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International PhD Program for Agricultural Economics, Bioeconomy and
Sustainable Food Systems (IPPAE), Justus-Liebig University of Giessen

**Intra-household Gender Dynamics and Time Poverty: Implications for
Farm Income and Well-Being in Rural Ethiopia**

DISSERTATION

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Submitted by

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I declare that the dissertation here submitted is entirely my own work, written without any illegitimate help by any third party and solely with materials as indicated in the dissertation. I have indicated in the text where I have used texts from already published sources, either word for word or in substance, and where I have made statements based on oral information given to me. At all times during the investigations carried out by me and described in the dissertation, I have followed the principles of good scientific practice as defined in the “Statutes of the Justus Liebig University Gießen for the Safeguarding of Good Scientific Practice.

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Preface

This dissertation is the culmination of my research journey into the complex dynamics of gendered division of labor, time poverty, and economic development in rural Ethiopia. It was conducted as part of the International PhD Program in Agricultural Economics, Bioeconomy and Sustainable Food Systems (IPPAE) at the Justus Liebig University of Giessen, Germany. The research was motivated by the author's personal experience growing up in rural Ethiopia, where widespread gender inequality, particularly in terms of workload and access to resources, led the author to examine the broader implications of these dynamics for agricultural incomes and individual well-being in rural Ethiopia. The aim of the study was to contribute to the literature on gender and development by providing empirical evidence on the gendered nature of time poverty and its impact on household economics and social well-being. It also aims to support policy interventions to promote gender equality in rural communities, with a particular focus on improving women's access to resources, reducing their domestic workload, and empowering them in decision-making processes.

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Table of Contents

List of tables.....	viii
List of figures.....	ix
Abriviations	x
Executive Summary	xi
1. INTRODUCTION.....	1
1.1. Background	1
1.2. Statement of the problem.....	3
1.3. Objective of the Study and Research Questions.....	5
1.4. Organization of the thesis	6
2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK	8
2.1. Conceptualization of intra-household gender dynamics	8
2.2. Intrahousehold division of labor: Interplay between housework and agriculture	10
2.2.1. Community perceptions of housework and its effects on women's circumstances	13
2.2.2. Factors influencing gender division of labor in rural Ethiopia.....	15
2.3. Time poverty and gender dimensions: A measurement of individual well-being	17
2.3.1. Balancing household and farm work: A major cause of women's time poverty.....	19
2.3.2. The invisible costs of time poverty on physical and emotional well-being.....	21
2.4. Intra-household bargaining power and decision-making roles of men and women	24
2.4.1. Intra-household power relations: Gender roles in decision making	24
2.4.2. Spillover effect of household power on participating in local governance	26
2.5. Gender gaps in access, participation and barriers in agricultural extension.....	28
2.5.1. Agricultural extension services for sustainable rural development	28
2.5.2. Structural barriers and gender gaps in agricultural extension services.....	30
2.6. Patriarchal social structure and sustainable development pathways for change	32
2.7. Theoretical and Conceptual Framework of the Study	33
2.7.1. Theoretical insights from feminist economics and collective household model	33
2.7.2. Conceptual framework for the study	39
3. RESEARCH DESIGN AND METHODOLOGY	42
3.1. Research Design and Approaches	42
3.2. Description of the Study Area	43
3.3. Data Collection Methods and Procedures	45
3.3.1. Quantitative research methodology	45

3.2.2. Qualitative research methods and procedures	47
3.4. Data Processing and Analysis Strategies.....	49
3.4.1. Analysis of household decision-making: A multinomial regression approach	50
3.4.2. Analysis of time poverty and farm income	52
3.4.3. Qualitative data analysis.....	55
3.5. Ethical Consideration	56
4. QUANTITATIVE ANALYSIS: RURAL SOCIO-ECONOMIC STRUCTURES AND GENDER DYNAMICS.....	57
4.1. Demography characteristics, economic features and accessibility of rural facilities	57
4.1.1. Demographic characteristics of study population: Age, education, family composition and religious affiliation.....	58
4.1.2. Landholding and household income in rural farming households.....	60
4.1.3. Rural energy and water supply in the study area and other impacts	63
4.2. Gender Roles and Intra-Household Labor Division in Farming Households.....	65
4.2.1. Gender roles in farming activities in smallholder farming households	66
4.2.2. Gender role for livestock production in six rural villages (Kebele's)	67
4.2.3. Gender role for housework and care activities in rural districts	68
4.2.4. Experiences and perspectives of women on forced labor and domestic violence	69
4.3. Work Hour Distribution and Time Poverty by Gender in Farming Households.....	70
4.3.1. Working hours distribution in different category of activities by gender.....	70
4.3.2. Gender differences in time poverty: An analysis of alternative poverty lines.....	73
4.3.3. Determinants for an individual being time-poor in rural districts by gender	74
4.4. Decision-Making and Control Over Resources by Gender in Rural Households	76
4.4.1. Gender roles in household decisions on agricultural and domestic care activities.....	77
4.4.2. Factors for household decision-making: Multinomial logistic regression analysis.....	81
4.4.3. Gender disparities in access to community services and leadership roles.....	82
4.4.4. Individual perspectives on contemporary gender dynamics in rural districts	85
4.5. Family Labor Dynamics and Other Determinants of Agricultural Income	86
4.5.1. Time allocation and gendered trade-offs between domestic and farm work	86
4.5.2. Household decision-making and implications for time allocation in agriculture	88
4.5.3. Socioeconomic determinants of agricultural income: Regression analysis.....	89
5. QUALITATIVE INSIGHTS INTO GENDER ROLES AND FARMING PRACTICES	91
5.1. Contemporary Cultural Perspectives on Gender Roles in Rural Communities.....	92

