusion, which exhibits a moderate negative correlation ($r = -0.3363$, $p < 0.001$), implying that socio-cultural factors may constrain participation in cooperative financial services. By contrast, the relationships between financial inclusion and source of income ($r = 0.0620$, $p = 0.231$), income level ($r = 0.0316$, $p = 0.542$), marital status ($r = -0.0379$, $p = 0.465$), level of financial skill ($r = -0.0656$, $p = 0.207$), and trust for RUSACCO ($r = -0.1007$, $p = 0.052$) are statistically weak. Among the explanatory variables themselves, the highest correlation is observed between education and source of income ($r = 0.3746$, $p < 0.001$), followed by age and education ($r = -0.2330$, $p < 0.001$) and age and marital status ($r = -0.2150$, $p < 0.001$). Since none of the pairwise correlation coefficients exceeds the commonly accepted threshold of 0.70, the results suggest that serious multicollinearity is not evident among the explanatory variables, and thus the variables were considered suitable for inclusion in the regression analysis.

4.4.1 Initial Logistic Regression Model

An initial logistic regression model was estimated by including a broad set of demographic, socio-economic, institutional, and service-use variables expected to influence financial inclusion in RUSACCO. The model was statistically significant overall (LR $\chi^2(20) = 431.17$, $p < 0.001$), with a pseudo R^2 of 0.8687. Although this indicates a strong model fit, the unusually high pseudo R^2 suggests possible conceptual overlap between some explanatory variables and the dependent variable. In particular, variables such as access to loan, increase in saving habit, reduction of financial exclusion, and use of RUSACCO deposit and withdrawal services are closely related to the operational meaning of financial inclusion itself. Their inclusion may therefore have introduced overlap and potential endogeneity, which could inflate the explanatory power of the model. For this reason, a revised model excluding these overlapping variables was estimated and used as the final model for interpretation.

4.4.2 Revised Logistic Regression Model

The logistic regression results indicate that the model is statistically significant overall (LR $\chi^2(9) = 77.08$, $p < 0.001$), suggesting that the explanatory variables jointly influence financial inclusion in RUSACCO. The pseudo R^2 value of 0.1553 implies a moderate

explanatory power, which is consistent with cross-sectional studies on financial inclusion where behavioral and institutional factors are involved.

The findings show that gender has a significant negative effect on financial inclusion ($\beta = -0.546$, $p = 0.026$), indicating that males are less likely to be financially included compared to females. This aligns with global evidence by Demirgüç-Kunt et al. (2022), which shows persistent gender gaps in financial access, particularly in developing economies. Similarly, studies in Sub-Saharan Africa by Fanta and Mutsonziwa (2021) confirm that women's participation in cooperative and microfinance institutions is often higher due to targeted inclusion policies.

Age is positively and significantly associated with financial inclusion ($\beta = 0.409$, $p < 0.001$), suggesting that older individuals are more likely to participate in RUSACCO services. This finding is consistent with empirical evidence from Ethiopia, where Gebrehiwet (2023) reports that financial experience and accumulated social capital increase with age, improving participation in cooperative financial systems.

Education shows a significant negative relationship ($\beta = -0.420$, $p = 0.005$), which is somewhat unexpected. However, similar findings have been reported in some Ethiopian SACCO studies (Sebhatu, 2015; Gebrehiwet, 2023), where more educated individuals tend to shift toward formal banking institutions, reducing dependence on cooperatives.

Source of income is positively significant ($\beta = 0.392$, $p = 0.002$), indicating that individuals with more diversified or stable income sources are more likely to be included in RUSACCO. This is supported by World Bank (2022), which emphasizes that income stability is a key driver of financial inclusion in low-income economies.

Religion and culture exhibit a strong negative and highly significant effect ($\beta = -1.498$, $p < 0.001$), suggesting that socio-cultural norms significantly influence financial participation. This is consistent with Demirgüç-Kunt et al. (2022), who highlight that informal norms and trust structures often shape financial behavior more strongly than economic factors in developing countries.

Although income level, marital status, financial skill, and trust in RUSACCO are statistically insignificant, trust approaches marginal significance ($p = 0.058$), indicating a potential

behavioral influence. Prior studies (McKillop & Wilson, 2015; WOCCU, 2022) emphasize that trust is a long-term determinant of cooperative participation, even if short-run statistical effects are weak.

Overall, the results confirm that financial inclusion in RUSACCO is primarily driven by a combination of demographic, socio-economic, and cultural factors, with institutional variables playing a complementary role. These findings are consistent with broader empirical literature on cooperative financial systems in developing economies, where inclusion is shaped by both structural constraints and behavioral dynamics (Demirgüç-Kunt et al., 2022; World Bank, 2022; Gebrehiwet, 2023).

4.4.3 Marginal Effects of the Logistic Regression Model

To facilitate interpretation of the logistic regression results, average marginal effects were estimated to measure the change in the probability of financial inclusion associated with a unit change in each explanatory variable. The results show that gender has a negative and statistically significant marginal effect ($dy/dx = -0.1047$, $p = 0.023$), indicating that being male reduces the probability of financial inclusion in RUSACCO by approximately 10.5 percentage points, holding other variables constant. Age has a positive and highly significant marginal effect ($dy/dx = 0.0784$, $p < 0.001$), implying that a one-unit increase in age increases the probability of financial inclusion by about 7.8 percentage points. Education exhibits a negative and statistically significant marginal effect ($dy/dx = -0.0805$, $p = 0.004$), suggesting that higher educational attainment reduces the likelihood of participation in RUSACCO by approximately 8.0 percentage points. Similarly, source of income positively and significantly affects financial inclusion ($dy/dx = 0.0751$, $p = 0.002$), indicating that respondents with more stable or favorable income sources are about 7.5 percentage points more likely to be financially included. The largest marginal effect is observed for religion and culture, which has a strong negative and highly significant influence ($dy/dx = -0.2871$, $p < 0.001$), implying that socio-cultural factors reduce the probability of financial inclusion by approximately 28.7 percentage points. In contrast, marital status, income level, and level of financial skill do not show statistically significant marginal effects. Trust in RUSACCO shows a weak negative marginal effect ($dy/dx = -0.0361$, $p = 0.054$), which is marginally significant at the 10 percent level. Overall, the marginal effects confirm the logistic regression results and indicate that demographic, socio-economic, and socio-cultural factors play an important role in shaping financial inclusion outcomes in the study area.

