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DETERMINANTS OF RURAL HOUSEHOLD SAVING BEHAVIOUR: A CASE OF LIMU DISTRICT, EAST WOLLEGA ZONE OF OROMIA, ETHIOPIA

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Determinants Of Rural Household Saving Behaviour: A Case Of Limu District, East Wallaga Zone Of Oromia, Ethiopia, School Of Postgraduate Studies Department Of Economics

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DECLARATION

This is to declare that this thesis work entitled "Determinants Of Rural Household Saving Behaviour: A Case Of Limu District, East Wallaga Zone Of Oromia Regional State, Ethiopia" summited in partial fulfilment of the requirements for the award of the degree of masters of Science.in development Economics to Faculty of Business and Economics, Wallagga University, through the Department of Economics is an authentic work carried out by me. All resources of materials used for this thesis have been duly acknowledged.

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I, undersigned, declare that study entitled “Determinants of Rural Household Saving Behaviour: A Case of Limu District, East Wallaga Zone of Oromia Regional State, Ethiopia” is my own original work. I have under taken the research work independently with the guidance and support of the research advisor. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis have been duly acknowledged. This thesis is submitted in partial fulfilment of the requirements for MSc Degree in Development Economics at Wallagga University. I seriously declare that this thesis is not submitted to any other institution anywhere for the award of any degree or diploma.

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As members of the Board of Examining of the final MSc. this open defence, we certify that we have read and evaluated the thesis prepared by Jemera Bekele Gobena under the title "Determinants of Rural Household Saving Behaviour: A Case of Limu District, East Wallaga Zone of Oromia Regional State, Ethiopia" and recommended that the thesis be accepted as fulfilling the thesis requirement for the Degree of Masters of Science in Development Economics.

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ACRONYMS AND ABBREVIATIONS

AIH- Absolute Income Hypothesis

CI – Confidence Interval

CSA- Central Statistical Authority

FIs- Financial Institutions

GDP Gross Domestic Product

GDS- Gross Domestic Saving

HH- Household

LCH- Life-Cycle Hypothesis

LDC - Least Developed Country

LPF- Loan Performer

OCSSCO- Oromia Credit and saving Share Company

PIH - Permanent Income Hypothesis

PPS – Probability proportionate to size

RIH- Relative Income Hypothesized

MIS- Management Information System

NBE- National Bank of Ethiopia

MoFED- Ministry of Finance and Economic Development

SHGs- Self-Help Groups SSA-Sub Saharan Africa

Table of Contents

ACRONYMS AND ABBREVIATIONS vii

LPF- Loan Performer vii

Table of Contents i

Abstract iii

CHAMTER ONE 1

1.1 Back ground of the study 1

1.2 Statement of the Problem 4

1.3. Research Question 6

1.4. Objectives of the study 6

1.4.1. General objective 6

1.4.2. Specific Objectives 6

1.5. Significance of the study 6

1.6. Limitation of the Study 7

1.7. Scope of the Study 7

1.8. Organization of the paper 8

2.1. Theoretical Literature 9

2.1. 1 .The Concept and Definition of Saving 9

2.1.2. Purpose and Motive of Saving 9

2.1.3. The Concept and Meaning of Household Saving 10

2.1.4. Individual Oriented perspective 11

2.1.5. The Role of Financial Institutions in savings Mobilization 11

2.1.6. Types of Saving 12

2.1.7. Forms of Saving 12

2.1.8. Determinants of Saving 13

2.1.9. Saving and Economic growth 13

2.1.10. Life cycle and Permanent-income Hypothesis of Consumption 13

2.1.11. Theories of Saving 14

2.2 Empirical Review 15

2.3. Conceptual Framework of the Study 23

3.1.2. Altitudinal and Climatic Condition 25

3.1.3. Farming Activity 26

3.1.4. Soil Type of the study Area 27
3.2. Research Design 27
3.3 Sampling Technique, Sample Size and Sampling Procedure 28
3.4. Type and Source of Data 30
3.5. Method of Data Collection 31
3.6. Method of Data Analysis 31
3.6.1 Descriptive Statistical Analysis 31
3.6.2. Econometric Model Specification 32
3.7. Definition of Variables 35
3.7.1. Dependent Variable 35
Dependent variable saving behavior (sb) and extent of saving (sa 35
3.7.2. Independent Variable 35
12. **Experience in Using Credit and Its Effect on Household Saving Behaviour** 38
CHAPTER FOUR 40
4. RESULTSAND DISCUSSION 40
4.1. Description of Demographic and Socio-Economic Characteristics 40
4.1.1. Household Demographic Characteristics 40
4.1.2. Household Socio-Economic Characteristics 42
4.1.3. The Households' Savings Behaviour 43
4.2. Hypothesis Testing 44
4.3. Results of Probit Model for Saving Behaviour 45
4.3.1. Interpretation of Significant Variables 46
CHAPTER FIVe 51
5. SUMMARY, CONCLUSION, AND RECOMMENDATION 51
5.1. Summary of the Study 51
5.2. Conclusion 53
References 57
Appendix 1 60

Abstract

Savings play a vital role in enhancing household economic security, promoting investment, and contributing to national capital formation. However, in rural areas where income levels are generally low and access to financial services is limited, the capacity and willingness of households to save remain constrained. Understanding the determinants of household saving behaviour is therefore essential for designing effective policies aimed at improving financial inclusion, reducing poverty, and fostering sustainable economic development. This study was conducted to identify the determinants of rural household saving behaviour in Limu woreda, East Wollega Zone, Oromia regional state, Ethiopia. The study employed both primary and secondary data sources. Primary data were collected from 204 randomly selected rural households using structured questionnaires, of which 202 valid responses were used for analysis. Descriptive statistics and econometric techniques were employed to analyse the data. A Probit regression model was used to identify factors influencing households' decisions to save, while the determinants of the extent of saving were analysed using a saving amount model. The results of the Probit model revealed that age of the household head, educational level, number of trainings received, and access to financial institutions positively and significantly influenced household saving behaviour. In contrast, family size and the number of dependents negatively and significantly affected the probability of saving. The marginal effect results indicated that a one-year increase in the age of the household head increased the probability of saving by 0.79%, while an additional training session and an additional year of schooling increased the likelihood of saving by 9.4% and 3.05%, respectively. Conversely, an additional family member and dependent reduced the probability of saving by 5.87% and 10.04%, respectively. Variables such as sex of household head, marital status, membership in social associations, and number of literate family members, credit-use experience, and market availability were found to be statistically insignificant in influencing saving decisions. Furthermore, the analysis of the extent of saving indicated that age, educational attainment, training participation, and credit-use experience positively and significantly influenced the amount of savings accumulated by households, whereas family size negatively affected the level of savings. The findings suggest that demographic characteristics, human capital development, and institutional factors are critical determinants of rural household saving behaviour. The study concludes that improving educational opportunities, strengthening financial literacy and training programs, expanding access to financial institutions, promoting productive credit utilization, and reducing household dependency burdens are essential strategies for enhancing rural household savings. Therefore, policymakers, financial institutions, and development organizations should focus on strengthening financial inclusion and capacity-building interventions to improve saving behaviour and support sustainable rural development.

Keywords: *Household Saving Behaviour, Rural Households, Probit Regression Model, Financial Inclusion, Financial Literacy, Limu Woreda, Ethiopia.*

CHAMTER ONE
1. INTRODUCTION

1.1 Back ground of the study

Saving behaviour is a key determinant of economic development, and it varies significantly across different regions of the world. Globally, saving rates differ greatly between regions, with East Asia typically exhibiting some of the highest saving rates often above 30% while Sub-Saharan Africa (SSA) generally maintains much lower rates, often below 15% Amoah et al. (2024). These regional disparities in saving behaviours have profound implications for economic stability, growth, and poverty alleviation. Low saving rates hinder the accumulation of capital, which is essential for investment in critical sectors such as infrastructure, agriculture, and education, ultimately limiting the potential for sustained economic growth.

Globally, saving behaviour is strongly influenced by economic, social, and institutional factors. In high-income countries, where incomes are generally higher and financial systems are more developed; saving rates tend to be more robust. Conversely, in low-and middle income economies, particularly in regions such as Sub-Saharan Africa, saving rates are often constrained by income limitations, limited access to financial services, and political instability. Studies have shown that savings rates tend to increase in countries with stable economic growth, low inflation, and high levels of financial inclusion, but remain low in regions that lack such stability and access to banking services (Amoah et al. (2024); (Bhowmick et al. (2024).

In Africa, saving behavior has shown considerable variation between countries. On average, Africa's domestic saving rates are lower than those in other developing regions. This low rate of domestic savings is particularly problematic given the fact that many African countries, including Ethiopia, face significant financing gaps for infrastructure and development needs. In particular, Sub-Saharan Africa has faced challenges such as low per capita income, high poverty levels, and weak financial markets, which hinder the growth of household savings Amoah et al. (2024).Despite these challenges, some African countries have experienced an improvement in saving behavior due to the increasing availability of microfinance services and the gradual growth of financial literacy programs.

However, these improvements have been uneven across the continent. Rural households, who represent the majority of the population in many African countries, remain particularly disadvantaged in terms of access to banking services, credit facilities, and savings products. These results in limited capacity to save or invest, thus exacerbating the cycle of poverty in rural areas.

Sub-Saharan Africa (SSA) as a region has been particularly impacted by low savings rates. The Gross Domestic Savings (GDS) to GDP ratio in SSA countries has typically been lower than the global average, often below 15% **(**Akram, 2023); Amoah, et al. (2024. This is due to a variety of factors, including low household income, political instability, limited access to formal financial services, and a lack of awareness about the importance of savings. Rural areas in particular face these challenges more acutely, as agriculture remains the dominant livelihood strategy, and incomes are highly variable depending on factors such as climate conditions and market access. In many SSA countries, rural households face significant barriers to saving, including low and unpredictable incomes, insufficient access to formal savings mechanisms, and cultural norms that prioritize immediate consumption over long-term savings.

Ethiopia, located in the Horn of Africa, mirrors many of these challenges faced by SSA countries. The country has long struggled with low domestic savings rates, contributing to a significant resource gap. According to Tsega Birhan (2010), Ethiopia's gross domestic saving/ Gross Domestic product (GDP) ratio was just 6.6% between 1997 and 2002, which is lower than the average for low-income Sub-Saharan African countries (7.1%). This low savings rate is a key obstacle to Ethiopia's development, as it hinders the country's ability to generate sufficient resources to finance critical infrastructure and development projects.

The gap between domestic savings and investment has been a persistent challenge for Ethiopia, particularly given its reliance on foreign aid and investment to meet development goals. The country's low savings rate is compounded by a lack of access to formal financial institutions, particularly in rural areas. Rural household in Ethiopia, which make up the majority of the population, often rely on informal saving mechanisms, such as, group saving or livestock, to meet their financial needs. However, these informal systems are often inefficient and fail to generate the necessary capital for large-scale investment. Additionally, many rural households

face cultural and social barriers to saving, such as a focus on immediate consumption needs and the lack of a financial safety net for emergencies.

Recent studies indicate that several economic and institutional factors influence saving behaviour in Ethiopia. Joshi et al. (2019), Found that variables such as GDP, real interest rates, government expenditure, and broad money growth significantly impact gross domestic savings in the short run. However, their study also highlighted the risks associated with low savings mobilization into productive sectors. Without efficient mechanisms to channel savings into sectors such as agriculture, industry, and infrastructure, the country's savings may fail to generate long-term economic growth.

In poor country like Ethiopia national saving has vital role for capital accumulation. Which facilitates domestic investment and economic growth. Accordingly, this paper mainly investigates the covariates that to determines national saving specifically in Ethiopia based on the time series data collected from year of 1984-2016 E.C. The main objective of study was to identify trend of and the major covariates that determine to national saving in Ethiopia. The five covariate (variable), have employed. Namely national saving, real GDP, investment, deposit rate and inflation rate. (EdosaKubsaLebeta), (2021)

Based on the national bank of Ethiopia, 2022 reports, Ethiopian saving rate was declining from 24.1% of gross domestic product (GDP) IN 2018 to 9.8% of GDP in 2021. The average Ethiopian household save 875 birr each year in financial institutions, and this is insufficient to sustain the country's economic growth and development. This was less than average of Sub-Saharan countries' saving rate (21%) and less than developing countries' average (27%) in 2021(word bank). From the period 2015/16-2018/19, the saving investment gap is on average 31% and 37% of GDP, respectively, National Bank of Ethiopia (NBE). Those saving rate decrements had an impact on shrinking both private public investments. This was supported a national bank report, 16 investment projects with a total investment capital of birr 1.8 billion became operational in the first quarter of 2020/21. Both the number of investment projects and investment capital has slowed in comparison to previous year.

Saving is the fraction of income not instantly consumed but kept for future investment, consumption or for unforeseen contingencies in the future. The chi-square test of association

revealed that age household head, education level of household head, main occupation, knowing about interest rate of financial institution, having farm land, getting advise about saving were significantly associated the saving status of households. Additionally, the logistic regression shows that age of household head, main occupations, knowing about interest rate, income of household and family size were significant determinants of house hold saving status. In order to enhance the households saving status in financial institutions, the district, the Oromia regional state and the government financial sectors should work on awareness creation about saving and increase the income of the household. (Abate, Tadesse, Zeleke 2021)

According Gemechu Feyissa G (2023) study to identify determinants of rural household saving East Wallaga zone, From the total variable Sex education, income of household and access to financial institution become among the important factor that determines household saving. From the total of 385respondants enrolled in study, 58.7% (226) respondents were males while 41.2% (159) respondents were females. Further, based on logistic regression result sex, education status, income of household and access to financial institution of household head was significant. This implies that household head who had higher level of education attainment, less family size, income and access to financial institutions have higher probability to save.

In the above circumstances, a research gap can be noted in the Ethiopia setting. Therefore, there was a significant need to discuss household saving behaviour that affect the savings among households in Ethiopia specifically Limu district.

However, the rural households saving need further investigation. In additional, there was no research conducted before on determinants of household saving behaviour in the study area. Therefore the main objective of this study was assessed the determinants which affect the rural household saving behaviour Limu district Oromia region, Ethiopia.

1.2 Statement of the Problem

Saving is an important component of household welfare and economic development. At the household level, saving enables families to smooth consumption, cope with unexpected shocks, invest in productive activities, and improve their future living standards. At the national level, domestic savings provide resources for investment and economic growth. Despite its importance,

the level of household saving in Ethiopia remains low, particularly in rural areas where most households depend on agriculture and have limited access to financial services.

