



WOMEN'S PARTICIPATION IN NON-FARM INCOME-GENERATING ACTIVITIES IN SOUTHERN ETHIOPIA



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Monograph

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Girma, G., and M. Senapathy. *Women's Participation in Non-Farm Income-Generating Activities in Southern Ethiopia*. Dallas, USA: Primedia eLaunch LLC, 2022. 144 p.
ISBN 979-8-88526-791-5
DOI 10.36074/wpinfofigaise-monograph.2022

The research title was Rural Women's participation in Non-farm Income generating activities because Non-farm activities contributed significantly to employment and income in rural areas. The study's general objective was to identify the level of rural women's participation in Non-Farm income-generating activities. The specific objectives were to identify the current status of women's participation and factors that affect women's participation in Non-Farm Income Generating activities. This study took Damot Woyde Woreda, Wolaita Zone, Southern Nations and Nationalities region, Ethiopia. In order to undertake the study, total women households were a population of data to determine a sample; a random sampling method was used to select 96 sample respondents. After selection, a structured interview schedule was used to collect primary data and for further information, Key Informant Interviews and focus group discussion groups were selected for qualitative data. The study employed simple descriptive and inferential statistical analysis and an ordered logit model, and data were analyzed by SPSS 20 version. The dependent variable of the study was rural women's participation. In addition, there were fifteen independent variables of the study, were age, education, family size, dependency ratio, household income, cooperative membership, livestock holding, land holding, access to market, access to road, training exposure, access to credit, government intervention, risk-taking behaviour and economic motivation. As a result, 61.5 % of the sampled respondents were under the low participation category, 30.2 % were under the medium-level of participation category, and 8.3 % were under the high participation category. In the study, 6 variables were continuous, and the rest 9 variables were categorical. In model analysis, 5 variables were significant, and the other 10 were insignificant. As a model result, the dependency ratio, household income, land holding size, and livestock holding had negative significance, except credit access was significantly positively related to women's participation. So the researcher has recommended that improving access determinant factors and giving attention to policy support for non-farm income-generating activities was very important.

ISBN 979-8-88526-791-5

© G. Girma, M. Senapathy, 2022

© Primedia eLaunch LLC, 2022

Publisher [ISBN]: Primedia eLaunch LLC

TX 75001, United States, Texas, Dallas. E-mail: info@primediaelaunch.com

Co-Publisher: NGO European Scientific Platform

21037, Ukraine, Vinnytsia, Zodchykh str. 18, office 81. E-mail: info@ukrlogos.in.ua

Certificate of the subject of the publishing business: ДК № 7172 of 21.10.2020.

PREFACE

Introduction

Agriculture will be a probability profession for farmers in developing countries due to climate change and many other factors. The farming households are generally busy with agriculture as, and when the irrigation water is available for cultivation, that is only for six months. Therefore, the farmers, including household members, are the ideal remaining part of the year. It has been highly recommended that farming households engage with Off-farm and Non-farm activities to have better livelihood options in their lives. Non-farm activities are one of the livelihood diversification activities in the 21st Century. There is increasing recognition in the literature that agriculture is an important sector in the rural economy, and the Ethiopian national economy depends on it. While considering the productive economic activities, it has to focus on non-farm rural activities that substitute for self-employment activities in most developing countries. Most women seek survival due to engaging in different non-farm income activities directly or indirectly. In countries like Ethiopia, where the percentage of Males and Females is almost equal, the economic contribution of both sexes to the development endeavour of the country is also equal. The great acknowledgement of the current food security policies and sustainable poverty reduction strategies has paved the way for entering them into non-farming income-generating activities to ensure livelihood security.

Literature Review

This chapter deals with the definition and concept of Rural and income-generating, non-farm, and off-farm activities. Theoretical literature components connote different independent variables like age, education, income, credit support, training exposure, economic motivation, risk-taking behaviour, etc. Simultaneously, the empirical literature has dug out the past researchers on non-farm income-generating activities of rural women in Ethiopia and other developing countries. Finally, all the concepts have formulated the independent variables that have been diagrammed understandably.

Methodology

The third Chapter explained the research location, the number of sample respondents selected, how the econometric model was identified, etc. The study was conducted in Damot Woyde Woreda (District) of Wolaita Zone in SNNPRS of Ethiopia. The sampled respondents used Yemane formula $n = 96$ from the total universe $N = 2233$ since the study focused only on female respondents. The research study focused on Women's Participation in Non-farm Income generating activities, which was why the selected econometric model, the Ordered Logit Regression model, was selected. The dependent variable is the indicators with the help of the Participation Index to get the scores. In the end, the summary of explanatory variables has been tabulated with variable type, definition, and variable effect, either positively or negatively.

Results and Discussion

In this Chapter, the final results were discussed in detail to fulfil the research objectives. The Dependent variable is Women's Participation in Non-farm Income Generating activities having the Indicators such as Participation in Household Income, Participation in Training, Participation in Cooperatives, Participation in Credit access and Participation in Government policy issues. The Independent Variables have been tabulated on each variable accordingly. The women's participation has been categorized into Low, Medium and High levels so that the measurement accurately indicates their level of participation. The total Independent variable has been classified into categorical, discrete, and continuous and explained in the Appendices part of the Thesis. Finally, the marginal effect table was placed at the end of Chapter Four. Chapter Five has the conclusion and policy recommendations of the research.

Conclusion and Recommendations

The research study was conducted in Damot Woyede Woreda, Wolaitia Zone, Ethiopia. The result identified that there was low women's participation in Non-farm activities in the study area. Therefore, 15 Independent Variables were classified into 6 Continuous and 9 Discrete variables entered into the Ordered Logit Regression model.

The finding showed that Women's Participation determined the variables such as age, education, land size, livestock holding, training and credit access on Non-farm Income Generating activities.

The possible recommendations highlighted to increase Women's Participation in Non-farm Income Generating activities such as education, Training and Credit facilities are the critical variables that have to be considered to uplift the Non-farm activities sector. Furthermore, the Entrepreneurial Training on Non-farm activities will help the women select the suitable micro-business enterprise activity according to their environmental situations that will fetch their household income.

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FOREWORD

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The research is a scientific process investigating the hidden facts in the existing community problems at the ground level. It is a critical solution to dig out the facts by collecting, analyzing, and interpreting the data. Whatever the students/scholars have studied in the classroom is only an **“Agreement Reality”**, but whatever they have learnt from the field data collection up to the data processing put forth the final results that are **“Experimental Reality”**. Researchers usually are searching pieces of literature through online sources now a day. The new initiative of the **“Institutional Repository”** of the University website, by capturing, preserving, and disseminating the collective intellectual capital, serves as a meaningful indicator of an Institution’s academic quality. E-resources are electronically available to support the researcher and faculty in carrying out the research and teaching efficiently with the fast mode of service anytime in all the digital devices and digital libraries.

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E-resources are electronic information resources in a digital format accessed on an electronic device such as a mobile phone, tab, laptop or computer. E-resources have provided many possibilities for faster and quicker access to information. Since the application of E-book technology is still relatively new, that needs a specific computer software application to be read or accessed. E-learning has become a new paradigm, and it is technology-dependent. The E-book enlightens the knowledge of budding research scholars/Graduate students at the M.Sc. and Ph.D. levels. It also covers many

pertinent literature reviews, detailed information about the study area and methodology, and statistical tools applied with final results with recommendations. Finally, the E-Book presents social research as a dynamic process leading from beginning to end, showing how researchers progress from one stage to the next, how decisions are made, how sampling methods are selected, and how conclusions and recommendations are drawn. It is designed for Graduate students and research scholars abroad who are pursuing research on Rural Development background or Sociology or Social work disciplines. Its main aim is to help research scholars looking for African countries' studies. Those who have chosen research on Rural Development mainly focus on methodological frameworks in their diverse and pluralistic nature and demonstrate their purpose, relevance, and effectiveness.

Distinctive Advantages of E-Books

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First and foremost, Rural Development research titles have been compiled and contributed to worldwide readers and users. This E-Book has five chapters: Introduction, Literature Review, Methodology, Results and Discussion and Summary, Conclusion and Recommendations, including Appendices. In this sense, the E-Book is concise and comprehensive and offers a complete research analysis of the particular research title of information in a relatively small space.

The E-book enlightens the knowledge of budding research scholars/Graduate students at the M.Sc. and Ph.D. levels. It also covers many pertinent literature reviews, detailed information about the study area and methodology, and statistical tools applied with final results with recommendations. Finally, the E-Book presents social research as a

dynamic process leading from beginning to end, showing how researchers progress from one stage to the next, how decisions are made, how sampling methods are selected, and how conclusions and recommendations are drawn.

E-Books are Digital Repositories

The E-Book offers Graduate students the need to know about social research: what it is, what it does, how it is used when it is used and for what purpose, what methods it employs and a critical understanding of rural locality-based research. Such an intensive analysis may be accomplished through further reading to update the modern trends in research. As a result, Social work, Psychology Anthropology and other social sciences are in general.

Ideally, this E-book is prepared for beginners who wish to understand the Master Thesis and intend to conduct an elementary investigation. Nevertheless, an intelligent scholar may find the E-Book a good model for ordering, categorizing and integrating the embodiment of complete research knowledge in the social sciences.

One of our academic staff Dr.M.Senapathy from the Department of Rural Development and Agricultural Extension, College of Agriculture, Wolaita Sodo University, has taken innovative steps to publish this E-book. I appreciate the earnest endeavours of Dr.M.Senapathy, who always supports our students in teaching, guiding, and motivating them morally and intellectually. I hope this E-Books publication output will impart a new E-learning opportunity to our students in Ethiopia and abroad academic stakeholders.

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ACKNOWLEDGEMENTS

First, I wish to extend all the praises to the Almighty, the great and merciful God, the supreme authority of the universe, who has successfully enabled me to complete this study.

I like to express my most profound sense of gratitude, sincere appreciation and immense indebtedness to his thesis support and advisement to **Dr. M. Senapathy** for his guidance, valuable suggestions, continuous encouragement, all kind of support and help throughout his research work.

I am grateful to all who entirely guided, helped, and cooperated during the research works of **Lakew W., Markos. J, Kaleb. F, Saba B., Yoseph M., Yacob W., Yohanes A., Aliy A., Demmisie B.**, and Wolaita Zone Finance and Economic Development Office, Damot Woyde Woreda Office of Female and Child affairs, Youth office.

Last but not least, I would like to thank my mother, **Bizunesh Tantu**, my wife **Bayush Desalegn**, my brother **Demise Dansa** and our beloved parents, colleagues, and all of our friends and relatives for their best help, endless love, whole-hearted inspiration, moral support prayer and sacrifice to pursue this study.

GIDABO GIRMA, M.Sc.

SPECIAL ACKNOWLEDGEMENTS

First, my sincere thanks to the Almighty of God have given me enormous strength and courage to succeed in this new publication attempt. The idea of starting with compiling the information covering the important components was incorporated by many multi-disciplinary experts who helped me attain this stage for publication. The authors have thankful for all the academic communities from multi-disciplinary experts' from abroad who have strenuous support and encouragement throughout the preparation of the document, kind suggestions and critical comments for the improvement of the E-Book are duly acknowledged.

I am indebted to **Professor Dr.Beverly Dawn Metcalfe**, a Veteran Global Scholar on Women's Development, Empowerment, and Sustainability who has supported me wholeheartedly in publishing this E-Book.

I have to thank the **Emeritus Professor Dr.Robin Attfield UK**, who gave me the idea of publishing an E-book make into reality. Without his assistance, commenting on the material could not have been accomplished. Furthermore, his valuable input has been critical for choosing and organizing content throughout the book chapter-wise.

I am indebted to express my sincere thanks to **Professor Dr.Daniela Fontenelle-Tereshchuk, Canada**, who has given the digital knowledge and ideas. I have appreciated the perspectives and insights of the Professor, who has encouraged me to publish these E-books with good standards. I have had helpful conversations with Professor Daniela Fontenelle-Tereshchuk over the phone and by email frequently.

My special thanks to **Professor Dr.Anne Eskola, Finland** who has helped me design constructive ideas for the content part of the E-Book. However, without her innovative digital ideas, the task of steering this material through the shoals of the strategy field would have been impossible.

I also need to express my appreciation for the help I received from intellectual input on modern library techniques from **Artur Patricia Alves, Portugal** and **Divya, R. K. India** during my compilation as an E-book. I have to thank both of them for continuous sportive ideas to materialize into E-Book.

I am gladly expressing my sincere thanks to **Professor Dr.Alina Betlej**, Institute of Sociological Sciences (ISS), John Paul II Catholic University of Lublin, **Poland** who has been remarkably helpful in commenting on the material. Her input has been critical in grammatical corrections for choosing and organizing content throughout the book.

I am indebted to my sincere thanks to **Dr.S.Aravind, Librarian** and Head of the Department of Library and Information Science, G.T.N. College of Arts, Dindigul, Tamilnadu, India for his excellent library knowledge and support and motivation for this publication.

I am particularly beholden to the Editorial Team of **UKRLOGOS.IN.UA, NGO “European Scientific Platform”** Ukraine has been remarkably helpful in publishing my e-book material. Furthermore, they have guided me through all the critical grammatical corrections for choosing and organizing content and designing and decorating throughout the book, including the publication process.

The e-book is supported by some figures and videos for more clarity and understanding for the users. I am glad to express my sincere thanks to **YouTube** Administrators’.

Last but not least, my family deserves the most fantastic thanks. It will take me a long time to repay their kindness and generosity. My special thanks to my mother, **Susila Marisennayya** and my brother **Dr.M.Pandikumar**, brother-in-law **Er.T.Ramesh**, Production Engineer, Chennai Petroleum Corporation Limited (CPCL), Chennai, my sister **R.Amuthavalli Ramesh** M.A., her children **R.Srihari** and **R.Sriya**, and my brother son **P.K.Lokajit** have given moral support throughout the preparation of these E-Books.

This E-Book is an output of the following experts from different disciplinarians who had encouraged valuable inputs as and when I approached them.

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LIST OF ABBREVIATIONS

BoFED	: Bureau of Finance and Economic Development
GOS	: Governmental Organization
HEC	: Hectare
KM	: Kilo Meter
MM	: Mile Meter
M²	: Meter Square
MOLSA	: Ministry of Labor and Social Affairs
NGO	: Non-Governmental Organization
PASDEP	: Plan for Accelerated and Sustainable Development to end Poverty
RNFE	: Rural Non-farm Enterprise
TLU	: Total Livestock Unit
WZFED	: Wolaita Zone Finance and Economic Development

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WOMEN'S PARTICIPATION IN NON-FARM INCOME-GENERATING ACTIVITIES IN SOUTHERN ETHIOPIA

ABSTRACT

The research title was Rural Women's participation in Non-farm Income generating activities because Non-farm activities contributed significantly to employment and income in rural areas. The study's general objective was to identify the level of rural women's participation in Non-Farm income-generating activities. The specific objectives were to identify the current status of women's participation and factors that affect women's participation in Non-Farm Income Generating activities. This study took Damot Woyde Woreda, Wolaita Zone, Southern Nations and Nationalities region, Ethiopia. In order to undertake the study, total women households were a population of data to determine a sample; a random sampling method was used to select 96 sample respondents. After selection, a structured interview schedule was used to collect primary data and for further information, Key Informant Interviews and focus group discussion groups were selected for qualitative data. The study employed simple descriptive and inferential statistical analysis and an ordered logit model, and data were analyzed by SPSS 20 version. The dependent variable of the study was rural women's participation. In addition, there were fifteen independent variables of the study, were age, education, family size, dependency ratio, household income, cooperative membership, livestock holding, land holding, access to market, access to road, training exposure, access to credit, government intervention, risk-taking behaviour and economic motivation. As a result, 61.5 % of the sampled respondents were under the low participation category, 30.2 % were under the medium-level of participation category, and 8.3 % were under the high participation category. In the study, 6 variables were continuous, and the rest 9 variables were categorical. In model analysis, 5 variables were significant, and the other 10 were insignificant. As a model result, the dependency ratio, household income, land holding size, and livestock holding had negative significance, except credit access was significantly positively related to women's participation. So the researcher has recommended that improving access determinant factors and giving attention to policy support for non-farm income-generating activities was very important.

Keywords: Rural Women Participation, Non-farm Activities, Income Generating Activities, Ordered Logit Model

CHAPTER I

1.INTRODUCTION

1. INTRODUCTION

1.1. Background of the Study

There is an increasing recognition in the literature that agriculture is not the only important sector in the rural economy. However, it is also one of the employment sources for rural livelihoods. Studies in different developing countries have shown that the nonfarm sector contributes significantly to employment and income in rural areas (Ellis, 1998, Lanjouw and Lanjouw, 2001, Haggblade, 2007, Davis, 2010). Non-farm activities account for 30% of full-time rural employment in Asia and Latin America and 10% in Africa (Haggblade, 2007). These figures do not include the farmers who engage in Non-farm activities as part-time employment or during agricultural slack seasons. When these are considered, the participation rates are 83% for Asia, 82% for Latin America and 78% for Africa (Winters *et al.*, 2009). The size of nonfarm employment is reflected in the level of income rural households earn from it. On average, the share of nonfarm income in households' total income is around 50% in Asia and Latin America and 35% in Africa (Reardon *et al.*, 2006).

It is often argued that African economies need to become less dependent on agriculture to decrease poverty. Small rural non-farm enterprises may play an essential role in the early stages of diversifying beyond agriculture. However, very little is known about the characteristics, constraints and opportunities of non-farm enterprises (Lanjouw and Lanjouw, 2001), making it difficult to assess how this class of enterprises might contribute to poverty reduction. There is a dispute in the literature regarding this issue, as evidenced in Barrett's (2001) and Reardon's (2001) discussion. One view is that non-farm activities provide a dynamic pathway out of poverty; a less optimistic view is that nonfarm enterprises are set up by households primarily as a survival strategy, perhaps as a substitute for agriculture for the landless.

Latin American women tend to be highly represented in the nonfarm economy. Although overall participation rates in remunerated employment are typically lowered for women, their participation rates are exceptionally high in the non-farm economy. For example, Lanjouw (1998) finds that nearly 50% of remunerated employment (in principal and

secondary occupations) of women in rural Ecuador occurs in the non-farm economy (relative to 37% for men). In rural Brazil, Ferreira and Lanjouw (2001) find that the comparable figures (for principal occupations only - although this likely understates the importance of non-farm employment for women) are 29% (relative to 18%), while in El Salvador, Lanjouw (2001) finds the figures to be 72% relative to 25%.

Inequities in labour market opportunities are of particular concern since labour earnings are the most important source of income for the poor in most developing countries. Indeed women's over-representation in poverty has been related to their lack of labour market opportunities. Moreover, labour market opportunities are an essential determinant of women's bargaining power in household decision-making, positively correlated with household spending on goods that benefit children (Lustig, 2000). Click here (<https://www.youtube.com/watch?v=y0iobt-daFE>)

Women account for more than half of the population in Ethiopia. They contribute a lot to the development of today by participating in different income-generating activities either directly or indirectly. However, except for a few development activities, their effort is not yet realized by society. Rural development in Ethiopia cannot be imagined without the active participation of women in income-generating activities; they already provide a significant part of the labour in all sectors. Nevertheless, it is pretty clear that women's interests and needs are not always taken into account to improve the ability to meet their socio-economic development, women's role has to be recognized, and they should be given equitable access to and control over land, credit facilities, extension services and improved tools as well as cooperative and other rural benefits (Winrock, 2001).

Economic development is not sustainable without the active participation of women. However, their participation in the economy has not been recognized. As a result, Ethiopian women have not received their fair share of the nation's wealth. In countries like Ethiopia, where the percentage number of Males and Females is almost equal, the contribution of both sexes to the development endeavours of their country is equal. Nevertheless, the different roles of women in education and agricultural production have frequently been ignored in research and development activities.