5.2. The complex Dynamics of Labor Division and Devaluation of Women's Labor Contribution.....	95
5.3. Gender Dynamics in household Decision-making and Local Leadership Frameworks.....	99
5.3.1. Gender inequality in household agricultural decisions: From proverbs to practices....	99
5.3.2. Gender disparities in community decision-making and leadership frameworks.....	102
5.4. Cultural and Structural Aspects of Work-Related Violence in Rural Communities.....	105
5.4.1. Experiences and normalization of wife beating in the community	105
5.4.2. Gender norms and legal barriers to combating forced labor and violence in workplace	108
5.5. Rural Extension Programs and Gender Priorities for Access and Participation.....	111
5.6. Gender and workload imbalance in shaping economic outcomes in rural community	115
5.6.1. Overlapping labor demands of household and agricultural activities affect agricultural productivity	116
5.6.2. Gender wage gap and stereotypical incompetence of women: Implications for traditional agricultural cooperatives	118
5.6.3. Diverse gender interests in agricultural practices: Impact on income diversification and farm operations.....	119
5.6.4. Unequal workload and drudgery of women's work affect labor productivity	121
5.6.5. Gender disparity in access to extension: Implications for agricultural knowledge and technology transfer	122
6. TRIANGULATED DISCUSSION: STATISTICAL AND NARRATIVE INSIGHTS ON GENDER ROLES AND AGRICULTURAL PRACTICES.....	125
6.1. Gender roles and time-use patterns in both farm work and household chores	125
6.2. Invisible costs of intrahousehold labor division and power imbalances on individual wellbeing	128
6.3. Gendered work culture and time use patterns: Implications for agricultural performance	131
7. CONCLUSION AND POLICY RECOMMENDATIONS	135
7.1. Conclusion.....	135
7.2. Policy Recommendations	136
7.3. Study limitations and issues for future research.....	139
REFERENCES.....	141
ANNEX	157

List of tables

Table 2.1. Men’s and women’s daily activities in Ethiopia (CRS, 2013)	20
Table 3.1. Population distribution in the selected districts	44
Table 4.1. Age distribution of survey participants in the study area (n=386)	58
Table 4.2. Gender disparities in educational attainment and religious affiliation (n=386)	59
Table 4.3. Trends in marital duration and family structure among surveyed farmers	59
Table 4.4. Average number of children and elderly dependents within rural households.	60
Table 4.5. Main sources of rural energies and water in the rural area of study districts ...	64
Table 4.6. The estimated time spend to access firewood, water and market in rural districts.....	65
Table 4.7. Gender role for crop production in the six rural villages (Kebeles)	67
Table 4.8. Gender roles in livestock production in six rural villages (kebeles).....	68
Table 4.9. Gender role for household maintainance activities in the six rural Kebeles	69
Table 4.10. Work-related violence, forced labor, and well-being of rural women.....	70
Table 4.11. Average daily hours spent for various activities by sex of respondents	70
Table 4.12. Mean number of hours spent by men and women on domestic and farm work by age, education and other socio-economic variables.....	72
Table 4.13. Proportion of time-poor individuals in rural Ethiopia by gender	73
Table 4.14. Time poverty gap and squared time poverty gap by gender.....	74
Table 4.15. Marginal effects for the probability of time-poverty among women farmers	75
Table 4.16. Marginal effects for the probability of time-poverty among men farmers	76
Table 4.17. Intra-household decision for farming related activities in rural Kebeles.....	78
Table 4.18. Intra-household decision for household maintainance and care activities	79
Table 4.19. Agricultural decision-making power of couples by education, residence, participation in training and access to extension services	80
Table 4.20. Determinants of household decision-making: Multinomial logistic regression analysis.....	82
Table 4.21. Access to agricultural extension service and leadership role by gender.....	84
Table 4.22. Contemporary perspectives on gender norms and division of labor	86
Table 4.23. Commulative hours worked across the decision-making power by gender ...	89
Table 4.24. Determinants of farm income: Linear regression analysis (y = income).....	90

List of figures

Figure 1.1. Organization of the thesis	7
Figure 2.1. Time-use activity classification per day	13
Figure 2.2: Conceptual framework of the study	40
Figure 3.1. Research Design	42
Figure 3.2. Map of study areas.....	43
Figure 3.3. Graphical representation of sampling methods	46
Figure 4.1. Average annual agricultural income of farm households.....	62
Figure 4.2. Farmland size per households in hectares	62
Figure 4.3. Reason for not participate in extension service	85
Figure 4.4. Daily farmwork time and housework time allocation	88
Figure 5.1. Contemporary socio-cultural setups on gender roles in the study area.....	93
Figure 5.2. Gendered labor division and societal expectations within rural communities	96
Figure 5.3. Endogenous power imbalance and institutional barriers.....	103
Figure 5.4. Cultural constraints and legal barriers for forced labor and violence.....	109
Figure 5.5. Coverage of gender issues in the community training package.	112
Figure 5.6. Farmers' training about adoption of improved agricultural technology	114
Figure 5.7. Impact of gender dynamics and cultural practices on agricultural outcomes	116