Several empirical studies have examined the determinants of saving behavior in Ethiopia and other countries. For example, Temam Gebu Duressa and Ejara (2018), Moges et al. (2021), Mazengiya et al. (2022), Worku et al. (2022), Gemechu Feyisa (2023), and Strzelecka and Zawadzka (2023) identified factors such as income, education, family size, access to credit, financial literacy, landholding, occupation, wealth status, and distance from financial institutions as important determinants of household saving. These studies provide useful evidence on the factors influencing saving behavior among households.

However, the existing literature reveals several important gaps. First, many previous studies focused on aggregate or macro-level determinants of saving, while relatively few studies examined saving behavior at the household level. Second, most studies combined rural and urban households, making it difficult to understand the specific factors that influence saving behavior among rural households. Third, some studies focused only on participation in saving and did not adequately examine the broader demographic, microeconomic, and institutional factors affecting household saving behavior. As a result, evidence on rural household saving remains limited and context-specific.

In Ethiopia, rural households face unique challenges such as low agricultural productivity, limited income diversification, inadequate financial infrastructure, and poor access to formal financial institutions. These challenges may significantly influence their saving behavior. Understanding the determinants of rural household saving is therefore essential for designing appropriate policies and strategies aimed at mobilizing savings and promoting financial inclusion.

Although several studies have been conducted in different parts of Ethiopia, no empirical study has been undertaken on the determinants of rural household saving behavior in Limu District of East Wollega Zone. Consequently, there is a lack of local evidence regarding the demographic, microeconomic, and institutional factors that influence saving behavior in the study area.

Therefore, this study seeks to fill three major research gaps. First, it addresses the geographical gap by focusing on Limu District, where no previous study on rural household saving behavior has been conducted. Second, it fills the contextual gap by examining rural households separately

from urban households. Third, it fills the empirical gap by investigating the combined effects of demographic, microeconomic, and institutional factors on household saving behavior. The findings of the study are expected to provide valuable information for policymakers, financial institutions, and development practitioners seeking to enhance rural saving mobilization and improve financial inclusion in the area.

1.3. Research Question

The study was answered the following research questions:

1. What are the demographic factors that affect household saving behaviour in Limu district rural area?

2. What are the microeconomic factors that affect household saving behaviour in Limu district rural area?

3. How the institutional factors determine household saving behaviour in limu district rural area?

1.4. Objectives of the study

1.4.1. General objective

The major objective of the study was to assessed factors that determines household saving behaviour in East Wallaga Zone Limu district rural area.

1.4.2. Specific Objectives

The specific objectives of this study were:

1. To assess the demographic factors that affects household saving behaviour in Limu rural area.
2. To identify the microeconomic factors that affect household saving behaviour in Limu rural area.
3. To examine how institutional factors affects household saving behaviour in Limu rural area.

1.5. Significance of the study

The finding of this study was contributed the society those are not saving and was help to improve saving culture of the society. The finding of this research would help the households to adjust their saving behaviour effectively. It provides literature for interested individuals who want to conduct further study on determinants of household saving behaviour and it was help to aware factors affecting household saving. The finding was also creating a favourable

environment for investment. The study was provided an idea for policy makers in formulating policies and regulations that was improved household welfares in this study area.

1.6. Limitation of the Study

Although every effort was made to ensure the quality of the study, several limitations were encountered during the research process. First, time constraints posed a challenge to data collection, as the period allocated for fieldwork coincided with the respondents' working hours, making it difficult to access some households at convenient times.

Second, inadequate infrastructure, including unreliable electricity supply and poor internet connectivity, affected communication, data processing, and access to relevant literature and online resources. Third, financial constraints limited the researcher's ability to travel extensively within the study area and cover transportation and other fieldwork-related expenses.

Furthermore, the study faced challenges due to the lack of sufficient secondary data, well-organized records, and previous research conducted on household saving behavior in the study area. This limited the availability of local references for comparison and analysis. Despite these limitations, appropriate efforts were made to collect reliable data and ensure the validity of the study findings.

1.7. Scope of the Study

This study has its own boundary since it was impossible to address vast majority of issues at a time (household saving habit, where they save in, for what purpose, when they save and otherwise why?). The data which was used in this research was cross-sectional data. The econometric model which selected for this study was Binary (binomial) logistic regression model. This study concentrated on in the case of Limu district. The study could be useful for the farmers and the decision makers to investigate the determinants of household saving behaviour. The study was limited to east Wallaga zone, Limu district due to the lack of time and financial constrain to involve the whole district in the study.

1.8. Organization of the paper

This study was present in chapter five. Chapter one introduction which includes back ground of study, statement of problem, objective of the study, research question, significance of the study, limitation of the study, and organization of the study. Chapter two provides related literature of the case. Chapter three starts with model specification and methodology, discusses the method as well as the processes to be used in data gathering, method of data analysis, definition of variable. Chapter four result and discussion and chapter five was summary, conclusion and recommendation.

CHAPTER TWO

REVIEW OF THE RELATEDLITERATURE

This part deals with the Theoretical Literature to the study which is classified into different sections: The concept and meaning of saving, the concept and meaning of household saving, the role of FIs in saving mobilization, types of saving, motives of saving, theories of saving, forms of saving, the second part is empirical review and the other is conceptual framework.

2.1. Theoretical Literature

2.1. 1 .The Concept and Definition of Saving

Saving is defined as cash held back from day-to-day spending by an act of transform small cash flows in to use full large lamp sum. Saving are fundamental sustainable economic development. It is the most frequent source of funding microenterprise set up and expansion. Saving enable household to in the face of uneven income flows, to accumulate assets for future invest in education, and to better prepare for emergencies. Despite the important savings, the large majority of micro-saving continue to lack access to safe and institutions where they can deposited their savings (cited by sandupama 2022).

Saving defines the action the action putting aside a part of current income, in order to consumer or saving is the action of keeping part of current income to use it latter. Also saving is the addition the physical capital from time t-Ito t, saving defines the amount of kept as a side in the current period (income minus consumption in a given period) saving is one of the most important variables in the micro-economic theory. Different studies revealed that there is a significant relationship between income, saving, investment, though they can determine the economic level of nation. (Abiyot Alemu 2021)&Abate saving is the fraction of income not instantly consumed but kept for future investment, consumption or for unforeseen contingencies in the future (Tadese Zeleke,2021)

2.1.2. Purpose and Motive of Saving

Different research has shown household saving motive vary from country to country, due to the culture and economic environment influences household saving motive. The list of saving motives includes home purchase, other major purchases (other residences, vehicles, furniture,

etc), set up a private business or finance investments in an existing business, investment in financial assets, provide for unexpected events, provide for old-age, travels/holidays, education/support of children or grandchildren, bequests, and taken advantage of state subsides Michael, et al(,2015).

Nyhus(2002) documented Lindqvist(1981) hierarchy of saving motives which was inspired by Ferber's(1973) and Kantonas(1975) proposed reasons for saving. According Lindqvist(1981) households financial decision consists of four types of motives: cash management, consumption decision, saving decision and asset management. Cash management involves decision concerning the households handling of money. Consumption decision concern both routine purchases and strategic purchase, of consumer. Saving decision are decision in which the allocation of income between now and later period are made. Asset management deals with how the saved money is invested i.e portfolio decision. According to Kantona(1975) reasons for saving are categorized as follows.

1. for emergency: this corresponds to precautionary saving motive which implies reserving for "rainy days".
2. for retirement: includes retirement and money needed for old ages.
3. for children and family needed: this includes expenditures associated with raising children and their education.
4. Other purpose: this includes buying a house or saving for vacation.

Generally economists and psychologists agree that people have reasons for saving and that saving might differ with respect to which motive is the most important (Nyhus, 2002).
Impulsiveness

2.1.3. The Concept and Meaning of Household Saving

According to Feyissa, G.F. and Gebbisa, M.B. (2021) Choice and Determinants of Saving in Rural Households of Bale Zone saving is important variable in achieving financial security and growth affecting both individual and national wellbeing. However saving level in Ethiopia specifically in rural areas is limited and less is known empirically about its factors. The results ultimately reveals that the age of the head of the household, gender, income and expenditure are significantly influencing the saving behaviour in the entire study area.(Nathika S&Kalailakshmi 2021)

2.1.4. Individual Oriented perspective

The early second quarter of the 20th century marked the beginning of approaching the household or individual saving behaviour from the income point of view with the work of Keynes (1936) "general Theory". Nyhus (2002) noted that in the 19th century there has been models of saving which focused on the inter temporal choice between consuming now or later and the factors that influence these choices. The theory of interest formation and the theory of preference took the lion share in explaining the determinants of saving in the 19th century. The theory of interest formation as described by Nyhus (2002) propagates that only income factors affect saving.

However in 1936 Keynes came up with the theory of preference which basically is the modification of the theory of interest. He introduced the concept of time preference, which explains as reflecting a person's impatience for consumption. Time preference is excess of the present marginal want for one more unit of present goods over the present marginal want for the one more unit of future good. The following are some of the personal factors which are related to the time preference:

1. **Foresight:** The greater for sight, the lower impatience.
2. **Self-control:** self-control reflects the willingness to resist temptations.
3. **Habits:** The influence of habit may be in other direction.
4. **Expectations of life:** Fisher regarded the chance of the death as the most important rational factor tending to increase impatience,
5. **Thoughts for relatives:** The stronger the bequest motive, the lower impatience.
6. **Need to follow whims of fashion:** The more independent of "Mrs Grundy and the high powered salesman of devices that are useless or harmful.

2.1.5. The Role of Financial Institutions in savings Mobilization

Mulugeta (2014) revealed that in financial institutions, saving is transformed in to deposits, which may either be normal or time fixed deposits. Financial institutions comprise of both the formal and informal sector. Financial institutions need to put in place strategies that are dynamic and aggressive to encourage saving by enhancing public confidence, provide cost effective

schemes, and most importantly they must be seen by the public specially to the concerned not only with balancing sheets but promoting people Welfare and prosperity. It is important to understand why people save, in doing so financial institutions will create products that are suitable and complement with the needs of those who save, Yitay, (2011).

2.1.6. Types of Saving

Most saving can be sighted from two broad categories; these are private saving and public saving. Private saving is done by private sector of the economy. Private saving is further divided in to two; household saving and business saving. Household saving refers to saving done by families and individuals whereas, business saving refers to purchase of new capital equipment or the expansion of its operations. Public saving on the other hand, is saving done by the government sectors which are the difference of taxes and government expenditure (Safo, 2015). However, this study is directed to household saving which is done by families and individual especially rural household head saving. In other words some researchers viewed the private domestic saving in three ways; voluntary, involuntary and forced saving. Voluntary saving related to the voluntary self-denial from consumption by private individuals out of personal disposable income and companies out of profit. Involuntary saving is saving brought about through involuntary reductions in consumption. Forced saving is saving that comes about as result of price rising and the reduction in real consumption that inflation involves if consumers cannot defend themselves (A.P. Thirlwall, 2002).

2.1.7. Forms of Saving

There are different forms of saving. Cash, Human Capital, and Entrustments to Family and Friends. Cash: Storing cash may be costly and risk, however, because cash is not invested, it does not increase in value. Consequently, the pool of mobilized funds may depreciate because of inflation. Human capital saving in form of human capital includes improved nutrition, increased number of children and expenditure on education. Additional children will be increase the Entrustments to Family and Friends; saving may be lent to family and friends. Saving deposits may take the form of sharing. Food is frequently shared between close relatives. Entrusting money to family and friends is useful in reinforcing the social network. Money may be difficult, especially if a person is perceived to be doing well." (Emily, 2011).

2.1.8. Determinants of Saving

According to Feyissa et al (2021), Savings is the main funding source for sustainable growth because it is less costly than loans which many Micro finance institutions rely on, stable source of funding, and improves public image and confidence for them. But saving mobilization in the rural household of the study area is low. Thus the existing financial institution in the district mobilizes saving by focusing on methodological and technological innovations that may be useful for delivering quality saving services.

According to Amsalu, et al. (2017), the findings imply the need for identifying alternative income sources for rural households through different income diversification options so as to mobilize more saving for economic growth. Secondly, education level household increases, the awareness regarding the importance of saving and saving institution is expected to increase. Thus, emphasis should be given to create and strengthen awareness of household to save through educational and awareness creation opportunities to rural households. Thirdly, as distance to financial institutions had negative and statistically significant effect on saving decisions and amount of saving of rural household, policy interventions should focus on increasing the availability and accessibility of financial institutions in rural areas to promote rural household saving.

2.1.9. Saving and Economic growth

The economic growth of a country can be referred to as economy's capacity to boost productivity of good and services on comparison with earlier time period. The fact that accumulating saving can be considered as the source of capital stock to which play a crucial role in creating investment, production and employment. And all these activities eventually enhance the economic growth of the country.(Dhanya, 2015).

According to G. Mankiw (2009) on the other hand, economic growth is macroeconomic phenomenon that gives details the amazing difference in income and standard of living across countries. According to Solow growth model how many a nations save and invests is a key determinant of its citizen's standard of living. Higher the national saving means higher public saving, higher private saving or some combination of the two.

2.1.10. Life cycle and Permanent-income Hypothesis of Consumption

In economics, saving and consumption are the two side of coin. That mean it is difficult to study saving theory without regarding the consumption, hence a portion of income not consumed is saved. In the first time a systematic theory of aggregate consumption expenditure by households

was developed through Keynes (1936). Keynes assumed consumption expenditure) (C is a function of current disposable income (Yd).

C= a+bYda- is autonomous consumption and

b- is marginal propensity to consume. .

As saving is distribution of income over time for households, it is source of financing investment for the country. So, under life cycle and permanent income hypothesis theories, consumer how much to consume in each period in order to maximize their life time utility. Subject to inter-temporal budget constraint. Accordingly, current consumption does not follow current income, different from the Keynesian model where

Ct = C(Yt) , estimated as **Ct =a+ bYt+ Ut, 0< b<1**

Where:- **a**- is autonomous consumption

b- is induced consumption or marginal propensity to consume

Ut- error term.