In Ethiopia, the current food security policies “assuring food security at household level” and “sustainable poverty reduction” strategies acknowledge the importance of Non-farm activities to ensure livelihoods security. Non-farm activities are most important for the poor, pushed out of agriculture due to limited and inadequate land resources. We also show that different nonfarm activities have different human capital requirements. However, the implementation of these intervention measures varies from place to place.

Women are particularly valued for their ability to devise and implant survival strategies for their families using their unpaid labour to absorb the adverse effect of policies. However, the degree to which transformation strategies can be successful depends heavily on how the country's overall political process functions and what happens to the internal finance system (Ellison, 1989).

Therefore, this research study focused on rural household women's ability to identify their participation in other Non-farming income-generating activities and indicate their role in socio-economic development. In addition, the study also tried to investigate the determinants of women's participation in Non-farm income-generating activities.

1.2. Statement of the Problem

There is rapid population growth in Ethiopia, resulting in small and fragmented land holdings reducing labour productivity and widespread underdevelopment in the country. In addition, the rapid growth rate of the youth population led to the dependency burden, which increases the consumption of essential goods and services and decreases the capacity of domestic savings affecting investment and economic growth (Haile Mariam *et al.*, 2011).

In addition to land scarcity, agricultural production is seasonal; therefore, rural labour cannot be employed throughout the year, which needs to develop non-farm activities widely. These non-farm activities diversify the economy, and it could be a crucial strategy for the Government to fight against poverty, as it absorbs labour, thereby minimizing unemployment. However, the existing development conditions give less

attention to non-farm activities and their linkages to agriculture. This is partly because the role of the rural non-farm sector in the rural economy is underestimated. As a result, rural non-farm activities and their linkage with farm activities are not recognized, and this knowledge gap is reflected in the policies of most developing countries (Lanjouw and Lanjouw 1997).

Many rural households are not undertaking non-farm activities due to a lack of assets to start a business. Others are confined to less critical activities that cannot allow them to grow out of poverty. Thus, identifying the factors determining access and income from non-farm activities is crucial for policymakers to inform and adjust policies in the rural domain (Reardon *et al.*, 2007).

Both Government organizations and NGOs are working for Women, particularly for rural Women's development. Their participation in development activities is expected to affect their personal, Social and economic lives by increasing their access to and control over resources. This can be achieved by improving their level of knowledge, increasing skills and awareness of a more comprehensive environment, modifying their controversial power in various relationships, and changing how people perceive women and how they perceive themselves concerning participation.

Non-farm income is crucial in Ethiopia since the economy remains highly dependent and vulnerable to the agricultural sector's performance. At the same time, ongoing population growth increases the need for income diversification strategies. Therefore, promoting nonfarm enterprise activity is considered a promising catalyst for development by the Ethiopian government, as manifested in the Plan for Accelerated and Sustainable Development to end Poverty (PASDEP).

Mostly in our area, there were different income sources through Non-farm income-generating activities. The activities are labour payment in kind and cash such as harvest share system, income obtained from local environmental resources such as firewood, charcoal, house building materials, pottery, weaving, selling local food and drinks, trade-in grain and livestock and crafting.

Wolaita Zone is one the areas where food insecurity problems, unemployment, high-density population, low farming land size and fast-growing urbanization were problems highly manifested zone in the region and Damot Woyde Woreda was one of the areas where food insecurity problems, unemployment, low production, high population density, low farming land size are remarkably existed problem of the Woreda.

Because of the foregoing discussion, the researchers undertook a study entitled Rural Women's Participation in Non-farm Income Generating Activities. Click here (<https://www.youtube.com/watch?v=zKypKmtq1Zc>). The study's main aim was to identify rural women's participation in Non-farm income-generating activities in the woreda and the factors affecting the rural women's participation in Non-farm Activities in the study Woreda. This study was helpful in the development of planners, policymakers, and further research in the same area.

1.3. Objectives of the Study

1.3.1. General Objective

The study's general objective was to assess the level of rural Women's Participation in Non-farm Income Generating Activities.

1.3.2. Specific Objectives

The specific objectives of the study were

-  to examine the current status of rural women's participation in Non-farm Income Generating activities in the study area and
-  to identify the factors affecting rural women's participation in Non-farm Income Generating activities in the study area.

1.4. Research Questions

The study answered the following two questions

1. What is the status of the women's participation in Non-Farm Income Generating activities in the study area?

2. What factors determine women's participation in Non-farm Income Generating activities in the study area?

1.5. Significance of the Study

Rural development, which includes progress in farm and non-farm activities, seems to be the only hope of bringing better days to Ethiopia. Non-farm activities provide alternative sources of income and employment for the rural poor and stimulate agricultural production.

Knowledge of the nature, determinants and effects of non-farm activities provides clues about the socio-economic changes induced by adopting an employment-oriented strategy to promote the rural non-farm economy.

Thus, it is believed that these research findings gave more understanding and knowledge about rural women's role in economic development and motivated many researchers to work on women's role in Non-farm income-generating activities.

1.6. Scope and limitation of the study

Nowadays, Non-Farm income-generating activities are important to improve society's economy; sustaining different economic opportunities, and other product resources are the burning issue in Ethiopia. However, women's participation Non-Farm income-generating activities were not widely known as part of society. Therefore, even if the problem is the issue in all areas, the study was limited to only one Woreda of the Zone, on women's participation in Non-farm income-generating activities, due to the financial problem of the study. The study was more comprehensive if all Kebles within Woreda and other woreda's included. However, the area for only selected Kebele was limited due to the study's financial limitations.

1.7. Organization of the thesis

The thesis has five chapters. Chapter One deals with the introduction, which includes the study's background, problem statement, objectives, significance, scope, limitations, and thesis organisation. Chapter Two reviews theoretical and empirical works of literature, whereas chapter Three details the study's methodology. Results and discussion are given in Chapter Four, and Chapter Five gives a summary, conclusion and recommendations.

CHAPTER II

2. REVIEW OF PERTINENT LITERATURE

2. REVIEW OF PERTINENT LITERATURE

2.1. Definition and Concept

2.1.1. Definition of Rural

Judgments about the viability and importance of the rural non-farm economy also hinge crucially on what is meant by "rural." Many countries apply different definitions when designating areas as rural or urban. Typically, the distinction between rural and urban employment is based on workers' residence, so those who commute to a job in a nearby urban centre are considered rural workers. Rural is most often defined as settlements of about 5,000 or fewer inhabitants. However, the definitions of a rural locality, based on population size and/or functions and characteristics of the settlement, such as whether it has a school or hospital, or happens to be the seat of local government, do vary. For example, the two African countries of Mali and Zimbabwe designate rural-only settlements with less than 3,000 and 2,500 inhabitants.

On the other hand, Mauritania includes settlements with up to 10,000 in its definition of rural, and Taiwan excludes only cities over 250,000. In India, whether or not a particular setting is designated as rural or urban is based partly on the composition of the workforce in that setting. As more and more of the population becomes employed in non-agricultural activities, a community may become classified as urban, even if it has not changed in any other respect. (Hagblade *et. al.*, 1989).

2.1.2. Definition of Income

As income is defined as the output of the activities, it is a cash and in-kind contributions measure. All the goods and services produced in activities are valued at market producer prices regardless of their use. So, all owned farm products are valued at the same price as those sold (Ellis, 2000).

2.1.3. Definition of Income-Generating Activities

The limits of a welfare-oriented response to this growing crisis are now well recognized. Alternatively, many development agencies are increasing their emphasis on assisting women in securing income through their efforts. Such approaches are often categorized

as 'income-generating activities' and cover initiatives as diverse as small business promotion, cooperative undertakings, job creation schemes, sewing circles, credit and savings groups and youth training programs. So, how can 'income generation be defined? It is sometimes argued that education and health provisions, legal and political changes, and global economics all affect the abilities of people to secure an income (Ellis, 2000). From this stems the confusion in the use of the term 'income-generation. For this study, 'income-generating activities will be considered those initiatives that affect the economic aspects of people's lives through economic tools such as credit. Other types of support affecting women's products are complementary to income-generating activities. For example, these might include child care or essential services provision and labour-saving technologies. Click here (<https://www.youtube.com/watch?v=pcWTOMuiriU>)

2.1.4. Definition of Non-farm Activities

On the other hand, Non-farm income refers to non-agricultural income sources. These include Non-farm rural wage or salary employment, non-farm rural self-employment, rural income obtained from leasing land or property, urban-to-rural remittances arising from within national boundaries, and other urban transfers to rural households such as pension payments and international remittances arising from the cross border and overseas migration. (Ellis, 2000).

2.1.5. Definition of Off-farming Activities

In the literature, there has been a wide range of different systems for classifying sources of income. At first glance, terms like off-farm and non-farm incomes are used synonymous but slightly different definitions. For example, Ellis (2000) defines off-farm income as income from wage labour on other farms. In contrast, Barrett *et al.* (2000) refer to off-farm income as all activities away from the farmer's own property.

Off-farm activity in Ethiopia includes wage work and self-employment. Wage work, in turn, includes farm wage work, professional wage work (e.g. lecturers), skilled labourers (e.g. mechanics), unskilled wage work, and community work. The employers could be small and/or commercial farmers, NGOs, government organizations, urban dwellers,

religious institutions, and contractors. Self-employment includes milling, weaving, handicraft, trade-in grain and livestock, and collecting and selling firewood, local food and drinks. Enterprises dealing with milling, livestock and grain trade are relatively profitable farming activities.

2.2. Theoretical aspects and Determinants

According to Hussein and Nelson (1998), diversification is an attempt by individuals to find new ways to raise incomes and reduce risk by involving different and main agricultural activities. Minot (2006) conceptualizes diversification in various ways; an increase in income sources, a switch from subsistence food production to commercial agriculture, and expansion in the importance of non-crop or nonfarm income nonfarm including both off-farm wage labour and nonfarm self-employment.

Start (2001) specifies diversification as an increase in income sources or multiplicity of activities and a shift from traditional rural sectors, such as agriculture, to non-traditional - nonagricultural activity.

The role of the rural non-farm sector is the least understood component of the rural economy; its role in the broader development process is not well known (Lanjouw and Lanjouw, 1997).

This knowledge gap has been reflected in developing countries such as Ethiopia, where no development policy identifies and includes the rural non-farm sector. Instead, agricultural ministries have focused on farming, and industry ministries have focused on manufacturing. There is a social cost to the failure to recognize the importance of the rural non-farm sector in decreasing rural-urban migration and its potential role in absorbing the growing rural labour force, thus contributing to the national economy and promoting a more equitable distribution of that income.

Demeke and Regassa (1996) studied non-farm activities in North Shoa and concluded that education substantially impacts urban areas. However, it may have little to contribute in the more remote areas. The variable age has a negative influence in these areas. The share of non-farm income is higher for the younger age group than the older farmers. The results also show that yield negatively affects participation in non-farm

activities. In contrast to other studies, land size positively influences non-farm employment. They also concluded that female-headed households are not markedly disadvantaged concerning non-farm earnings.

Labour participation in non-farm activities is a function of incentives and constraints (Barret and Reardon, 2001; Reardon *et al.*, 2006). Incentives include the level and variability of the prices and wages in farm and non-farm activities. Due to heterogeneous access to markets, human capital, and asset endowments, these prices may differ substantially among households. Constraints are related to the capacity of the household to diversify into nonfarm activities. They include household assets, education, size, age, gender structure of the household, and access to credit resources.

The combination of constraints and incentives leads to paradoxes at the meso-level and micro-level, as Reardon *et al.* (2006) described. At the meso-level, households have higher incentives to engage in non-farming in poor resource areas, but their capacity to generate these activities is limited in these regions. At the household level, the same picture evolves when poor households have higher incentives to diversify into nonfarm activities but a lower capacity to do this successfully due to the lack of assets. In this case, the poor often engage in poorly paying non-farm activities equivalent to subsistence farming.

Following the incentives and capacity approach, we hypothesize that the same characteristic of a region or household may have a dual impact on participation in nonfarm activities through its potentially conflicting effect on incentives and capacity. For example, larger land endowments may diminish the incentives to engage in the rural non-farm economy. However, they can increase the capacity to undertake or expand nonfarm activities with high returns by investing cash from agricultural activities or using land collateral to get financial resources. Similarly, cattle ownership may decrease the need to engage in the rural non-farm economy, but its proceeds may facilitate profitable non-farm activities. Human capital may also have a diverse impact on Participation and income from the RNFE. For example, some nonfarm activities may traditionally be occupied mainly by women, while returns are biased towards men.

2.2.1. Age and Participation

Similarly, the probability of participation in non-farm enterprises (NFEAs) decreases with age. For example, older people stand a 0.966 chance of not participating than their younger counterparts. Thus young people are more likely to take up opportunities in the RNFS, but the likelihood of participation declines as they get older and elder (Abdulai and Delgado, (1999).

2.2.2. Education

Rural education returns are generally very high in non-farm activities, especially in high-productivity occupations. Targeted efforts to improve the education levels of the poor in rural areas will be necessary to promote employment in such occupations. As the poor are typically the least educated, such policies will generally be progressive.

Education is an integral part of human capital, which determines participation in and income from non-farm activities (Reardon *et al.*, 2006). For instance, in Latin American countries, more educated people avoid farm wage employment and primarily engage in wage employment in non-farming (Reardon, 2001).

2.2.3. Family Size and Dependency Ratio

Household characteristics mainly involve the household's demographic structure, namely the household size, dependence ratio measured as a ratio of children (under 15) and older people (older 65) to total household size, and age, gender, and education head of the household. In addition, many studies found a positive relationship between the household's labour endowments (measured as the number of adults) and its participation in the RNFE (Davis, 2007).

2.2.4. Land size and livestock holding

The asset group of explanatory variables includes the number of cattle and the size of owned land. Both variables can affect participation and income from nonfarm activities. Many studies found that land positively impacted the probability of being employed in nonfarm activities in Africa. More prominent landowners received a higher income from

nonfarm activities (for example, Abdulai and CroleRees, 2001). In contrast, in Latin America, the share of nonfarm income was found to fall with land size, meaning that poor households were pushed into non-farming due to land scarcity and excess labour (Reardon, 2001; Davis, 2007). The size of livestock was also an essential determinant of participation in high-return nonfarm activities versus low-return ones (Lay, 2007).

2.2.5. Rural Infrastructure

Rural infrastructure is generally viewed as an essential requirement for the growth of the rural nonfarm economy: inadequate and insufficient quality infrastructure imposes severe costs on virtually all economic activity, and private investment tends to occur where infrastructure is of a reasonable standard. It is often argued that rural infrastructure is less available and of lower quality than infrastructure in urban areas due to policymakers' "urban bias". According to Alderman (2000), rural areas are characterized by relatively low population densities, with maximum population thresholds of 5,000 to 10,000 per settlement. They are often associated with lower levels of basic infrastructure, service provision, and price and taxation discrimination. This is suggested due to "urban bias" in public expenditure allocation and fiscal policy.

2.2.6. Problem of Markets

A common argument regarding missing or imperfect markets favours public action. The poorly functioning rural credit market is perhaps the most widely cited example. High transactions costs (due, perhaps, to preferences for small loans); information asymmetries; exposure to shocks that vary across households; and/or the inability of households to offer collateral (the result, perhaps, of poorly delineated property rights or extreme poverty) are thought to result in rationing, market segmentation, and high-interest rates. They may even lead to the absence of credit markets altogether. These problems have been noted in many rural settings and can apply to farm households and nonfarm enterprises. Surveys of micro and small-scale enterprises in rural areas tend to find a high percentage of respondents who claim to be credit-constrained, and start-up funding for most existing rural non-farm enterprises is generally found to have come from savings or informal loans from formal financial institutions. These factors have led

policymakers to conclude that some kind of credit market intervention is warranted. However, my experience with publicly owned credit institutions has been mostly disappointing. The emergence of private or NGO-operated micro-credit schemes is an institutional innovation that needs to be encouraged. However, the issue of subsidy dependence suggests that careful assessment is needed (Morduch, 1999).

2.2.7. Level of Government Intervention

The significant heterogeneity of the non-farm economy in rural areas (and the limited empirical analysis to date) implies little scope for general, broad policy prescriptions. This observation provides an important lesson for our thinking about the process of policy formulation. Various interventions may be required to promote the development of the non-farm economy, each tailored to specific local conditions. Decentralized decision-making is likely to be conducive to some aspects of sectoral development: mechanisms must be found whereby local information flows upwards. As a result, the localized bottlenecks are relieved, and specific niches can be exploited. Certain policies important for promoting the non-farm economy, such as those dealing with education and large-scale infrastructure provision, do not lend themselves naturally to highly decentralized implementation. However, there seems to be a clear rationale for pursuing decentralized policy design and implementation wherever possible. For example, even in infrastructure, while high fixed costs and network design might justify planning and financing at a relatively centralized level, other aspects such as implementation and, critically, maintenance may be best organized at a decentralized level (Start, 2001).

2.2.8. Rural Credit Service

Enterprise promotion in rural areas has generally centred on providing credit to enterprises. In recent years a considerable amount of experience has been gained on microenterprise credit schemes modelled on the example of the Grameen Bank in Bangladesh, embodying features such as being locally based and involving group lending, disbursing loans in staggered sizes, and charging of market interest rates. Extensive literature generally endorses the positive reputation of such schemes.

However, it has been noted that additional attention is needed to regulate and supervise these proliferating institutions and the degree of subsidization that is warranted. Mobilizing rural savings is an essential priority as part of a general effort to strengthen the operation of rural financial institutions. However, it may impact reducing investment levels in some rural non-farm enterprises. (World Bank, 1997).

Credit schemes aimed at the rural non-farm economy have proliferated considerably since the 1970s. Initially, credit programs targeted small-scale enterprises and rural industries and operated through government-owned commercial or development banks and private Rural Non-Farm Activities and Rural Development oriented commercial banks. The record with such projects has been somewhat mixed. Loans from government institutions or mandated lending by private banks often ended up in the hands of the wealthiest segment of the targeted group. Following the emergence of innovative schemes such as those pioneered by the Grameen Bank in Bangladesh in the mid-1970s, microenterprise credit schemes have exploded throughout the developing world. These programs typically offer small, short-maturity loans at higher interest rates than government-directed credits. They motivate repayment through group and repeat lending in escalating loan sizes and often forgo collateral and third-party guarantees. (World Bank, 1997).

Today, the overwhelming volume of direct enterprise promotion in rural areas centres around the provision of credit. Extensive literature reviewing these schemes has generally endorsed the positive reputation they enjoy (Haggblade and Mead, 1998). Key design features that contribute to their success are that they are locally based, should lend to groups, disperse small initial loans with additional lending conditional on repayment and charge interest rates that ensure their financial viability.

2.2.9. Training Exposure

Persons with some form/level of vocational training are likelier to work on non-farm. Undergoing some form of vocational training/apprenticeship, either formal or informal, equips the individual with special skills to engage in specific non-farm jobs such as tailoring, repair works (motorbikes, tapes/radio), carpentry, and masonry. Such jobs are often characterized by high entry barriers for many rural populations due to the

specialist skills required. The importance of special skills in non-farm employment is indicated by authors such as Reardon (1998) and Bryceson (1999).

2.2.10. Membership in Cooperative

The probability of participation in NFEAs increases if a person belongs to a group. Thus, belonging to a social network increases one's chances of engaging in NFEAs. Gordon and Graig (2001) found micro-credit schemes often associated with group lending, emphasizing the importance of belonging to a group/organization.

2.2.11. Household Income

Ellis (2000) describes a study of rural households in Shinyanga district, Tanzania, where the poor receive a more significant share of income from non-farm sources than the rich. Although high-return non-farm activities, such as shop-keeping, tailoring and carpentry, exist in this region, the poor are not typically involved in such occupations. Instead, they participate in activities that require little investment and few skills - the low-return activities described above and face entry barriers in gaining access to the high-return options.