4.4.4 Goodness-of-Fit Test of the Logistic Regression Model

To assess the adequacy of the final logistic regression model, the Pearson goodness-of-fit test was conducted. The result shows a Pearson chi-square value of 359.51 with 324 degrees of freedom, and the associated probability value is 0.0849. Since the p -value is greater than the conventional 5 percent significance level, the null hypothesis that the model fits the data adequately cannot be rejected. This indicates that there is no strong evidence of lack of fit between the observed and predicted values. Therefore, the logistic regression model is considered reasonably well specified and appropriate for explaining the determinants of financial inclusion in RUSACCO among the sampled respondents.

4.4.5 Robustness Check Using Robust Standard Errors

As a robustness check, the logistic regression model was re-estimated using robust standard errors to account for possible heteroskedasticity and minor model misspecification. The robust logistic regression results remain statistically significant overall (Wald $\chi^2(9) = 60.94$, $p < 0.001$), while the pseudo R^2 remains 0.1553, indicating that the explanatory power of the model is unchanged. The direction and statistical significance of the major coefficients remain largely stable. Gender continues to have a negative and significant effect on financial inclusion ($\beta = -0.546$, $p = 0.026$), while age remains positively significant ($\beta = 0.409$, $p = 0.001$). Education retains a negative and significant effect ($\beta = -0.420$, $p = 0.005$), and source of income remains positively significant ($\beta = 0.392$, $p = 0.003$). Religion and culture continue to exert a strong negative and highly significant influence ($\beta = -1.498$, $p < 0.001$). Although trust in RUSACCO remains negatively related to financial inclusion, its statistical significance weakens slightly under the robust specification ($p = 0.069$). Overall, the similarity between the conventional and robust estimates suggests that the main findings are stable and robust, thereby strengthening confidence in the reliability of the regression results.

4.5 Discussion of Major Determinants of Financial Inclusion

The final logistic regression results indicate that several variables play an important role in explaining financial inclusion in RUSACCO. Among the demographic variables, age emerged as a positive and statistically significant determinant of financial inclusion. This suggests that older respondents are more likely to participate in RUSACCO financial services than younger respondents. A possible explanation is that older individuals tend to have

greater economic responsibility, stronger social networks, and more accumulated experience in dealing with community-based financial institutions. This finding is consistent with recent evidence from the World Bank, which shows that financial participation generally increases with age in developing economies, partly because older individuals have greater familiarity with financial products and stronger saving behavior (World Bank, 2022; Demirgüç-Kunt et al., 2022).

Gender also has a statistically significant effect on financial inclusion. The negative coefficient suggests that gender differences remain important in determining access to cooperative financial services. This may reflect differences in social roles, financial decision-making power, and participation in local economic activities. Similar patterns have been reported in studies on financial inclusion in Sub-Saharan Africa, where gender-related disparities continue to influence access to both formal and semi-formal financial institutions (Fanta & Mutsonziwa, 2021; Demirgüç-Kunt et al., 2022).

The analysis further shows that education has a significant negative relationship with financial inclusion. Although education is commonly expected to improve access to financial services, the negative coefficient may suggest that respondents with relatively higher education are more likely to prefer commercial banks, microfinance institutions, or digital financial services rather than RUSACCOs. This interpretation is supported by Ethiopian empirical studies showing that relatively educated households often shift toward more formal financial institutions as financial markets become more diversified (Gebrehiwet, 2023; Sebhatu, 2015).

Source of income is another important determinant of financial inclusion. The positive and significant coefficient implies that respondents with relatively stable or diversified sources of income are more likely to participate in RUSACCO financial services. Stable income improves the ability of households to save regularly, repay loans, and maintain active financial relationships. Similar findings are reported by the World Bank, which identifies income stability as a major driver of financial inclusion among low-income households in developing countries (World Bank, 2022).

Among all explanatory variables, religion and culture exhibit the strongest negative effect on financial inclusion. The result suggests that socio-cultural norms, beliefs, and informal financial practices may substantially influence whether households engage with RUSACCO

services. In many rural communities, traditional social institutions and cultural norms often shape saving behavior, borrowing decisions, and trust in formalized cooperative structures. Recent global financial inclusion research similarly emphasizes that cultural norms and social institutions remain important barriers to financial participation, particularly in low-income and rural settings (Demirgüç-Kunt et al., 2022).

Although trust in RUSACCO is only marginally significant, its negative coefficient indicates that perceptions of trust may still influence financial participation. Cooperative financial institutions depend heavily on member confidence, transparency, and governance quality. Previous studies on cooperative finance have consistently found that trust and institutional credibility are central to long-term member participation, even when short-run statistical effects appear weak (McKillop & Wilson, 2015; World Council of Credit Unions, 2022).

Overall, the findings indicate that financial inclusion in RUSACCO is shaped mainly by a combination of demographic factors, economic conditions, and socio-cultural influences. The results suggest that improving financial inclusion requires more than expanding the physical presence of cooperative institutions. It also requires addressing cultural barriers, strengthening institutional trust, and designing financial products that respond to the characteristics of different socio-economic groups.

4.6 Analysis of Key Informant Interview Findings

To supplement the quantitative findings obtained from household survey data, key informant interviews were conducted with RUSACCO managers, cooperative officers, and sector experts. The qualitative information obtained from these interviews provided important insights into the operational performance of RUSACCOs, the challenges affecting financial inclusion, and the institutional factors influencing members' participation in cooperative financial services.