Yt- disposable income

2.1.11. Theories of Saving

According to Manamba,(2014), there are four widely accepted theories that explain the saving behaviour of economic agents. These theories are Absolute Income Hypothesis (AIH) by Keynes (1936), Relative Income Hypothesis (RIH) by Duesenberry(1949), Permanent Income

Hypothesis (PIH) by Friedman (1957), and life cycle hypothesis (LCH) by Modigliani (1963).Duesenberry relative income hypothesis; postulates that an household consumption function depends on household income in relation to other household income as a result for any given relative income distribution, the per cent of income saved by household will tend to be unique, invariant and increasing function of its percentile position in the income distribution. The RIH assumes that the per cent of income saved will be independent of the absolute level of income. Hence, the aggregate saving ratio will be independent of the absolute level of income (Alimi, 2013).

The Keynesian theory of absolute income hypothesis, in this theory argues that consumption and saving are an increasing function of absolute /disposable income. That is saving is negative

or very low and in general, income-saving relationship is not proportional. Other things being constant, the theory assumes that rich people save more than poor people Manamaba, (2014). Milton Friedman's Permanent Income Hypothesis is: that individuals are rational and they seek to maximize their lifetime utility subject to the constraint that all their lifetime resources must be spent. In this hypothesis, income and consumption are divided into two major components, the transitory and permanent components.

This is because an individual economic agent is thought to plan his expenditures on both income received during the current period and income expected during his lifetime. Therefore, consumers plan their expenditure on the grounds of a long-run view of the resources that will accumulate to them in their lifetime. Friedman argues that, permanent income should be considered when studying the saving and consumption behaviour of economic agents, not absolute income as Keynes suggests.

However, Changes in transitory income will lead to changes in savings, that is, the higher the transitory income, the higher the saving rate Tesha et al., (2013).Life-Cycle Hypothesis (LCH): As the work of Branson,(1979) cited in Manamba,(2014) The individuals have an income stream which is relatively low at the beginning and the end of their life, when their productivity is low and high during the middle of their life." The individuals maintain their standard of consumption throughout their life time period Tasha, (2013)

2.2 Empirical Review

In this section the work of different research related to determinants of rural household saving behaviour of people is presented. It mainly deals with the methodology, the major finding and the recommendation of researcher.

According to Kumala. D (2020), the main objective of the study was to assess the determinants of rural household saving among small holders' farmers household in Ambo district of West shawa zone, Ethiopia. Accordingly, the survey result shows that about 54 (58.7%) respondent were saver, whereas the rest 38 (41.3%) were non saver. The study examined determinants of rural household food security among small holders' farmers household in the study area. The study was conducted using descriptive statistics and binary logistic regression models to identify factors determining household saving status of rural household in Ambo district. These are sex of household head family size in, land cultivated. Annual income and Access to extension contact.

In the study area family size negatively influences household saving. On the other hand land cultivated and annual income access to training, sex of household head positively influence saving.

According to Genemo F.F &Mesfin Bekele Gebbisa (2021), household saving is value deposited at the time of survey by households. Farmers usually save from their proceeds for consumption smoothing purposes throughout the year, accumulation of wealth, and for contingency purposes bad harvest or accident. The survey result showed adult household heads were better in saving performance as compared to young and old household heads. This indicates that female headed households were relatively better in their saving status than male headed household.

Olkamo, Degefe Anulo (2021) the higher income household save more than those of lower income. Income was found to determine saving positively and significantly. Households in the early age affect negatively and significantly household saving. Whereas households, in the middle and late age determine saving positively and significantly. Education level of households affects positively and significantly households affects negatively significantly determine saving.

As study by Njenga et al., (2018), shows that when two adults, through marriage union cometog ether, the pulling of the accumulated resources together can raise their wealth. Thus maritalstat us has a positive as well as a significant effect on savings of a household.

According to Mercy Wangerwe Muriithi (2021)find that both household Demographic And socioeconomic factors affect the savingsdecisions in Kenya. The study established that formal sa vings increases with education level, marital status,employment formality,male gender and it declines with family size.

Edosa Kubsa Lebeta (2021), In poor country like Ethiopia national saving has vital role for capital accumulation. This facilitates domestic investment and economic growth. Accordingly, this paper mainly investigates the covariates that to determines national saving specifically in Ethiopia based on the time series data collected from year of 1984-2016 E.C. The main objective of study was to identify trend of and the major covariates that determine to national saving in Ethiopia. The five covariate (variable), have employed. Namely national saving, real GDP, investment, deposit rate and inflation rate.

According to Namate (2020), Study on Determinants and Impact of Financial Literacy on Savings Behaviours among households In Malawi the results reveal that those people with higher income and higher education levels have higher probability to save money. As regards to nature of occupation, those households with self-employment are found to be more likely to save compared to other categories.

According to Yusuf (2020), the study revealed that, saving culture of rural households in Ibarapa East Local Government of Oyo State, Nigeria. there was a positive relationship between the income of respondents and their participation in commercial banks.

According to Abiyot Alemu (2021) the study revealed that, saving culture of rural households in the consumption pattern and the income can affect saving. The relationship between consumption and saving shows opposite relationship. As consumption increase saving will be decreased. In the case of income and saving the scenario can be changed, as income increase saving also increase. This shows income and saving have a positive or direct relationship. Other demographic variables as gender, age, marital status, and education level and qualification have also their own significant effect on saving. The age of the people can determine the level of saving because it can affect the level of income and consumption pattern.

Ruwan Jayathilaka (2022) the study revealed that on Influence of Socio-economic and Demographics factors on Households' Savings in Sri Lanka shows that, the generated results gender, Income and education levels have shown a significant positive impact towards the level of saving, whilst marital status and poverty have shown a significant negative impact towards the saving behavior and level of saving. It is considered that when the demographic and socio-economic factors are affecting favorably, the level of saving tends to increase and vice versa.

According to (Derese Balcha & Mathewos Chafa 2022) , The purpose of this study is to identify the determinants of rural household saving in woliata zone sodozuriy Woreda southern, nation national people regional state of Ethiopia using the data available from the household survey for the year 2021/2022. Different characteristics of rural household were analysed based on the data collected from the sample respondents.

Feyissa.and Gebbisa, (2021) Choice and Determinants of Saving in Rural Households of Bale Zone revealed that, sex of the households, education level of the households, household family

size, annual income, annual expenditure and tropical livestock unit were determining factors for rural household saving.

Experience in using credit has been identified as an important institutional factor influencing household saving behaviour. Credit utilization strengthens households' interaction with financial institutions, enhances financial literacy, improves access to financial services, and creates opportunities for productive investment. Consequently, households with prior credit experience are often more likely to participate in saving activities than those without such experience (Sharma, 2024; Alamneh et al., 2025).

Recent empirical evidence supports the positive relationship between credit use and household saving behaviour. A study conducted by Bhat, Gomero, and Khan (2024) on rural households in Ethiopia found that the use of credit significantly and positively influenced household saving decisions. The study revealed that households with access to credit were more likely to save because credit facilitated investment in productive activities and increased household income. Similarly, households that successfully utilized credit for agricultural and non-farm enterprises demonstrated a higher propensity to accumulate savings than those without credit experience (Bhat et al., 2024).

Likewise, Sisay (2023), in a study conducted in southwest Ethiopia, found that institutional factors, including access to financial services and credit utilization, played a significant role in determining rural household saving status. The study argued that credit enables households to diversify income sources and accumulate surplus resources that can be deposited as savings. The findings further indicated that households with prior borrowing experience were more likely to participate in formal saving institutions than non-borrowers (Sisay, 2023).

Studies on financial inclusion also indicate that households with previous borrowing experience tend to develop stronger relationships with financial institutions and become more familiar with formal financial products. Such exposure improves financial management skills, encourages long-term planning, and increases participation in formal saving mechanisms. Sharma (2024) reported that access to inclusive financial services, particularly credit and savings products, strengthens household financial behaviour and encourages regular saving practices. Similarly,

Alamneh et al. (2025) found that greater financial inclusion significantly contributes to improved saving habits among Ethiopian households.

Moreover, microfinance credit has been shown to improve household income and welfare through investment in productive activities. Wassie (2023) found that households with access to microfinance credit experienced significant improvements in income and economic welfare in rural Ethiopia. Higher income generated through credit-financed activities increases the likelihood of saving after meeting consumption and loan repayment obligations. The study concluded that productive credit utilization serves as an important pathway for enhancing both household welfare and saving performance (Wassie, 2023).

The theoretical explanation behind this relationship is that credit relaxes liquidity constraints that often limit poor households' ability to invest. Once households obtain credit and successfully utilize it in farming, livestock production, petty trade, or other income-generating activities, they can generate additional earnings. These earnings create opportunities for precautionary savings, future investments, and emergency funds. Furthermore, many microfinance institutions require borrowers to maintain savings accounts as a condition for receiving loans, thereby directly encouraging saving behaviour (Sharma, 2024; Wassie, 2023).

However, empirical findings are not entirely uniform. Some studies suggest that when borrowed funds are diverted to consumption purposes rather than productive investments, repayment obligations may reduce the capacity to save. Excessive indebtedness can also discourage saving if households allocate a large share of their income to debt servicing. Nevertheless, the majority of recent empirical studies conclude that productive credit utilization positively affects household saving behaviour by enhancing income, financial inclusion, and financial discipline (Sharma, 2024; Bhat et al., 2024).

In Ethiopia, evidence consistently indicates that households with prior experience in using credit are more likely to save than those without such experience. Credit exposure improves access to formal financial institutions, increases income-generating opportunities, and promotes regular financial interactions that cultivate saving habits. Studies by Sisay (2023), Wassie (2023), Bhat et al. (2024), and Alamneh et al. (2025) collectively confirm that credit utilization contributes positively to household saving decisions. Therefore, based on both international and Ethiopian

empirical findings, experience in using credit is hypothesized to have a **positive (+) effect** on household saving behaviour.

The number of literate household members is widely recognized as an important socio-economic factor influencing household saving behaviour. Literacy enhances individuals' ability to access, understand, and utilize financial information, thereby improving financial decision-making. Households with a higher number of literate members are more likely to understand the benefits of saving, investment opportunities, and financial planning. As a result, literacy contributes positively to the development of saving habits and encourages participation in both formal and informal financial institutions (Alamneh et al., 2025; Sharma, 2024).

Recent empirical studies have found a significant positive relationship between household literacy and saving behaviour. Alamneh et al. (2025), using nationally representative household data from Ethiopia, reported that education and literacy significantly increase the likelihood of saving and asset accumulation. The study argued that literate household members possess better financial knowledge and are more capable of evaluating the long-term benefits of saving compared to less educated households. Similarly, Bhat, Gomero, and Khan (2024) found that households with higher educational attainment exhibited stronger saving behaviour because literacy improves financial awareness and future-oriented decision-making.

Financial literacy also promotes access to financial services and strengthens financial inclusion. According to Sharma (2024), literate household members are more likely to use banking services, savings accounts, mobile financial services, and other formal financial products. Increased interaction with financial institutions enhances confidence in formal saving mechanisms and encourages households to save regularly. The study further indicated that financially literate households are better equipped to manage risks, budget expenditures, and accumulate precautionary savings.

Empirical evidence from developing countries suggests that literacy contributes to saving behaviour through its effect on income generation and resource management. Literate household members are more likely to adopt improved technologies, engage in diversified livelihood activities, and access market information, which ultimately improves household income. Higher income levels increase the capacity to save after meeting consumption needs. Sisay (2023) found

that households with better educational backgrounds were more likely to participate in formal saving institutions due to improved awareness of financial opportunities and enhanced income-generating capacity.

In the Ethiopian context, several studies have consistently reported a positive relationship between education, literacy, and household saving behaviour. For example, Alamneh et al. (2025) and Sisay (2023) found that households with literate members were more likely to save because literacy improves financial management skills, facilitates access to financial institutions, and strengthens awareness regarding future financial security. These findings suggest that literacy not only influences the decision to save but also affects the amount of savings accumulated by households.

Based on the empirical literature, the number of literate household members is expected to have a positive effect on household saving behaviour. Households with more literate members are more likely to appreciate the importance of saving, utilize formal financial services, manage resources efficiently, and plan for future financial needs. Therefore, the expected sign of the variable "Literate Household Members (LHHM)" is positive (+) (Bhat et al., 2024; Alamneh et al., 2025).

The Double Hurdle Model has become one of the most widely used econometric approaches for analyzing household saving behaviour because it allows separate estimation of the decision to save and the amount of savings. Unlike the Tobit model, which assumes that the same process determines both participation and intensity decisions, the Double Hurdle Model recognizes that different factors may influence whether households save and how much they save. Recent studies have emphasized that this flexibility makes the model particularly suitable for analyzing household financial behaviour characterized by a large number of zero observations (Burke & Myers, 2023; Teklewold et al., 2024).

The model consists of two independent hurdles. In the first hurdle, a binary decision model—typically estimated using a Probit regression—is used to determine whether a household decides to save or not. In the second hurdle, a truncated regression model is employed to estimate the amount of savings among households that have already decided to save. This approach enables

researchers to identify factors that influence participation separately from those affecting the level of savings (Mishra & Chang, 2011; Burke & Myers, 2023).

Recent empirical studies on rural household financial behaviour have increasingly adopted the Double Hurdle Model because it provides more robust and realistic estimates than conventional Tobit models. Teklewold et al. (2024) argued that saving participation and saving intensity are often influenced by different socio-economic and institutional factors. For example, access to financial institutions may influence the decision to save, while income level and asset ownership may primarily affect the amount saved. The Double Hurdle framework effectively captures such distinctions.

In studies of household saving behaviour in Ethiopia and other developing countries, the Double Hurdle Model has been found particularly useful in addressing the heterogeneity of saving decisions. Alamneh et al. (2025) emphasized that households may choose not to save due to institutional constraints, while those who save may differ significantly in the volume of savings accumulated. Therefore, estimating the two decisions separately improves policy relevance and econometric efficiency.

Consequently, following the recommendations of Amsalu et al. (2013) and recent empirical applications, the Double Hurdle Model is considered an appropriate analytical framework for examining both the determinants of household saving participation and the extent of household savings. The model allows a comprehensive understanding of household saving behaviour by jointly analyzing the decision to save and the amount saved while recognizing that these two decisions may be influenced by different factors (Teklewold et al., 2024; Alamneh et al., 2025).