2.2.12. Economic Motivation

Labour participation in nonfarm activities is a function of incentives and constraints (Reardon, 2006). Incentives include the level and variability of prices and wages in both farm and non-farm activities. Due to heterogeneous access to markets, human capital, and asset endowments, these prices may differ substantially among households. Constraints are related to the capacity of a household to diversify into nonfarm activities. They include household assets, education, size, age, gender structure of the household, and access to credit resources.

2.2.13. Risk-taking behaviour

Non-farm employment is believed to increase the risk of accepting the behaviour of farmers. Risk is a critical factor that inhibits farmers from adopting improved production methods and innovations. Farmers, in general, are averse to risk and prefer using low-

risk and low-cost methods (Roher, 1986). All activities where farmers may increase their productivity entail financial risks, whether the activity cultivates more land, purchasing modern inputs or shifting from subsistence to cash crops. The extent to which farmers can efficiently undertake these activities depends on the strength or capacity to withstand losses, as they are all new activities. Households with income sources other than farming are more likely to make new changes and decisions affecting production than households that derive income only from farming (Evans and Ngau, 1991). The case study in Kenya showed that as income from non-farm sources rises in absolute and relative terms, productivity levels measured in terms of output per unit of land also rise mainly because they can accept risks related to production decisions (Evans and Ngau, 1991). Further, it was shown that measures of income diversification are closely related to different production decisions such as the area under cultivation, an area devoted to coffee, expenditure on production inputs, the proportion of maize sold, cropped land and input usage, which are all found to increase farm income in the region. Weismann (1992), after reviewing farmers' livelihood strategies and land uses, concluded that a household could take the risk of testing new techniques when at least one component of their multiple strategies lies outside the basic subsistence activities.

2.3. Empirical studies of Rural Non-Farm Enterprises

Empirical studies often demonstrate that the RNFE comprises a set of heterogeneous activities, ranging from employment in highly productive sectors to low-productive activities earning just enough to sustain subsistence (Reardon, 1997). This heterogeneity is driven by different incentives and rural households' capacity to undertake nonfarm activities. Many poor households are excluded from nonfarm activities due to the lack of assets required to overcome entrance barriers. Others are trapped in low-remunerative activities that do not allow them to grow out of poverty. Consequently, identifying the factors shaping access and income from nonfarm activities is crucial for policymakers to inform and adjust policies in the rural domain (Reardon, 2006). Click here (<https://www.youtube.com/watch?v=KyZbSEfR2o>)

Most studies of income diversification tend to treat non-farm employment as a homogenous group of jobs regardless of the type of employment or the degree of skill and investment required. However, this kind of aggregation can lead to misleading inferences about issues like determinants of nonfarm participation. It is unrealistic to assume, for example, that factors that influence one's participation decision in casual labour are the same factors that influence the decision to engage in a lucrative business. Recent studies that disaggregate nonfarm employment between wage and self-employment documented that the determinants of participation and the returns from the respective employments are not the same (Reardon, 2001).

Another linkage study by Mulatu and Teferi (1996) on Gera Mider, Ankober, and Debre Birehan districts in Northern Shoa recognized the relative importance of farm and non-farm linkages in effective development. It found that 59.5% of the total cash income of farming households was from off-farm and non-farm activities. It noted that while these activities were low-return activities used as survival strategies by households facing declining land size and agricultural productivity, they significantly contributed to rural livelihoods' security. The study recommended reallocating labour and land toward livestock production and forestry to enhance farm and non-farm linkages. It further underlined skills training as an important strategy to improve the potential contribution of the non-farm sector to sustainable livelihood security.

An assessment by the Ministry of Labor and Social Affairs (MOLSA) (1997) on agricultural wage employment and rural non-farm employment in Ethiopia showed that rural non-farm activities were characterized by low capital requirements, low-quality products, and low-productivity jobs. About 21% of the rural populations in Afar, Amhara, Tigray, and Southern Nations, Nationalities and Peoples Regional State were reported to have supplemented agricultural production with non-farm income, indicating the relative importance of the activity.

Policymakers and the donors' community increasingly acknowledge that agriculture alone is insufficient to achieve sustainable poverty reduction in the Central Asian context of high population pressure, constrained land resources, and unfinished

agricultural reforms (World Bank, 2004 ;). Until recently, labour migration was a widely used income diversification strategy, but the current economic crisis makes migration prospects uncertain. In such circumstances, the rural non-farm economy (RNFE) may act as a cushion, absorbing rural labour and providing an opportunity to earn money. Click here (<https://www.youtube.com/watch?v=s318MJaahcl&t=262s>)

Halder (1995) observed that credit encouraged shifting from wage employment among the rural poor, especially the women, whose 92% per cent of earnings were used for productive purposes. Moreover, women's participation in income-generating activities affected their behaviour patterns and raised their status of self-confidence.

Hussain (1988) found that women in households were economically active and had an outstanding contribution to various activities related to homesteading and agricultural production. However, due to faulty national statistical procedures, these contributions were not duly considered in national income accounting. In addition, the socio-economic backwardness and women's illiteracy was also responsible for underestimating their contribution. Women's contribution was livestock production, duck and poultry production, horticultural crops, poultry and livestock rearing, and disease management.

Carswell (2000) focused on how much women contribute to household well-being through diversification and the importance of non-farm activities to increase cash income for poorer households. The study results revealed that participation in off- and non-farm activities varied among localities, wealth groups and households depending on access to infrastructure and institutions, household size, ownership of assets, and social networks. It further noted that credit services tied only to purchasing agricultural inputs such as fertilizer and seeds were not poor-friendly.

While the study's historical analysis of contexts and trends of off-farm and non-farm activities in Wolaita largely concurs with the quantitative justification of Mulatu and Teferi (1996), who specified survival strategies, it specifically highlights that the poor are not benefiting much from such activities because they are denied credit services to enhance their activities. Thus, its recommendation to target the poor in training and credit services to enhance the farm-non-farm linkages and reduce the unequal ring effect of the non-farm activities distinguishes itself from other studies.

The non-farm economy is increasingly looked to as a vehicle for poverty alleviation, and the evidence suggests that non-farm activities are generally associated with lower absolute poverty. The impact of the non-farm economy on inequality is less clear-cut, however. The typology of non-farm activities as either high-productivity or low-productivity helps trace the non-farm economy's distributional impact. High-productivity activities in rural areas generally accrue to the relatively wealthy. The growth of these activities thus tends to increase rural inequality. Because the poor do not typically possess the skills, contacts and assets necessary to access such occupations, they usually do not benefit directly from such jobs. However, evidence (from Mulatu and Teferi (1996) suggests an indirect poverty impact: high-productivity activities generally tighten rural labour markets and exert general equilibrium impacts on employment rates and wages.

Low-productivity non-farm activities in rural areas cause less inequality and may even equalize rural incomes. While the returns to these activities are low, they generally go directly to the poor, thereby keeping poverty from rising even more than it would in their absence. This way, low-productivity non-farm activities act as a safety net in rural areas. The diversification of rural incomes accompanying the expansion of the rural non-farm income has further distributional implications in that it reduces the exposure of rural households to uncertainty. In addition, it can help rural households to smooth consumption. Eventually, a reduction in the degree to which rural incomes co-vary, brought about by this diversification, has implications for the operation of institutions such as rural financial institutions. It is impossible to confidently say whether the opportunity to engage in non-farm activities is income inequality increasing or decreasing without information about what the situation would have been in the absence of such occupations. Nevertheless, there is a strong presumption that inequality increases if the bulk of non-farm incomes goes to the wealthier segments of society. Of course, even if non-farm jobs widen income distribution, this does not necessarily mean that the poor do not benefit.

2.4. Conceptual Framework of the Study

According to the World Bank (2007), the main reason for rural poverty is high agricultural underemployment combined with a scarcity of non-farm opportunities. Rural

unemployment was 6.4% in 2005, much lower than urban unemployment of 11.1%. In contrast, poverty rates are eight percentage points higher in rural areas than in urban areas. This suggests the subsistence nature of agriculture (World Bank, 2007: 14). In general, employment in rural areas has a high level of informality (54% of rural employment were informal in 2005), with labour relations outside the formal legal environment and concentrated in low-productivity sectors.

Rural women in Wolaita have enormous problems leading a peaceful life. Significantly, rural women are the most vulnerable ones. Scarcity of cash, low-level functional ability and education, and low participation in socio-political or community activities contribute to the low productivity of farm families. With their low-income earning capacity, they seem to be the most vulnerable group in society. In order to find the way out of this devastating trap, some NGOs started to involve rural women, with policy support from the GOs, in sorts of self-income-generating activities.

Support is a must to mainstream rural women in the development process through their self-employment generation. The support might be income-generating activities based on training, supervised credit, motivation, group-based consultation, and cooperation. Both GOs and NGOs should work side by side to complement each other. While the perceived benefits of income-generating activities themselves also need to be assessed. Organizational support and perceived benefits of income-generating activities may motivate rural women in the income-generating process. The role of involvement in societal activities and its organizations should also impact such participation. Individual characteristics also shape the extent or nature of participation in income-generating activities.

However, the study explored the causes behind the effective participation in non-farm income-generating activities of rural women in rural communities. Hopefully, factors affecting participation were led to suggest some issues towards initiatives table taken for changing the status of these vulnerable and helpless rural women. The simple conceptual model of this work is presented below (Figure 1).

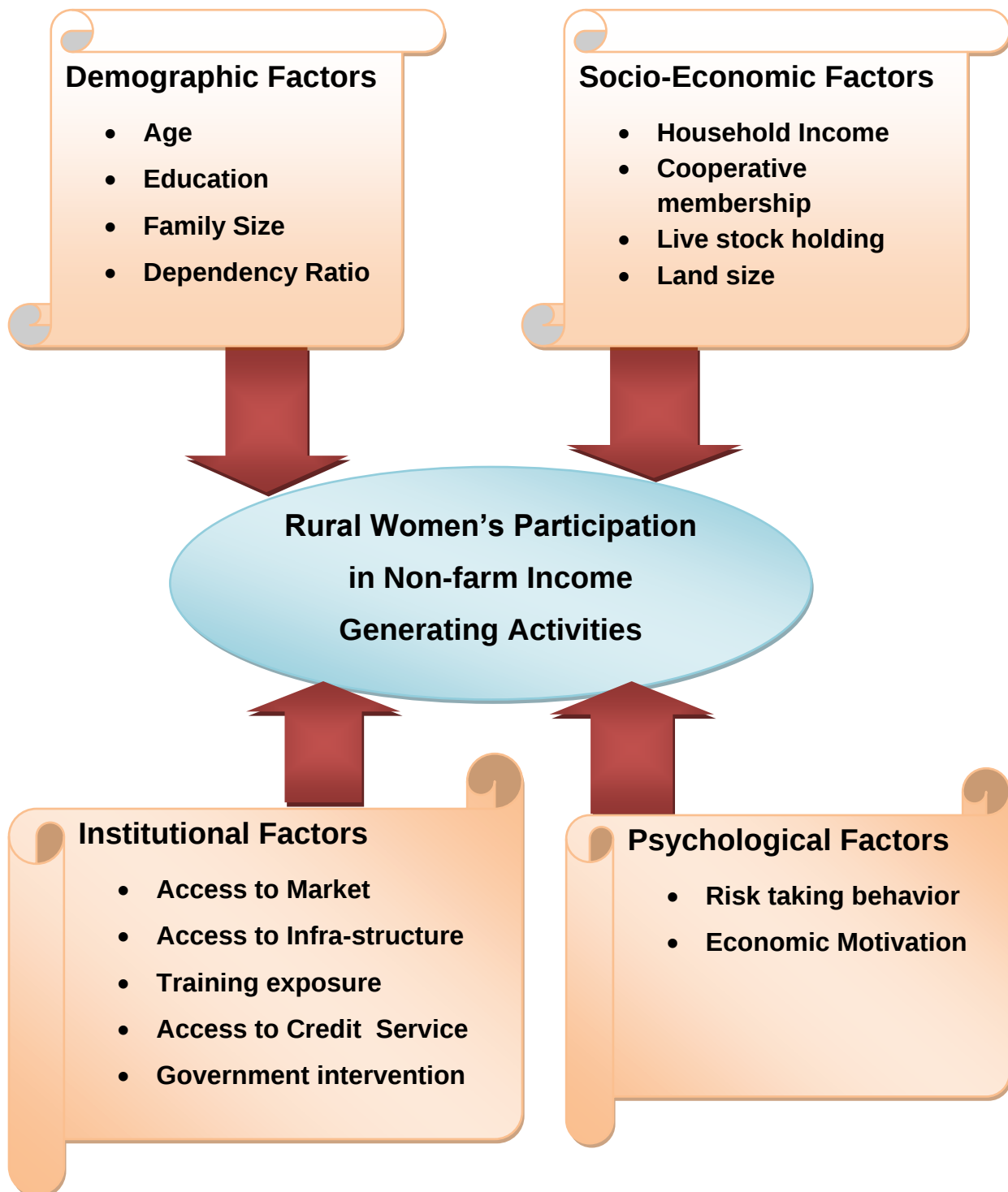


Figure 1: Conceptual Framework of the study

Source: Cross-checked the available Literature.

CHAPTER III

3. METHODOLOGY

3. METHODOLOGY

3.1. Description of the Study area

The study was conducted in Damot Woyde District (Woreda) of Wolaita Zone, one of twelve rural Woredas in Wolaita Zone in the Southern Nations Nationalities and People's Region of Ethiopia. Wolaita Zone is one of the 14 Zones, 4 Special Woreda's including Hawasa Town Administration in the Region. It is roughly located between 6.4° - 7.1° N & 37.4° - 38.2° E. The boundary areas are Kambata Tambaro in the North, Sidama Zone in the East, Gamo Gofa Zone in the South, and Dawro Zone in the West. In the 2006 Ethiopian Calendar, the zone has a total population of 1851111 based on the national census of 1999 E.C. Area of the Zone is 451170 hectares or $4511.7/\text{km}^2$. The zone has 12 Rural Woredas and 3 Town Administrations. There are 3 agro-ecological Dega (wet area), Woyna Dega (semi-wet area), and Kolla (dry) weather conditions in the zone. (BoFED, 2014/15).

Dega accounts for 9%, Woina Dega 56 %, and Kolla 35 %. Land usage concerns the zone's total area, 322456 hectares cultivated, 23807 cultivable, 43071 grazing, 110051 forest and bushes, and 16788 other purposes.

The average maximum and minimum land holding are 0.5 & 0.125 hectares, respectively. The Zone has social services of health, 3 hospitals, 4 growing hospitals, 72 health centres and 346 Health posts. In addition, there are 458 Primary schools in the education sector, 33 Secondary schools, 13 Preparatory schools, 3 Institutions of Vocational and Teacher Training, and 1 Agricultural Training and Vocational College.

According to the census result of 1999 E.C, there are 296 rural kebeles and 56 urban kebeles totalling 352. The number of municipal towns is 30, and the Kebeles they have are 56. The study area, Damot Woyde woreda, is one of the twelve rural administrative woredas of the Wolaita Zone. It is found at an astronomical location of 6.68° - 6.96° N and 37.83° - 38.08° E, and the Woreda is 26 k.m far from Zonal town Soddo and 184 km far from regional town Awasa. The capital town of Woreda is Bedeisa, 26 km from Sodo and 180 km from Awasa. The mean annual rainfall amount of Woreda is 1001mm-1400mm, and the mean annual temperature of the Woreda is 21.3°C , the maximum 25°C and the minimum 17.6°C . According to Socio-demographic data of the Woreda, the

topographic elevation of the Woreda is 1001m-2500m at sea level. (BoFED, 2014/15) . Having this altitude range, the whole woreda is divided into three major agro-ecological zones: namely Dega (wet), Woyna Dega (sem-wet) and Kola (dry). The Dega accounts for 14.35% of climatic conditions and 23 rural kebeles of the Woreda, only 3 Kebeles included in these climatic conditions. The Woina Dega accounts for 56.95% of the weather condition of the Woreda, and it accounts for 14 Kebeles within this Woreda. The Kola also accounts for 28.7% of Woreda's weather conditions, including 6 rural Kebeles of Woreda. The three important crops are grown mainly for household consumption in most three climatic weather areas of the Woreda Maize, Teff, and Haricot bean.

3.1.1. Population of Study area

According to the population census data of (CSA 2015), the population of Woreda was estimated to be 115350 in 2014/15, and among the total population, males are 56515 and females are 58835. The average population size of the woreda is 4.9 per household, and the number of households in the Woreda in 2014/15 was 22797. Therefore, the population density of Woreda is 318 persons settled per square kilometre. Based on the/2015/ socio-economic profile of Woreda, there are 16101 households in Woreda. Among those male households were 13868 and 2233 rural women households.

3.1.2. Socio-Economic Infrastructure of the area

The primary economic activity of Woreda is agriculture, in which 87% of the rural community of Woreda's population engaged. The total area of land of the Woreda is 35200 m². The total cultivated land is 20058m²; from the rest, only 2327m² can be cultivated, and 2200 m² of land is impossible to cultivate. According to the Woreda /2014/, there are 12633 farmers with less than 0.5 sec. of farming land and only 197 farmers above 2 hec. Farming land is observed by a total of 16465 farmers in Woreda. In Woreda, there is high unemployment both in urban and rural areas. In urban areas, it is about 350 persons (170 male and 180 female) unemployed, while in rural areas, about 1287 (650 male, 637 female) are unemployed (socio-economic profile of Woreda 2015). Socio-economic infrastructure and public services are insufficient and inadequate in Woreda, a challenging development. There is only one microfinance institution, Omo-microfinance, which gives credit and saving services to rural people, which is inadequate.

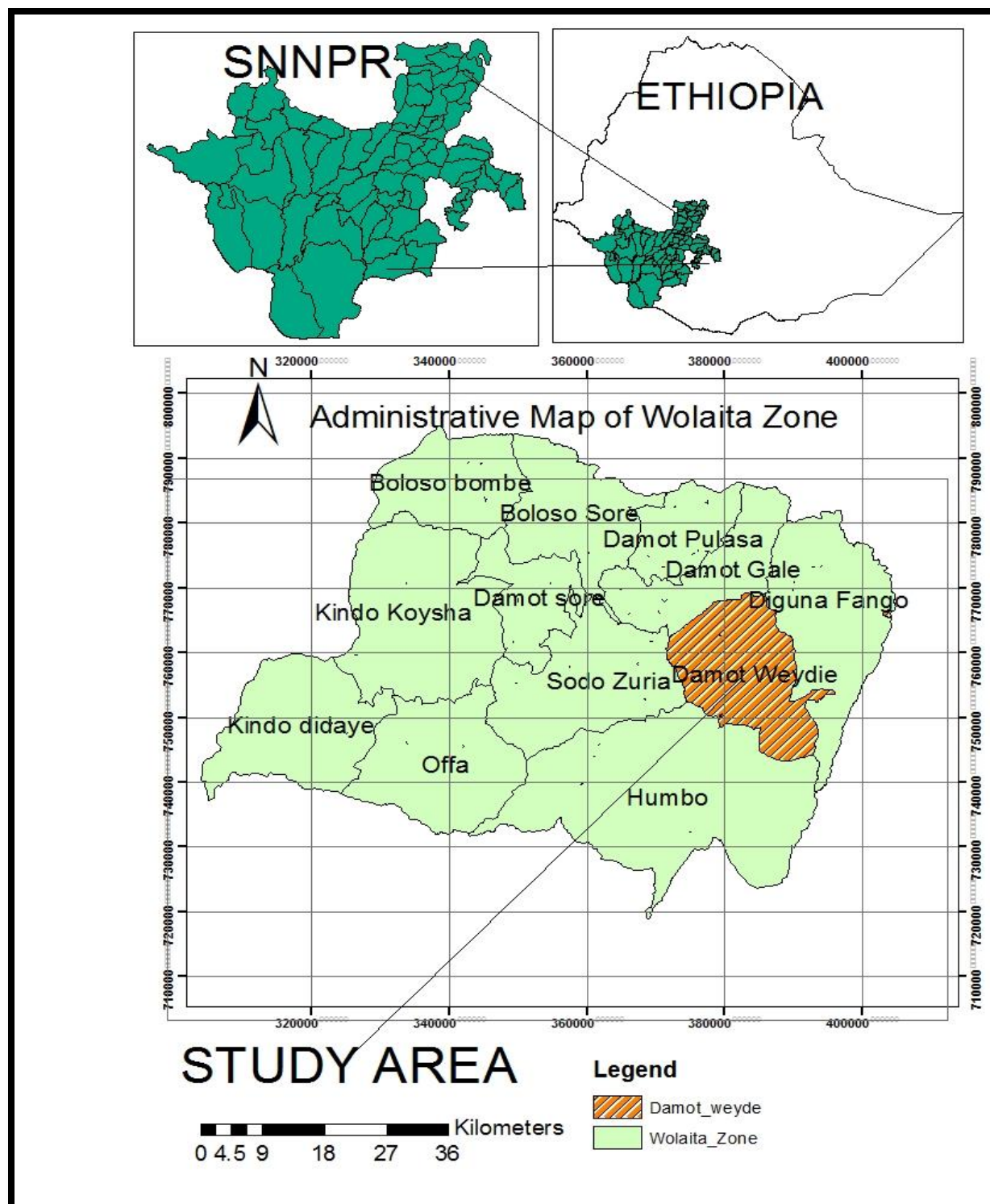


Figure 2: Map of Study Area

Source: Wolaita Zone Finance and Economic Development, 2016

3.2. Sampling Technique

3.2.1. Sample Size Determination

The data for this research was obtained from women's headed households of Damot Woyde Woreda. To determine the sample size, kinds of literature offer various foundations. These include the objectives and nature of the population to be studied; the confidence level of estimations demanded population parameters; the nature of data (i.e. categorical variables versus continuous variables); the level of precision; the number of explanatory variables (for regression analysis), and constraints such as cost, time, etc. Accordingly, to determine sample size Yamane's (1970) mathematical formula was used, as shown below.