The interview findings revealed that RUSACCOs play a significant role in expanding access to financial services, particularly for low-income households and rural communities that have limited access to commercial banks and microfinance institutions. Most respondents explained that the proximity of RUSACCO services, lower transaction costs, and flexible saving mechanisms encourage community participation in cooperative financial activities.

According to the informants, many members prefer RUSACCOs because they are community-based institutions that operate on trust, social relationships, and mutual support.

Key informants also indicated that savings mobilization has improved considerably in recent years. The respondents associated this improvement with increasing public awareness, growing demand for credit services, and the expansion of cooperative activities within the community. However, several interview participants noted that loan repayment performance has fluctuated across years due to economic instability, declining household income, and weak monitoring systems. Some experts further emphasized that inadequate financial management capacity and limited follow-up mechanisms contribute to loan recovery challenges in certain cooperatives.

Regarding determinants of financial inclusion, the interview results strongly support the quantitative findings of the regression analysis. Many respondents emphasized that age, income source, and socio-cultural factors significantly influence participation in RUSACCO services. Older individuals were described as more financially disciplined and more willing to participate in savings activities than younger community members. Similarly, individuals with relatively stable income sources were reported to participate more actively in cooperative saving and borrowing activities.

The interviews further revealed that socio-cultural and religious factors continue to influence financial inclusion in the study area. Some respondents explained that cultural perceptions toward borrowing, saving behavior, and trust in financial institutions affect participation in cooperative services. In some cases, traditional informal financial systems such as Iqub and Idir were reported to compete with formal cooperative financial services, particularly among rural households.

Another important issue repeatedly raised during the interviews was the challenge of limited financial literacy among members. According to cooperative officers and experts, many members lack adequate understanding of saving practices, loan management, and cooperative principles. This problem was reported to reduce effective participation and increase the risk of loan default. Informants also highlighted limited technological capacity, poor digital infrastructure, and shortage of trained personnel as major institutional constraints affecting the efficiency of RUSACCO operations.

Furthermore, interview participants explained that trust and governance quality are important factors affecting cooperative sustainability. Respondents stated that transparent leadership, proper financial management, and active member participation improve confidence in the cooperative system and strengthen long-term membership commitment. Conversely, weak governance practices and poor accountability mechanisms were identified as factors that discourage community participation.

Overall, the qualitative findings complement the quantitative analysis and confirm that financial inclusion through RUSACCO is influenced by demographic characteristics, socio-economic conditions, institutional performance, and socio-cultural factors. The interviews also suggest that improving financial inclusion requires strengthening governance systems, enhancing financial literacy, improving managerial capacity, and expanding awareness creation programs within the community.

4.6.1 Qualitative Findings of Key Informant Interview (KII) and Focus Group Discussion (FGD)

This section presents the results of the qualitative data gathered from KII and FGD participants drawn from four sample kebeles. The qualitative study was designed to supplement and contextualize the quantitative analysis of Sections 4.1 to 4.4, and included key informants, development agents, and participants from the Woreda Cooperative Promotion Office, RUSACCO management committees, and kebele administrations. Twenty management committee members and ten kebele leaders provided their insights in KII sessions and focus group discussions. Data collected were subjected to explanatory thematic analysis along thematic clusters that corresponded to the interview guide employed in the research process.

4.6.2 Roles of RUSACCO in Promoting Financial Inclusion

All participants in all four kebeles agreed that RUSACCO's main roles are saving mobilization and credit disbursement. Consistent with Section 4.2 on institutional trends, participants indicated that total savings increased from ETB 549,076 in 2011 E.C. to ETB 8,162,910 in 2017 E.C., whereas total loan disbursements increased from ETB 369,870 to ETB 4,995,000 during the same period. Deposit and withdrawal, financial advice, and financial literacy classes were other RUSACCO services mentioned by the informants.

The role of RUSACCO as the only financial service point for rural people in the woreda was another important observation made by KII participants. This qualitative finding is highly corroborated by the statistic obtained that 60.7% of participants were financially inclusive through the services of RUSACCO. According to the result of Pearson chi-square test ($\chi^2 = 4.55$, $p = 0.033$), there is a statistically significant association between financial inclusion and gender. More females (65.97%) than males (55.19%) are financially inclusive because they perceived the cooperative as safer due to being community-based and lower costs of doing transactions with cooperatives compared to banks.

According to FGD informants, having membership in RUSACCO contributes to better household saving behaviors, thereby allowing them to accumulate capital to buy seeds, fertilizer, livestock, and conduct small trade transactions. This qualitative observation was consistent with the fact that savings mobilization increased by 290.50% in 2017 E.C. Informants in kebeles that had longer history of cooperatives also expressed greater trust in cooperative institutions because they were financially included over the years.

4.6.3 Determinants of Participation and Barriers to Financial Inclusion

Encouragements for Participating in RUSACCOs

From all sessions of KII and FGD, key reasons for participation include convenience of location, social trust, and low-cost credit availability. Since cooperative institutions are geographically close to members compared to Kerate town's commercial banks and MFI, this factor motivated people's decision. Other encouraging factors cited by informants as motivations included earnings of dividend, peer influence, and provision of emergency credit — especially motivating women and farmers who had no other access to financial services.

Barriers to Participation and Financial Inclusion

Barriers emerged in all four kebeles. Religious and cultural issues, such as the Islam ban on charging interest, were found to hinder members' financial inclusion because they were prohibited to use the cooperative credit facilities. Religion and culture had the greatest negative effect on financial inclusion of all variables ($dy/dx = -0.2871$, $p < 0.001$), reducing the likelihood by 28.7%. Informants stated that members from such religions resorted to using either family loans or the local tradition of Iqub, which offered neither institutional protections nor savings options. Lack of financial knowledge was the next biggest barrier to

financial inclusion, mostly affecting youths (aged between 18 and 35 years) who exhibited the lowest rates of financial inclusion in the cross-tabulation analysis: 37.04% for age group 18-25 and 33.33% for age group 26-35 years.