Study / Region	Methods & Sample	Key Determinants (Positive ↗ / Negative ↘)
Lidi – Benishangul Gumuz, Ethiopia	Survey of 325 farm households; double-hurdle model	↗ Age, income, education; ↘ Household size, employment status, distance to financial institutions
Feyissa – East Wollega, Oromia	385 households; logistic regression	↗ Sex (male), education, income, fewer dependents; ↘ Access to credit
Elias et al. – Rural Ethiopia (nation-wide)	Panel data, interviews, MFIs data	↗ Access to formal financial services, financial literacy, trust; inflation ↑ → shift from cash to in-kind savings
Teshome et al. – East Hararghe, Oromia	700 households; Tobit model	↗ Education, livestock, income, training, extension contact, saving motives; ↘ Access issues toward formal institutions
Worku et al. – North Shewa, Oromia	400 households; descriptive & regressions	~83% save; only ~24% using formal institutions; recommends education, outreach, door-to-door services
Agarfa District, Bale Zone	Regression with regional data	↗ Education, income, credit access, livestock; ↘ Family size, expenditure

2.3. Conceptual Framework of the Study

A conceptual framework is a diagrammatic and narrative representation that illustrates the relationship between the dependent variable and the explanatory variables included in the study. It provides a clear understanding of how the selected independent variables are expected to influence household saving behaviour based on theoretical and empirical evidence.

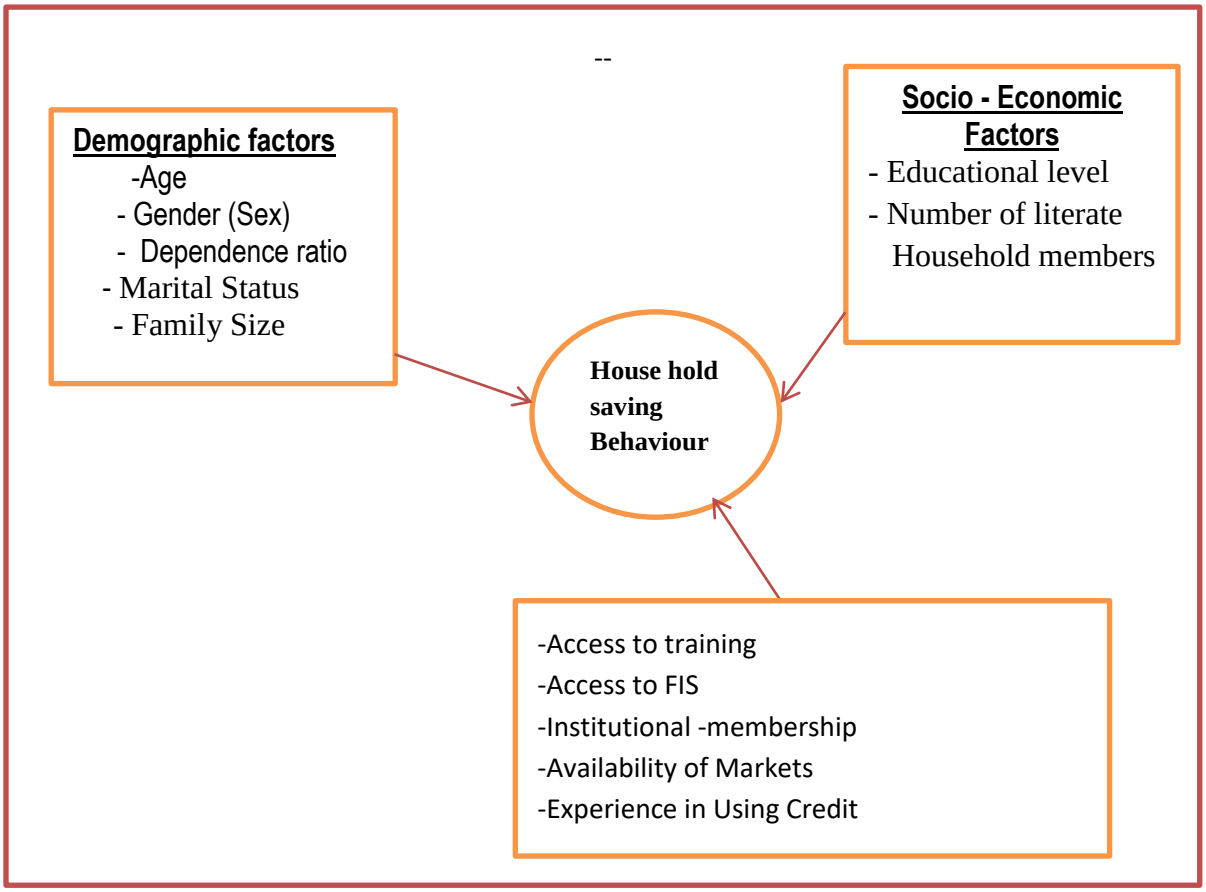
The conceptual framework of this study is developed through a review of relevant theories of saving behaviour and empirical studies conducted in Ethiopia and other developing countries. The framework assumes that household saving behaviour is influenced by demographic, socio-economic, and institutional factors.

The dependent variable of the study is household saving behaviour, measured as whether a household decides to save or not. The independent variables include family size, number of dependents, educational level, age of household head, sex of household head, marital status, access to training, market availability, experience in using credit, and number of literate household members.

Demographic characteristics such as age, sex, marital status, family size, and number of dependents are expected to affect saving decisions through their influence on household income,

expenditure, and financial responsibilities. Socio-economic factors, including educational level and the number of literate household members, are expected to enhance financial awareness and understanding of the benefits of saving. Institutional factors such as access to training, market availability, and experience in using credit are expected to improve financial inclusion, income-generating opportunities, and saving practices.

Therefore, the study hypothesizes that these demographic, socio-economic, and institutional factors jointly influence rural households' decisions to save.



Source: own survey data collection from different sources (2017)

Figure 1.1 conceptual frame works for House hold saving behaviour.

CHAPTER THREE

METHODOLOGIES OF THE STUDY

This chapter presents an outline of the study, including the study area, data requirements, sources and collection methods, sampling techniques and units of analysis, as well as approaches to data analysis.

3.1. Description of the study area.

3.1.1. Geographical Location and Population Distribution

Limu is one of the 17 districts within the East Wollega Zone. The district is located 134 km from Nekemte, the zonal capital, and 464 km from Addis Ababa. Limu is bordered by West Haro Limu District to the west, Gida Ayana Woreda to the east, Ebantu Woreda to the north, and Sasiga Woreda to the south. The district consists of 20 kebeles, with 17 being rural administrative areas and 3 classified as urban kebeles. According to the Limu Woreda Agricultural Office (LWAO, 2014), the total population of the district is 93,359, comprising 46,189 males and 47,170 females. Approximately 97.32% of households are rural agricultural households. The district spans an estimated area of 108,587 hectares. Limu is notable for its dense vegetation, with most of the surrounding land covered by tropical rainforest, featuring a diverse array of woody species arranged in multiple strata. The predominant religions among the population are Protestantism and Ethiopian Orthodox Christianity, with a minority practicing Islam.

3.1.2. Altitudinal and Climatic Condition

The area is situated at 9°33′N latitude and 36°44′E longitude, with an elevation ranging from 1,700 m to 3,178 m above sea level. It experiences a long rainy season extending from March/April to October, with an average annual rainfall between 1,000 mm and 2,400 mm. More than 85% of this rainfall occurs during the eight-month rainy period. The mean temperature in the district ranges from a minimum of 10°Cto a maximum of 33°C. The district is predominantly characterized by midland agro-ecology, which is highly suitable for coffee cultivation. The main soil type in the area is loamy soil. Limu is largely characterized by a subsistence mixed farming

system, where both crop and livestock production serves as common economic activities (LWAO, 2014; Tamire, 2020).

Climate is most effectively described through annual or seasonal averages of temperature and precipitation. Limu District encompasses three agro-ecological zones: Kolla, Woina Dega, and Dega. Geographically, the district is partially located in the western section of the lowlands plateau of Oromia, Ethiopia.

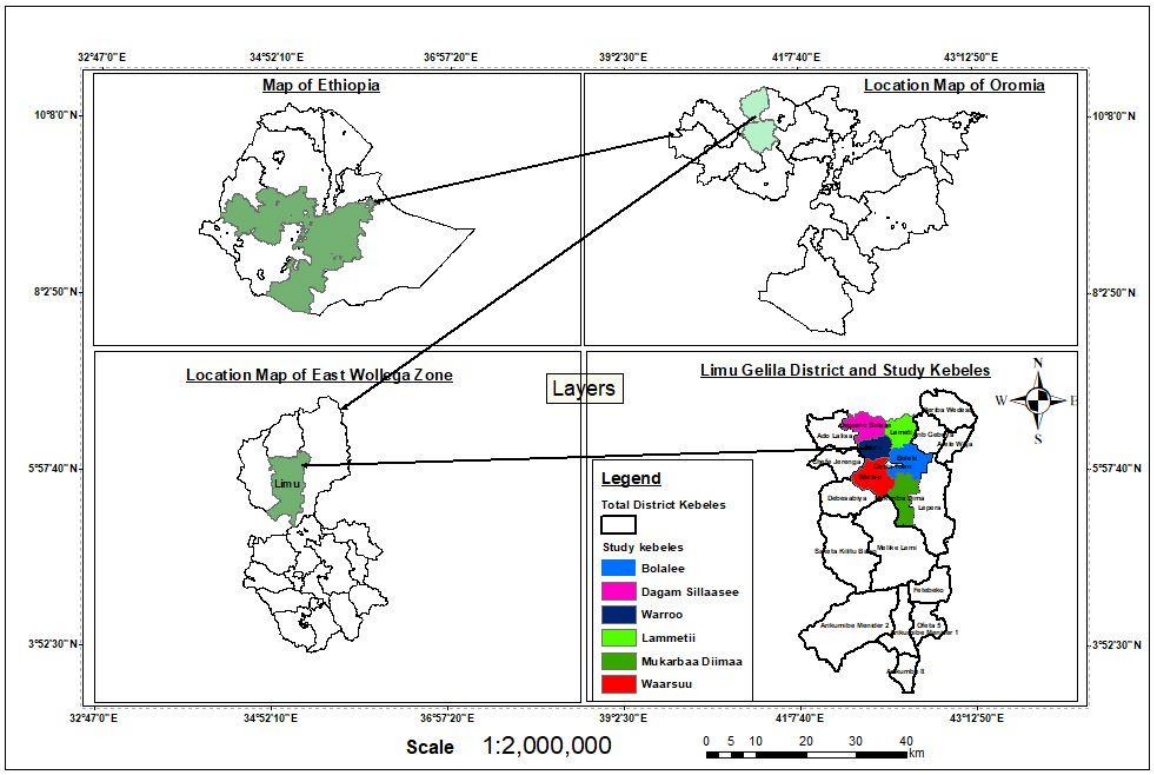


Figure 2.1 map of the study area.

3.1.3. Farming Activity

The major farming activities of the study area, like other rural areas of East Wallaga zone, are agriculture, mixed farming and livestock production. From the total area of the district which is 108578 ha coffee 31736.4 ha, maize 15723 ha, sorghum 2139 ha, teff 3073 ha, wheat 1246 ha, barely 991 ha, millet 157 ha and others were covered in the production year of 2013/14 (LWAO, 2013/2014 E.C). According to the Limu district Agricultural Office Report of the production years 2013/2014 E.C the product obtained were maize 911934 kun., coffee 68292.2 kun., sorghum 47058kun., teff 30730 kun., wheat 28658 kun., Barley 20811 kun., millet 2355 kun.,.

Livestock adopt in this study area is cattle, sheep, goat and chickens both for household consumption and market and also non-ruminant animals like donkey and mules for purpose of being using for transportation and income generation activities (Limu District agricultural office, 2013/2021).

3.1.4. Soil Type of the study Area

Soils vary from locality to locality. Different soil types are formed in the area basically based on parent materials, climate vegetation, latitude and interaction among these factors (LAO, 2021). Soil condition determines the agricultural production possibilities of a given area from biophysical perspective. Clay loam is among the soil type found in the Limu district. The other soil type exist in the district is loam soil, dominantly found in the district, which is good potentiality for agriculture in the area (LDAO, 2021).

The total land of the district is 108,587 ha. Out of the district's total area, 74,695 is arable land, 24,894.3 ha forest land area, and 8997.75 ha fallow land are covered with others degraded etc, (Abdisa, 2021); (Tamire, 2020); (Endale, 2019). Out of the district rural area, 44% is arable land, 24% is grazing land, 205 vegetation and bushy, 5% settlement, and 7% mountains. The farming system that the community practicing are mixing farming system in which both crop cultivation and rearing livestock are practiced. Cereals like wheat, barley, maize, sorghum and teff and pulses like field pea, rare lentils and beans are some of the dominant crops grown in the study area. The major livestock reared in the district are cattle, sheep, and poultry.. Although agriculture is the main economic activity, many households are engaged in activities such as trading, selling of fire wood and charcoal and livestock rearing which constitute the main source of cash income (LAO, 2023).

3.2. Research Design

The research paper type is descriptive (Olsson, L., Eklundh, L. and Ardo,J.,2015), states that descriptive research is concerns with describing the characteristics of a particular object or phenomena. Describe the effect of independent variables over the dependent variable. Research design is survey design. Where survey is type of design which taken in to account the entire steps involved in a survey concerning a phenomenon are studied. The research paper type will include both descriptive and econometrics. The research design will survey design. Where survey is type of design which taken into account the enterprises involved in a survey concerning a phenomenon will be study. Sample selecting is purposive sampling and multi-stage sampling, using simple

random sampling to get respondent and using (Yamane, 1967) formula to determine sample size. Type of data is primary and secondary data. Method of data collection was by using structured question. The research paper type was included both descriptive and econometrics model.

3.3 Sampling Technique, Sample Size and Sampling Procedure

3.3.1 Sampling Technique and Sampling Procedure

This study employed a **multi-stage sampling technique** to select representative rural households from Limu District. The use of a multi-stage sampling approach was appropriate because the study population was geographically dispersed across several kebeles, making it difficult and costly to cover all households in the district. The technique enabled the researcher to obtain a representative sample while minimizing time and financial costs.

Stage One: Selection of the Study Area

In the first stage, **Limu District** was selected purposively from the districts of East Wollega Zone. The district was chosen because it has relatively better access to financial institutions, including microfinance institutions and formal financial service providers. However, despite the availability of these institutions, the level of household saving remains low. In addition, the district was selected because of its accessibility and proximity to the researcher, which reduced transportation costs and facilitated data collection within the available time and financial resources.

Stage Two: Selection of Kebeles

In the second stage, three kebeles were selected from the seventeen rural kebeles found in Limu District using a simple random sampling technique. The selected kebeles were:

- Bolale Kebele
- Lemati Gotu Kebele
- Mukarba Dima Kebele

Random selection was employed to ensure that each kebele had an equal chance of being included in the study and to reduce sampling bias.