Abriviations

ANRS	Amhara National Regional State
BCC	Behavioral change communication
BoFED	Bureau of Finance and Economic Development
CRS	Catholic Relief Service
ECLAC	Economic Commission for Latin America and the Caribbean
EIAR	Ethiopian Institute of Agricultural Research
ETB	Ethiopian Birr
GDP	Gross Domestic Product
Ha	Hectare
HHs	Households
ILO	International Labor Organization
NGO	Non-governmental organizations
OECD	Organization for Economic Co-operation and Development
SDG	Sustainable Development Goal
SIGI	Social Institutions and Gender Index
SNA	System of National Accounts
SRS	Systematic random sampling
TUS	Time used survey
UNSD	United Nations Statistics Division
WBG	World Bank Group

Executive Summary

This study, "Intra-household Gender Relations and Time Poverty: Implications for Farm Income and Individual Well-being," explores the complex dynamics of gender division of labor and time poverty in rural Ethiopian households. It examines how patriarchal gender norms shape women's economic participation and agricultural outcomes in smallholder farming communities. The research premise is that women are disproportionately burdened with unpaid domestic and agricultural work, which is likely to limit their ability to fully participate in economic activities, pursue education, and gain access to community service or leadership roles. These constraints contribute to social inequalities and hinder agricultural productivity, pointing to the need for focused research on the intersection of gender, division of labor, and economic outcomes in rural Ethiopia.

To answer the guiding research questions, the study uses a mixed-methods approach, combining quantitative surveys with qualitative focus group discussions to provide a holistic analysis of gender roles, time poverty, and household decision-making. A survey of 400 farmers in the randomly selected districts provided quantitative data on time use, division of labor, and farm income. Complementing this, focus group discussions provided qualitative insights into cultural norms and individual experiences, contextualizing the quantitative findings and providing a nuanced understanding of gendered time poverty and its impact on agricultural practices.

The triangulated results show significant differences in time use between men and women. Women work an average of 11.52 hours per day, balancing unpaid domestic work with agricultural tasks, while men work 10.22 hours, focusing primarily on agricultural activities. This imbalance results in severe time poverty for women, limiting their opportunities for rest, personal development or income-generating activities. Households where women experience higher rates of time poverty often report lower agricultural incomes and face greater economic insecurity. In addition, women's labor contributions remain undervalued due to their exclusion from key household decision-making processes. The qualitative narratives revealed that cultural norms exacerbate these inequalities by positioning men as breadwinners and decision-makers while relegating women to the role of caregivers and supporters. These entrenched roles increase women's economic vulnerability, perpetuate discrimination in the workplace and gender-based violence.

The study concludes that the gendered division of labor and pervasive time poverty in rural Ethiopian households are significant obstacles to women's empowerment and overall well-being. These inequalities reduce agricultural productivity and increase economic insecurity through several interrelated mechanisms. First, competition for family labor between domestic and agricultural tasks limits women's availability for productive agricultural activities. Second, the persistent gender wage gap undermines women's economic literacy and reduces their ability to invest in and contribute to agricultural enterprises. Third, gender conflicts over agricultural practices and decision-making processes impede collaborative efforts that could increase household productivity. In addition, the physical demands of women's extensive work, including domestic and agricultural tasks, lead to drudgery and health complications that negatively affect their efficiency and output. Finally, gender disparities in access to agricultural extension services hinder the adoption of improved techniques, limiting agricultural development and reinforcing systemic inequalities.

To reduce time poverty and promote gender equality, the study recommends several targeted interventions. Introducing labor-saving technologies and improving rural infrastructure, such as access to clean water and energy-efficient stoves, can significantly reduce women's domestic workload. Ensuring equitable access to agricultural resources, including land and extension services, is critical to women's economic empowerment. Behavioural change communications are also essential to challenge harmful gender norms and promote shared domestic and agricultural responsibilities. Finally, increasing women's representation in household and community decision-making roles can increase their influence on economic and social outcomes. With these multidimensional and targeted interventions, the study underscores the potential for improving agricultural productivity and promoting sustainable economic development in rural Ethiopian communities

1. INTRODUCTION

1.1. Background

In traditional rural communities, gender dynamics within households play a central role in shaping both social and economic structures. Gender roles, understood as socially and culturally constructed behaviors, attributes, and responsibilities assigned to men and women shape their participation in both household and community domains (Lahiri et al., 2020; Pintos, 2020). Gender roles are imposed through socialization processes that begin in childhood and influence how individuals participate in household production processes, community practices, and broader economic systems (Nyarko Ayisi & Krisztina, 2022). In many traditional societies, including rural Ethiopia, normative gender roles are patriarchal and significantly undermine women's economic, social, and political participation (Mader & Schneebaum, 2013; Tarhan et al., 2017).

A household serves as the center of basic social and economic units where gender norms are practiced and work is organized along gender lines. Men are primarily expected to engage in economically productive activities such as agriculture, while women are primarily expected to take on domestic and care responsibilities in addition to agricultural work (Baloyo & Jones, 2024). This division of labor entrenches gender inequalities in household decision-making and resource allocation and limits women's opportunities to play key roles in the household economy (Guiso & Zaccaria, 2020; (Moreno-Colom, 2017; Solaz & Wolff, n.d.)