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

Where N is the total women-headed household population of the rural kebele's of woreda, e (margin of error) is 0.1(10%) while the confidence level is 95% and the precision level is 90% that is 10% on (0.1) margin error) was used. Using a total population of rural women headed a household of woreda, 2233 and an error margin of 0.1, the sample size was calculated as follows,

$$\frac{n = \frac{2233}{1 + 2233(0.1)^2} = 96}{n = 96}$$

Hence, out of the total population of 2233, a sample size of 96 respondents was taken. The 96 women-headed households listed in Kebeles were selected by simple random sampling using Probability Proportionate to Size (PPS) to identify those household women. The total sample size was 96 for qualitative data collection and 14 non-sample respondents for qualitative data collection, comprising 7 for Focus Group Discussion and 7 for Key Informant's Interviews.

In addition to the primary data, the proper review of secondary sources from different offices of the Woreda was undertaken.

3.2.2. Sampling Design

The study was conducted in Damot Woyde Woreda of Wolaita Zone. The Damot Woyde Woreda was selected because the Woreda in the Zone is characterized by high unemployment, low agricultural production, food insecurity, inadequate infrastructure

and institution, etc., for economic sustainability. The Woreda had 23 Rural Kebeles having different agro-ecological conditions. Using the Yemane (1970) formula mentioned above, the study's sample size was 96.

All of the Kebeles in the Woreda have problems, as mentioned above; however, the three Dega and fourteen Woyna Dega Kebeles have a high shortage of farmland. So among 17 Kebles of the Woreda having a low land size, four randomly selected Kebles were included for data collection. First, according to the total number of women households in each Kebele, each sample was selected using Probability Proportional to Size Sampling (PPS). Then, the primary data was collected with the help of a structured interview schedule from the sampled women's household in the study area.

3.2.3. Sampling Procedure

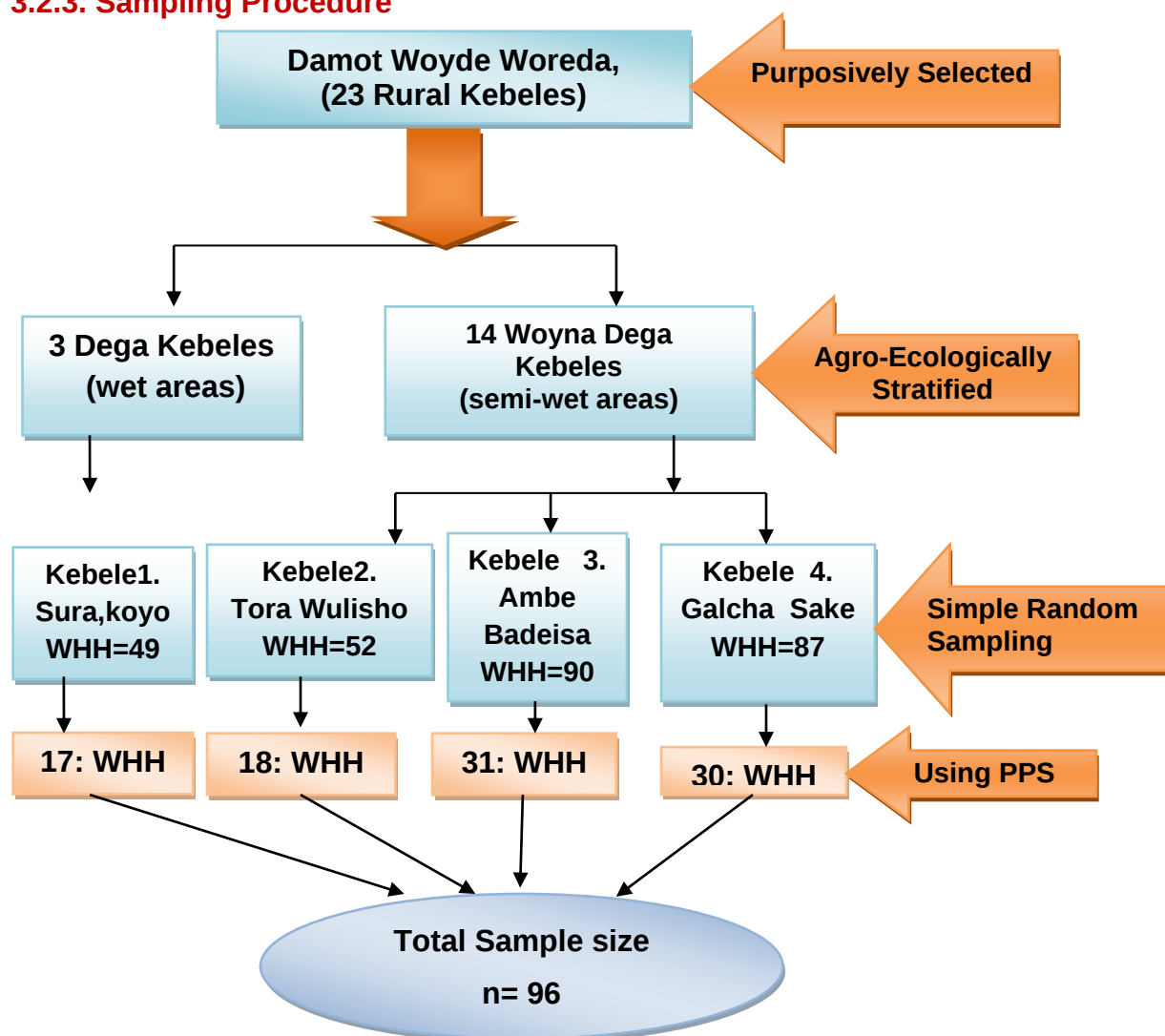


Figure 3: Sampling Procedure

3.3. Data Types and Data Sources

The central data sources for this study were primary sources: field survey, FGD and KII. The secondary data is used to supplement the study by reviewing existing literature. The central units of this study were women's households, from participation-based data was collected and analyzed. The first primary data set was on socio-economic, demographic, institutional and psychological factors determining women's participation in non-farming activities. The secondary data classified the study's women's participation index and literature sources. Data were collected in the study to answer research questions and achieve research objectives both quantitatively and qualitatively; data were used.

3.4. Data Collection Methods/Tools

The data collection procedure was followed by the researcher's procedure to travel to the study area and interviews the FGD and KII non-sample respondents. The researcher has appointed the enumerators to collect the primary data and set an appropriate time to undergo an interview to collect data from proportionately sampled selected women's involvement in the research. In addition to this, the documentary review was collected from secondary data like research documents and official reports.

3.5. Data Analysis

The primary focus of the analysis was collecting the required information from the above-mentioned sources. Both descriptive and inferential analysis was used to analyse the data collected. In the descriptive section of the analysis, simple percentages, t-tests, Chi-square and tabulation were used to drive meaning from the household's questionnaire survey and get detailed information on our issues. Finally, the Ordered Logit Model was employed to identify factors determining the Rural Women's Participation in Non-Farm Income Generating Activities.

3.6. Model Specification

For this study's purpose, the Ordered logit econometric model was used to analyze the factors that influence rural women's participation in Non-farm Income generating activities due to the categorical or ordered nature of the dependent variable.

3.6.1. Ordered Logit Model:

The use of an appropriate model is usually determined by the nature of the dependent variable or variables. Here in this study, the dependent variable has a categorical or ordered nature. Then ordinary linear regression is not appropriate because of the non-interval nature of the variable, and the spacing of the outcome choices cannot be assumed to be uniform.

Ordinal logit and probit models have been widely used to analyze such data types (Liao, 1994). However, although the outcome is discrete, the multinomial logit or probit model would fail to account for the ordinal nature of the dependent variable (Greene, 2008). Therefore, ordered probit and logit models are widely used to analyse such responses (Zavoina and McElvey, 1975). Hence, this study applied the ordered logit model instead of the ordered probit simply because of the parameters' interpretation simplicity. Hence, an ordered logit model was used to analyze the factors influencing women's participation in non-farm income-generating activities.

The women's participation in this study was measured by calculating the score values obtained for each respondent from the frequencies of the indicator activities. Then the mean value was calculated after summing up each score. Respondents were classified into three categories based on their score values for this low, medium, and high scores. This is based on considering the mean actual score of the respondents obtained for the value of the whole activity.

Following Greene (2008) and Liao (1994), the functional form of the ordered logit model is specified as follows:

$$y^* = \sum \beta_k \chi_k + \varepsilon.$$

Y^* = is unobserved and can be thought of as the underlying tendency of an observed phenomenon.

ε = we assume it follows a certain symmetric distribution with zero means, such as normal or logistic distribution.

What we do observe is

$y = 1$ if $y^* \leq \mu_1$ ($=0$)

$y = 2$ if $\mu_1 < y^* \leq \mu_2$

$y = 3$ if $\mu_2 < y^* \leq \mu_3$ (2)

$y = j$ if $\mu_{j-1} < y^*$

Where y is observed in j number of ordered categories, μ_s were threshold parameters separating the adjacent categories to be estimated with β_s .

The general form for the probability that the observed y falls into category j and the μ_s and the β_s are to be estimated with an ordinal logit model is

$$\text{Prob}(y = j) = 1 - L\left(\mu_{j-1} - \sum_{k=1}^k \beta_k \chi_k\right)$$

where $L(.)$ represents the cumulative logistic distribution

Marginal effects on the probabilities of each participation category were calculated by

$$\frac{\partial \text{Prob}(Y = j)}{\partial X_k} = \left[f\left(\mu_{j-1} - \sum_{k=1}^k \beta_k \chi_k\right) - f\left(\mu_j - \sum_{k=1}^k \beta_k \chi_k\right) \right] \beta_k$$

Where $f(.)$, Represents the probability density function

3.7. Hypothesis of the Study and Definition of Variables

In the Wolaita zone, women account for more than half of the population, and ignorance of their participation in economic activities like income-generating activities makes a development unsustainable and less responsible. The study has taken the rural women's participation in Non-farm income-generating activities. Participation is insufficient to improve household income, and non-farm activities in household economic improvement are low. For the statistical test, it is necessary to develop positive hypotheses. A positive hypothesis states that “there was a positive relationship between the independent and dependent variables”.

Dependent Variable

The participation of rural women in Non-farm income-generating activities is a dependent variable for this study. Therefore, the level of women's participation in this study was measured by calculating the score values obtained for each respondent from the frequencies of the indicator activities. The variable rural women's participation in non-farm income-generating activities was coded (PART) in software.

Participation in Non-farm income-generating activities of a respondent was measured based on the nature of participation in 5 selected activities. In addition, the respondents were asked to mention their frequency of participation in 5 selected activities. A 3-point rating scale was used for computing participation in non-farm income-generating activities.

Pattern of Participation (PART)	Scores Assigned
Frequently	3
Rarely	2
Seldom	1
Never	0

Independent Variables

Age of the women (AGE): a continuous and negatively related variable to women's participation in Non-agricultural income-generating activities. It is controlled to see the effect of women's experience on participation decisions and earnings. An increase in experience is expected to increase both probabilities of participation and amount of earning, and the effect of experience is expected to reduce after some maximum point.

The participant's age or household head is another component of the human capital, indicating work and life experience. Unfortunately, Reardon's review of studies in Africa does not discuss the impact of age. However, recent studies in Ghana (Abdulai and Delgado, 1999), Tanzania (Lanjouw 2001) and Mali (Abdulai and CroleRees, 2001) show that at a younger age, participation increases with the age of the individual or the household head (until 30-40 years), after which increase in age is associated with a decline in the probability and level of participation.

The same trend holds for India, with the negative relation starting only after age 50, while in China, age is negatively impacted.

Education (EDU): A categorical variable hypothesized positively correlated to the study's dependent variable. Suppose a household head has participated at least in

primary education considered for the educated category. This is because most households were not attending any schooling and several household heads attending schooling above primary education is almost null. Hence, we categorized the education variable as at least attending primary education or not. It is likely that an increase in human capital increases the probability of participation and increases earnings. Several studies document that education increases participation in nonfarm employment and income. Recent studies in several African countries also strengthen earlier findings reviewed by Reardon (1997) about the positive impact of education.

Household Size (FML): these variables are included to capture the effect of the labour force on participation decisions. It is expected that more labour power positively affects the probability of participation and hence the number of earnings. These variables might also reflect the availability of dependents instead of labour hours. Block and Webb (2001) and Berg and Kumbi (2006) also argued that family size could be translated as labour endowment.

Dependency Ratio (DEPD): it is the ratio of the non-working age group to the working-age (adult) group. A higher dependency ratio implies a lesser degree of labour involved in various non-farming income-generating activities. Thus, the household with a higher dependency ratio is too small to participate in non-farm activities. (Block and Webb, 2001)

Household Income (INC): Total earnings from livestock, remittance, non-farm, etc., in ETB. Our specification used total income as a dependent variable to examine women's participation in NFIGA. A household participating in Non-farm activities is expected to have a higher total income than a non-participant.

Land Size (LND): indicates household farm size (in ha). It is preferred to see the negative effect of land size on the participation of women in non-farm income-generating activities. As a resource, large farm size is expected to increase the capacity of a household to participate in high-earning activities, hence increasing the earnings from the farm and hindering participation in NFIGA.

Landholding, which indicates farming potential, is negatively correlated with the share of non-farm income in Latin America, as those with more land have better farm income (Reardon 2001). However, some of the same studies also found that the *income level* from RNFE increases with landholdings. Landholdings affect the incentives and the capacity to engage in nonfarm employment.

In Latin America, the share of nonfarm income fell with land size, meaning poor households were pushed into non-farming due to land scarcity and excess labour (Reardon 2001).

Total livestock holding (LVSTK): This variable is continuous and refers to the household's total livestock in TLU. It is assumed that households with larger TLU have better economic strength and financial position to purchase sufficient agricultural inputs that boost their production and produce more output to sell to their cooperative. Therefore, this variable is assumed to affect participation in Non-farm activities positively.

Membership in other Cooperatives (COPTV): This is a dummy variable measured as if the Women's head is a member of another cooperative society or not. Therefore, this may signify awareness of the women's importance of participation in the cooperative business. It may have a positive influence on the participation of member patrons in Non-farm income-generating activities.

Access to Finance (ACCRDT): The variables indicate access to formal and informal financial sources. Access to formal financial institutions controlled a categorical variable showing if a household has a bank account or not. The presence of informal financial sources are controlled by variables indicating if a household is a member of 'Idir' and whether a household received a loan or not. In addition, the variable shows if a household received remittance or is not included as another source of informal financing. Access to financial sources is expected to increase participation by enabling a household to cover initial costs to start up Non-farm income-generating activities.

Credit market failure, mainly to purchase farm input, may also be why individuals want to participate in nonfarm employment. Some African studies document that farm households engage in nonfarm employment to obtain capital for farm investment (Reardon, 1997). While nonfarm activities can be a source of agricultural investment for rural households with limited access to credit, missing credit markets can also hinder participation in activities requiring initial investment (Barrett, 2001).

Market Access (MRKT): When the market fails, women cannot make their commodity tradable, the cost of market participation becomes high, and women become unable to get factor input at affordable prices (de Janvry and Fafchamps, 1991). We expect markets to fail to specific households because the cost of market participation depends on each household's economic situation considering the possibility of its occurrence on an aggregate basis. Thus, market failure is expected to reduce participation decisions by prohibiting households from the opportunity to participate.

Access to Infrastructure (TRSPT)

It was a categorical independent variable that hypothesized that the variable positively related to dependent variables. As described in the 1994 World Development Report on Infrastructure for Development, infrastructure refers to various services often designated as "social overhead capital." While neither term is precisely defined, both are characterized by features of public goods, spillovers from users to non-users and economies of scale (World Bank, 1994).

Several empirical studies demonstrate the importance of location characteristics and access to infrastructure for participation in the RNFE. Isgut (2004), for example, found that wage employment in the RNFE was located closer to urban areas, while self-employment mainly depended on local motors, such as profitable agricultural activity, tourist attractions etc. Likewise, Reardon (2001) demonstrated that access to infrastructure was crucial for participation and income generation from nonfarm activities, compensating for the lack of other assets in Latin American countries.

Training Exposure (TRIN)

This dummy variable represents whether or not the women have undertaken any training in non-farm income-generating skills. Therefore, it is expected to positively influence non-farm work decisions by women (Reardon, 2001).

Government Involvement (GOV): seeking to expand the rural non-farm economy is generally founded on the notion that markets left to them will not provide sufficient stimulus for socially desirable nonfarm development. Government intervention can be approached at a detailed, targeted level and general policy environment depending on country-level circumstances. (Reardon, 2001).

Risk-taking Behavior (RSK)

All activities in which women may increase their income entail financial risks, whether the activity is Non-farm income-generating.

Economic Motivation (MICR)

Labour participation in nonfarm activities is a function of incentives and constraints (Reardon, 2006). Incentives include the level and variability of prices and wages in non-farm activities. Constraints are related to the capacity of a household to diversify into non-farm activities. They include household assets, education, size, age, gender structure of the household, and access to credit resources.

The combination of constraints and incentives leads to paradoxes at the meso-level and micro-level, as Reardon (2006) described. At the meso-level, households have higher incentives to engage in non-farming in poor resource areas, but their capacity to generate these activities is limited in these regions. At the household level, the same picture evolves when poor households have higher incentives to diversify into non-farm activities but a lower capacity to do this successfully due to the lack of assets. In this case, the poor often engage in poorly paying non-farm activities equivalent to subsistence farming.