Stage Three: Selection of Respondent Households

In the third stage, sample households were selected from the three selected kebeles using a combination of **stratified sampling** and **simple random sampling techniques**. First, households were stratified according to their respective kebeles. Then, the total sample size was distributed proportionally among the selected kebeles based on the number of households in each kebele. Finally, individual households were selected using simple random sampling to ensure equal representation and minimize selection bias.

The use of simple random sampling ensured that every household had an equal probability of being selected, thereby increasing the reliability and representativeness of the study findings.

3.3.2 Sample Size Determination

The sample size for this study was determined using the formula developed by Yemane (1967), which is widely used for determining sample sizes from finite populations.

The formula is:

$$n=\frac{N}{1+N(e)^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.1$$

$$n=\frac{1195}{1+1195(0.07)^2}$$

$$n=\frac{1195}{1+1195(0.0049)} \quad =203.91 \approx 204$$

Where N = Total number of Household head.

n = Sampled size

e = level of precision which is equal to 0.07. The true margin of error 7% is taken with 93% confidence level.

After determining the total sample size using Yemane's formula, the sample households were allocated proportionally among the selected kebeles and then selected through simple random sampling techniques.

Justification for the Sampling Technique

The multi-stage sampling technique was chosen because it is suitable for studies involving large and geographically dispersed populations. It reduces the cost and complexity of data collection while ensuring that different segments of the population are adequately represented. The purposive selection of Limu District was justified by the existence of financial institutions and the relevance of the area to the research problem. The use of random sampling at the kebele and household levels enhanced the representativeness, reliability, and generalizability of the study findings.

Table: 3.1. From 17 rural kebles select three kebles sample size determination

Woreda	Kebele	Total number of farm household head	Proportion	Sample size
Limu	Bolale	415	71:415	71
	Lemati Gotu	391	67:391	67
	MukarbaDima	389	66:389	66
	Total	1195	400:1195	204

3.4. Type and Source of Data

Both primary and secondary data was used for this study. The primary data was the data which collected from sample selected (respondent). Primary data refers to information collected for the first time. Primary data was collected by employing data collection method /techniques like semi-structured interview with households. Household survey (HHS): in this research questionnaires were prepared and interview was under taken with sample respondents (HHs). The questionnaire consists different types which related to the topics of research and it was provided first language of study area.(Afan Oromo) the language respondent understand.

Secondary data: secondary data are those which have already been collected and analyzed by someone else. The secondary source of information for this study include: scientific books, Journal articles, published reports, and various government documents, different reliable website,nongovernment reports, maps andother relevantmaterials from different formal Financialinstitution such as Commercial Bankof Ethiopia, OromiaCredit and Saving Share Comp any.

3.5. Method of Data Collection

A structured questionnaire was used to collect primary data. Detailed information on household demographic characteristics, household assets, land characteristics and managements, institutional factors, livelihood status and vulnerability and coping strategies data were collected by interviewing sample household heads. Before the formal survey informal survey will be conducted to select sample kebeles and to collect general information about the study area and farming system. Pre-test was done by interviewing 204 household head at 3 kebeles to develop and modify the structured questionnaire.

Structured Questionnaires: The structured questionnaire consisting ofboth closed and open ended designed and administer to households for primarydata collection. Questionnaire was design in order to collect bothqualitative andquantitative data. The researcher conducts the training and supervised the enumerators during data collection. The survey was conducted from the mid-August to the early July 2017/2025.

3.6. Method of Data Analysis

In order to analyse household saving both descriptive statistics and econometric model were applied. To process and analyse the data STATA and SPSS software was used. After completing the field work, the quantitative data was coded, entered in to STATA, cleaned and verified. The data collected from different source was analysed by using both descriptive statistics and econometric models. The descriptive method includes simple ratio, percentage, table, frequencies, standard deviation, etc. The quantitative and qualitative data were tabulated in the way that can enable to understand or capture the view of factors that affect rural household saving behavior. After that household saving taken has a dependent variable and was then regressed against household specific, demographic, socio economic and institutional factors.

3.6.1 Descriptive Statistical Analysis

Descriptive statistics are important to have clear image of the attributes of the sample unit. It is possible to compare and contrast among household head saving by applying descriptive statistics. The descriptive statistic have been used in study include, mean, standard deviation, and percentage. Additionally, this statistical tool were used to assess the quantitative variables such as, age, Sex, Marital Status, income, Consumption, Education Level, family size, Dependency ratio ,number of livestock, - Access to training, Distance from financial institutions, land size, Access to financial Institution of selected household head.

Descriptive statistics enables describing variables frequency and comparing their degree of associations, which enhance the statistical analysis and data interpretation. Inferential statistics was used to infer the data through analysis of the relationship between variables how several independent variables might explain the outcome variables (household saving behavior). Stata14 software packages will be used for analysis

3.6.2. Econometric Model Specification

In this study, the Probit regression model will be employed to examine the determinants of household saving behavior. The dependent variable is binary in nature, taking the value 1 if the household is a saver and 0 if the household is a non-saver (Wooldridge, 2010 and adopted by Harris et al. (2002). Given this dichotomous outcome, the use of Ordinary Least Squares (OLS) regression is inappropriate because it may generate biased and inefficient estimates and can also produce predicted probabilities outside the logical range of 0 and 1.

To address this limitation, the Probit model is adopted as it is specifically designed for binary choice analysis. The model is based on the concept of a latent (unobserved) variable, which represents the underlying propensity or net benefit of a household to save. This latent variable is assumed to be a linear function of observed explanatory variables and a random error term.

Latent Variable Framework

Let the unobserved saving propensity of the i^{th} household be denoted as Y_i^*, which is defined as:

$$Y_i^*=\beta_i X_i+u_i$$

Where:

- Y_i^* = latent (unobserved) saving index or utility from saving
- Xi= vector of explanatory variables (such as income, education level, age, access to credit, family size, dependency ratio, land size, etc.)
- β = vector of parameters to be estimated
- u_i = random error term assumed to follow a standard normal distribution in the Probit model

$$Y_i = \begin{cases} 1 \ if \ \ y_i^* > 0 \ (household \ is \ a \ saver) \\ 0 \ if \ \ y_i^* < 0 \ (house \ hold \ is \ a \ non - saver) \end{cases}$$

In statistics, the probit model is a type of regression where the dependent variable can only take two values, for example married or not married. The name is from probability +unit.(1). A probit model is popular specification for an ordinal (2) or a binary response model that employs a probit link function. This model is most often estimated using standard maximum likelihood procedure, such an estimation being called a probit regression. Probit models were introduced by Chester Bliss 1934, and a fast method for computing maximum likelihood estimates for them was proposed by Ronald Fisher in an appendix to Bliss 1935.

Probit analysis is alternative of logit method. The main difference is that assume normal distribution of random variables (independent variables in model). The difference lies in fact that logistic function has harder "fat tails". There are no significant differences in practise; only in the case that sample contains numerous observations with extreme values. Parameters estimates obtained by logit and probit models cannot be compared directly because the logarithmic distribution has variance equal $\pi^2/3$, therefore the estimates obtained by logit model have to be multiplied by $31/2/\pi$ in order to be comparable with estimates obtained in the probit model (Lehútová, 2011).

Probit model econometric model was used, i.e., binary probit model, used to analyse determinants of households' saving behavior. Using Probit model the functional relationship of households' saving behavior (sb) and its determinants can be given by:

$Pr(sb=1/X_i)=\Phi(\alpha + \beta 1X1+ \beta 2X2+ \ldots+ \beta_k X_k$……..3.2

Where, $Z_i = \alpha + \beta 1X1+ \beta 2X2+ \ldots+ \beta_k X_k$……..3.3

The dependent variable (sb) represents households' saving behavior (dependent variable), Φ is the cumulative standard normal distribution function and X1, X2,…, X14 are determinants of households' saving behavior. βi is the partial slope for Xi on sb and indicates the change in Pr (sb=1) for a one unit change in Xi, controlling other variables.

Using the concept of latent variable (Y*), the probit model is used to examine the determinants of households' decision to save as specified as:

$S = \beta 0 + \beta 1 X1 + \beta 2 X2 + \ldots\ldots \beta kXk$ …….. 3.4

$S = \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \beta 4 X4 + \beta 5 X5 + \beta 6 X6 + \beta 7 X7 + \beta 8 X8 + \beta 9 X9 + \beta 10 X10 + \beta 11 X11 + \beta 12 X12 + \beta 13 X13 + \beta 14 + X14$

- Or when use by replacing explanatory variable code as a follow:

$S = \beta 0 + \beta 1(age) + \beta 2 (sex) + \beta 3(marstat) + \beta 4(famsz) + \beta 5(educh) + \beta 6(Dr) + \beta (Inc) + \beta 8(Cons) + \beta 9(livestock) + \beta 10(Landz) + \beta 11(tran) + \beta 12(disf) + \beta 13(mbrshp + \beta 14(aceFIs)$

Where S = Amount of rural household savings

$\beta 0$ = Constant term

$\beta 1 = \beta 14$ are coefficients

X1-Age of household Head (age)

X2 – Sex of household head (sex)

X3 - Marital Status of the households (marstat)

X4- Family size (famsz):

X5 - Education Level of Head (educh)

X6- Dependency ratio: (Dr)

X7- Income (Inc)

X8- Household Consumption (Cons):

X9- Livestock (TLU)

X10- Land size:(Landz)

X11- Access to training (tran)

X12- Distance from financial institutions (disf)

X13- Member ship to social association (mbrshp)

X-14- Access to financial Institution for household (aceFIs)

3.7. Definition of Variables

3.7.1. Dependent Variable

Dependent variable saving behavior (sb) and extent of saving (sa):-The dependent variables of the study are saving behavior of households, which is dummy assuming 1 if the household saves at formal financial institutions, otherwise 0 and saving amount measured in Birr.

3.7.2. Independent Variable

A number of explanatory variables used in the analysis include variables representing household demographic features like (sex, age, marital status, family size, service year, education level, religion, job position), Income, Consumption, access of formal financial institutions and training and awareness about saving **(Nayak, 2013)**. Based on the review of the literatures and practical experiences, explanatory variables which have logical and justifiable rational in determining saving behavior of households are identified. These are presented as follows**:**

1. Age of household Head (age): **-** Age is a continuous variable measured in years. It was one of the factors that determine saving amounts of households. Rehman*et al.* (2010) found that age has positive relationship with household savings. The life-cycle hypothesis suggests that here exists a relationship between age and saving rates Thus, old aged are more innovative and open to save, and this study shows that older head of employees were experienced and were expected to save than younger heads. Hence, the expected effect of age on household food security could be positive or negative.

2. Sex of the head (SEX): The sex parameter of the household head indicated that male headed households are more likely to save money more as they are more frequently involved in different occupations (Nayak, 2013). This variable is dummy which takes value 1(one) if the household head is male and 0 (zero) otherwise (=1 if male and 0 if female). Female-headed households are hypothesized to participate in less in both self-employment and wage jobs relative to their male counterparts. Also expected is a low saving for female headed households because of deferential

access to credit, resource (Zhang et al., 2006). It is expected to be correlated positively with male.

3. Marital Status of the households (marstat): -Is a discrete variable and takes a value of "1", if they are married, "2", if they are single "3", if they are divorced and "4", if they are widowed. Marital status has its own effects on saving behavior and asset accumulation activity (Grinstein-Weiss et al., 2006). Historically, marriage has been viewed as a source of financial security continues to be determining factor of economic wellbeing.

4. Family size of the household (FASIZE): Families with a higher number of active working members involved in economic activities save much more than others (Popovici, 2012). Obayelu (2012) using Tobit regression analyzed saving behavior of households and found out that large household size would reduce saving rate and thus reducing the number of children can help beef up savings to protect families from income short fall. It is a continuous variable. Family size was hypothesized to be negatively related to household saving. If the family size increases in a particular household, the expenditure and cost of that household will be greater than before due to the need of additional budget to attain their basic need. Behind this, there may be an extraordinary fee that can occur and minimize the opportunity to save.

5. Education Level of Head (educh): It is a continuous variable measured in the level of year of education formally completed by the household head. Education is expected to have a positive effect on households' saving behavior status. Households with better education level are believed to have a chance to apply scientific knowledge and better manage their income activities in good manner. Based on Amaza.et al. (2006), the higher the educational level of employees head, the more saving is expected to be. Hence, education has positive contribution to household saving behavior.

6. Dependency ratio :(Dr) it is the number of dependent in a given family divided by the number of working age. Dependence ratio of household had a negative and significant influence on household saving decision. This show that a negative correlation between dependency ratio and probability of saving in the household. This result consistent with the prior research; that is a significant inverse relationship exists between dependency rates and saving rates in less developed countries (Saliya and Abdell, 2018). In addition, according to (Ileana and Costanta, 2012) there is inverse relation between saving and dependency ratios is because children increase

the need for expenditure which is considered as consumption expenditure in the standard income accounting structure.

7. Literate Household Members (lhhm): This is a continuous variable showing the number of literate members of a family**.** Literate family members are expected to shape their outlookonsavingsinbothformalandinformalcreditinstitutions.Therefore, literacyofhouseholdmembersishypothesizedtohavepositiveeffectonhouseholds'savingbehavior

To estimate the extent of saving double hurdle model is used. Double hurdle model is used as better alternative over Tobit modeling in such type of settings Amsalu et al (2013).In a double-hurdle model the determinants of households decision to save and the extent (amount of) household saving are estimated independently. In the first hurdle, the decision whether or not to save is identified, and if she/he decides to save, hurdle two considered the level of household savings. The maximum likelihood estimator (MLE) in the hurdle 1 can be obtained using a binary probit regression and the maximum likelihood estimator (MLE) for hurdle 2 can be estimated from truncated normal regression model (Mishra and Chang, 2011). Double hurdle specification is advantageous in that it permits the joint modeling of the decision to save and extent of saving.

8. Access to training (tran): It is a discrete variable, which takes a value of '1' ifyesand'0', otherwise. I refer to training on objectives, credit products, savings mobilization, organization, management, operation system, etc. of financial institutions. Therefore, access to training is hypothesized to influencepositivelythehouseholds'decisiontosaveinfinancialinstitutions.