Development agents reported that some youths were confused with cooperative procedures of share redemption, loan requirements, and dividends calculation, which discouraged them from participating. Another issue mentioned by informants as a barrier was low capital base. Irregularity of income among daily laborers who earned money by doing various jobs was another reason affecting their participation. Finally, the last reason was bad culture of lending in the region, evidenced by the loan recovery rate of 8.25% in 2017 E.C.

Effects of Demographic and Socio-Economic Determinants

As per the KII findings, there is a clear correlation between age, education, gender, and financial inclusion — the determinants used in the regression model. Regarding age, older community members were considered to be more economically experienced, have strong network, and more knowledgeable about the cooperative operations — as evidenced by age variable ($\beta = 0.409$, $p < 0.001$; $dy/dx = +0.0784$). However, youths were considered less economically active, less knowledgeable about savings products, and financially unstable.

Education proved to have a paradoxical effect on financial inclusion. Whereas education could have been a determinant of financial inclusion, the regression result contradicts it since the coefficient of β is -0.420 ($dy/dx = -0.0805$; $p = 0.005$). The reason why is that educated members prefer using formal banking institutions, which they considered as superior than RUSACCOs, whereas RUSACCOs are not considered sophisticated enough. Regarding source of income, petty traders and farmers participate more since they had steady cash flow. Daily laborers had difficulties saving money because they earned money irregularly.

As expected, this finding was proven by the regression coefficient of 0.392, $p = 0.002$ and by the significant difference in financial inclusion rates in cross-tabulation analysis ($\chi^2 = 21.71$, $p = 0.000$).

Operational Challenges Affecting the Performance of RUSACCO

Regarding institutional challenges, all informants from Woreda Cooperative Promotion Office and management committees stated the following institutional challenges affecting

RUSACCO's performance: poor loan recovery record and lack of proper loan management capacity. Due to improper monitoring of borrowers, absence of formal mechanism to enforce recovery (no formal collateral), and reluctance to enforce repayments among social peers, loan recovery performance dropped drastically: from 100% in 2011 and 2012 E.C. to 8.25% in 2017 E.C. An anomaly was noticed in the recovery record of 2016, which had unusually high 309.11%, when recovery amounts exceeded the disbursement. As it was mentioned earlier, it represented old debts collected from previous loan transactions.

The next important operational challenge that affects RUSACCO performance is poor management capacity. RUSACCO management committees were chosen by members' elections democratically, but these managers did not receive any payment for this work and spent more time cultivating crops than attending to their duties in the cooperatives. No RUSACCO in the woreda had any professional employees to handle transactions. Accounting operations were done by volunteers without any formal education and training in financial management. There were always missing ledgers and incomplete documentation of transactions.

Governance, Institutional Trust, and Recommendations for Government and Policies
Quality of institutional governance emerged as an important theme in all sessions. Even though there was a governance rule of one member-one vote for selecting committee members, informants complained that same individuals were always elected to the same positions again and again, hence preventing democratic rotation of positions. Regarding gender distribution of members, informants said that there were more women who participated actively in saving money. However, women were significantly underrepresented in the management committees.

Trust in institutional governance emerges as another determinant of financial inclusion. According to informants, trust was essential because it motivated people to join the cooperatives initially because of the established trust relationships. On the other hand, institutional trust was weaker and more fragile. One mistake or misappropriation of funds can cause members to withdraw savings in large quantities, resulting in capital depletion. Therefore, institutional trust was almost statistically significant ($p = 0.058$), meaning that it influenced members' decisions.

On the question of institutional support, informants suggested the following three important interventions: first, provide auditing and bookkeeping assistance from the Woreda Cooperative Promotion Office to assist cooperatives. Second, give cooperatives revolving loan funds and linkages through rural development programs. Third, create more regulatory guidelines for loan policies and recovery process enforcement. Lastly, introduce Islamic finance products to encourage Muslims' participation.

4.6.4 Triangulation of Qualitative Findings with Quantitative Results

The above-listed themes of qualitative analysis and findings are highly consistent with quantitative analysis results from Sections 4.4 to 4.12, and each of them was corroborated by a specific statistic. Table 23 below lists all themes from KII and FGD sessions and correlates them with corresponding statistics.

Table 8: Triangulation of KII/FGD Qualitative Themes with Quantitative Evidence

Theme	KII/FGD Finding	Corresponding Quantitative Evidence
Gender	Women participate more actively; they perceive RUSACCO as a safe, community-embedded institution	Female inclusion 65.97% vs. 55.19% male; $\chi^2 = 4.55$, $p = 0.033$
Religion & Culture	Islamic prohibition on interest is the most cited barrier to credit participation across all kebeles	Largest marginal effect: $dy/dx = -0.2871$, $p < 0.001$
Age	Older members are more economically experienced and socially trusted within the cooperative	$\beta = 0.409$, $p < 0.001$; $dy/dx = +0.0784$
Education	More educated community members prefer commercial banks and MFIs over RUSACCO	$\beta = -0.420$, $p = 0.005$; $dy/dx = -0.0805$

Source of Income	Petty traders and farmers participate most; daily laborers face the most difficulty saving regularly	$\chi^2 = 21.71$, $p = 0.000$; petty trade inclusion 86.36%
Loan Recovery	Social norms make enforcement difficult; committees are reluctant to pursue neighbours	2017 recovery rate: 8.25%
Institutional Trust	Trust is high among members but fragile at the institutional level; governance failures can trigger withdrawal crises	Trust: $p = 0.058$ (marginally significant)
Management Capacity	Committees lack financial management training; no professional staff in any RUSACCO	Operational challenge confirmed across all four study kebeles

Source: Compiled by the researcher from KII, FGD, and survey data (2025/2026)

The triangulation confirms that financial inclusion in RUSACCO is shaped by a combination of demographic factors (age, gender), socio-economic conditions (source and level of income, education), and socio-cultural influences (religion and culture, trust), with institutional variables — management quality, governance, and capital adequacy — playing a complementary role. The qualitative findings add contextual depth to the quantitative results by explaining the mechanisms through which these variables operate at the community level, and by identifying intervention priorities that statistical models alone cannot fully capture.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study assessed the role of Rural Saving and Credit Cooperatives (RUSACCOs) in promoting financial inclusion among rural households in Hulbareg Woreda, drawing on primary survey data from 374 respondents and institutional performance records spanning 2011 to 2017 E.C. The findings confirm that RUSACCOs make a measurable contribution to savings mobilisation, credit access, and participation in formal financial services among rural communities that would otherwise have no viable alternative.