Table 1: Summary of Explanatory Variables

S. No.	Independent Variables	Variable Type	Variable Definition	Expected Sign
1	Age(AGE)	Continuous	Age of women in the household	-
2	Education(EDU)	Categorical	The Education Level of women in the household	+
3	Family size(FML)	Continuous	Number of the household size of respondents	+
4	Dependency Ratio(DEPD)	Continuous	The number of dependents to the labour force in households under15 and above 65 age	-
5	Livestock holding(LSH)	Continuous	Ownership of livestock in household	-
6	Cooperative Membership(COPV)	Categorical	Membership condition in cooperative Union in Keble's	+
7	Household Income(INC)	Continuous	Amount of household income assets	+
8	Land size(LND)	Continuous	household farm size (in ha)	-
9	Accesses to credit services(ACCRDT)	Dummy	access to formal and informal financial sources	+
10	Access to Market(MRKT)	Dummy	missing or imperfect markets or utilizing market opportunity	+
11	Access to transport(TRSPT)	Dummy	Services that are often designated as "social overhead capital."	+
12	Government intervention(GOV)	Dummy	Detailed, targeted, and at the general policy environment level.	+
13	Training Exposure(TRIN)	Dummy	Training in Non-farm income-generating skills or not.	+
14	Risk-taking behaviour (RSK)	Categorical	All activities in which farmers may engage in order to increase their productivity	+
15	Economic Motivation(ECONC)	Categorical	Labour participation in nonfarm activities is a function of incentives and constraints.	+

CHAPTER IV

4. DATA ANALYSIS AND RESULTS

4. DATA ANALYSIS AND RESULTS

In this chapter, the study results were presented and discussed in detail to address the two objectives of the research. First, examine the current status of rural women's participation in non-farm income-generating activities in the study area and identify the factors affecting rural women's participation in non-farm income-generating activities.

4.1. Discussion on Dependent Variable

The level of Women's Participation in this study was measured by calculating the score values obtained for each respondent from the frequencies of the indicator activities. The following indicators have been considered for the measurements: Participation in Household Income, Participation in Training, Participation in Cooperative Membership, Participation in Credit and Participation in Government Policy Issues. Then, the mean value is calculated after summing up each score. Respondents were classified into three categories based on their score values for this study: Low, Medium and High. This is based on considering the mean actual score of the respondents obtained for the value of the whole activity. Hence, the categorization of respondents based on their participation score was 0-5, 6-10 and 11-15 for the Low, Medium and High categories, respectively. The score was expected from 0, the minimum score of 15, the maximum score for each respondent, while the actual score obtained was between 1 and 12.

The indicators in Table 2 show that 61.5 % of the sampled respondents are under the low participation category, 30.2 % are under the medium participation category, and 8.3 % are under the high participation category.

Table 2: Participation level and their score range

Categories	Frequency	Per cent	Participation range
Low	59	61.5	0-5
Medium	29	30.2	6-10
High	8	8.3	11-15
Total	96	100.0	

Source: Computed from own survey data (2016)

Women's non-farm income-generating activities were measured with five indicators: household income, training, cooperative membership, credit, and government policy.

Table 3: Measurements of Dependent Variables of women's participation in NFIGA

S. No.	Categories of Indicators	Measurement	Score Range
1.	Participation in household income	Never	0
		Seldom	1
		Rare	2
		Frequently	3
2 .	Participation in training	Never	0
		Seldom	1
		Rare	2
		Frequently	3
3 .	Participation in cooperative membership	Never	0
		Seldom	1
		Rare	2
		Frequently	3
4 .	Participation in Credit	Never	0
		Seldom	1
		Rare	2
		Frequently	3
5 .	Participation in Government Policy Issue	Never	0
		Seldom	1
		Rare	2
		Frequently	3

Source: Computed from own survey data (2016)

4.2. Discussion on Independent Variables

4.2.1. Demographic characteristics

Age:

The respondent's age was a continuous variable with a total mean of 28.61 and a total standard deviation of 9.271 with a significance of 0.024. So the variable was significant to the study population at a 5 % level.

A close look into the data indicates that involvement in non-farm income-generating activities in the study area was in the hands of young and middle-aged women. This is logical because young and middle-aged women are society's primary creative and energetic population.

Studies in Ghana (Abdulai and Delgado, 1999), Tanzania (Lanjouw *et al.*, 2001) and Mali (Abdulai and Creole Rees, 2001) show that at a younger age, participation increases with the age of the individual or the household head (until 30-40 years) after which increase in age is associated with a decline in the probability and level of participation.

Table 4: Distribution of rural women according to their Age

Variable	Total Mean	Total Std. Dev.	F-value	Sig.	Participation				
					Low	Medium	High	Total	
Age	28.61	9.271	3.896	0.024**	Mean	28.93	25.97	35.88	28.61
					Frequency	59	29	8	96
					St. Dev.	8.851	7.365	14.496	9.271

** Significant at >5 % level

Source: Computed from own survey data (2016)

Education:

Education of the women respondents was significant at a 5 % level of 0.040 with a (chi-square= 13.201, P=0.04). Out of the respondents, most women (72.9 %) were less educated.

Education broadens the outlook of individuals and leads them to explore new ideas to solve problems. This study assumed that women with better education were more progressive and innovative than those illiterate. As a result, they can be involved actively in non-farm income-generating activities more efficiently than those who cannot read and write.

The impact of education on non-farm employment is consistent across the regions. Several studies document that education increases participation in nonfarm employment and income. Recent studies in several African countries also strengthen earlier findings reviewed by Reardon (1997) about the positive impact of education.

Table 5: Distribution of rural women according to their education

Variable	Categories	Participation			Frequency	Percent
		Low	Medium	High		
	Education cannot read and write	18	14	0	32	33.3
	-4 class educated	24	8	6	38	39.6
	5-8 class educated	13	2	1	16	16.7
	10 complete	4	5	1	10	10.4
Chi-square value = 13.201				significance =0.040**		

** Significant at <5 % level

Source: Computed from own survey data (2016)

Family size

It was a continuous variable in the study; the total mean was 6.08, and the total standard deviation was 1.287, with an F-value of 3.871. The variable was 5 % of the significance level.

According to the above table, household labour supply positively impacted women's participation in non-farm income-generating activities across the study areas.

Table 6: Distribution of rural women according to their Family size

Variable	Total means	Total Std. Dev.	F-value	Significance	Participation				
					Low	Medium	High	Total	
Family size	6.08	1.287	3.871	0.024**	Mean	5.86	6.62	5.75	6.08
				Frequency	59	29	8	96	
				Std. Dev.	1.370	0.903	1.389	1.287	

** Significant at > 5 % level

Source: Computed from own survey data (2016).

Dependency Ratio

Women's participation in NFIGA differs from their variation in household dependency ratio. Low-participation women had an average dependency ratio of 4.46, medium participation 3.52 and high-participation women had a dependency ratio of 4.13. The ANOVA test revealed significant differences between the three groups ($F=8.097$, $P=0.001$).

According to the data below, dependency affects women's participation in Non-farm Income Generating Activities. In addition, the high children or dependency ratio affects Non-farm Employment participation, even when the study distinguished household labour supplies.

Table 7: Distribution of rural women according to their Dependency ratio

Variable	Total means	Total Std. Dev	F-value	Significance	Participation				
					Low	Medium	High	Total	
Dependency									
Ratio	4.15	1.105	8.097	0.001***	Mean	4.46	3.52	4.13	4.15
					Frequency	59	29	8	96
					Std. Dev.	0.988	1.122	0.991	1.105

*** Significant at >1 % level

Source: Computed from own survey data (2016)

Table 8: Summary of Explanation of Continuous Variables by F-test and Significance

S. No.	Continuous Variables	Participation	No.	Mean	Std. Deviation	F	Sig.
1	Age	Low	59	28.93	8.851	3.896	0.024**
		Medium	29	25.97	7.365		
		High	8	35.88	14.496		
		Total	96	28.61	9.271		
2	Family size	Low	59	5.86	1.370	3.871	0.024**
		Medium	29	6.62	0.903		
		High	8	5.75	1.389		
		Total	96	6.08	1.287		
3	Dependency Ratio	Low	59	4.46	0.988	8.097	0.001***
		Medium	29	3.52	1.122		
		High	8	4.13	0.991		
		Total	96	4.15	1.105		
4	Income	Low	59	305.59	278.179	4.022	0.021**
		Medium	29	507.55	430.701		
		High	8	254.38	307.807		
		Total	96	362.33	343.976		
5	Livestock holding	Low	59	2.69	1.822	3.568	0.032**
		Medium	29	1.69	1.312		
		High	8	2.63	1.768		
		Total	96	2.39	1.725		
6	Landholding	Low	59	0.36	0.481	2.451	0.092*
		Medium	29	0.48	0.509		
		High	8	0.75	0.463		
		Total	96	0.43	0.495		

* 10 % significant level

** 5 % significant level

*** 1 % significant level

Source: Computed from own survey data (2016).

4.2.2. Discussion on Socio-Economic Factors

Household Income

It was evident that Non-farm Income Generating Activities were important income sources for rural women. The data indicate that the mean was 362.33, the standard deviation of 343.976, the F-value of 4.022 and a 5 % significance level.

Table 9: Distribution of rural women according to their Non-Farm Household Income

Variable	Total means	Total	Std. Dev.	F-value	Significance	Participation			
						Low	Medium	High	Total
Income	362.33	343.976	4.022	0.021**	Mean	305.59	507.55	254.38	362.33
					Frequency	59	29	8	96
					Std. Dev.	278.179	430.701	307.807	343.976

Significant at > 5 % level

Source: Computed from own survey data (2016).

According to the data above in table 9, most rural poor women are highly participating in Non-farm Income generating activities; income sources were from handcrafts, labour work, milling, safety net program and poetry, charcoal, selling of firewood, sale of local foods and drinks, sale of grains and fruits, sells of cattle's, chicken, shopping and their products. These indicate that a household's income level determines the participation and choice of Non-Farm activities. The typology of non-farm activities as either high-productive or low-productivity helped trace the distributional impact of the non-farm economy. High-productive activities in rural areas were activities that require high skills and relatively more capital are as trading, weaving (cloths and mats), dressmaking /tailoring/hairdressing/barbering/retail shop operation, drinking bar operation, photography, wood carving and others, generally accrue to the relatively wealthy. The growth of these activities thus tends to increase rural inequality. Because the poor do not typically possess the skills, contacts and assets necessary to access such occupations, they usually do not benefit directly from such jobs.

However, evidence suggests an indirect poverty impact; high-productivity activities generally tighten rural labour markets and exert general equilibrium impacts on employment rates and wages. Low-productivity non-farm activities in rural areas like charcoal, selling of firewood, sales of local foods and drinks, sales of grain and fruits, sales of cattle, chicken, cartel work and small shopping activities, which are common in study areas cause less rural inequality, and may even serve to equalize rural incomes. While the returns to these activities are low, they generally go directly to the poor,

thereby keeping poverty from rising even more than it would in their absence. This way, low-productivity non-farm activities act as a safety net in rural areas.

Reardon (1998) finds an average share of 42% of non-farm income in total rural household income in Africa, 40% in Latin America and 32% in Asia. This study also finds that non-farm income shares have risen in Africa over the past few decades.

Livestock Holding

The variable was continuous in the study and was at a 5 % significant level. Women's participation in NFIGA differs from their variation in livestock holding. Low-participation women had an average dependency ratio of 2.69, medium participation was 1.69, and high-participation women had a livestock holding ratio of 2.63. the ANOVA test revealed significant differences between the three groups ($F= 3.568$ and $P= 0.032$). According to data, a few livestock holdings participated in Non-farm Income generating activities.

Table 10: Distribution of rural women according to their Livestock Holding

Variable	Total means	Total Std. dev	F-value	Significance	Participation				
					Low	Medium	High	Total	
Livestock									
Holding	2.39	1.725	3.568	0.032**	Mean	2.69	1.69	2.63	2.39
					Frequency	59	29	8	96
					Std. Dev.	1.822	1.312	1.768	1.725

Significant > 5% level

Source: Computed from own survey data (2016).

Landholding

Women's participation in NFIGA differs with their variation in landholding size. Low participating women had an average land size of 0.36, medium participants 0.48, and the high participant had 0.75 landholdings. The ANOVA test revealed significant differences between the three groups ($F= 2.451$, $P= 0.092$). According to data, these women actively participating in Non-farm income-generating activities were low landholding. Shreds of evidence from across African studies suggest that households

who experience a decline in farm income, either temporarily or as a long-term trend, adopt nonfarm employment as an alternative strategy (Reardon, 1997). Furthermore, landholding, which indicates farming potential, is negatively correlated with the share of non-farm income in Latin America, as those with more land have better farm income (Reardon, 2001).

Table 11: Distribution of rural women according to their Land Holding size

Variable	Total Means	Total	Std. Dev.	F-value	Significance	Participation			
						Low	Medium	High	Total
Landholding	0.43	0.495	2.451	0.092*	Mean	0.36	0.48	0.75	0.43
					Frequency	59	29	8	96
					Std. Dev.	0.481	0.509	0.463	0.495

Significant < 10 % level

Source: Computed from own survey data (2016).

Cooperative Membership

Women's in NFIGA characterized their variation in cooperative member participation with a Chi-square value of 0.021 and P= 0.989. Even though these respondents participated in cooperative membership, they were local Idir and Ikub who supported them during social crises.

A modern cooperative membership motivates women's participation in non-farm income-generating activities by providing their product guarantee.

Table 12: Distribution of rural women according to their Cooperative Membership

Variable	Value of data	Participation				Frequency	Percent
		Low	Medium	High	Total		
Cooperative Membership	a member	16	8	2	26	26	27.1
	Not a member	43	21	6	70	70	72.9

Chi-square = 0.021 Non Significance = 0.989

Source: Computed from own survey data (2016).

Table 13: Summary of Characteristics of the Categorical Variables in the study data

Categorical Variables	Data value	Participation				Chi-square value	Significance Value
		Low	Medium	High	Total		
Education	Can't read and Write	18	14	0	32	13.201	0.040**
	1-4 class educated	24	8	6	38		
	5-8 class educated	13	2	1	16		
	10 complete	4	5	1	10		
Cooperative Membership	Member of cooperative	16	8	2	26	0.021	0.989
	Not a member of the cooperative	43	21	6	70		
Access to transportation	Accessed to infrastructure	10	6	1	17	0.349	0.840
	Not having access to infrastructure	49	23	7	79		
Training Access	Accessed to training	24	2	4	30	11.756	0.003***
	Not having access to training	35	27	4	66		
Market Access	Accessed to market	7	2	1	10	0.555	0.758
	No access to market	52	27	7	86		
Access to Credit	Accessed to credit	18	4	0	22	5.670	0.059*
	Not accessed to credit	41	25	8	74		
Government Intervention	Accessed to Government Intervention	4	3	2	9	2.799	0.247
	Not having access to government intervention	55	26	6	87		
No specific risk to undertaking non-farm activity	Strongly Agree	3	0	1	4	4.355	0.824
	Agree	15	10	2	27		
	Neutral	34	16	5	55		
	Disagree	4	2	0	6		
	Strongly Disagree	3	1	0	4		
Non-farm activities have the opportunity to take MIB	Agree	7	0	1	8	4.302	0.367
	Undecided	16	11	2	29		
	Disagree	36	18	5	59		

Source: Computed from own survey data (2016)

* Significant 10%, ** Significant 5 %, *** Significant 1%

4.2.3. Discussion on Institutional Factors

Accesses to Transportation

The chi-square and significance values, 0.349 and 0.840, respectively, were insignificant. So, the data in table 14 indicates that women's access to transportation does not influence women's participation. Even though this access to transportation mainly used human power as a transportation source, there was no electricity access. There are problems with telecommunication access and problems with the all-time road.

Table 14: Distribution of rural women according to their Access to Infrastructure

Variable	Value of data	Participation			Frequency	Percent
		Low	Medium	High		
Access to Transportation	Accessed	10	6	1	17	17.7
	Not accessed	49	23	7	79	82.3
Chi-square = 0.349		Non Significance =0.840				

Source: Computed from own survey data (2016).

A key element in a strategy for non-farm development was infrastructure. Indeed, the higher per-capita cost of infrastructure in rural areas, combined with the generally lower ability to pay rural households, implies that recent initiatives to engage the private sector in infrastructure provision may be more challenging to apply in rural than in urban areas. Modern Transportation was an essential criterion for increasing Non-farm income participation. Rural infrastructure is generally viewed as an essential requirement for the growth of the rural nonfarm economy; inadequate and insufficient quality infrastructure imposes severe costs on virtually all economic activity, and private investment tends to occur where infrastructure is of a reasonable standard. It is often argued that rural infrastructure is less available and of lower quality than the infrastructure in urban areas due to policymakers' "urban bias". According to Alderman (2000), rural areas are characterized by relatively low population densities, with maximum population thresholds of 5,000 to 10,000 per settlement. They are often associated with lower

levels of basic infrastructure, service provision, and price and taxation discrimination. This is suggested due to "urban bias" in public expenditure allocation and fiscal policy.

Power shortages provide a typical example of inadequate infrastructure services in rural areas. Surveys of large and small-scale manufacturers in Nigeria and Indonesia found that 92 and 59 per cent had their own electricity generators - often operating at less than 50 per cent capacity (World Bank, 1994). A survey of manufacturers in Bangladesh found that infrastructure constraints were most frequently cited as impediments to firms located in rural areas (World Bank, 1997). Electricity, telecommunications, and road and transport costs pose the most significant constraints.

Training on Non-farm Income Generating Activities

According to data, the association between training and participation of women in NFIGA was significant at a 10 % level with ($X^2=11.756$ and $P= 0.003$). The training was significant in motivating women's participation in Non-farm activities. Women in the study area did not have access to training, but the others who were access to training were also not formally trained about non-farm participation. In order to improve the economic condition of the women, training in Non-farm activities was an unreplaceable value because it improved women's participation.

Table 15: Distribution of rural women according to their Training Access

Variable	Value of data	Participation			Frequency		Percent
		Low	Medium	High	Total		
Training	Access to training	24	2		4	30	31.3
	Not access to training	35	27		4	66	68.8
Chi-square = 11.756		Significance =0.003***					

*** Significant at 1 % level

Source: Computed from own survey data (2016).

Access to Market

Table 16: Distribution of rural women according to their market access

Statements	Categories	Participation			Frequency	Percent	x ²	Sig.
		Low	Medium	High				
Inadequate market	Yes	45	19	5	69	71.9	1.492	0.474
	No	14	10	3	27	28.1		
Searching new market	Yes	41	24	5	70	72.9	2.212	0.331
	No	18	5	3	26	27.1		
Lack of demand	Yes	46	23	6	75	78.1	0.70	0.965
	No	13	6	2	21	21.9		
Lack of information	Yes	37	16	6	59	61.5	1.142	0.565
	No	22	13	2	37	38.5		
Lack of relationship	Yes	41	22	6	69	71.9	0.433	0.806
	No	18	7	2	27	28.1		
Lack of promotion	Yes	35	22	5	62	64.6	2.342	0.310
	No	24	7	3	34	35.4		
Poor customer	Yes	30	24	4	58	60.4	8.675	0.013**
	No	29	5	4	38	39.6		
Supply local	Yes	42	28	6	76	79.2	7.677	0.022**
	No	17	1	2	20	20.8		
Affirmative	Yes	19	2	2	23	24.0	6.840	0.033**
	No	40	27	6	73	76.0		
Low market access	Yes	52	27	7	86	89.6	0.555	0.758
	No	7	2	1	10	10.4		

Source: Computed from own survey data (2016).

According to table 16, out of ten market access indicators, three indicators, including poor customer, supply of the local market, and affirmative action, were significant at a 5 % level (poor customer $\chi^2=8.675$, $P=0.013$, supply $\chi^2=7.677$, $P=0.022$ and affirmative $\chi^2=6.840$, $P=0.033$). So, we realize there was no market access for goods supply in the study area, but only the local market had less demand for products. Therefore, the value of the market was immeasurable for production inventiveness.

Access to Credit

According to data in table 17, women's participation was significantly associated with credit accessibility at 10 % ($\chi^2=5.670$, $P=0.059$). However, most of the respondents did not have access to credit in the area. Enterprise promotion in rural areas has generally centred on providing credit to enterprises. In recent years a considerable amount of experience has been gained on microenterprise credit schemes modelled on the example of the Grameen Bank in Bangladesh, embodying features such as being locally based and involving group lending, disbursing loans in staggered sizes, and charging of market interest rates. Extensive literature generally endorses the positive reputation of such schemes. However, it has been noted that additional attention is needed to regulate and supervise these proliferating institutions and the degree of subsidization that is warranted Reardon (1997). Mobilizing rural savings is an important priority as part of a general effort to strengthen the operation of rural financial institutions. However, it may impact reducing investment levels in some rural non-farm enterprises.