9. Distance from financial institutions (disf): This is a continuous variable and it refers to the distance in walk hours that the respondent must travel from his residences to financial institution to get financial products and services from the institutions. Households nearby financial institutions have a location advantage and can use the services and products now and then from the institutions easily and frequently than those who live in more distant locations. So, this variable is hypothesized to influence the decision to save, negatively.

10. Member ship to social association (mbrshp): It is a dummy variablewhichtakesvalue1if the respondent is member to social association, 0 otherwise.Inmostcommunities, households form or join traditional community organizations such as edir and ekubfor different reasons. These households are more likely to get information related to saving over their counterparts (Jean-

Luc, 2006; Lakew, 1998). Hence, it is hypothesized that this variable raises respondents' saving behavior and extent of saving.

11. Access to financial Institution for household (aceFIs): - This is a dummy variable that takes the value 1 when the household has accessible financial institution and 0 otherwise. Financial institution is very much useful to put aside the amounts of money left from their consumption easily and safely. Hence, households who have access to financial institution would have a chance of saving due to easy access and put their saving without any cost incurred. So this, indicate that a direct relationship of financial institution access and households' saving behaviour.

12. Experience in Using Credit and Its Effect on Household Saving Behaviour

Experience in using credit is one of the key institutional and behavioural factors that influence household saving behaviour. Households that have prior experience in accessing and using credit from formal or informal financial institutions are generally more likely to engage in saving activities compared to those without such experience.

This relationship can be explained in several ways. First, households with credit experience are more exposed to financial institutions such as banks, microfinance institutions, and saving and credit associations. Through repeated interaction, they gain financial awareness, better understanding of repayment schedules, and improved financial discipline, all of which encourage saving habits.

Second, credit experience often increases household income-generating capacity. When households use credit productively for example, in agricultural activities, petty trade, or small-scale businesses they are more likely to generate surplus income. This surplus income can be partially allocated to savings after meeting consumption and loan repayment obligations.

Third, households with credit experience are more likely to be financially included and may be required by lending institutions to open saving accounts or maintain minimum balances. This institutional requirement indirectly promotes saving behavior.

From an econometric perspective, experience in using credit is expected to have a **positive relationship** with household saving behavior. That is, households with credit experience (1 = yes, 0 = no) are more likely to be savers than those without credit experience, assuming other factors are held constant.

Table 3.2 Definition of Variable

Variable	Units of measurement	Expected Sign
Dependent variable		
Household decision to saving (hhdsav)	Dummy variable that takes 1 If decided to save,0 otherwise	

Independent Variables				
S.N	Variable	Description of variable	Measurement	Hypothesize Sign
1	**age**	Age of household head	Continuous (number of Years)	+ / _
2	**Gender**	Gender of household respondents	Dummy variable (Male=0, female=1)	+ / _
3	**Marstat**	Marital status	Dummy Variable (single=0,married =1)	+ /_
4	**Famsize**	Number of family members	Continuous (Number)	_
5	**H_Educ**	Years of education of household head	Continuous (number of Years)	+
6	**Ndept**	Number of dependent respondents	Continuous (percent or number)	_
7	**Exper**	Experience in using credit	Continuous	**+/ -**
8	**Lhhm**	Number of literate member	Continuous	+
9	**Ntranin**	Access to trainings	Dummy (Yes =1, No =0)	+
10	**Avmrkt**	Availability of markets	Dummy Variable (No = 0, Yes = 1)	+
11	**Mbrshp**	membership to cooperatives	Dummy (Yes =1, No =0)	+
12	**AcesFIs**	Access to FIs	Dummy variable (No=0 Yes =1)	+

Source: Own Survey, 2024.

CHAPTER FOUR

4. RESULTSAND DISCUSSION

This chapter presents detail descriptive statistics results and econometric outcome. In the preceding section i.e chapter three, selected hypothetical model, which issued for analysis, was specified and the different factors that were identified as determinants of rural households' saving behaviour were described and incorporated and in probit model. Thus, a head of discussing the econometric result obtained by the use of the probit models, it is essential to explain the demographic, socio-economic and institutional variables using statistical description.

The analysis and interpretation of this study is basrd on the data collected from the rural households of limu district, east waollega zone, Oromia, Ethiopia. The Data was collected through survey question. Out of the 204 questionnaires distributed to the randomly selected respondents 202 (99.02%) were properly completed and returned. In addition to conducting the survey through the questionnaires, the researcher has tried to collect some secondary data form different offices. Hence, data were organized and analysed in a manner that enables to answer the basic research questions raised at the beginning of the study. Responses provided by the respondents are analysed in the following sections..

4.1. Description of Demographic and Socio-Economic Characteristics

4.1.1. Household Demographic Characteristics

From total sample (204), 161 (79.82%) are males and 41 (20.18%) households are female headed.

The above percept information gives information on the composition of the respondents in the terms of sex. The reason that the researcher included this part is for example, to make sure that respondents are in appropriate mix of gender in the study.

The result below shows that 26 (12.74%) are illiterate, 82 (40.20%) had completed level 1-4; 61(29.90%) had completed grades 5-8; 18(8.82%) had completed grades 9-10; 6 (2.94%) had

completed preparatory school (grades 11-12); 7 (3.43%) had completed Diploma; 4(1.97%) had completed BSc/BA in the district.

Table4.1: Educational status of house hold heads

Education Level	Per cent
Illiterate	12.74
Level (1-4)	40.20
Grades 5-8	29.90
Grades 9-10	8.82
Completed preparatory School	2.94
Completed Diploma	3.97
Completed BSc/BA	1.97
Total	100

Source: Own Computational from survey data 2024/25

The average age of the household head is 44 years with a range of 19 to 95 years. The age structure of the surveyed household heads revealed that 194 (97.34%) of the household heads are economically active (b.n 19-64 years) whereas the remaining 10(2.66%) of households heads are on the age of above 64 years (Economically inactive age group).

Table 4:.2: Age Group of the Household Heads

Age groups	Per cent
19-64	97.34
>64	2.66
Total	100

Source: own computation from survey data (2024/25)

When it comes to the level of education, it is clear that 81.86% of the respondents are literate with 5.4% are diploma and degree holders. This indicates that the need for training and development is there and worth considering.

4.1.2. Household Socio-Economic Characteristics

The surveyed households have an average landholding of 1.44 hectares, with sizes ranging from 0 to 12.041 hectares. This value is higher than the national average of 1.2 hectares (CSA, 2008), showing that landholdings in the study area are relatively larger. Although the local average exceeds the national figure, there remains a substantial disparity in land distribution among farmers. Most of the farmers with small landholdings fall within the economically active age group, suggesting that larger plots are generally owned by older individuals. The land size reported includes both cultivable and non-cultivable areas, with the latter mainly serving grazing and other purposes. According to the District agricultural office, the average cultivable land size is 1.22 hectares, which is considerably lower than the total average. This indicates that farmers in the area are predominantly smallholders operating limited farmland. Family labor serves as the main source of labor for crop production.

A comparison between respondents with good and poor saving behavior reveals a statistically significant difference in their average on-farm income. With a mean difference of 10,671.55 and $Pr(T < t) = 0.0000$ (Ha: diff $\neq 0$), the p-value falls below the 0.05 threshold, leading to rejection of the null hypothesis at the 5% significance level with 202 degrees of freedom. Therefore, the two groups differ significantly in terms of average on-farm income. Specifically, those with good saving behavior earn an average of 42,913.4, while those with poor saving behavior earn 31,310.84.

Respondents with good saving behavior own an average of 2 oxen, compared with 1.5 oxen for those with poor saving behavior. Their average social expenditures are 7,845 and 7,623, respectively. Total livestock ownership, measured in Tropical Livestock Units (TLU), serves as an indicator of farmers' wealth. The study area is characterized by mixed crop-livestock farming. On average, each household owns 2.45 TLU, with livestock holdings ranging from 0 to 32.55 TLU. Draught power is a key input in farming activities, and farmers with more oxen are more likely to participate confidently in agricultural tasks because they can complete operations more efficiently. The average number of oxen per farmer is 1.50 TLU, with a standard error of 0.04 at a 5% significance level. The number of oxen owned varies from 0 to 10 across households.

4.1.3. The Households' Savings Behaviour

The sample households reported to have used different saving mechanisms. These include saving at home (inboxes and underground), saving at informal financial institutions (Edir & Ekub), saving at the Banks and Microfinance Institutions. The behaviour of savings as responded by the sample households, through the different saving methods mentioned above, shows that average annual savings of the sample households was the largest in saving in Banks followed by informal financial institutions (Edir & Ekub) and savings at home while the least saving was in MFIs, for year 2024. Many of households usually makes savings at home (putting in boxes and burring underground and/or in their own pocket). However, saving cannot be converted into investment when it is made under such places (Richand Olive, 2005). The survey results revealed that 42.56 percent of the respondent's savings was at home (inboxes and underground), 54.04 percent was in Banks and informal institutions and only 3.4 percent in Limu MFI for the year 2024.

According to the survey results, the reasons why the farming households preferred to save more in informal financial institutions like edir and ekub and at home (via boxes and underground) were because of the following reasons. First, informal savings institutions help these farmers in many ways. For instance, with unexpected and sudden problems, these farmers get not only financial support from such institutions but also physical assistance, .i.e., the association supports them during crop production, house buildings, and soon. Some individuals chose to save money at home or in undisclosed locations because these options allowed them to access their funds more easily. Another reason was that farmers lacked sufficient awareness of the benefits provided by formal financial institutions. A third major factor was that, even when they understood the roles of these institutions, they had not developed adequate trust or confidence in them, largely due to concerns about safety and security.

Within the study area, the community also engages in indigenous, cooperative-based traditional saving systems. The most common of these in Ethiopia are known as *Ekub* and *Edir*. *Ekub* is a rotating savings association in which each member contributes a fixed sum whether weekly, bi-monthly, or monthly and participants receive a large lump-sum payment at different times on a rotational basis determined by a lottery system.

The survey result revealed that 54.04% percent of the respondents' savings were in bank and informal financial institutions and they saved by weekly or monthly. Between the two samples groups the rewash no significant difference in their traditional savings behaviour. The survey result shows that savings through traditional associations such as Ekub and Edir are common practices in the study area.

4.2. Hypothesis Testing

The first hypothesis states that all coefficients related to saving behaviour are jointly equal to zero, that is, $\beta_1 = \beta_2 = \ldots = \beta_{12} = 0$. To evaluate this hypothesis, a log-likelihood ratio (LR) test was conducted by comparing the log-likelihood value of the restricted model where all explanatory variables are constrained to zero with that of the unrestricted model, in which all explanatory variables are freely estimated. The computed LR value is 45.10, while the corresponding critical chi-square (χ^2) values at 36 degrees of freedom for the 1%, 5%, and 10% significance levels are **2**0.59, 45.10, 31.37, and 2.94, respectively. Since each of these critical values is lower than the calculated LR statistic, the null hypothesis that all coefficients in the rural saving behaviour model are jointly zero is strongly rejected at all three significance levels. This indicates that the explanatory variables included in the probit model are jointly significant and effectively account for variations in households' saving behaviour.

The second hypothesis tests whether the livestock coefficient in the probit model is statistically equal to zero, expressed as $\beta_1 = 0$. To assess this, the LR statistic was again computed by comparing the restricted model where livestock is excluded with the unrestricted model, where the livestock variable is included. The calculated LR value is 31.86, whereas the critical chi-square value at 1 degree of freedom and the 10% significance level is 13.24. Because this critical value is smaller than the computed LR statistic, the null hypothesis that the livestock coefficient equals zero is rejected at the 10% significance level. This confirms that livestock is a significant determinant of rural household saving behaviour within the probit model and should therefore remain part of the specification.

Table 4.3: Summary results of LR test of hypotheses

Null hypothesis	Calculated Ratio	CriticalLRat5%level	Decision rule
$\beta_1=\beta_2=\ldots\beta_{12}=0$	45.10	20.59	Reject Ho
$\beta_1=0$	31.86	13.24	Reject Ho
$\beta_2=0$	0.625	3.83	Accept Ho

Source: Own Computation from survey data (2024).

4.3. Results of Probit Model for Saving Behaviour

Theresultsofthemaximumlikelihoodestimationoftheprobitmodelshowedthatoutofthe total 12 explanatoryvariables,6 variables of which 6 continuous and1dummywere found to be significantly creating variation on the probability of house holds' saving behavior in the study area. Age of the household head, number of trainings given in a year, family size, access to financial institution, number of dependents in a family and household's formal schooling completed in years were found to have significant effect on the likelihood of households' behavior on savings.

Of these factors, age of the household head, number of trainings given in a year, access to financial institution and years of schooling completed are positively related to the households' saving decision while family size and number of dependents in a family have negative coefficients showing that these variables are negatively affecting the probability of household saving behavior. The coefficients of sex, marital status, membership in social associations, number of literate members in a family, experience of the respondent in using credit services and market availability were not statistically significant at all 1%, 5% and 10% probability levels implying that they were less important in affecting the probability of households' behavior on saving in financial institution. In the marginal effect of output y = Pr (y2) (predict) = 0.42342796 indicates that about 42 percent of the average household has good outlook on saving.

Table.4.4: Estimates of Maximum-likelihood probit model on the households 'saving behavior.

Probit regression Number of obs = 204

LR chi2 (12) = 37.86
Prob > chi2 = 0.0002

	probit model estimation				Marginal Effects	
Saving behavior	Coef.	Std. Err.	z	P>|z|	Std. Err.	Dy/dx
Sex of household head	-0.1301509	0.1647724	-0.79	0.429	0.06513	-0.0512519
Age of household head	0.0078694*	0.0047339	1.66	0.096	0.00185	0.0030814
Education level of hh head	0.030596 *	0.0175041	1.75	0.080	0.00685	0.0119806
Number of Trainings given	0.0940198**	0.0365463	2.57	0.010	0.01431	0.0368154
Marital status of	0.0944469	0.1469795	-0.64	0.520	0.22855	-0.03709
Family size	-0.0586953**	0.0273798	-2.14	0.032	0.01071	0.0229834
Number of Literate member	0.0580531	0.0365051	2.41	0.112	0.0143	0.0227319
Membership in social associations	-0.0664018	0.1380159	-0.83	0.219	0.05404	0.0664018
Acces to financial institutions	0.1650545*	0.2444398	1.83	0.068	0.08304	0.1650545
Experience in using credit	0.1290076	0.200458	-1.58	0.413	0.06095	0.050229
Availability of markets	0.1911594	0.121836	-0.59	0.330	0.07404	0.0736012
Number of dependents in a family	-0.1003752***	0.0349989	-2.87	0.004	0.01369	-0.039304

Log likelihood = -236.68235 Pseudo R2 = 0.0741

Source: Own computation from survey data (2018)

***, **, * shows significance level at 1%, 5% and 10%.

4.3.1. Interpretation of Significant Variables

The effect of the significant explanatory variables on households 'saving behavior is discussed below.