In rural Ethiopia, this gender dynamic traditionally views men as the primary farmers and decision-makers who control vital assets such as land, livestock, and agricultural inputs. Conversely, women are relegated to undervalued domestic responsibilities in addition to their agricultural contributions. This dual responsibility creates a "double burden" for women, resulting in time poverty, a condition in which long working hours leave insufficient time for rest, self-care, or personal development (Bardasi & Wodon, 2009; Ndimele et al., 2023). Time poverty is a critical dimension of well-being measurement that can capture elements that are often overlooked in traditional poverty measures. For instance, women in rural Ethiopia work an average of 15–19 hours per day compared to men's lower workloads, limiting their participation in educational and economic opportunities (Antonopoulos et al., 2016; Walker, 2013). This disparity limits their overall

economic and community participation, thereby hindering their personal and economic development (Ferrant et al., 2014a; Marter-Kenyon et al., 2023; Sherka, 2023). These types of social phenomena are not addressed by traditional poverty measures without examining the division of labor and time use patterns.

Moreover, unequal division of labor and associated time poverty also limit women's decision-making power and exacerbate gender inequality (Maksymovych, 2017), with men typically dominating income-related decisions (Niemann et al., 2024; Shibata et al., 2020). In some contexts, such as Bangladesh, men control up to 90% of key household decisions (Bhowmik et al., 2024). They dominate inputs, production strategies, and income distribution, with women participating in less than 1% of such decisions in some areas (Mulugeta & Amsalu, 2014; Owitti, 2015). Women's participation in education is expected to increase their bargaining power. However, entrenched gender norms reinforce men's control over key resources, undervalue women's contributions to economic activities, and limit their access to community services (Elias et al., 2014; Mohapatra et al., 2019; Tamba Issa et al., 2022), increasing their economic and social vulnerability (Singh Godara et al., 2014; Wang et al., 2020).

In the contemporary discourse on sustainable rural development, food security and poverty reduction, the contribution of women to the agricultural labor force is undeniably significant. Despite their significant contributions to agriculture, where women make up 65% of the labor force in rural Ethiopia, compared to the global average of 43%, women's work remains undervalued (Bin Duwa Bin Khoja, n.d.; Palacios-Lopez et al., 2017; Wanjiru, 2021). Their less visible domestic and caregiving roles overshadow their economic contributions that leads to persistent gender disparities in wages, access to resources, and economic decision-making processes (Anshida Beevi et al., 2018; Bin Duwa Bin Khoja, n.d.; Croppenstedt et al., 2013). This undervaluation of their work not only contributes to economic decline but also exposes them to work-related violence and unethical practices (Manzoor et al., 2018). The physical and psychological toll of these challenges significantly affects their health and their contribution to agricultural productivity (Mishra et al., 2020).

Failure to address these systemic gender inequalities reduces the effectiveness of development initiatives in rural Ethiopia. This is because women's disproportionate domestic responsibilities and systematic exclusion from economic frameworks hinder their

participation in rural development programs (Arora & Rada, 2013; Multani & Sanghvi, 2017). Development policies can increase agricultural productivity and household income by promoting shared domestic work, improving women's access to productive resources, and empowering them in decision-making processes. For example, providing women with equal access to agricultural inputs could increase yields by 20-30%, leading to significant gains in household welfare and national economic growth, especially in agriculture-dependent countries such as Ethiopia (Ferrant et al., 2014b).

Global frameworks, such as the United Nations 2030 Agenda for Sustainable Development, highlight the critical need to recognize and address the disproportionate burden of unpaid work borne by women. The Agenda advocates for the incorporation of time-use surveys into public policies to redress gender inequalities in terms of labor and resource allocation (UN Women, 2020; Oxfam, 2018). However, policies in traditional societies such as Ethiopia fail to challenge entrenched social structures that perpetuate gender inequality and its associated socioeconomic costs (Azanaw & Tassew, 2017).

These gaps suggest the urgent need for contextualized studies that explore the division of labor, time use, and decision-making within rural households. A micro-level examination of household interactions can reveal how gender relations affect economic productivity and individual well-being. Without addressing the gendered constraints faced by women, rural development policies are unlikely to achieve their intended outcomes. Therefore, this study aims to analyze the gendered division of labor and time poverty in rural Ethiopia, focusing on how these patterns affect agricultural practices and overall well-being.

1.2. Statement of the problem

In rural Ethiopia, agriculture serves as the primary economic base for the majority of the population, providing the main source of income and means of subsistence. As the smallest social unit, the household serves as the center of economic production and normative orientation within small-scale agrarian societies. As a result, gender dynamics within households, including the division of labor, household decisions, and resource allocation, have a significant impact on agricultural productivity and individual well-being. For example, deeply entrenched patriarchal norms dictate gender roles that position men as the primary decision-makers and controllers of household economic resources, while systematically excluding women from economic decision-making. This structural

imbalance results in gender inequality and reduces the potential for agricultural efficiency and economic development.

Traditional gender roles designate men as the primary contributors to high-value agricultural activities, while women are relegated to less visible and undervalued housework and care responsibilities. Compounding these expectations, women are also required to contribute significantly to agricultural work, resulting in a double burden that forces them to balance demanding agricultural work with household chores. This unequal burden leaves them in a state of time poverty, with little opportunity for rest, self-care, or personal development. The restrictive nature of time poverty therefore hinders women's ability to pursue education or participate in labor market. In addition, the significant time spent on unpaid domestic work reduces the time available for women to engage in productive agricultural activities, directly affecting productivity and income. This persistent imbalance in time allocation not only exacerbates economic stagnation but also undermines individual well-being, thereby reinforcing cycles of poverty and inequality.