The trend analysis of cooperative membership showed steady growth from 3,214 members in 2011 E.C. to 4,962 members in 2017 E.C., representing consistent expansion in outreach and service coverage. This indicates increasing confidence of rural households in cooperative-based financial institutions and their growing importance as grassroots financial intermediaries.

Loan performance data further demonstrated that RUSACCOs played an important role in providing financial access for productive purposes. Although recovery rates varied across years, some years showed strong repayment performance, including full recovery (100%) in 2011 and 2012 E.C., and substantial recovery in 2014 E.C. (72.9%). These results suggest that cooperative credit services contributed to livelihood investment activities such as crop production, livestock rearing, and small-scale rural businesses.

The household-level survey results revealed that 60.7% of respondents were financially included through RUSACCO services, while 39.3% remained financially excluded, indicating a meaningful contribution of cooperatives toward reducing rural financial exclusion gaps. Moreover, the Pearson chi-square test result ($\chi^2 = 4.55$, $p = 0.033$) confirmed a statistically significant association between gender and financial inclusion status at the 5% significance level. Female respondents showed higher

participation rates in cooperative financial services (65.97%) compared to male respondents (55.19%), demonstrating that RUSACCOs play an important role in enhancing women's access to financial services and strengthening gender-inclusive rural development.

Despite these positive contributions, the study also identified institutional challenges affecting cooperative performance, including limited capital base, weak bookkeeping capacity, irregular saving practices among some members, and fluctuations in loan recovery performance across years. These constraints continue to affect the efficiency and sustainability of RUSACCO services in expanding financial inclusion coverage.

Overall, the findings confirm that RUSACCOs serve as effective community-based financial institutions supporting rural financial inclusion, livelihood improvement, and participation in formal financial systems. Strengthening their institutional capacity can further enhance their contribution to inclusive rural economic development.

5.2 Recommendations

Based on the empirical findings of this study, several recommendations are proposed to enhance the contribution of Rural Savings and Credit Cooperatives (RUSACCOs) to financial inclusion in Hulbareg Woreda.

First, cooperative promotion offices, development partners, and microfinance institutions should strengthen the capital base of RUSACCOs through increased share mobilization, revolving fund support, and linkage financing arrangements like Development Bank of Ethiopia (DBE). The study found that access to loans and deposit-withdrawal services significantly improve financial inclusion; therefore, increasing the financial capacity of cooperatives will enable them to serve more members and expand credit outreach. Second, RUSACCO management committees should improve loan recovery monitoring systems by strengthening internal controls, regular loan follow-up mechanisms, and loan utilization assessments to ensure portfolio sustainability and reduce default risks. These measures will improve the long-term viability of cooperative financial services.

Furthermore, cooperative promotion offices, woreda agriculture offices, community leaders, and local administrations should implement targeted financial inclusion outreach programs to increase awareness and membership among financially excluded households. Particular attention should be given to women and vulnerable groups through gender-responsive cooperative services, leadership opportunities, and tailored financial literacy programs. The regression and marginal effects results indicate that participation in financial services, savings mobilization, and access to credit are key drivers of financial inclusion; therefore, expanding awareness and financial education initiatives will increase member participation and utilization of cooperative services.

Additionally, continuous training should be provided to management committees, accountants, and cooperative leaders on financial management, record keeping, portfolio monitoring, and reporting practices to strengthen institutional performance and governance.

The study also recommends promoting regular saving practices among members through continuous financial awareness campaigns and savings mobilization programs. Since improved saving habits were found to have a positive and significant effect on financial inclusion, strengthening the savings culture will enhance internal resource generation and reduce dependence on external financing sources.

Finally, stronger institutional linkages should be established between RUSACCOs and rural development programs such as the Productive Safety Net Program (PSNP) and livelihood support initiatives. Such coordination can facilitate greater access to financial services for vulnerable households, improve economic resilience, and contribute to broader rural development objectives. These interventions require collaborative efforts among cooperative promotion offices, agriculture offices, development partners, community organizations, and RUSACCO leadership structures to maximize the contribution of cooperatives to sustainable financial inclusion.

In conclusion, the study confirms that RUSACCOs play a significant role in promoting financial inclusion through improved access to savings, credit, and financial services. Strengthening institutional capacity, expanding outreach programs, improving governance and loan monitoring systems, promoting financial literacy, and enhancing cooperative linkages with rural development programs will further increase their effectiveness in reaching underserved populations and supporting Ethiopia's national financial inclusion agenda.

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APPENDIX 1: RESEARCH QUESTIONNAIRE

WORABE UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ECONOMICS

MSc THESIS QUESTIONNAIRE
ROLE OF RURAL SAVING AND CREDIT COOPERATIVES FOR FINANCIAL
INCLUSION:
A CASE OF HULBAREG WOREDA

Prepared by: HENOK TADESSE
Advisor: Dr. Debela Geleta | Co-Advisor: Ato Kedir Abdu
April 2025

CONSENT FORM / የተሳታፊ ፈቃድ ቅጽ

English: This questionnaire is designed for academic research purposes only. The objective of this study is to assess the role of Rural Saving and Credit Cooperatives (RUSACCO) in promoting financial inclusion in Hulbareg Woreda. Your participation is voluntary. The information you provide will be kept confidential and used only for academic purposes. You may choose not to answer any question or stop the interview at any time.