Age of house hold head (age): It was hypothesized that age will have a positive relation with the probability of the households saving behavior in financial institution. The probit result indicates thatthesignofthisvariableisconsistentwithourpriorexpectationanditpositively and significantly influenced the probability of households 'saving behavior in financial institutions at

10% level of significance. This is due to the fact that older household heads 'level of responsibility to manage the family and the need to accumulate assets for tomorrow becomes high. Therefore, they prefer to save. The studies conducted by Azhar(1995) and Muradoglu andTaskin (1996) indicate that as age progresses respondent will acquire experience and the level of responsibility to manage the family and the need to have asset for tomorrow become increased. The marginal effect shows that a marginal change in age from the average of 44years is associated with a 0.79% increase in probability of households 'attitude on saving, ceteris paribus.

Number of trainings given by financial institutions staff (ntranin): The results of them showed that number of trainings given in a year is associated with the savings behavior of households positively and significantly at5% level of significance. This is due to the fact that more training given creates awareness in the minds of household on the importance of savings and hence enhances the probability of saving behavior. The marginal effect of this variable indicates that a marginal change in number of training from 2 is associated with a 9.4% increase in the probability of households 'outlook on saving in financial institution, other variables held constant at their average.

Family size (famsz): The result of probit regression shows that size of family members is hypothesized to have negative and significant effect at 5% level of significance on the probability of farmers' outlook on saving. This is because of the reason that-households with large family size struggle to feed their family but do not get enough money to save influencing saving decision negatively. In the study area family size is large which is negatively related with households' attitude on savings. The marginal effect of this variable indicates that a marginal change in family size from 5 members is associated with a 5.87% decrease in households' outlook on saving in financial institutions, other variables held constant.

Access to financial institution (access): Households that have access to and frequent contact with financial institutions get information on saving more frequently andeasily.Therefore, access to financial institution influences the households' saving behavior positively. The study result also revealed that access to financial institutions is statistically significant at10%levelofsignificance and a change from no access to access increases the probability of the decision to save by 0.446 higher than their counter parts, holding other variables constant.

Number of dependents (ndept): the coefficient on the number of dependents is significant at 1% significance level with negative sign. It puts forward that a household who has more number of dependents is less likely to have good outlook on saving as compared to those with lesser number of dependents. Its marginal effect shows that one additional dependent member to a household (a change from 3 to 4) will reduce the likelihood of a households' saving by 10.04% marginal effect, holding other factors constant. This is mainly because of the fact that a household with large number of dependents needs more income for consumption not for saving than those with less number of dependents to support these dependent and hence have lesser probability of saving.

Education level of the house hold head (h_educh): the study result indicates that the level of education acquired by head of the household is positively related to the probability of households 'outlook on saving in financial institutions and has a significant effectat10% level of significance. This might be because of the fact that the level of education acquired by head of the household enables him/her to get the necessary up to date information on how to increase the household income that contributes to more saving. The marginal effect of the variables how that a marginal change in household heads 'educational level from the average of 4.5 years is associated with a 3.05% increase in probability of households 'saving in financial institutions, other variables held constant at their average.

As shown above the probit model is used to analyze the households' saving behavior. As shown in the table below, the number of trainings given for the household head has positive significant effect on the saving amount and also has significant effect on the households' saving behavior as shown above. That is, as number of trainings or frequency of trainings given for households increase both the probability to save and saving amount increase; this may be because his possibility of getting more income and awareness about saving will be because his possibility of getting more income and awareness about saving will be enhanced due to new information through trainings.

Family size has statistically significant but negative effect on both the decision to save and amount of saving. This is because as family size increases, households are expected to allocate more of their income on consumption expenditure and thus there will be no income left for

saving. As a result the household's decision to save and his level of saving may decrease as shown in the analysis.

Table.4.5: Estimates of **Shortened probt regression** model on the households' extent of saving **Marginal regression**

Number of obs = 204
Wald Chi2 (12) = 46.47
Log Likelihood = -1717.3805 Prob > chi2 = 0.0000

sa	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
sex	5.825502	3.043907	1.91	0.156	-.1404455 11.79145
age	0.4265142***	.086567	2.31	0.002	.143154 .1461824
marstat	-01.40366	2.711894	-0.52	0.605	-6.718875 3.911555
ntranin	1.189308*	.6756222	1.76	0.078	-.1348871 2.513503
famsz	-1.111454**	.4879399	2.28	0.023	.1551093 2.067798
mbshp	1.706961	2.510863	0.68	0.497	-3.214241 6.628162
lhhm	0.7678737	.6648715	-1.15	0.248	-2.070998 .5352506
acess	1.96553	4.217644	0.47	0.641	-6.300899 10.23196
exper	12.99317***	2.901374	4.48	0.000	7.306578 18.67976
avmrkt	0.2463975	3.598211	0.07	0.945	-6.805966 7.298761
ndept	1.021387	6215858	1.64	0.100	-.1968988 2.239673
h_educh	1.097994***	.3203123	3.43	0.001	-1.725795 -.4701934

***, **, * shows significance level at 1%, 5% and 10%respectively.

As shown in the table, the age of household head is affecting saving amount of h household significantly and positively. That is, as the household head gets older his experience on caring for family and hence his decision to save and saving amount will increase. This may be because his possibility of getting more income and awareness about saving will increase as age increases. Thus, econometric result indicates age is statistically significant at 1% level.

House holds' experience in credit use (exper): The study result revealed that an experience in credit use is statistically significant at 1%level with positive sign. This is mainly because of

households who have long years of credit use experience might have saved more because of their experience.

Education of household heads in years is another important variable influencing their saving amount and saving behavior. The study analyzed the effect of education on saving amount and found statistically significant effect on saving amount of household. This is theoretically justified from the fact that education has the the probability to increase households' awareness to saving and also their capacity to save as more educated households have wider possibilities of earning more income than not educated ones.

Similarly, **family size** is statistically significant at 5% significance level with negative sign. A one member addition to a family leads to a 1.111 Birr decrease in saving amount of the household. **Number of training** also affects saving amount positively and significantly. More training leads to more saving amount, ceteris paribus.

CHAPTER FIVe

5. SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1. Summary of the Study

This study analysed the determinants of rural household saving behaviour in Limu District using both primary and secondary data**.** Primary data were collected through structured questionnaires administered to 204 randomly selected households, of which 202 were properly completed and used for analysis. The data were organized and analysed to address the study objectives and research questions.

The socio-demographic profile of respondents shows that the majority (79.82%) were male-headed households, while 20.18% were female-headed. In terms of education, 12.74% were illiterate, while the remaining respondents had varying levels of education ranging from basic literacy (level 1–4) to higher education, including diploma (3.43%) and degree holders (1.97%). This indicates that most household heads had at least basic education, although higher education levels were relatively low.

The probit regression results indicate that household saving behaviour is influenced by a combination of socio-economic and institutional factors. Overall, the model is statistically significant, meaning that the explanatory variables jointly explain variations in household saving behaviour.

This study examined the determinants of household saving behaviour using a Probit regression model based on data collected from 204 households. The model was statistically significant (Prob > χ^2 = 0.0002), indicating that the explanatory variables jointly explain variations in households' saving behaviour.

The results of the maximum likelihood estimation revealed that, out of the twelve explanatory variables included in the model, six variables significantly influenced the probanility of household saving behaviour. These Variables were age of the household head, number of trainings received, family size, access to financial institutions, number of dependents, and educational level household head. The findings showed that age of household head,educational

level and number of trainings received, and access to financial institutions had a positive and statistically significant effect on household saving behaviour. This implies that older households, more educated households, households receiving frequent financial training, and those with better access to financial institutions are more likely to save. Specifically, an increase in age, education, and training enhances households' awareness, financial knowledge, and future planning, thereby encouraging saving practices. Access to financial institutions also increases exposure to financial information and saving opportunities, which positively affects saving decisions.

Conversely, family size and number of dependents were found found to have a negative and statistically significant effect on saving behaviour. Larger families and households with more dependents tend to allocate a greater proportion of their income to consumption and basic needs, leaving less income available for saving. Consequently, the probability of saving decreases as family size and dependency burden increase.

The marginal effect results indicated that a one- year increase in the age of the household head increase in the age of household head increases the probability of saving by approximately 0.79 percent. Similarly, an additional training session increases the likelihood of saving by about 9.4 percent, while an additional year of schooling raises the probability of saving by approximately 3.05 percent. In contrast, an additional family member decreases the likelihood of saving by about 5.87 percent, and an additional dependent reduces the probability of saving by about 10.04 percent.

The study further revealed that sex of household head, marital status, membership in social associations, number of literate family members, experience in credit utilization, and market availability did not have statistically significant effects on household saving behaviour. This suggests that these variables play a relatively minor role in influencing saving decisions in the study area.

The predicted probability obtained from the Probit model (Pr(y) = 0.4234) indicates that approximately 42 percent of households exhibit a favourable saving behaviour, while the remaining households have a lower tendency to save in financial institutions.

The analysis of the saving amount model also confirmed that age, education, training, and credit-use experience positively and significantly affect the extent of household savings. On the other hand, **f**amily size negatively affects the amount saved. In particular, a one-member increase in family size was associated with a reduction of approximately 1.11 Birr in household savings. The positive effect of training demonstrates that increased financial awareness not only improves the decision to save but also increases the amount of savings accumulated by households.

Overall, the findings suggest that human capital factors (education, training, and experience), demographic characteristics (age), and institutional factors (access to financial institutions) are important determinants of household saving behaviour. However, household consumption pressures arising from larger family sizes and higher dependency ratios significantly constrain both the likelihood and the extent of saving. These findings highlight the importance of financial literacy programs, improved access to financial services, and measures aimed at reducing household dependency burdens to enhance rural household savings.

5.2. Conclusion

The main objective of this study was to identify the determinants of rural household saving behaviour in limu District. Using data collected from 202 rural households and applying a Probit regression model, the study examined the socio-economic, demographic, and institutional factors influencing households' decisions to save in financial institutions.

The findings reveal that household saving behaviour is significantly influenced by a combination of demographic, human capital, and institutional factors. Specifically, age of the household head, educational attainment, number of trainings received, and access to financial institutions were found to positively and significantly affect the likelihood of saving. These results imply that households with greater experience, better education, increased financial awareness, and improved access to financial services are more likely to participate in saving activities.

In contrast, family size and the number of dependents were found to have a negative and significant effect on saving behaviour. Larger households and those with higher dependency burdens tend to devote a larger share of their income to consumption and basic household needs,

thereby reducing their ability to save. The findings suggest that demographic pressures remain important constraints to household savings in the study area.

The study also found that variables such as sex of household head, marital status, membership in social associations, number of literate family members, experience in credit utilization, and market availability did not significantly influence households' saving decisions. This indicates that these factors are less important in explaining saving behaviour among rural households in Limu District.

Furthermore, the analysis of the extent of saving showed that age, education, training, and experience in credit use positively affect the amount of savings accumulated by households, while family size negatively affects the level of savings. This demonstrates that factors influencing the decision to save are largely consistent with those affecting the amount saved.

Overall, the study concludes that improving educational opportunities, expanding financial literacy and training programs, strengthening access to financial institutions, and reducing household dependency burdens are essential for promoting rural household savings. Enhancing these factors would not only increase the likelihood of saving but also improve the amount of savings accumulated by rural households, thereby contributing to household financial security, capital formation, and local economic development.

5.3. RECOMENDATION

Based on the findings of this study, the following recommendations are forwarded to improve rural household saving behaviour and increase level of savings among households in Limu District.

1. **Strengthen Financial Education and Training Programs**

   Since the number of trainings received by households positively and significantly influenced both saving behaviour and the amount of savings, financial institutions, cooperative promotion offices, and development agencies should strengthen financial literacy and awareness creation programs. Regular training should focus on the importance of saving, household financial management, investment planning, and income diversification strategies. Expanding such training programs can improve households'

understanding of the benefits of saving and encourage greater participation in formal financial institutions.

2. Improve Access to Financial Institutions

The study found that access to financial institutions has a positive and significant effect on saving behaviour. Therefore, financial institutions should expand their outreach services to rural areas by establishing additional branches, service centers, mobile banking facilities, and agent banking services. Improving physical accessibility and reducing transaction costs will encourage more rural households to open saving accounts and utilize formal financial services.

3. Promote Educational Development

Educational attainment was found to positively influence both the probability of saving and the amount of savings accumulated by households. Therefore, government and educational stakeholders should continue expanding access to formal and non-formal education programs. Adult education and community-based literacy programs should receive particular attention to improve financial awareness and decision-making capacity among rural households.

4. Encourage Household Income Diversification

Although saving behaviour is influenced by several factors, the ability to save largely depends on the availability of surplus income. Local government offices, agricultural extension services, and development organizations should support income-generating activities, small enterprises, and off-farm employment opportunities. Diversifying household income sources can increase disposable income and improve households' capacity to save.

5. Reduce Household Dependency Burden

Family size and the number of dependents were found to negatively affect household saving behaviour. Therefore, relevant government institutions should strengthen awareness creation programs on family planning, reproductive health, and household resource management. Reducing excessive dependency burdens can increase the amount of income available for saving and investment purposes.

6. Strengthen Credit and Financial Service Utilization

The analysis of saving amount showed that experience in credit utilization positively influences the level of savings. Financial institutions should therefore provide appropriate and affordable credit services accompanied by financial advisory support. Access to productive credit can help households expand income-generating activities and increase their capacity to save.

7. Develop Saving-Oriented Financial Products

Financial institutions should design saving products that match the needs and income patterns of rural households. Flexible saving schemes, commitment savings accounts, agricultural seasonal saving products, and incentive-based saving programs can motivate households to save regularly and increase their participation in formal financial systems.

8. Areas for Future Research

This study focused on selected demographic, socio-economic, and institutional determinants of household saving behaviour in Limu District. Future researchers may consider incorporating additional variables such as household income, asset ownership, risk preferences, financial technology adoption, cultural factors, and behavioural determinants of saving. Furthermore, studies covering larger geographical areas and using panel data may provide more comprehensive evidence regarding household saving behaviour in rural Ethiopia.