In addition to time poverty, women face systemic barriers to accessing agricultural services and resources. Men overwhelmingly control key household assets, including land, livestock, credit, and agricultural inputs, leaving women with limited influence over critical household decisions including income distribution and resource allocation. Despite their significant contribution to agricultural production, social norms devalue women's labor and exclude them from decision-making processes. As a result, women are confined to labor-intensive domestic tasks that remain unrecognized and undervalued in formal economic assessments. This marginalization not only undermines women's empowerment but also diminishes the overall economic potential of the household by failing to utilize the potential skills and experience of all family members.

The inability of development initiatives to address these complex gender dynamics poses a significant challenge to rural development efforts in Ethiopia. Many rural development initiatives do not consider the different roles that men and women play in rural social and economic life. For example, women's persistent time poverty prevents them from participating in agricultural extension services and capacity-building initiatives that are critical to improving agricultural skills and household outcomes.

These unequal division of labor, limited decision-making power, and pervasive time poverty among women collectively exacerbate gender inequalities and hinder the overall economic development of rural communities. This study could provide valuable insights that can guide the development of gender-sensitive rural policies by exploring the complex interplay of gender relations within households. Such policies are essential to address the structural gender inequalities embedded in rural work environments and to unlock the full economic potential of rural communities.

1.3. Objective of the Study and Research Questions

The main objective of this study is to examine intra-household gender dynamics in terms of division of labor and time allocation, with a particular focus on the problem of women's time poverty due to their dual responsibilities in agriculture and domestic work. Ultimately, by addressing the following research questions, the study aims to identify potential entry points for rural development initiatives aimed at reducing the potential workload of rural societies, thereby contributing to the achievement of the SDG (Target 5.4):

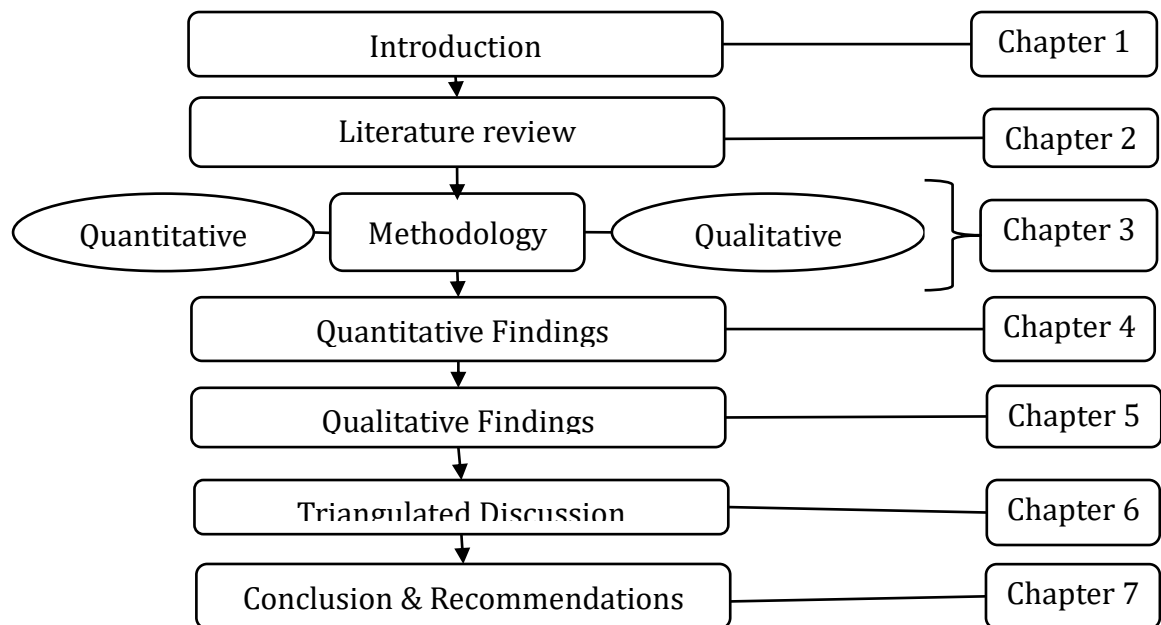
1. To examine traditional social structures and normative expectations related to gender roles and labor division between men and women in rural agricultural households.
 - a. What are the traditional social structures that shape gender roles within agricultural households in the rural part of East Gojam Zone?
 - b. How do the normative social expectations influence the division of labor and power relations between men and women in rural households?
2. To assess the gendered experience of time poverty and examine its impact on individual well-being in the context of forced labor and domestic violence.
 - a. To what extent do men and women experience time poverty across household and farm responsibilities?
 - b. How does time poverty affect the physical and psychological well-being of individuals in rural community?
 - c. What are the socio-economic determinants of time poverty by gender in farm households?
3. To examine the roles of men and women in agricultural decision-making and identify the key socio-economic factors that influence their level of participation.
 - a. What are the roles of men and women in economic, social and agricultural decisions in rural households?

- b. What are the key socio-economic factors that determine the level of participation of men and women in household decisions?
4. To assess how the gendered division of labor and time-use patterns affect labor efficiency, agricultural productivity and the sustainability of agricultural practices.
 - a. How does the gendered division of labor and time-use patterns affect agricultural productivity in rural households?
 - b. How does increased time allocation to unpaid housework affect the labor efficiency of agricultural activities?
 - c. How do gender differences in workloads affect the well-being and sustainability of agricultural practices in rural communities?