Table 17: Distribution of rural women according to their access to credit

Variable	Value of data	Participation			Frequency	Percent
		Low	Medium	High		
Credit access	Accessed	18	4	0	22	22.9
	Not accessed	41	25	8	74	77.1
Chi-square = 5.670		Significance = 0.059*				

Significant at 10 %

Source: Computed from own survey data (2016).

Government Policy Intervention

The data in Table 18 indicates the variable; government policy intervention has no significant influence on women's participation in NFIGA ($\chi^2=2.799$, $P=0.247$). Most respondents did not access government policy intervention supporting women's participation in non-farm income-generating activities.

Various interventions may be required to promote the development of the non-farm economy, each tailored to specific local conditions. Decentralized decision-making is likely to be conducive to some aspects of sectoral development: mechanisms must be found whereby local information flows upwards. The localized bottlenecks are relieved, and specific niches can be exploited. (Lanjawu, P.1997).

Table 18: Distribution of rural women according to their access to Govt. Policy issue

Variable	Value of data	Participation			Frequency	Percent
		Low	Medium	High		
Government policy Accessed		4	3	2	9	9.4
	Not accessed	55	26	6	87	90.6
Chi-square value = 2.799		Significance value = 0.247				

Source: Computed from own survey data (2016).

4.2.4. Discussion of Psychological Factors

Risk-taking behaviour

Table 19 shows physiological factors that significantly affected women's participation in NFIGA: passiveness, sustainability, and convince, 5 %, 5 % and 1 % significant levels. So, most respondents had feared taking the risk of non-farm activity participation - the fear of taking risks raised from different outlooks within the community and women themselves.

Households with income sources other than farming are more likely to make new changes and decisions affecting production than households that derive income only from farming (Evans and Ngau, 1991).

Table 19: Distribution of rural women according to their access to Risk-taking behaviour

Measurement	Value of data	Participation			Freq.	%	x ²	Sig.
		Low	Medium	High				
No risk	Strongly Agree	3	0	1	4	4.2	4.355	0.824
	Agree	15	10	2	27	28.1		
	Neutral	34	16	5	55	57.3		
	Disagree	4	2	0	6	6.3		
	Strongly Disagree	3	1	0	4	4.2		
Financial risk	Strongly Agree	38	22	6	66	68.8	1.346	0.510
	Agree	21	7	2	30	31.3		
Passive Nature	Strongly Agree	25	21	4	50	52.1	14.442	0.025**
	Agree	23	1	3	27	28.1		
	Disagree	7	3	0	10	10.4		
	Strongly Disagree	4	4	1	9	9.4		
Sustainability	Strongly Agree	15	1	2	8	8.8	6.387	0.041**
	Agree	44	28	6	78	81.3		
Convenience	Strongly agree	9	1	1	11	11.5	17.120	0.009***
	Agree	13	1	2	16	16.7		
	Neutral	11	1	1	13	13.5		
	Disagree	26	26	4	56	58.3		
Investment	Agree	52	24	7	83	86.5	0.488	0.783
	Disagree	7	5	1	13	13.5		
Activity	Strongly Agree	42	24	6	72	75.0	1.389	0.499
	Agree	17	5	2	24	25.0		
Business	Strongly Agree	35	23	5	63	65.6	3.481	0.175
	Agree	24	6	3	33	34.4		

** Significant at 5 % , *** Significant at 1%

Source: Computed from own survey data (2016).

Economic Motivation

According to the table, 20 out of economic motivation indicates only three-loss possibilities, income enhancing factors and no success without experiencing significant factors(loss possibility $\chi^2=8.217$, $P= 0.016$, income enhancing factor $\chi^2=11.933$, $P= 0.003$ without no experience $\chi^2=7.907$, $P= 0.095$). Most respondents disagreed about the economic motivation given to Non-farm income-generating activities. Constraints are related to the capacity of a household to diversify into non-farm activities (Reardon, 2006).

Table 20: Distribution of rural women according to their access to Economic Motivation

Measurements	Value of data	Participation	Freq.	%	χ^2	Sig.
		Low Medium High				
Micro-enterprise	Agree	7 0 1	8	8.3	4.302	0.367
	Undecided	16 11 2	29	30.2		
	Disagree	36 18 5	59	61.5		
Effect	Always	1 1 0	2	2.1	0.887	0.926
	Sometimes	10 6 1	17	17.7		
	Never	48 22 7	77	80.2		
Economic	Sometimes	11 2 1	14	14.6	2.184	0.335
	Always	48 27 7	82	85.4		
Loss	Sometimes	41 11 4	56	58.3	8.217	0.016**
	Always	18 18 4	40	41.4		
Factor	Mostly	24 23 5	52	54.2	11.933	0.003***
	Sometimes	35 6 3	44	45.8		
Experience	Agree	44 23 8	75	78.1	7.907	0.095*
	Undecided	8 0 0	8	8.3		
	Disagree	7 6 0	13	13.5		

* Significant at 10 %,** Significant at 5 %,*** Significant at 1 %

Source: Computed from own survey data (2016).

4.3. Determinants of women's participation in Non-farm Income Generating Activities

This section reports the factors influencing women's participation in Non-farm Income generating activities in the study area. This was used to verify the results obtained in the initial analysis, examine whether the participation affected the predicted level, and screen out the most significant predictors of participation. Significant explanatory and independent variables were put into an ordered logit model to screen out essential factors influencing rural women's participation in non-farm Income generating activities.

Table 21: Result of Ordered Logit Model

Variables	Coefficient	Std. Err.	Z	P	Odds ratio
AGE	.0344051	.0312422	1.10	0.271	1.035004
EDUC	.2650469	.2706704	0.98	0.327	1.303492
FMLY	.2909235	.2186665	1.33	0.183	1.337662
DEPD	-.7116442	.2438912	-2.92	0.004***	0.4908365
INC	.001773	.0007646	2.32	0.020**	1.001775
HLDG	1.32131	.5744521	2.30	0.021**	3.748327
LSH	-.2907139	.1763755	-1.65	0.099*	0.7477296
COPTV	.2212064	.5847398	0.38	0.705	1.247581
TRSPT	-.1150887	.7911248	-0.15	0.884	0.8912871
TRIN	.2617297	.7578436	0.35	0.730	1.299175
MRKET	.0366466	.8726477	0.04	0.967	1.037326
ACS	1.648841	.790519	2.09	0.037**	5.20095
GOV	-.4288688	.8760527	-0.49	0.624	0.6512454
RSK	-.5406469	.404159	-1.34	0.181	0.5823714
MICR	-.0950644	.6111416	-0.16	0.876	0.9093144
/cut/1	2.648663	3.346478		-3.910313	
/cut/2	5.175143	3.347454		-1.385746	

Note:*, **, *** = Significant less than 10 %, 5 % and 1 % respectively

Chi-square= 36.11

Log likelihood= -.65.259715

Dependent Variable - Rural Women's Participation in Non-farm Income Generating Activities

Source: Model output (2016)

Discussion on Model Results

Dependency Ratio (DEPD): The variable dependency ratio of respondents was hypothesized to negatively relate to the dependent variable. The Ordered Logit Model results show that the dependency ratio negatively affects the dependent variable at a 1 % significant level ($\beta = -0.711$, $P = 0.004$). The odds ratio in favour of women's participation reduces by odds of 0.49 as dependency increases. The possible explanation for this condition is that the dependency ratio of households increases, and the labour force of households decreases.

Households Income (INC): The variable Non-Farm household Income was hypothesized to correlate to the dependent variable negatively. The ordered logit model indicates that household income positively affects the dependent variable at a 5 % significant level ($\beta = 0.0018$, $P = 0.02$). The odds ratio in favour of women's participation reduces by 1.00 as household Non-farm Income increases. A possible explanation for this condition was that women with high household income did not participate in Non-farm Income generating activities. Reardon *et al.* (1992) found a similar result for Burkina Faso, with total household income strongly positively correlated with the share of income derived from non-farm sources.

Landholding size (HLDG): The Variable landholding size hypothesized was negatively related to the independent variable. As ordered logit regression shows, farmland size positively affects the dependent variable at a 5 % significant level ($\beta = 1.321$, $P = 0.021$). The odds ratio in favour of women's participation increases by 3.74 as farm size increases. According to the above regression, we conclude that large-sized farmland was initiated to participate in Non-farm income-generating activities.

This suggests that wealthier and more diversified farmers made higher productivity cropping choices. Moreover, it was found that non-farm income contributed directly to household resources available for input purchases and was also crucial for obtaining credit. In another study of Kenya, the town of Kutus, Evans and Ngau (1991) found that farm revenue is positively associated with the proportion of land devoted to coffee (versus maize), controlling for input costs and that the proportion of land given to coffee is positively associated with non-farm revenue.

Livestock holding (LSH): The variable livestock holding is hypothesized to relate to the independent variable negatively. The ordered logit model regression indicates that livestock holding negatively affects the dependent variable at a 10% significant level ($\beta=-0.290$, $P=0.09$). The odds ratio in favour of women's participation reduces by odds of 0.74 as livestock holding increases. Primarily those with a large number of livestock were not initiated to participate in Non-farm income-generating activities.

Access to credit (ACS): The variable access to credit was positively hypothesized to be the independent variable. As model data regression indicates, the variable was 5 % significant to an independent variable ($\beta=1.64$, $P=0.03$). The odds ratio in favour of women's participation increases by odds of 5.20 as credit access increases. Credit access was vital for the expansion of non-farm income-generating activities.

4.4. Variance Inflation Factor for Continuous Variable

Variance Inflation Factor (VIF) was used to test the multi-collinearity of effect among continuous variables. The continuous variables are Age, Family size, Dependency ratio, Income of households, livestock holding and Landholding. None of the values was beyond 10, indicating data had no series problem.

4.5. Contingency Coefficient for Categorical Variables

The Contingency Coefficient test was used to see a multi-co-linearity problem between the Dummy Variables. The Discrete Variables were Education, Cooperative membership, Access to Infrastructure, Access to Training, Access to the Market, Access to Credit, Government Intervention, Risk-Taking behaviour and Economic Motivation. The Contingency Coefficient value ranges between 0 and 1, where zero indicates no association exists between the variable. On the other hand, if the value is close to one, it indicates a high degree of association between the variables. The association is said to be a high association if the value of the contingency coefficient exceeds 0.78. Therefore, based on the stated standard, there was no problem with multi-co-linearity among the variables. (See appendix iii).

4.6. Qualitative Analysis from Focus Group Discussion

For further information, Qualitative data were collected from Seven rural women participating in different activities in the study area, like participating in poetry, milling, sales of different local drinks, food sales of grains, fruits and handcrafting. In addition, they said they were participating in other income-generating Non-farm activities to improve their livelihood by increasing household income. They were all-time participating in this Non-farm activity, but their income was not supportive relative to their working time. Therefore, their income was mainly used to improve household life and fulfil their basic needs.

As data gathered from FGD, in the study Woreda, different non-farm income-generating activities that women mostly practised, like milling, poetry, grain and fruits sales, foods and local drinks, and sales of charcoal etc. were commonly practised in rural women. The women of woreda enforced non-farm income-generating activities to improve households' livelihood because they lacked extensive farmland, less agricultural production, and others.

Women participating in non-farm activities full-time and others participating in off-season depend on input access for their production.

According to women's idea, they gain low-income relative to their effort because of different hindering factors. Therefore, despite low income, it values household livelihood quality differently.

The different challenges for their production were not having access to training, less access to credit and less access to the market were differently affecting production. In addition, the community had less attention to non-farm activities and the government body also less attention to improvements in activities.

They recommend catching up with today's economic problems with existing calamities; it requires modernization of non-farm activities through training, access to the market, improved production, and market access.

4.7. Qualitative analysis of Key Informants Interview

In Study seven, key informants were officers of women's and child affairs, officers of youth officers, officers of the agricultural office and Kebele DA, and the manager of Kebeles participated as key informants to seek valuable information.

They gathered information that the most commonly plasticized Non-farming activity in the area was small trade of grains and fruits, milling, poetry, handcraft, labour work, charcoal selling and selling of foods and local drinks Kebele's. These were activities where women commonly participated within the community. In addition, all key informants believed that Non-Farm income-generating activities highly supported household incomes.

According to the professional idea, most non-farm income-generating activities practised in Woreda were poultry, grain and fruit trade, charcoal, milling, handcraft and others practised in the area. Women were actively participating and suitable for them. As they argued in the area, there was high population growth and small farmland; the climatic change affected production and was highly manifested. Therefore, increasing participation in non-farm activities was significant to catch up on the above problems.

As they argued, the women's participation in non-farm income-generating activities was low household income, low farmland, low livestock holding, and actively participating in non-farm activities were high increments in household income. However, many woreda problems were that these women did not have access to credit, no access to modern cooperatives, no access to the market, production guarantee, fewer outlooks of community, and less accessed to training, and these problems mainly were hindering production level.

As a professional comment made, modernization of production, access to problems mentioned above, and improvements of governmental policy support were vital to increase participation in non-farm income-generating activities.

CHAPTER V

5. CONCLUSION AND RECOMMENDATIONS

5. CONCLUSION AND RECOMMENDATIONS

The study's title was "Participation of rural women in Non-farm income-generating Activities and the study's specific objectives were (i). to examine the current status of the rural women's participation in Non-farm Income Generating activities in the study area and (ii) to identify the factors affecting Rural Women's Participation in Non-farm Income Generating activities in the study area. The selected characteristics were the Damot Woyde Woreda in the Wolaita zone.

Ethiopian rural women constitute 50% of the population and contribute about 50% of the subsistence economy. They also ensure food security and are the basis of Non-farm labour activities. In addition to their active engagement in Non-farm income-generating activities, women are responsible for all household tasks, mainly due to the high responsibilities of households.

Despite their immense contribution to the household economy and critical role in determining household livelihood as economic producers and contributors to household economic improvement, rural women frequently face difficulties gaining access to economic empowerment to increase their production and productivity. Ethiopian women suffer few rights, little choice about their lives, and almost few opportunities to change their situations. Nonetheless, women are poor regarding access to resources, services and employment. Because of the lack of education of the rural women and Non-farm economic productive activities have frequently been ignored in the Research and Development wing of the Government of Southern Ethiopia, particularly Damot Woyde woreda, which was similar to different other Woredas of Ethiopia where rural women face several economic problems. Hence, this study was designed to analyze rural women's participation in Non-farm Income Generating activities in the study area. The study aimed to examine the current status of rural women's participation in Non-farm Income generating activities in the study area and identify the factors that affect rural women's participation in Non-farm Income Generating activities in the study area.

The study was conducted in Damot Woyde Woreda, Wolaita Zone, Southern Ethiopia. This study used a sampling method to find out the sample size. Then, the number of sampled four Kebeles (Sura Koyo, Tora Wulusho, Ambe Bedeisa, Galcha Sake) Were identified. Finally, the number of women samples in each kebele was identified. Then, the sample respondents were selected from each kebele by proportionate random sampling. The total number of respondents by using the Yamane formula became 96. Thus, the sample size of this study was 96.

Quantitative data were collected from sample respondents through interview schedules, and qualitative data were gathered from non-sampled respondents from the Key informants like experts of women youth and children office, Agricultural office, Cooperative office, woreda administration office, women association leader, members of Self Help Groups through personal interviews. In addition, Focus Group Discussion was done with women's participating in different Non-farm activities using the checklist.

The study results indicated that 61.5% of women were in Low-level participation, 30.2 % were at Medium level participation, and 8.3 % were in High-level participation. Moreover, it indicated that rural women's participation in Non-farm Income Generating activities was affected by Demographic, socioeconomic, institutional and psychological factors in the study area.

Fifteen (6 continuous and 9 discrete) explanatory variables were included in the Ordered Logit model for regression; out of the total 15 variables, five had a significant relationship with women's participation in Non-Farm Income Generating Activities. Accordingly, dependency ratio, Non-Farm Household Income, landholding size, livestock holding, and access to credit were negative and significant to the dependent variable. However, credit access was positively hypothesized and significant to the dependent variable. The results of all other explanatory variables agreed in model regression analysis, age, education, family size, cooperative membership, access to infrastructure, market access, government policy intervention, risk-taking behaviour, and Economic motivation were below the expected level.

Result of hypotheses testing

To determine the relationship between rural women's participation in Non-farm income-generating activities and their selected characteristics, F- test for continuous and chi-square for categorical variables were calculated. Among the fifteen selected characteristics of the rural women, age, family size, dependency ratio, household income, livestock holding, landholding, education, training access, and credit access had a significant relationship with the dependent variable. Among them, Family size, education, training access and credit access had a positive relationship to the dependent variable the others, age, dependency ratio, household income, livestock holding, and landholding were negative significance to dependent variables

5.1. Conclusion

The researcher was influenced to draw several conclusions by the present study's findings and logical interpretation of other relevant facts.

1. Findings showed that age was significant to study data and was negatively hypnotized to the dependent variable. From the above facts, we concluded that the older people were not initiated to participate in Non-farm income-generating activities in the study area. However, in other cases, young and productive forces women actively participated in Non-Farm Income Generating activities. Therefore, it is pretty logical that young's were highly initiated to participate in other income-generating activities.
2. Study shows that high Family households were largely activating in Non-farm income-generating activities in the area because there were high productive forces enforced to sustain their life and increase household income.
3. Study data indicate a high dependency in the area that hinders participation in Non-farm activities. Also, data indicates a high fertility rate, which enforces great work on family planning.
4. The study showed a low amount of livestock holding in the area, increasing women's participation. So, needs to modify the livestock breeding system in the area.

5. According to data in the study, the area was a small farmland size that forced women to participate in Non-farm income-generating activities. So, it needs to increase work on population and family planning issues.
6. Data also indicates that women's education participation was low in the area because, in the area, there was poverty that affected women's participation. So to increase women's participation, increasing household income was mandatory.
7. Training is the process of improving knowledge, increasing skills and changing attitudes. So, training exposure is the best way to perceive new things. The present study found that training exposure of rural women had a significant relationship with their participation. Therefore, it can be concluded from the study that women getting training actively participated in Non-farm activities. However, training access in the area was shallow.
8. Credit access was crucial to determine women's participation. As data implies, those who were access to credit actively participated in Non-farm income-generating activities. Nevertheless, access to credit was deficient in the area.

5.2. Recommendations

The present study was undertaken to know the participation of rural women in Non-farm income-generating activities. Besides, attempts were made to determine the factors causing hindrances in the involvement of Non-farm income-generating activities. Considering the above facts and findings of the study, some recommendations were put forward. Recommendations have been divided into two groups (a) Recommendations for Policy Implication and (b) Recommendations for further research.

Recommendations for Policy Implication

Based on the study's field observation, findings, and conclusions, the following recommendations have been made for policy implications.

1. Participation in Non-farm Income Generating Activities of rural women largely depended on many variables, viz., Education, Training, Age, Credit Availability, Livestock and Landholding factors. So it needed to improve access to the above factors and give attention to policy support for non-farm income-generating activities.

2. Education is the backbone of all development activities. The study reveals that most rural women were illiterate and had primary-level education. At the same time, it was also observed that their family members were illiterate. Firstly, illiterate women could not participate actively and benefit from non-farm income-generating activities. Secondly, illiterate Family members were highly fear of participating in Non-farm activities. So, proper strategies such as non-formal education programs should be formulated to educate women and motivate other family members to involve in non-farm activities.

3. Training is vital in improving knowledge, changing attitudes and increasing skills. So, training should be provided according to their needs. Then, after the training, the loan should be provided according to their needs. Besides, close supervision is essential to make effective use of credit.