አማርኛ: ይህ መጠይቅ ለትምህርታዊ ምርምር ዓላማ ብቻ የተዘጋጀ ነው። የጥናቱ ዓላማ በሁልባረግ ወረዳ ውስጥ የገጠር ቁጠባና ብድር ህብረት ማህበራት (RUSACCO) በፋይናንስ አካታችነት ላይ ያላቸውን ሚና ለመገምገም ነው። በዚህ ጥናት ላይ መሳተፍዎ በፈቃደኝነት ነው።

Respondent agrees to participate / ተሳታፊው ለመሳተፍ ፈቃደኛ ነው: ☐ Yes / አዎ ☐ No / አይ

Respondent Code / የተሳታፊ ኮድ: _____

Date / ቀን: _____

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

A1. Sex of respondent / የተሳታፊው ፆታ

☐ Male / ወንድ ☐ Female / ሴት

A2. Age of respondent / የተሳታፊው ዕድሜ

☐ 18–25 ☐ 26–35 ☐ 36–45 ☐ 46–55 ☐ Above 55 / ከ55 በላይ

A3. Marital Status / የጋብቻ ሁኔታ

☐ Married (Monogamous) ☐ Married (Polygamous) ☐ Widowed/Divorced ☐ Single

A4. Educational Level (EDU) / የትምህርት ደረጃ

☐ Illiterate / ማንበብና መጻፍ አይችልም ☐ Primary / አንደኛ ደረጃ
☐ Secondary / ሁለተኛ ደረጃ ☐ More than High School / ከ12ኛ ክፍል በላይ

A5. Occupation (OCU) / ሥራ/መተዳደሪያ

☐ Farmer / ገበሬ ☐ Daily Laborer / የቀን ሰራተኛ ☐ Petty Trade / ጥቃቅን ንግድ
☐ Government Employee / መንግስት ሰራተኛ ☐ Government Support / የመንግስት ድጋፍ

A6. Monthly Income Level (IL) / ወርሃዊ ገቢ

☐ < 5,000 ETB ☐ 5,001–10,000 ETB ☐ 10,001–15,000 ETB
☐ 15,001–20,000 ETB ☐ > 20,000 ETB

SECTION B: DEPENDENT VARIABLE – ROLE OF RUSACCO IN FINANCIAL INCLUSION

Rating Scale / የምዘና መለኪያ: 1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree

Code	Statement / መግለጫ	1	2	3	4	5
FI1	RUSACCO helps rural people access financial services. / RUSACCO የ ገ ጠር ህዝብ የ ፋይናንስ አገልግሎት እንዲያገኝ ይረዳል።	☐	☐	☐	☐	☐
FI2	RUSACCO increases saving habits among members. / በአባላት መካከል የቁጠባ ባህልን ያሳድጋል።	☐	☐	☐	☐	☐
FI3	RUSACCO improves access to loans. / የብድር ተደራሽነትን ያሻሽላል።	☐	☐	☐	☐	☐
FI4	RUSACCO reduces financial exclusion. / የፋይናንስ መግለልን ይቀንሳል።	☐	☐	☐	☐	☐

SECTION C: ACCESS TO FINANCIAL SERVICES

Rating Scale / የምዘና መለኪያ: 1=Very Difficult 2=Difficult 3=Medium 4=Accessible 5=Very Accessible

Code	Statement / መግለጫ	1	2	3	4	5
EAFB	Access to formal bank services / የመደበኛ ባንክ አገልግሎት ተደራሽነት	☐	☐	☐	☐	☐
EAFMF	Access to microfinance services / የማይክሮፋይናንስ አገልግሎት ተደራሽነት	☐	☐	☐	☐	☐
EAFR	Access to RUSACCO services / የ RUSACCO አገልግሎት ተደራሽነት	☐	☐	☐	☐	☐

SECTION D: USAGE OF RUSACCO SERVICES

Code	Statement / መግለጫ	Yes	No
URAL	Use RUSACCO to access loans / ብድር ለማግኘት RUSACCO መጠቀም	☐	☐
URDW	Use RUSACCO for deposit and withdrawal / ለቁጠባ እና ገንዘብ ማውጣት	☐	☐
URLP	Use RUSACCO for literacy program / ለፋይናንስ ስልጠና መጠቀም	☐	☐
URAG	Use RUSACCO for advice and guidance / ምክር እና መመሪያ ለማግኘት	☐	☐

SECTION E: BARRIERS TO FINANCIAL INCLUSION

Please rate the extent to which the following factors affect your access to RUSACCO financial services.

Rating Scale: 1=Not at all 2=Slightly 3=Moderately 4=Significantly 5=Very Significantly

Code	Barrier Factor	1	2	3	4	5
RC	Religion and cultural norms / ሃይማኖት እና የባህል ደንቦች	☐	☐	☐	☐	☐
TR	Level of trust in RUSACCO / ለ RUSACCO ያለ ዎት እምነት	☐	☐	☐	☐	☐
LFS	Level of financial skill/literacy / የፋይናንስ ክህሎት ደረጃ	☐	☐	☐	☐	☐
DIS	Distance to RUSACCO office / ወደ RUSACCO ቢሮ ርቀት	☐	☐	☐	☐	☐
COL	Lack of collateral for loans / ለብድር ዋስትና አለመኖር	☐	☐	☐	☐	☐

SECTION F: KEY INFORMANT INTERVIEW GUIDE

The following open-ended questions were used for semi-structured interviews with RUSACCO managers, cooperative officers, and sector experts:

1. What are the primary financial services provided by RUSACCOs in Hulbareg Woreda, and how have they evolved over the past decade?
2. How does your RUSACCO mobilize savings from members, and what mechanisms encourage regular saving behavior?
3. What are the major criteria used to assess loan eligibility, and how are loan disbursements monitored?
4. What challenges does your RUSACCO face in loan recovery, and what strategies are employed to address them?
5. In your opinion, what socio-cultural factors most significantly affect community members' participation in RUSACCO services?
6. How does RUSACCO address the financial needs of women and other marginalized groups in the community?
7. What institutional capacity gaps (e.g., governance, staffing, technology) currently limit RUSACCO effectiveness?
8. What forms of support from government or development partners would most improve RUSACCO performance and outreach?
9. How do informal financial institutions (Iqub, Idir) interact with or compete against RUSACCO services?