1.4. Organization of the thesis

The research is organized into seven chapters, each of which addresses a specific aspect of the study. The introductory chapter provides an overview of the study, outlines the research problem, and articulates the aims and objectives of the research. The second chapter reviews the existing literature and theoretical foundations, beginning with the conceptualization of intrahousehold gender dynamics. Key themes include division of labor, decision-making processes, time poverty, and access to extension services. Chapter three provides a detailed description of the study area and the research methodology. It includes the research approach, sampling procedures, data collection instruments, and data analysis methods used in the study. This chapter presents an in-depth analysis of the quantitative findings. It examines the socio-economic characteristics of the study population, patterns in the gender division of labor, and time-use patterns. It also examines the determinants of time poverty and agricultural income. Chapter five focuses on qualitative narratives that provide contemporary perspectives and individual experiences related to the gender division of labor. It addresses issues such as work-related violence, endogenous power imbalances, and agricultural practices. This chapter integrates the quantitative and qualitative findings through a concurrent research design on the selected themes. The quantitative findings are contextualized and interpreted with qualitative narratives, using statistical analysis to identify points of convergence or divergence. The final chapter synthesizes the findings from both the quantitative and qualitative analyses. It provides a comprehensive summary of the study and offers policy recommendations aimed at addressing the challenges identified and promoting gender equity in agricultural systems.

Figure 1.1. Organization of the thesis



2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Gender-based discrimination and violence take many forms, shaped by the specific socio-cultural contexts of communities. In traditional societies, intersecting forms of violence reinforce cycles of gender inequality. For example, gender disparities in the division of labor, resource allocation, and decision-making power are indicators of gender inequality and drivers of work-related violence (Tedla & Flintan, 2007). In Ethiopia, such discrimination is pervasive, although its prevalence varies across regions, including urban and rural areas. In rural Ethiopia, gender inequality and violence primarily take the form of intimate partner violence, which is closely linked to the normative roles and responsibilities assigned to men and women. For the purposes of this study, "rural" refers to areas characterized by farms and traditional settings with low population densities, predominantly agricultural economic activities, and limited infrastructure (CSA, 2014). In these settings, gender roles serve as the basis for the division of labor and the overall social structure.

Therefore, this review part of the paper focuses on the patterns of gender roles within the household, with particular emphasis on time allocation and gendered division of labor in housework and agricultural activities. Therefore, this part of the paper is divided into the following main sections: (1) Conceptualizing gender dynamics within the household; (2) Division of labor within the household: interaction between housework and agricultural work; (3) Gender inequality and time poverty: A measure of individual well-being; (4) Bargaining and decision-making power within the household between men and women; (5) Gender differences in access, participation and constraints in agricultural extension services; (6) Patriarchal social structure and pathways for sustainable development change; and (7) the theoretical and conceptual framework of the study.

2.1. Conceptualization of intra-household gender dynamics

Intra-household gender dynamics refer to the interactions, roles, and power relations within family units, focusing on the division of labor, resource allocation, and decision-making. These dynamics are influenced by cultural norms, socioeconomic conditions, and individual preferences that collectively shape the empowerment and status of household members (Salifu, 2021; Simuchimba, n.d.). In particular, gender roles are socially constructed norms and expectations that dictate the behaviors and responsibilities

considered appropriate for individuals based on their gender. These roles assign different tasks to men and women in both the domestic and public spheres, which is referred to as the gender division of labor. These roles tend to influence personal life, decision-making power, and social experiences (Hasyim et al., 2022).

In many traditional societies, including Ethiopia, gender roles are deeply entrenched, with women primarily responsible for domestic tasks such as cooking, cleaning, and childcare, while men are typically associated with income-generating activities outside the home (Assefa et al., n.d.; Getahun, 2019; Islam & Sharma, 2021; Rost & Koissy-Kpein, 2017; Verschoor et al., 2017). These roles contribute to gender inequalities and power imbalances in household decision-making, especially decisions related to finances, daily activities, and long-term goals (Bam, 2023). Due to prevailing gender norms that emphasize male leadership, men are generally given more decision-making power. This unequal distribution of power leads to the marginalization of women's voices in household decisions and roles in the community (Ashraf et al., 2022).

The unequal division of labor and power within households also contributes to time poverty, which refers to the lack of sufficient time for rest, leisure or personal care due to the demands of paid and unpaid work. This disproportionately affects women, who bear the double burden of domestic responsibilities in addition to their paid work responsibilities (Abreu de Oliveira et al., 2020; Arora, 2014a), which has far-reaching implications for their career development, access to networks, physical and mental health, and overall quality of life (Mader & Schneebaum, 2013). In rural development, time poverty further limits women's access to training, counseling and community services that reinforcing patterns of discrimination and subordination (Adeyeye et al., 2021; Grünenfelder, 2012; O'neil & Domingo, n.d.; Sule & Abubakar, 2014).

Socialist feminist perspectives argue that the family structure often perpetuates women's economic dependence and oppression. Women historically continue to rely on their husbands for economic support, despite working as much or more than men outside the home (Wendling, 2018). On average, they spend 2 to 3.4 times more hours on household chores than men (Hyde et al., 2020). While advances in household technologies have eased some of the burden on women in developed countries, in developing regions such as Ethiopia, the lack of such technologies, combined with low levels of education and awareness, exacerbates the misfortunes associated with an unbalanced gender division of

labor (Wendling, 2018). Investments in rural infrastructure, such as improved cookstoves, can mitigate some of these challenges by reducing the time spent collecting firewood and cooking (Jago et al., 2020; Ndimele et al., 2023).