In general, improving financial literacy, expanding access to financial institutions, enhancing educational opportunities, promoting income diversification, and reducing dependency burdens are crucial policy measures for increasing rural household savings. Strengthening these areas will contribute to improved household welfare, capital accumulation, and sustainable rural economic development.

References

Abate Tadesse Zeleke(2021). Research Journal of Finance and Accounting www.iiste.org. ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online), Vol.10, No.23,

https://doi.org/10.7176/RJFA

_____(2019). *Household Saving Behavior and Determinants of Savings in Financial Institutions: The Case of Derra District, Oromia Region, Ethiopia.*

Abdullah, N., Fazli, S. M., & Arif, A. M. M. (2019). The relationship between attitude towards money, financial literacy and debt management with young worker's financial well-being. *Pertanika Journal of Social Sciences & Humanities, 27*(1), 361–378.

Abu-Bader, S., & Jones, T. V. (2021). Statistical Mediation Analysis Using the Sobel Test and Hayes SPSS Process Macro. *International Journal of Quantitative and Qualitative Research Methods, 9*(1), 42–61. https://doi.org/10.37745/ijqqrm.13

Adiputra, I. G. (2021). The influence of financial literacy, financial attitude and locus of control on financial satisfaction: Evidence from the community in Jakarta. *International Conference on Entrepreneurship (ICOEN)*, 636–654. https://doi.org/10.18502/kss.v5i5.8848

Alebachew Goshim Azeref (2019). Journal of Investment and Management2018; 7(5): 151-156 Determinants of Rural Household Saving: The Case of North Shewa Zone, Amhara Regional State, Ethiopia:10.11648/j.jim.20180705.13

A.D.Bank (2019). Economic growth in Africa since 2014 has slowed down for an average decadal of 5 percent to around 3 percent . https://www.afdb.org/sites

Amsalu, et al. (2017). *The findings imply the need for identifying alternative income sources for rural households through different income diversification options so as to mobilize more saving for economic growth.*

Ayana Principal Offices. (2022). *Based on Amaza et al. (2006), the higher educational level of employees' heads, the more saving is expected.*

Bealu Tukela. (2018). *This is an open-access article distributed under the terms of the Creative Commons Attribution License*, *which permits unrestricted use*, *distribution*, *and*

reproduction in any medium, provided the original work is properly cited.

Belay, T. (2016). *Determinants of urban household saving behaviour.*

Dhawan, D., & Mehta, S. K. (2019). Saving and Investment Pattern: Assessment and Prospects. *ACRN Journal of Finance and Risk Perspectives, 8*(1), 123–132. https://doi.org/10.35944/jofrp.2019.8.1.008

Elkins, [Initials]. (2020). *Financial advisors recommend households to set aside three to six months' Worth of living expenses in order to be used in a precautionary situation.*

Feyissa, G. F., & Gebbisa, M. B. (2021). Choice and determinants of saving in rural households of Bale Zone: Saving is the important variable in achieving financial security and growth affecting both individual and national wellbeing. *Open Access Library Journal.* https://doi.org/10.4236/oalib.1107167

Gemechu Feyissa G (2023). Determinants of Saving Behavior among the Rural Households: The Case of East Wollega Zone, Oromia Regional State, Ethiopia https://iiste.org/Journals/index.php/RJFA

Feyissa, G. F., & Gebbisa, M. B. (2021). Choice and determinants of saving in rural households of Bale Zone: The case of Agarfa District, Oromia, South East Ethiopia. *Open Access Library Journal, 8*, e7167. https://doi.org/10.4236/oalib.1107167

Grinstein-Weiss, M., Zhan, M., & Sherraden, M. (2006). Saving performance in Individual Development Accounts: Does marital status matter? *Journal of Marriage and Family, 68*(1), 192–204. https://doi.org/10.1111/j.1741-3737.2006.00241.x

Deksisa, K., & Bayissa, M. (2020). Determinants of rural household savings behavior: The case of Ambo District, Oromia National Regional State, Ethiopia. *Scientific Papers Series – Management, Economic Engineering in Agriculture and Rural Development, 20*(3). https://doi.org/10.51999/management2020.20.3.xxx

Mengesha, T. (2015). Household saving behavior in Jimma Zone of Oromia Region, Ethiopia. *International Journal of Research in Commerce, IT and Management, 5*(3), 65–76.

Ministry of Finance and Economic Development. (2019). *The low level of domestic savings in Ethiopia.* Addis Ababa, Ethiopia.

Negussie, E. G., & Ndinda, C. (2017). Smallholders' access to and demand for credit and influencing factors: Policy and research implications for Ethiopia. *Journal of Business & Economic Policy, 4*(3), 48–60.

Namate, A. H. (2020). *Determinants and impact of financial literacy on savings behaviours among households in Malawi* [Master's thesis, KDI School of Public Policy and Management].

Talent. (2021). Determinants of savings in urban and rural households: Case of South Africa. *Demohrafiia ta sotsialnaekonomika – Demography and Social Economy, 4*(46), 151–168. https://doi.org/10.15407/dse2021.04.151

Trading Economics. (2020). *Household saving rate has decreased from 21.3% in 2019 to a forecast value of 20% in 2020.* Retrieved from https://www.ecb.europa.eu/press/economic-bulletin/focus/2022/html/ecb.ebbox202205_03~d262f01c8b.en.html

World Bank. (2019). *Gross savings data for Thailand, Bangladesh, and Ethiopia.* Retrieved from World Bank national accounts database.

World Bank Group. (2020). World Bank national accounts data, and OECD National Accounts data files.

World Bank, national accounts data, and OECD National Accounts data files. (2022): https://data.worldbank.org/indicator/NY.GNS.ICTR.ZS?locations=ZG (access on May 28, 2022 at 4:00 PM).

World Development indicators,(2020) In the early 1990's Kenya's gross savings as percentage of GDP was more compared to the sub-Saharan Africa.

Yemane (1967). sample size formula which was stated.

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Appendix 1

WALLAGA UNIVERSITY

SCHOOL OF POST GRADUATES

DEPARTMENT OF ECONOMICS

Determinants of rural Household Saving Behavior in East Wallaga Zone: the case of Limu district.

Dear Respondents:

First of all, I would like to express my earnest appreciation for your generous time, honest and prompt responses. The title of this thesis is "**Determinants of rural Household Saving Behavior in Limu district**." Please note that your views in this questionnaire shall not be, in any way, used for any other purpose rather than the advancement of this study. You are therefore assured that your views on the content of this questionnaire shall not be used in any way that might cause damage to your reputation as an individual or otherwise, integrity, emotions, or indeed professional conduct as the information provided will be treated with high level of confidentiality. Individual responses will not be identifiable as they will be treated in aggregate when reporting the findings.

I would like to thank you in advance, for completing this questionnaire and assisting me in my research.

Instruction: Please fill your answer on the space given about your personal profile and general questions about determinants of household saving behavior. Mark **(**√) in the box provided on closed ended questions and write brief answer for open-ended questions.

Household Questionnaire

Part I. **Background and General**

Name of researcher _____Date of interview----------

Code of the respondent----------Physical address----------

1.1. Name of head of household----------

1.2. Sex: Male----------Female----------

1.3. Age----------

1.3. Marital status: Married ___Single ____

1.4. The highest educational qualification of the household head:

Illiterate ____ Basic education (read and write) _____ Primary ,_____ Secondary ____TVET (Certificate) _____College/University_____ Other specify_____

1.5. The dominant economic activity of the household head: A. Agriculture____ B. Trade _____ C, Gov't Employee _____D, both agriculture and trade. _____ E. Other (specify) _____

1.6. What is your religious affiliation? I. Christianity _____II. Islam _____ III. Traditional _____ F. None _____

1.7. What is your ethnic background? A. Oromo _____ B. Amhara _____ C. Tigray _____ D. Others _____

1.8. What is the number of your family member? (In numbers) _____

1.8.1. How many of your household members are under 15 years? _____

1.8.2. How many of your household members are adults (15-64 years)? _____

1.8.3. How many of your household members are elders above 64 years? _____

Part II: Socio-economic Endowments

2.1. Are you a member of any organization in the community? Yes _____ No _____

2.2. If your answer for above question is 'yes', what kind of services you are receiving from the organization? (More than one option is possible)

No	Type of assistance	Yes	No
1	Technical training		
2	Provision of inputs		
3	Machinery services equipment		
4	Credit in cash		
5	Credit in kind		
6	Provision of storage facilities		
7	Marketing services		

2.3. Do you have own farm land? Yes _____ No _____

2.4. If your answer for the above question is 'yes', then what is your farm land size in hectares?

No	Crop	Quantity Produced (kg)	Unit price (Birr)	Quantity sold (kg)	Total value (Birr)
1	Maize				
2	Millet				
3	Sorghum				
4	Soya bean				
5	Vegetables				
6	Potatoes				
7	Coffee				
8	Bean				
9	If any specify				

2.5. Do you have livestock yes _____ no _____

2.6. If your answer in question is „yes", list the number and estimate in present value

SN	Type of livestock	in number	present value (in birr)
1	Oxen		
2	Cow		
3	Cow		
4	Sheep		
5	Goat		
6	. bull		
11	specify if any		

Part III: Household Saving Behavior and Institutional Services

3.1. Have you applied for credit for 2021/22 production seasons? Yes _____ No ____

3.2. If 'yes 'to above equation, for what purpose you applied for credit?

Purpose	Yes	No
To buy agricultural inputs		
To buy farm equipment		
For other agricultural investment		
To start up new business		
For education		
For food purchase		
For health service		
For house improvement		
Other (specify)		

3.3**.**Do you have saving account**?** Yes _____No _____

3.4. If your answer to above question is 'yes', in what form did you save? In cash _____

In Kind _____

3.5. If your answer to question number '3.4' is 'kind', in what form do you save? _____

3.6**.** If your answer to question number '3.4' is 'cash', in which formal financial institution do you save?

3.7. If your answer to question number'3.3' is 'No', why you don't have a saving account? A,do not have awareness about the use of saving _____B. I do not have surplus income or assets to save _____ C. Saving institution is too far _____

3.8. Do you know the advantage of saving in formal financial institution? Yes ____No ____

3.9**.** If your answer to the above question is Yes', please mention some of it

_____

3.10**.** Did you save money in informal financial institution? Yes _____ No _____

3.11. If your answer to above question is yes, then in which informal financial institution sectors you save?

No	Informal form of saving	Annual saving (ETB)
1	Edir	
2	Iqub	
3	Mahiber	

3.12.If your answer for question number '3.10' is 'No', for what reason you do not save in informal

institutions?_____

3.13. Have you got any awareness creation trainings regarding to saving? Yes _____ No _____

3.14**.** If your answer for above question is 'yes', please specifying the financial institutions_____

3.15. Did you ever have a saving bank account before but you currently discontinue?

Yes _____ No _____

3.16. If your answer is to the above question is "yes'', why did you discontinue operating the saving account? _____

1.17.What is the purpose of your current saving at financial institution? (More than one choice is possible)

1	Unexpected expense (Illness, home repaired, etc.)	
2	To undertaking a new business	
3	Children's Education	
4	To acquire household asset (land, house ,cloth, TV,etc)	
5	Funeral(wedding for a family members)	
6	Retirement	
7	Other, specifying	

1.18. Which of the following factors constraint your saving decisions? Determine the extent of the constraints

No	Constraints	yes	No
1	Long distance from formal financial institution		
2	Absence of formal financial institutions		
3	No saving account		
4	Low interest rate		
5	Cumbersome/long process		
6	Lack of surplus income		
7	Gender bias		
8	Unwillingness/no need		
9	Lack of education/awareness		
10	Others (specify)		

3.19.Did you receive extension advises and trainings from your local extension workers for 2021/22 production season? Yes ____No _____

3.20. If your answer for the above question is 'yes', how often did the extension workers give you advisor and training services for 2021/22 production season? _____

Table.4.4: Estimates of Maximum-likelihood probit model on the households 'saving behavior.

Probit regression Number of obs = 204

LR chi2 (12) = 37.86
Prob > chi2 = 0.0002

	probit model estimation				Marginal Effects	
Saving behavior	Coef.	Std. Err.	z	P>|z|	Std. Err.	Dy/dx
Sex of household head	-0.1301509	0.1647724	-0.79	0.429	0.06513	-0.0512519
Age of household head	0.0078694*	0.0047339	1.66	0.096	0.00185	0.0030814
Education level of hh head	0.030596 *	0.0175041	1.75	0.080	0.00685	0.0119806
Number of Trainings given	0.0940198**	0.0365463	2.57	0.010	0.01431	0.0368154
Marital status of	0.0944469	0.1469795	-0.64	0.520	0.22855	-0.03709
Family size	-0.0586953**	0.0273798	-2.14	0.032	0.01071	0.0229834
Number of Literate member	0.0580531	0.0365051	2.41	0.112	0.0143	0.0227319
Membership in social associations	-0.0664018	0.1380159	-0.83	0.219	0.05404	0.0664018
Acces to financial institutions	0.1650545*	0.2444398	1.83	0.068	0.08304	0.1650545
Experience in using credit	0.1290076	0.200458	-1.58	0.413	0.06095	0.050229
Availability of markets	0.1911594	0.121836	-0.59	0.330	0.07404	0.0736012
Number of dependents in a family	-0.1003752***	0.0349989	-2.87	0.004	0.01369	-0.039304

Log likelihood = -236.68235 Pseudo R2 = 0.0741

Source: Own computation from survey data (2018)

***, **, * shows significance level at 1%, 5% and 10%.

Marginal regression

Number of obs = 204
Wald chi2(12) = 46.47
Log likelihood = -1717.3805 Prob > chi2 = 0.0000

sa	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
sex	5.825502	3.043907	1.91	0.156	-.1404455 11.79145
age	0.4265142***	.086567	2.31	0.002	.143154 .1461824
marstat	-01.40366	2.711894	-0.52	0.605	-6.718875 3.911555
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mbshp	1.706961	2.510863	0.68	0.497	-3.214241 6.628162
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acess	1.96553	4.217644	0.47	0.641	-6.300899 10.23196
exper	12.99317***	2.901374	4.48	0.000	7.306578 18.67976
avmrkt	0.2463975	3.598211	0.07	0.945	-6.805966 7.298761
ndept	1.021387	6215858	1.64	0.100	-.1968988 2.239673
h_educh	1.097994***	.3203123	3.43	0.001	-1.725795 -.4701934

***, **, * shows significance level at 1%, 5% and 10% respectively.