10. What is your overall assessment of RUSACCO's contribution to financial inclusion in Hulbareg Woreda?

APPENDIX 2: DESCRIPTIVE STATISTICS TABLES

Table A2.1: Gender of the Respondents

Gender	Frequency	Percent (%)	Valid %	Cumulative %
Male	183	48.93	48.93	48.93
Female	191	51.07	51.07	100.00
Total	374	100.00	100.00	

Source: Own Survey Data, 2025

Table A2.2: Age Distribution of Respondents

Age Group	Frequency	Percent (%)	Financially Included (%)	Financially Excluded (%)
18–25	27	7.22	37.04	62.96
26–35	42	11.23	33.33	66.67
46–55	250	66.84	68.40	31.60
> 55	55	14.71	58.18	41.82
Total	374	100.00	60.70	39.30

Source: Own Survey Data, 2025

Table A2.3: Marital Status and Financial Inclusion

Marital Status	Total (n)	Financially Included	Financially Excluded	Included (%)
Married (Monogamy)	258	162	96	62.79
Married (Polygamy)	31	13	18	41.94
Widowed	38	26	12	68.42
Single / Not Married	47	26	21	55.32
Total	374	227	147	60.70

$\chi^2(3) = 6.5682, p = 0.087$ | *Source: Own Survey Data, 2025*

Table A2.4: Education Level and Financial Inclusion

Education Level	Total (n)	Included (n)	Excluded (n)	Included (%)
Illiterate	72	51	21	70.83
Elementary / Primary	138	93	45	67.39
High School	121	60	61	49.59
More than High School	43	23	20	53.49
Total	374	227	147	60.70

$\chi^2(3) = 12.8907, p = 0.005$ | *Source: Own Survey Data, 2025*

Table A2.5: Occupation and Financial Inclusion

Source of Income	Total (n)	Included (n)	Excluded (n)	Included (%)
Daily Labor	24	10	14	41.67
Agriculture	78	54	24	69.23
Government Support	185	100	85	54.05
Petty Trade	44	38	6	86.36
Government Employee	43	25	18	58.14
Total	374	227	147	60.70

$\chi^2(4) = 21.7149, p = 0.000$ | Source: Own Survey Data, 2025

Table A2.6: Income Level and Financial Inclusion

Income Level (ETB)	Total (n)	Included (n)	Excluded (n)	Included (%)
< 5,000	167	88	79	52.69
5,001 – 10,000	39	37	2	94.87
10,001 – 15,000	67	44	23	65.67
15,001 – 20,000	64	28	36	43.75
> 20,000	37	30	7	81.08
Total	374	227	147	60.70

$\chi^2(4) = 38.4203, p = 0.000$ | Source: Own Survey Data, 2025

APPENDIX 3: STATISTICAL TEST RESULTS

A3.1 Pairwise Correlation Matrix

Table A3.1 presents the pairwise correlation coefficients among all study variables. None of the correlation coefficients exceeds 0.70, confirming the absence of serious multicollinearity.

Variable	FIWR	Gender	Age	Education	Src Income	Rel/Culture
FIWR	1.000	-0.1103*	0.2072***	-0.1604**	0.0620	-0.3363***
Gender	-0.1103*	1.000	0.0231	-0.0513	0.0318	0.0491
Age	0.2072***	0.0231	1.000	-0.2330***	-0.0912	0.0744
Education	-0.1604**	-0.0513	-0.2330***	1.000	0.3746***	-0.0619
Source Income	0.0620	0.0318	-0.0912	0.3746***	1.000	0.0183
Rel/Culture	-0.3363***	0.0491	0.0744	-0.0619	0.0183	1.000

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. FIWR = Financial Inclusion with RUSACCO.

A3.2 Variance Inflation Factor (VIF) Test for Multicollinearity

All VIF values are well below the threshold of 10, confirming no serious multicollinearity issue.

Variable	VIF	1/VIF (Tolerance)
Use RUSACCO for Loan	2.69	0.3711
Increase Saving Habit	2.04	0.4899
Reduce Financial Exclusion	1.80	0.5562
Use RUSACCO (Deposit/Withdrawal)	1.70	0.5898
Access to Formal Bank	1.65	0.6063
Increase Access to Loan	1.54	0.6474
Use RUSACCO (Guidance)	1.45	0.6890
Education	1.39	0.7200
Use RUSACCO (Literacy)	1.33	0.7543
Source of Income	1.29	0.7747
Age	1.18	0.8464
Religion and Culture	1.18	0.8503
Gender	1.13	0.8828
Income Level	1.10	0.9080
Marital Status	1.09	0.9173
Easy Access to Bank	1.08	0.9218
Level of Financial Skill	1.08	0.9218
Easy Access to MFI	1.08	0.9246
Easy Access to RUSACCO	1.07	0.9345
Trust for RUSACCO	1.06	0.9400
Mean VIF	1.40	

A3.3 Heteroskedasticity Test (Breusch-Pagan / Cook-Weisberg Test)

Test Parameter	Value
Null Hypothesis (H_0)	Constant variance (homoskedasticity)
Chi-square statistic $\chi^2(1)$	7.37
Probability $> \chi^2$	0.0066
Decision	Reject H_0 — heteroskedasticity detected; robust standard errors applied in final model

A3.4 Normality Test (Cameron & Trivedi IM-Test Decomposition)

Source	Chi ² Statistic	df	p-value
Heteroskedasticity	280.01	224	0.0065
Skewness	47.53	20	0.0005
Kurtosis	7.83	1	0.0051
Total	335.37	245	0.0001

A3.5 Chi-Square Cross-Tabulation: Gender and Financial Inclusion

Gender	Not Financially Included	Financially Included	Total	Included (%)
Female	65	126	191	65.97
Male	82	101	183	55.19
Total	147	227	374	60.70

Pearson $\chi^2(1) = 4.5502$, $p = 0.033$ | Source: Own Survey Data, 2025

APPENDIX 4: LOGISTIC REGRESSION RESULTS

A4.1 Initial Logistic Regression Model

The initial model included all hypothesized explanatory variables. LR $\chi^2(20) = 431.17$, $p < 0.001$; Pseudo $R^2 = 0.8687$. Note: The high pseudo R^2 is attributed to conceptual overlap between some explanatory variables and the dependent variable (e.g., access to loan, savings habit increase), which led to the estimation of a revised model.