4. In the study, most hose households were on small farms and had low annual incomes. Most of them did not have any work during the offseason. So, strategies should be taken to create new working facilities for the respondent woman and her other household members to be involved in those activities during the offseason. The following steps can be taken to create new working facilities:

- i) Creating scope for small-scale businesses like petty trading, vegetable selling, charcoal etc.
- ii) Setting up of small cottage industries considering locally available raw materials.
- iii) The government can lease out lands, rivers and ponds to marginal farmers to generate income-generating activities like fisheries, social forestry, poultry and dairy farming etc.

5.3. Recommendations for further research

Single research work is very inadequate to have an in-depth understanding of the participation of women in non-farm income-generating activities. Further studies should be undertaken covering more dimensions of the same issue. Therefore, the following suggestions are made for further research work:

1. This study was confined to only one Woreda. Similar studies may be conducted in other parts of the country to verify the findings and get a clear idea about the participation of women in non-farm income-generating activities.

2. Participation of women in non-farm income-generating activities may be determined using other measurement methods in future research studies.

3. The researcher investigated the relationships of 9 selected characteristics of the rural women with their participation in non-farm income-generating activities. In the present study, dependency ratio, household income, livestock holding, land holding, and credit access of rural women had a significant relationship with dependent variables. Hence, further studies should verify such relationships between the concerned variables.

4. Research should also be undertaken to identify the other factors that hinder the favourable participation of women in non-farm income-generating activities of rural women in the future.

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6. REFERENCES

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<https://www.youtube.com/watch?v=s318MJaahcl&t=262s>

7. APPENDICES

7. APPENDICES

7.1. Appendix I: Table Containing Conversion Factor of Total Livestock Unit

S. No.	Types of livestock	TLU	Value
1	Cow and Ox	1	89
2	Donkey (young)	0.35	46.2
3	Donkey (adult)	0.7	17.5
4	Shoat (young)	0.06	1.25
5	Shoat (adult)	0.13	2.21
6	Calf	0.25	4
7	Weaned calf	0.34	-
8	Heifer	0.75	65.25

Source: Storck *et al.* (1991)

7.2. Appendix II: Table Containing Variance Inflation for Co-linearity of Continuous Variables

Variables	Co linearity Statistics	
	Tolerance	VIF
1. Age of respondents	0.888	1.126
2. Family size	0.961	1.041
3. Dependency ratio	0.964	1.038
4. Non-farm income	0.940	1.064
5. Landholding	0.928	1.078
6. Livestock holding	0.920	1.087

7.3. Appendix III: Table Containing Contingency Coefficient for Categorical Variables

Contingency Coefficient, which measures the association between Discrete Variables, was detected.

	EDU	COPTV	TRSPT	TRIN	MRKT	ACCES	GOV	RISK
1. EDU	1	-0.017	-0.056	0.55	0.017	-0.043	0.004	-0.138
2. COPTV		1	0.47	0.060	-0.002	0.001	0.015	0.087
3. TRSPT			1	0.012	0.022	0.022	-0.019	0.057
4. TRIN				1	0.094	0.003	-0.022	0.044
5. MRKT					1	0.179	-0.022	0.034
6. ACCES						1	0.086	0.025
7. GOV							1	0.636
8. RISK								1
9. MICR								

WOMEN'S PARTICIPATION IN NON-FARM INCOME-GENERATING ACTIVITIES IN SOUTHERN ETHIOPIA

7.4. Appendix IV: Interview Schedule

Enumerator Name----- Date of Interview----- Signature-----

- Good Morning/afternoon W/ro? I am so glad to have met you
- Thank you very much for your commitment to meeting me, respecting our appointments devoting your precious time.
- This interview aims to collect the data for academic purposes only and will be kept confidential. It has no administrative values and/or will not be used for decisions that might affect your personal life. Thus, be confident and openly give us your responses freely.
- In answering the following questions, please, stop me at any point for more clarity if not clear.

Identification Number (Code) _____

Name: _____

Kebele: _____

Date of Interview _____

A. Questions for Dependent Variable

S. No.	Category of Participation	Never (0)	Seldom (1)	Rare (2)	Frequently (3)
1	Participation in Household Income				
2	Participation on Training				
3	Participation in Cooperative Membership				
4	Participation in Credit				
5	Participation in the Government policy issue				

B. Questions for Independent Variables

I. Demographic Factors

1. Age of respondent (✓) -----

2. Educational level (✓)

	Cannot Read and Write	Grade 1-4	Grade 5-8	Grade 10complete	10+1 &10+2 Diploma	10+3 Diploma	Above Diploma Code
Code	1-----	2-----	3---	4-----	5-----	6----	7-----

3. Family Size (✓)

S. No.	Name of family members	Age	Sex		Relationship to the Respondent ^(a)	Education level ^(b)
			M	F		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

^(a) Relationship: 1 Son 2: Daughter 3: Relative 4: Raised 5: Other

^(b) Education level: 0= Illiterate 1= Read &Write 2=Primary School 3=Secondary School,
4 Diploma and above.

4. Dependency Ratio

S. No.	The Name of Family aged under 15 ⁺			The Name of Family aged above 65 ⁺			Remark
	Name	Age	Sex	Name	Age	Sex	
1							
2							
3							
4							
5							

II. Socio-Economic Factors

5. Household non-farm Incomes

1. Do you have income-earning assets?

1. Yes ----- 2. No-----

2. If the answer is 'Yes, what is your income source? (Annual Income from Non-farm Income Generating Activities in Birr).

S. No.	Types of Non-farm IGA	Unit	Income	Value in Birr
1	Sales of Sheep			
2	Sales of Ox			
3	Sales of Cow			
4	Sales of Calves			
5	Sales of Goat			
6	Sales of Mule			
7	Sales of Horse			
8	Sales of Chicken			
9	Sales of Egg			
10	Handicrafts			
11	Labor Work			
12	Milling			
13	Selling Firewood			
14	Sale of local Drink			
15	Sales of Charcoal			
16	Safety Net Labor work			
17	Sales of Fruits			
18	Sales of Grains			
19	Sales of Butter/Cheese			
20	Pottery			
21	Others			

3. As your household income in the above category increased, do you think it contributed to your empowerment in the economy?

1. Yes----- 2. No-----

4. If your answer to the above question is 'Yes, how can it contribute?

Explain_____

6. Land Ownership

Do you have your own land? A. Yes B. No

1 Size of the total farm holding in Hectare -----

2 Method of acquiring = (1) Bought, (2) Inherited, (3) Other (specify) Land tenure = (1) Own (2) Own/Family (3) Sharecropping (4) Family (5) Rent

7. Livestock Holding

1. What livestock types and numbers do you own? (Number of livestock owned at present).

S. No.	Types of livestock	Number	Remark
1	Ox		
2	Cow		
3	Heifer		
4	Calf		
5	Sheep		
6	Goat		
7	Horse		
8	Donkey		
9	Others		

8. Cooperative Membership

1. Are you a Member of any Cooperative union within your society?

A) Yes..... B) No.....

2. If the answer is 'Yes, in what cooperative type are you a member?
.....

3. Did you get any support from the cooperative union?

A) Yes-----B) No.....

4. If the answer is 'Yes, what type of support do you get?.....
.....

III. Institutional Factor

9. Accesses to Infrastructure

1. Do you use transportation for input, production and yourself?

A).Yes_____ B) .No_____

2. If the answer is 'Yes", what type of transportation do you use for transportation input and production?

	Human	Cart	Three wheel Bajaj	Lorry
Code	1	2	3	4

2.1 Which one is costly?

2.2 Which one is easily accessible?

	Human	Cart	Three wheel Bajaj	Lorry
Code	1	2	3	4

3. What type of transportation do you regularly use for yourself?

	On foot	Cart	Three-wheel Bajaj	Motor bicycle
Code	1	2	3	4

3.1 Which organization makes transportation accessible for you? Government-----
Private----

4. Have you faced problems in your economy due to transportation? A)Yes B) No

4.1.If the answer 'Yes, when it faces? 1. Sometimes----- 2. Always-----
3. Often

4.2 Is this problem leading you to -----? 1) Time wastage,2) Extra Payments,
3)Others.....

10. Training on Non-farm Income Generating Activities

1. Do you aware of Non-farm Income generating activities?

1) Yes----- 2) No-----

2. Did you get any Training about Non-farm income-generating activities?

How do you get it?

2.1. 1) GOs-----2) NGOs.-----3. Others -----

2.2. How frequently do they train you? 1 Monthly-----2 Quarterly----- 3. Annually-----

3 Are they following up with you after training?1) Yes----- 2) No-----

3.1 How frequently do you want the follow-up should be?

1. Weekly ----- 2.Monthly-----3. Quarterly----- 4. Annually-----

4 . Have you seen any change in Women's economic development after the training?

1. Yes----- 2. No-----

4.1 What type of Economic development have you seen?

S. No.	Answer	Yes	No
1	Growth of Income		
2	Women running business increase		
3	Proper management of material		
4	Attitudinal change		
5	Skill improved		
6	Knowledge updated		

11. Access to Market

Are you no access to market your products? 1. Yes 2. No.....

Put (✓) mark on the space provided

S. No.	Market Access	1) Yes	2) No
1	Inadequate market for your product	1) Yes	2) No
2	Searching for a new market is so difficult for women	1) Yes	2) No
3	Lack of demand forecasting	1) Yes	2) No
4	Lack of market information	1) Yes	2) No
5	Absence of relationship with an organization that conduct marketing research and enterprise	1) Yes	2) No
6	Lack of promotion to attract potential users	1) Yes	2) No
7	Poor customer relationships and handling	1) Yes	2) No
8	Only supply our product to the local market	1) Yes	2) No
9	Affirmative action given by the government for women in market access	1) Yes	2) No
10	Market access negatively affected	1) Yes	2) No

12. Access to Credit

1 . Have you gotten credit? 1) Yes-----2) No-----

2. What is the source of your Credit?

1. Formal----- 2. Informal-----

3. If your answer is Formal, from which institution you got?

1. Banks-----2. Micro Finance -----3. Cooperatives-----

If your answer is Informal, from which institution you got?

1. Family----- 2.Friends ----- 3. Local lenders -----

4. Iqub/Idir.....

4. What type of credit did you get?

1. Equipment----- 2.Cash ----- 3. Others-----

5. Did you get the amount of credit you requested?1) Yes-----2) No-----

6. Did you get the credit service in time?1) Yes-----2) No-----

7. Is there any interest rate on your Credit? 1) Yes-----2)No-----

If your answer is 'Yes, have you felt comfortable with the interest rate?

1) Yes-----2) No-----

5. What was the duration of the credit?

1) 3 Months----- 2) 6 Months.....3)9 Months

4) Above 1 Year.....

13. Government Intervention

13.1 A Government body gives any support for your Non-farm Income Generating Activities? A) Yes..... B) No.....

If the answer is 'Yes, in what way do you get government support?

.....

13.2. Are you believe the Government Policy strongly supports Women's Participation in Non-farm Income Generating Activities?

IV. Psychological Factor (✓)

14. Risk-taking behaviour

S. No.	Statements to Measure the Risk	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	There is no specific risk to undertaking Non-farm activity	4	3	2	1	0
2	Financial risk is common to all Rural Women	4	3	2	1	0
3	Since women are passive that they will undertake Non-farm activities easily	4	3	2	1	0
4	Sustainability of the Non-farm activity depends on the material availability	4	3	2	1	0
5	It is convenient to have Non-farm business activities in rural women's	4	3	2	1	0
6	Initial Investment is the risk to the rural women undertaking Non-farm activity	4	3	2	1	0
7	Non-farm activity will generate income for the rural women	4	3	2	1	0
8	Loss of business is an adverse risk in Non-farm activities	4	3	2	1	0

15. Economic Motivation

i. Statements to measure Economic Motivation.

What is your feeling about the following statements?

S. No	Statements to measure Economic Motivation	Measurements of feelings		
1	Non-farm Activity is an opportunity to undertake microenterprise businesses for the rural women	Agree(3)	Undecided(2)	Disagree(1)
2	Non-farm Activity will have a negative effect on the microenterprise business.	Always(3)	Sometimes(2)	Never(1)
3	Non-farm Activity will bring economic change to rural women's households.	Never(3)	Sometimes(2)	Always(1)
4	There is a possibility of loss in the Non-farm Activity business also.	Never(3)	Sometimes(2)	Always(1)
5	Non-farm Activity is one of the Income enhancement factors among rural women.	Mostly(3)	Sometimes(2)	Never(1)
6	Unless they have enough experience, rural women will not succeed in Non-farm activity.	Agree(3)	Undecided(2)	Disagree(1)

7.5. Appendix V: Checklist for Focus Group Discussion

1. What types of Non-farm Income Generating Activities are you engaged?.....
.....
2. Why did you engage in these Non-farm Income-generating Activities?
.....
.....
3. How long are you taking part in the above activities?
.....
.....
4. How much Income did you get in daily?..... Weekly.....
Monthly..... Yearly.....
5. For what purpose did you use the Income?
.....
.....
6. What are the challenges that hinder the improvements to Non-farm Income Activities?
.....
.....
7. What are the community outlooks regarding your Non-farm Income-generating Activities.....
.....
.....
8. Did you get any access to credit services? , If you have access to credit, what are the sources of your credit?.....
.....
9. Is there any capacity-building training access for your Non-farming Activities?
.....
10. What extent of women's participation in Non-farming Income Generating activities.....
11. What factors limit women's participation in Non-farm Income Generating Activities in your Kebele?
.....
.....
12. Have you ever exposed any Governmental and Non-Governmental bodies' facilitation and support?
13. Is there any linkage between any local and national cooperative market to your Non-farm Income generating?.....
.....
.....
14. What are the risk-minimizing strategies for your market and production failures?.....
.....
15. What is your comment on solving the problems and future improvements to Non-farm income Generating activities?

7.6. Appendix VI: Checklist for Key Informants Interview

1. Does your local community most commonly practice any Non-farm Income Generating Activities?
2. Did women participate in such activities?
and to what extent?
3. Are you believed the Non-farming Income Generating Activities sufficiently support the household Income for your local community?
4. From your perspective, do those who participate in NFIGA have better life status than the local people?
5. Would you explain the background of frequently involving NFIGA in your local community?
6. Do you have any information about to what extent they are accessing the credit and cooperative market to improve their NFIGA in your local area?
7. Can you ever contribute a way how to improve NFIGA in your community?
8. Can you explain the obstacles that prohibit the improvements of NFIGA?
9. What are the community outlooks regarding NFIGA in your community?
10. Do you know about any support and facilitation that Governmental and Non-governmental bodies forwarded to those who participated in NFIGA?
11. What do you provide about the problem-solving mechanism and solution for NFIGA in your local community from your experience and exposure?

8. ETHIOPIA – KEY TECHNICAL TERMS

8. ETHIOPIA - KEY TECHNICAL TERMS

We include a list of key terms used by Ethiopians practically and culturally. These Key terms will be helpful to know the actual meaning of the significant words will be helpful to the users who are reading this E-Book. The words from agro-ecological categories of land, agro-climatic seasons of the year, Informal Institutions, public Administrative Units like districts and villages etc. The Ethiopian researchers have also used their concepts in the Thesis research documents. That is why; we have prepared a list of key terms which will make you understand while going through this document.

Belg: Long Rainy Season starts from February to June every year

Birr: Ethiopian Currency

Dega: Highland altitude

Development Agent is disseminating the new technology and innovations to the model farmer and fellow Village farmers. There are many Development Agents for Agriculture, Health, Livestock and Natural Resource Management for every Kebele in Ethiopia.

Idir/Edir: The social customary Informal Financial Institutions in the Village help people in an emergency like a death ceremony, or a natural catastrophe like drought, or flood.

Iqub/Equb: It is a traditional Informal economic Institution existing in both the Urban and the Village that saves cash. Equb will help poor people who cannot buy clothing, food, household equipment, etc. The small group consists of 30 to 40 members of the society who used to contribute 2 to 5 Birr weekly, and each member collects a maximum of 300 Birr. It is one of the popular mutual support schemes often formed by people affiliated.

In other words, the number of members depends on the availability of like-minded people in the locality. Besides, the amount of money each member can contribute also depends on the health of all members. Collection time can also be determined based on mutual agreements weekly, every 15 days or monthly.

Indigenous Social Insurance Systems: Idir/Edir, Mahber, Iqub/Equb

Kebele: A type of administrative division at the lower level, higher than a village. Kebele means “Village” in the Ethiopian language. The Kebele is the basic administrative unit of the Ethiopia Government.

Kert: Small plot size of land equivalent to 0.05 hectares

Kolla: Lowland mainly lower than 500 m above sea level.

Mahber: It refers to a support union, which is usually formed based on religious, ethnic, professional etc., affiliation whereby members contribute some amount of money voluntarily, which they will later use for individual, group, or community support programs.

Meher : Short Rainy Season starts from July to September every year

Time Difference: Ethiopia Standard Time is 3 hours ahead of Greenwich Mean Time (GMT+3). Ethiopia is in East Africa Time Zone (EAT).

Timid: Size of a plot of land covered by one pair of Oxen equivalent to 0.25 hectares.

Woreda: is called a “District”. Local administrative above Kebele level, which is equivalent to a District.

Woyne Dega: Mid Highland altitude

Year Difference: An Ethiopian year comprises 13 months, seven years behind the Gregorian Calendar. Ethiopians celebrated the new Millennium on September 11, 2007; the Ethiopians continued with the same calendar that the Roman church amended in 525 AD. Ethiopia's current year is 2015, and Europe a year is 2022.

9. GLOSSARY

9. GLOSSARY

Adaptive Research: Research conducted to validate, modify and/or calibrate a new technology to specific soil, climate, socioeconomic or environmental characteristics of a given area.

After-Cultivation: Harrowing, rolling, tilling, and other cultivations carried out in a field after the crop has emerged.

Agricultural system: The pattern of land distribution, ownership, management, and the agrarian economy's social and institutional structure.

Agribusiness: Agriculturally related businesses that supply inputs (such as fertilizer or equipment) or are involved in the marketing of farm products, such as warehouses, processors, wholesalers, transporters and retailers. The combination of the production operations of a farm that manufactures and distributes farm equipment and supplies and the processing, storage and distribution of farm commodities.

Agriculture area: Land used primarily for producing or collecting farm commodities. The land distinguishes between arable land under protective cover, land under permanent crops in the open air, and land under permanent meadows and pastures, both naturally grown or cultivated.

Agriculture holding: Economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production, without regard to title, legal form or size.

Agricultural Operation: The management and use of farming resources to produce crops, livestock or poultry.

Agricultural Production: Measured in the total output of a crop.

Agriculture: A broad class of resource uses includes all forms of land use to produce biological (biotic) products –animal or plant. The fundamental basis for agriculture is the miraculous process of photosynthesis, the many valuable products synthesized by it, and plants and animals, including human beings. Nature has endowed soils with immense nutrients, which support much of the agricultural activity. Agriculture is now predominantly dependent on external nutrient support to supplement soil fertility.

Agro-climatic Regions: The grouping of different physical areas into broadly homogenous zones based on climatic and edaphic factors.

Agro-ecological Zone: A land resource mapping unit, defined in terms of climate, landform, soils, and land cover, and having a specific range of potentials and constraints for land use. Essential elements in defining an agroecological zone are the growing period, the temperature regime and the soil units. A significant area of land is broadly homogenous in climatic and edaphic factors but not necessarily contiguous, where a specific crop exhibits roughly the same biological expression. Zones of similar agricultural performance are defined by soil and climate.

Agroforestry: Agroforestry is a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboo etc.) are deliberately used same land management unit as crops and/or animals and some form of spatial arrangement or temporal sequence. In agroforestry systems, ecological and economic interactions exist between the different components.

Altitude: Vertical distance above sea level.

Analysis of Variance: Analysis of variance is a method for testing a hypothesis about means. It is the most widely used statistical inference method for analysing experimental data.