In rural Ethiopia, men have traditionally performed physically demanding and skilled agricultural tasks. Although women contribute to agriculture and food production through tasks such as planting, harvesting, and livestock management (Aregu et al., 2010; Bekele Bayu, 2017; Belay & Oljira, 2016; Wanjiru, 2021), they continue to face barriers in accessing essential resources such as land and income needed for personal and economic security (Badstue et al., 2020). This unequal distribution of labor and resources contributes to gender power imbalances that limit women's opportunities for social mobility and economic development (Arora, 2014b; Owitti, 2015).

In rural Ethiopia, the roles of men and women are clearly segregated, with men typically performing agricultural tasks sequentially, while women are expected to participate in agricultural production and perform all household chores. This dual role represents a “double burden” for women, and its socioeconomic implications require greater attention in research and development (Badstue et al., 2020). The responsibility of maintaining and caring for the household, which supports the functioning of the overall economy by maintaining a healthy and productive workforce, limits women's access to education, political participation, employment, and leisure. In addition, unhealthy work environments lead to related health problems, such as eye irritation from prolonged exposure to smoke, which are typically overlooked in policy frameworks.

2.2. Intra-household division of labor: Interplay between housework and agriculture

As in many parts of the world, the gendered division of labor in Ethiopia disproportionately assigns unpaid domestic and care work to women. They are primarily responsible for tasks such as cooking, cleaning, laundry, fetching water, collecting firewood, grinding grain, childcare, and caregiving that are essential to maintaining the household. However, these unenumerated tasks are undervalued in economic and social terms (Huffman, 2012). These long-standing stereotypes portray women as caregivers and subordinate family members (Badstue et al., 2020; Gutema & Sultan, 2019; Mulugeta & Amsalu, 2014; Policy Brief, 2014).

In rural Ethiopia, inadequate infrastructure, including limited access to water, electricity and roads, exacerbates the burden of domestic work. This is the main reason why women in rural communities spend more time working than men. Some studies estimate that women contribute between 1.3 and 10 times as many hours to domestic work. However, their efforts remain largely unrecognized in national policy agendas (Rost et al., 2020). This situation mirrors global trends, such as in Honduras, where women's unpaid work is underestimated by 6-23% due to narrow definitions of “work” (Muller & Sousa, 2020), and in Nepal, where these roles limit women's participation in income-generating activities and reinforce cycles of gender inequality (Bhusal & Karki, 2022; Ngusa, 2022).

Not only in Ethiopia but also in many rural areas of Africa, the sole responsibility for collecting firewood falls on women and girls. In addition to the physical strain, this one-sided responsibility leads to health problems such as eye irritation and respiratory diseases, which disproportionately affect women (Tedla & Flintan, 2007). Collecting water also remains a time-consuming and physically demanding task for women, reinforcing gendered power dynamics. On the positive side, women see this task as an opportunity to make acquaintances and maintain social networks (Phiri et al., 2020; Sani & Scholz, 2022). Gender inequalities in these social aspects require practical and sustainable solutions, including access to clean water sources and alternative energy options such as solar energy and biogas. Such investments can reduce women's workload, mitigate health risks and improve their overall quality of life (Fielmua & Mwingyine, 2015; Masekela & Semanya, 2021; Phiri et al., 2020).

The cultural entitlement of sectors to have different genders is a broader issue that causes gender segregation in agricultural work to further affect farm management. In Ethiopia, as in many rural societies, men are generally considered the primary or true farmers because they are responsible for more physically demanding tasks such as plowing, while women are relegated to less visible and supportive roles throughout the agricultural process (Badstue et al., 2020; Gella & Tadele, 2014). Women participate in almost all phases of agricultural work, including planting, weeding, harvesting, and food processing. Without their participation, the achievement of food security and sustainable development is questionable. However, their contribution is overlooked in many parts of society (Sharma et al., 2013).

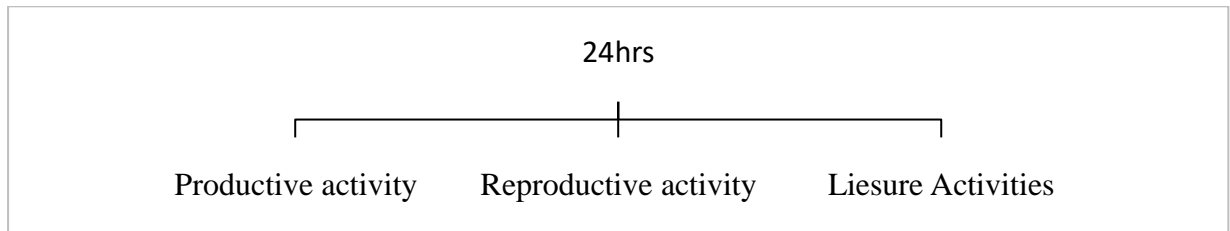
The unequal distribution of labor and resources in agriculture exacerbates women's overburden. Men often take on more culturally valuable and less time-consuming tasks such as sowing and plowing, while women are responsible for more labor-intensive tasks such as weeding and transporting crops (Abate, 2017; Amarender Reddy et al., 2021). In addition, they take on typical animal husbandry tasks such as milking and milk processing, calf care, and barn cleaning. This inequality reinforces women's subordination and limits their economic autonomy (Arora & Rada, 2013).