A4.2 Revised Logistic Regression Model (Final Model)

Dependent Variable: Financial Inclusion with RUSACCO (1=Included, 0=Excluded)

LR $\chi^2(9) = 77.08$, $p < 0.001$ | Pseudo $R^2 = 0.1553$ | $N = 374$

Variable	Coefficient (β)	Std. Error	z-stat	p-value	95% CI
Gender	-0.546	0.245	-2.23	0.026*	[-1.026, -0.066]
Age	0.409	0.119	3.43	0.001***	[0.176, 0.643]
Marital Status	0.122	0.146	0.84	0.403	[-0.164, 0.408]
Education	-0.420	0.150	-2.80	0.005**	[-0.714, -0.126]
Source of Income	0.392	0.126	3.11	0.002**	[0.145, 0.639]
Income Level	0.052	0.101	0.52	0.606	[-0.146, 0.250]
Religion & Culture	-1.498	0.244	-6.14	0.000***	[-1.976, -1.020]
Level of Financial Skill	-0.115	0.115	-1.00	0.317	[-0.341, 0.110]
Trust for RUSACCO	-0.191	0.101	-1.90	0.058†	[-0.388, 0.006]
Constant	0.847	0.502	1.69	0.092	[-0.137, 1.831]

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$. Source: Own Stata Output, 2025.

A4.3 Marginal Effects (Average Marginal Effects at the Means)

Variable	dy/dx	Std. Error	z-stat	p-value	95% CI
Gender	-0.1047	0.0460	-2.28	0.023*	[-0.195, -0.015]
Age	0.0784	0.0222	3.53	0.000***	[0.035, 0.122]
Marital Status	0.0234	0.0280	0.84	0.403	[-0.031, 0.078]
Education	-0.0805	0.0281	-2.86	0.004**	[-0.135, -0.026]
Source of Income	0.0751	0.0237	3.17	0.002**	[0.029, 0.122]
Income Level	0.0100	0.0194	0.52	0.605	[-0.028, 0.048]
Religion & Culture	-0.2871	0.0424	-6.77	0.000***	[-0.370, -0.204]
Level of Financial Skill	-0.0221	0.0219	-1.01	0.314	[-0.065, 0.021]
Trust for RUSACCO	-0.0361	0.0190	-1.90	0.058†	[-0.073, 0.001]

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$. Source: Own Stata Output, 2025.

A4.4 Goodness-of-Fit and Robustness Check

Test / Statistic	Value	Interpretation
Pearson Goodness-of-Fit χ^2	359.51 (df = 324)	p = 0.0849 (Model fits well)
Robust Wald $\chi^2(9)$	60.94	p < 0.001 (Model is significant)
Pseudo R ² (McFadden)	0.1553	Moderate fit — typical for cross-sectional data
Log Likelihood	−210.18	—
Number of Observations	374	—

APPENDIX 5: RUSACCO INSTITUTIONAL PERFORMANCE DATA (2011–2017 E.C.)

Table A5.1: Annual Membership Growth in RUSACCOs (2011–2017 E.C.)

Year (E.C.)	No. of Member Households	Annual Change (n)	Growth Rate (%)	Cumulative Change (%)
2011	3,214	—	—	Base Year
2012	3,598	+384	11.95	+11.95
2013	3,922	+324	9.01	+22.04
2014	4,187	+265	6.76	+30.28
2015	4,503	+316	7.55	+40.10
2016	4,841	+338	7.51	+50.62
2017	5,122	+281	5.81	+59.35

Source: Hulbateg Woreda Cooperative Promotion Office Annual Reports (2011–2017 E.C.)

Table A5.2: Savings Mobilization Trend (2011–2017 E.C.)

Year (E.C.)	Total Savings (ETB)	Share Capital (ETB)	Annual Growth (%)
2011	1,242,500	380,000	—
2012	1,487,300	440,200	+19.7
2013	1,731,800	512,400	+16.4
2014	2,103,600	598,700	+21.5
2015	2,489,200	702,100	+18.3
2016	2,874,500	831,300	+15.5
2017	3,312,800	966,400	+15.3

Source: Hulbateg Woreda Cooperative Promotion Office Annual Reports (2011–2017 E.C.)

Table A5.3: Loan Disbursement and Recovery Performance (2011–2017 E.C.)

Year (E.C.)	Loans Disbursed (ETB)	Amount Recovered (ETB)	Outstanding (ETB)	Recovery Rate (%)	Remark
2011	820,000	820,000	0	100.0	Full recovery
2012	1,050,000	1,050,000	0	100.0	Full recovery
2013	1,340,000	970,000	370,000	72.4	Partial
2014	1,580,000	1,151,820	428,180	72.9	Partial
2015	1,820,000	1,456,000	364,000	80.0	Improving
2016	2,100,000	1,722,000	378,000	82.0	Improving
2017	2,450,000	2,107,000	343,000	86.0	Strong

Source: Hulbateg Woreda Cooperative Promotion Office Annual Reports (2011–2017 E.C.)

Table A5.4: Number, Membership and Capital of Cooperatives in Hulsebereg Woreda (2017 E.C.)

Cooperative Type	Number	Members	Female Members	Share Capital (ETB)
Multipurpose Cooperatives	5	1,240	510	348,000
RUSACCOs (Saving & Credit)	12	5,122	2,480	966,400
Consumer Cooperatives	3	620	210	124,000
Total	20	6,982	3,200	1,438,400

Source: Hulsebereg Woreda Cooperative Promotion Office (2017 E.C.)