Annual Crops: Crop plants complete their life cycles within a season or year, such as rice, wheat, maize, coffee and plantains. They produce a crop of seeds and die. Some of these crop plants may produce tillers. If such rooted tillers are separated from the main shoot and planted, each tiller will survive that season as a new plant but will not live until another disease.

Applied Research: The research results can be used immediately by the farmer and applied to particular practical problems in the country or region.

Asset ownership: Land ownership, physical capital (factories, buildings, machinery, etc.), human capital, and financial resources generate income for owners.

Attitudes: The states of mind or feelings of an individual, group, or society regarding issues such as material gain, hard work, saving for the future, and sharing wealth.

Basic education: The attainment of literacy, arithmetic competence, and elementary vocational skills.

Case Study: The detailed study of an individual unit such as a household, farm, enterprise or activity. It contrasts with the survey approach in which several units are studied. The case-study approach is helpful for familiarisation and teaching purposes, whereas the survey approach is more oriented toward gaining information about the population of the relevant unit.

Commercial Farming: Specialized farming enterprise that is capital-intensive and aimed at profit maximization.

Community Forestry: Forestry developed in areas marginal to agriculture. Many community members are landless or small-scale farmers, often characterized by ecological and cultural diversity and traditional technologies. Communal land development is fundamental to this type of forestry.

Conservation of Natural Resources: The main principles of protecting natural resources are related to the improvement and use of natural resources that will assure their highest economic or social benefits for humans and their environment now and into the future. The management of human use of the biosphere may yield the most significant sustainable benefit to current generations while maintaining its potential to meet the needs and aspirations of future generations. Thus conservation is positive, embracing preservation, maintenance, sustainable utilization, restoration and enhancement of the natural environment.

Conservation Practice: Any technique or measure used to protect the soil and water resources for which standards and specifications for installation, operation or maintenance have been developed.

Conservation: The management of natural resources to provide maximum benefits over a sustained period. In farming, conservation entails matching cropping patterns and agricultural lands' productive potential and physical limitations to ensure profitable production's long-term sustainability. Conservation practices focus on conserving soil, water, energy and biological resources. Contour farming, no-till farming, and integrated pest management are standard conservation practices, divided into land management and structural practices.

Cultivable Area: Area of land potentially fit for cultivation. This term may or may not include part or all of the forests and rangeland.

Cultivar: A variety of plant species produced by selected breeding.

Cultivation: A tillage operation used in preparing land for seeding or transplanting or later for weed control and loosening the soil. The growing field crops, vegetables, fruits, trees, flowers, and fish.

Dairy Farm: A commercial establishment for processing or selling milk and milk products.

Demonstration: Practically showing the user the working of a particular practice or technology developed and established on a research farm.

Central Tendency: There are many measures of the centre of a distribution. These are called measures of Central Tendency. The most common are the mean, median and mode.

Class Interval: The class interval is a data division used in a histogram. For instance, it is possible to partition scores on a 100 point into class intervals of 1-25, 26-49, 50-74 and 75-100.

Confidence Interval: A confidence interval is a range of scores likely to contain the parameters being estimated. Intervals can be more likely to contain the parameters: 95% of 95% confidence intervals contain the estimated parameter, whereas 99% of 99% confidence intervals contain the estimated parameter. The wider the confidence interval, the more uncertainty there is about the parameter's value.

Constant: A value that does not change values such as T_i or the mass of the Earth is constant

Continuous Variables: Variables can take on any value in a specific range. Time and distance are continuous; gender SAT score and “time rounded to the nearest second” are not. Variables that are not continuous are known as discrete variables. No measured variable is genuinely continuous. However, discrete variables measured with enough precision can often be considered continuous for practical purposes.

Dependent Variable: A variable that is explained or affected by another variable. A variable that measures the experimental outcome. In most experiments, the effects of the independent variable on the dependent variables are observed.

Developing Countries: Asia, Africa, the Middle East, Latin America, Eastern Europe, and the former Soviet Union are presently characterized by low living and other developmental deficits. Used in the development literature as a synonym for less developed countries.

Development: The process of improving the quality of all human lives and capabilities by raising people's levels of living, self-esteem, and freedom.

Diversified (mixed) farming: The production of staple and cash crops and simple animal husbandry is typical of the first stage in the transition from subsistence to specialized farming.

Discrete Variable: Variables that can only take on a definite number of values are called "discrete variables". All qualitative variables are discrete.

Dummy Variable: An artificial variable

Economically Sustainable: The characteristic of prolonged, careful, efficient and prudent (wise and judicious) resources (natural, fiscal, human), products, facilities and services. It is based on thorough knowledge and involves operating with little waste and accounting for all costs and benefits, including those not marketable and can result in savings.

Environment: The combined external condition affecting an organism's life, development and survival or ecosystem.

Factors of production: Resources or inputs required to produce a good or a service, such as land, labour, and capital. The inputs used in a production process. Generally, terms can be classified as land, labour, capital and management. However, in functional production analysis, management is not usually included as it cannot be readily measured, and land, labour and capital may be further divided into different types.

Family farm: A farm plot owned and operated by a single household.

Farm Enterprise: An individual crop or animal production function within a farming system is the smallest unit for which resource use and cost return analysis is typically carried out.

Farmer: The principal decision-maker involved in the management of a farm. Usually, but not always, will be head of the household. Sometimes the choice of principal decision-maker will be somewhat arbitrary since the decision-making may sometimes be segregated for different farm activities.

Farming System: Unit of analysis of agricultural production, defined by the components and boundaries and the types of interactions among the components and environments outside the boundaries. Farming systems include all agricultural and non-agricultural, under the control of farm household units. For example, a decision-making unit comprises a farm household, cropping, livestock systems, and fish production systems that produce crop and animal products for consumption and sale.

Fixed Assets: Durable assets represent long-term investments used for more than one production cycle—for example, breeding livestock, plant and machinery, land and building etc.

Food Insecurity: A situation exists when people lack secure access to sufficient amounts of safe and nutritious food for average growth and development and active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level. Food insecurity may be chronic, seasonal or transitory.

Focus Group Discussion: A Qualitative method of data collection in which the information is collected in the context of a group utilizing relevant discussion.

Gender Analysis: The systematic effort is to document and understand the roles of women and men within a given context. Gender analysis is a tool to strengthen development planning, implementation, monitoring and evaluation; to make programmes and projects more efficient and relevant. Ignoring gender issues and the resulting gender-blind development strategies have caused many development programs and projects to fail to reach their principal goals and the desired benefits to the target population and have sometimes led to unintended negative impacts. The

current situation of the rural women and men concerning different issues/problems and the impact of agricultural and rural development policies, legislation and projects, and programmes on women and men respectively – and their relations – should be analyzed before any decisions are made. Such analysis aims to formulate development interventions better targeted to meet women's and men's needs and constraints.

Gender roles: Learned behaviours that condition activities, tasks, and responsibilities viewed within a given society as “masculine” or “feminine”.

Heterogeneous: Non-uniform, variable, coming from outside. Their heterogeneous nature causes their outside. Their heterogeneous nature causes their constituents to segregate. Example: physical fertilizer mixtures.

Household: A household in the Ethiopian case is understood similarly as FAO (2005:4) defines “a household is an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size”. Households represent the actual production and consumption unit in rural societies and are agents of economic change. ii. Composed of the farmer and his family. Considered both the production and consumption unit of the social organization. The household can be managed by one person or operation collectively. Family members live, sleep, eat, share the same place, and divide household duties, general farm management, and work.

Human capital: Productive investments embodied in human persons, including skills, abilities, ideals, health, and locations, often resulting from expenditures on education, on-the-job training programs, and medical care.

Independent Variable: A variable that does not need to be explained by or is not affected by another variable. The variable is manipulated by the experimenter, as opposed to dependent variables. Most experiments observe the effect of the independent variable(s) on the dependent variable.

Indicator: A directly observable trait used to define a variable empirically.

Inferential Statistics: The type of statistics that makes conclusions from data derived through sampling and projects them onto the population.

Informal sector: The part of the urban economy of developing countries characterized by small competitive individual or family firms, petty retail trade and services, labour-intensive methods, free entry, and market-determined factor and product prices.

Infrastructure: Facilities enable economic activity and markets, such as transportation, communication and distribution networks, utilities, water, sewer, and energy supply systems.

Integrated Farming System: Integration of various agricultural enterprises, viz., cropping, animal husbandry, fishery, forestry etc. A judicious mix of any one or more with cropping complements the cropping enterprise.

Inventory is a list of assets and liabilities, which are claims or debts against the business; in other words, it is a detailed list of farm properties with the value assigned.

Integrated Rural Development: The broad spectrum of rural development activities, including small-farmer agricultural progress, the provision of physical and social infrastructure, the development of rural nonfarm industries, and the capacity of the rural sector to sustain and accelerate the pace of these improvements over time.

Key Informants: These are community members who are exceptionally qualified to provide information about local conditions, usually due to their position within the community, e.g. local officials, community leaders, and other development workers. Key informants may provide background information or introductions to other community members or groups. The qualitative information will help to triangulate with quantitative data of the research.

Land Area: Total area excluding area under inland water bodies.

Landholdings: Land owned, occupied, or used by farmers or tenant farmers.

Land-use: Land-use is characterized by the arrangements and activities inputs people undertake in a particular land cover type to produce, change, or directly link land cover and people's actions in their environment. A crop is not land use. The recreation area is a land use term for different land cover types: sandy surfaces like a beach, a built-up area like a luna park, a forest etc.

Least Developed Countries: A United Nations designation of countries with low income, low human capital, and high economic vulnerability.

Less Developed Countries: A synonym for developing countries.

Likert Scale: The respondent has to choose a scale introduced by Likert employing a set of response categories ranging from positive to very negative.

Linear Regression: A method of estimating the value of a Dependent Variable when the values of two-interval scaled and normally distributed variables are known.

Literacy: The ability to read and write.

Livelihood Diversification: In this study, livelihood diversification refers to the attempts by households to construct diverse ways to raise incomes and reduce vulnerability to different livelihood shocks. Therefore, livelihoods diversification is defined comprehensively as the proportion of both on-farm and non/off-farm activities in households' income-generating portfolios. Livelihood diversification can occur through agricultural diversification, i.e., producing multiple crops or high-value crops and livestock, and non-agricultural livelihood diversification, i.e., undertaking small enterprises or choosing nonagricultural sources of livelihoods like casual labour or migration.

Livestock Systems: A subset of farming systems, including cases in which livestock contribute more than 10 per cent to total farm output in value terms or where intermediate contributions such as animal traction or manure represent more than 10 per cent of the total value of purchased inputs.

Livestock Unit: A standard live weight unit for all grazing animals based on their respective live weight. A standard LU is 500Kg, with adult cattle representing 1.0 LU and adult sheep representing 0.0 LU.

Livestock: Refers to all animals kept or reared, mainly for agricultural purposes. It includes aquaculture for fish production.

Low-income countries (LICs): In the World Bank classification, countries with a gross national income per capita of less than \$976 in 2008.

Microfinance: Financial services, including credit, supplied in small allotments to people who might otherwise have no access to them or have access only on very unfavourable terms, including micro-savings and micro-insurance and microcredit.

Millennium Development Goals (MDGs): A set of eight goals adopted by the United Nations in 2000: to eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria, and other diseases; ensure environmental sustainability, and develop a global partnership for development. The goals are assigned specific targets to be achieved by 2015.

Multiple Regression: Multiple regression is linear regression in which two or more predictor variables are used to predict the criterion

Non-farm Income: The typical non-farm activities that are pursued by rural households in Ethiopia: non-farm rural salaried employment; non-farm rural self-employment (sometimes called micro-enterprise income); rental income obtained from leasing land or property; urban to rural remittances arising from within national boundaries; other urban transfers to rural households, for example, pension payments and international remittances arising from cross-border migration.

Non-Governmental Organizations (NGOs): Nonprofit organizations often provide financial and technical assistance in developing countries.

Off-farm income involves working on other farms for wages or arrangements such as sharecropping or exchanging labour in-kind. Off-farm income is strictly defined as income generated from working outside one's farm through participating in ploughing, weeding or harvesting on another farmer's land. Moreover, we also consider income from local environmental resource extraction such as firewood collection, charcoal production and gathering of wild fruits as off-farm income.

On-farm Income: Income generated from one's own farming, whether on owner-occupied land or leased land, includes livestock and crop income. Income is derived from crop production and the rearing and selling of animals. This includes income earned from commercial woodlots and beekeeping.

Pilot Study: A complete replica of the leading research study is employed in a fraction of the sample.

Positive Association: There is a Positive association between X and Y if smaller values of X are associated with smaller values of Y and larger values of X are associated with larger Y values.

Pre-test: A small-scale test administered before introducing a study aimed at measuring the efficacy of one or more main study elements. It helps to modify and update the Interview Schedule/Questionnaire.

Qualitative Data: The data collected should be from older people who are highly experienced in the research area.

Quantitative Data: The data to be collected from the concerned respondents or any published reports quantitatively.

Qualitative Variable: Also known as Categorical Variables, qualitative variables with no natural sense of order. They are, therefore, measured on a nominal scale.

Random Sampling: The process of selecting a population subset for statistical inference. Random sampling means that every member of the population is equally likely to be chosen.

Regression: Regression means “prediction”—the regression of Y on X, the prediction of Y by X.

Regression Analysis: A method employed to study the relationship between variables, especially the extent to which a dependent variable functions one or more independent variables.

Sample: A group of units chosen to be included in a study

Significance: A criterion related to the validity of data.

Significance Level: In significance testing, the significance level is the highest value of a probability value for which the null hypothesis is rejected. Expected significance levels are 0.05 and 0.01. If the 0.05 level is used, the null hypothesis is rejected if the probability value is less than or equal to 0.05.

SPSS: A statistical package for Social Sciences that the software could support with the help of computer-assisted research data analysis.

Social capital: The productive value of social institutions and norms, including group trust, expected cooperative behaviours with predictable punishments for deviations, and a shared history of successful collective action, raise expectations for participation in future cooperative behaviour.

Social system: The organizational and institutional structure of a society, including its values, attitudes, power structure, and traditions.

Stakeholders: A large group of individuals and groups of individuals (including governmental and non-governmental institutions, traditional communities, universities,

research institutions, development agencies and banks, donors etc.) with an interest or claim (whether stated or implied) which has the potential of having an impact on a given project and its objectives. Stakeholders with a direct or indirect “stake” can be at the household, community, local, regional, national or international levels.

Subsistence Farming: Growing crops and, where appropriate, keeping animals to provide food (cereals, pulses, vegetables and fruits), shelter materials, and possibly other products (fibres, medicinal) for family use.

Sustainability: Managing soil and crop cultural practices to not degrade or impair environmental quality on or off-site. Without eventually reducing yield potential due to the chosen practice, either on-site resources or non-renewable inputs are exhausted.

Sustainable Agriculture and Rural Development (SARD): The management and conservation of the natural resource base and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable, and socially acceptable.

Sustainable Development: The management and conservation of the natural base, and the orientation of technological and institutional change, in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. It conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically feasible and socially acceptable.

Survey: A method of data collection employing systematic and structured verbal or written questioning.

Sustenance: The essential goods and services, such as food, clothing, and shelter, are necessary to sustain an average human being at the bare minimum level of living.

Triangulation: A research approach employing more than one data collection and analysis method.

Underdevelopment: An economic situation characterized by persistent low levels of living in conjunction with absolute poverty, low income per capita, low rates of economic growth, low consumption levels, poor health services, high death rates, high birth rates, dependence on foreign economies, and limited freedom to choose among activities that satisfy human wants.

Wealth Ranking: Information on the relative wealth (or well-being) of households in a community can be gathered where community members define how wealth (or well-being) is perceived locally and then put the households into those with the least significant wealth level. This technique is best used with individuals, but it should be carried out with at least three community members to avoid inherent biases arising due to the status of the respondents.

World Bank: An “international financial institution” that provides development funds to developing countries in interest-bearing loans, grants, and technical assistance.

Yield: The aggregate of products from growth or cultivation, usually expressed in quantity per area. It is the amount of production per unit area over a given time. It is a measure of agricultural production. Crop yield can be total dry matter yield (grain+straw) or economic yield (grain only). They are usually expressed as Kg/ha, Mg/ha (Mg=Megagrams) or tonnes/ha. The expression “quintals (100/Kg) /ha” is getting out of use.

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Prof. Dr. Khaoula Khwaldia

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Women account for more than half of the population in Ethiopia. They contribute significantly to the development of today's society by participating in different income-generating activities either directly or indirectly. However, except for a few development activities, their effort is not yet realized by society. Rural development in Ethiopia cannot be imagined without the active participation of women in income-generating activities; they already provide a significant part of the labour in all sectors. Nevertheless, it is pretty clear that women's interests and needs are not always taken into account in order to improve the ability to meet their socio-economic development, women's role has to be recognized, and they should be given equitable access to and control overland, credit facilities, extension services and improved tools as well as cooperatives and other rural benefits. Written in a concise and straightforward style, the book is systematically organized into seven chapters providing essential components concerning rural women in Ethiopia.



Prof. Dr. Predrag Ilic

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The limits of a welfare-oriented response to this growing crisis are now well recognized. Alternatively, many development agencies are increasing their emphasis on assisting women in securing income through their efforts. Such approaches are often categorized as 'income-generating activities' and cover initiatives as diverse as small business promotion, cooperative undertakings, job creation schemes, sewing circles, credit and savings groups, and youth training programmers. So, how can 'income generation be defined? It is sometimes argued that education and health provision, legal and political changes, and global economics affect people's ability to secure an income. From this stems the confusion in the use of the term 'income-generation. For this study, 'income-generating activities will be considered those initiatives that affect the economic aspects of people's lives through economic tools such as credit. Other types of support affecting women's products are complementary to income-generating activities. The book's unique feature explains women's participation in Non-farm income-generating activities at the village level.



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2030 Sustainable Development Goals highlight the importance of gender equality in every kind of issue, including education, employment, health, etc. Unfortunately, women's inequality is still a big problem in many developing and least developed countries. However, recent studies have emphasized how women can support economic, social and environmental development. At this point, women's employment, women empowerment or women entrepreneurship should be supported in the developing or least developed countries. This book gives empirical evidence that examines factors influencing rural women's participation in non-farm income-generating activities in Southern Ethiopia. The study gives a sample case from Damot Woyde Woreda in the Wolaita zone in Ethiopia. So, it will contribute to policymakers and future studies to develop women's employment and alternative job or income opportunities for women in the developing or the least developed countries such as Ethiopia.



Prof. Dr. Djenebe Traore

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Women's participation in development activities is expected to affect their personal, social, and economic lives by increasing their access to and controlling resources. This can be achieved by improving their level of knowledge, increasing skills and awareness of a more comprehensive environment, increasing their controversial power in various relationships, and changing how people perceive women and how they perceive themselves concerning participation. In addition, non-farm income is crucial in Ethiopia since the economy remains highly dependent and vulnerable to the agricultural sector's performance. The book's unique feature explains women's participation in Non-farm income-generating activities at the village level.



Prof. Dr. Mohamed Rabie

President, Arab Thought Council in Washington

The farming households are generally busy with agriculture as and when the irrigation water is available for cultivation, that is only for six months. The farmers, including household members, are the ideal remaining part of the year. It has been highly recommended that farming households engage with Off-farm and Non-farm activities to have better livelihood options in their lives. Non-farm activities are one of the livelihood diversification activities in the 21st Century. There is increasing recognition in the literature that agriculture is an important sector in the rural economy, and the Ethiopian national economy depends on it. While considering the productive economic activities, it has to focus on non-farm rural activities that substitute for self-employment activities in most developing countries. Most women seek survival due to engaging in different non-farm income activities directly or indirectly. The countries like Ethiopia, where the percentage of Males and Females are almost equal, the economic contribution of both sexes to the development endeavor of the country is also equal. This book could bring the innovative idea of establishing a micro-enterprising business among Ethiopian women.

ISBN 979-888526791-5



9 798885 267915