Gender roles and the division of labor are not static; they vary across cultures and evolve with changes in social norms, knowledge, and technology (Gutema & Sultan, 2019). In the contemporary sociocultural structure of rural Ethiopia, children are socialized into different agricultural and domestic roles. From a young age, boys are expected to perform economically productive tasks such as plowing and herding like their fathers, while girls are oriented toward domestic work like their mothers (Alemayehu & Fenet, 2019; Belete, 2019). This socialization process limits girls' active participation in economic and educational opportunities. The gender participation index shows a ratio of 0.45 for women compared to 0.55 for men participating in productive activities, including agriculture (Ayele & Gebretsadik, 2024).

Although women perform up to 75% of agricultural work and contribute 70% of household food production (Chandel et al., 2022), their efforts remain undervalued due to the association of agriculture with the male gender. This masculinity of the agricultural sector forces women into subordinate positions and limits their economic and social independence. Their long working hours in both productive and domestic areas exacerbate their time constraints and limit their opportunities for personal development. This division of labor hinders women's access to resources such as land, income, and agricultural inputs, thereby limiting their potential to improve household well-being and agricultural productivity (Yadeta & Fojo, 2019).

Time use studies further illustrate persistent gender inequalities in work-life balance, with women spending more time on both paid and unpaid work compared to men who have more leisure time (Lydeka & Tauraite, 2020; Rubiano-Matulevich & Viollaz, 2019). In particular, the large gender gap in the distribution of domestic work determines the level of economic participation of men and women, as the time women devote to unpaid work limits their ability to engage in market activities (Sherka, 2023).

Figure 2.1. Time-use activity classification per day



Due to assigned gender roles, patriarchal structures in rural Ethiopia further exacerbate the gender gap and limit women's decision-making power in both the household and community (Owitti, 2015). They have limited access to community services, resulting in a lack of influence over agricultural decisions (Yadeta & Fojo, 2019). This systemic inequality undermines their socioeconomic mobility and autonomy. For example, a study of time-use patterns in rural Ethiopia found that women often work from dawn until late at night, spending approximately nine hours per day on household chores in addition to agricultural work. Even longer, another study shows that women work up to 15-19 hours per day (Suh et al., 2020). This extreme workload, coupled with societal expectations, confines them to the home and away from the social, economic, and political environment.

In general, agriculture and domestic work are closely intertwined in rural Ethiopia. The division of housework and time between these two sectors is determined by entrenched gender norms that keep a disproportionate share of women in unpaid work. Overcoming these inequalities requires comprehensive policy interventions, from recognizing women's labor contributions to providing practical solutions to reduce their workload. Efforts to improve rural infrastructure, provide time-saving technologies, and better support the community in sharing household responsibilities would promote more sustainable and inclusive community development (Atim & Awodola, 2020). Through such efforts, it is possible to promote gender equality, increase women's economic opportunities, and improve their overall well-being.

2.2.1. Community perceptions of housework and its effects on women's circumstances

Unpaid domestic work is often perceived by rural communities as a natural part of women's roles as caregivers and homemakers. These tasks, from cooking, cleaning and childcare to collecting water and firewood, are deeply embedded in cultural and social norms that see women as primarily responsible. These perceptions significantly undervalue the economic

and social importance of women's contributions to these activities. As a result, unpaid domestic work is invisible in formal economic measures (Ferrant et al., 2014a).

Community attitudes toward unpaid domestic work are shaped by cultural norms that perpetuate the notion that women are responsible for maintaining and caring for the household. Cultural beliefs portray housework as inherently feminine, as opposed to men being the breadwinners. As a result, unpaid housework is not considered “legitimate work” in the same way as paid work, leading to its exclusion from economic valuation and policy interventions (Doss et al., 2018). Men in rural areas view women's unpaid work as complementary to their own productive activities, demonstrating the idea that domestic work lacks economic significance.

Women's aspirations and opportunities to work are significantly affected by inferior perceptions of their roles. Their obligation to prioritise domestic work over professional or market work can limit their ability to pursue education, paid employment or leadership roles within their communities. These social constructs reinforce the idea that women's work is secondary to men's work, which is the main driver of gender inequality in many traditional communities (Ratheesh & Anitha, 2022). The overwhelming burden of unpaid work and its lack of recognition, combined with limited access to basic infrastructure such as water, sanitation and energy, results in time poverty, physical strain and adverse health outcomes. Time-intensive activities such as collecting firewood and water prevent women from participating in income-generating and community activities, increase domestic violence, and deepen their economic dependence and marginalization (Badstue et al., 2020).

Furthermore, the invisibility of unpaid domestic work in formal economic valuations diminishes their bargaining power within households and communities. Women with limited or no income from paid work are marginalized from decision-making processes. It fuels the long-standing patriarchal social structure. This dependency creates a cycle in which women's unpaid work sustains the household economy without providing them with financial independence or social mobility (Amjad et al., 2021).

In rural Ethiopia and other developing regions, housework is excluded from national accounting systems, despite its significant contribution to household and community well-being. For example, time use surveys in Mexico have shown that domestic work accounts

for 21 percent of GDP, but such estimates are rare even in many developing countries (Alberti-Manzanares et al., n.d.). Women do not own land, financial assets, or other agricultural resources because of social beliefs that women are not directly responsible for agricultural work. Men are seen as the main contributors to agricultural production, neglecting women's contributions in both the domestic and productive spheres. This systemic undervaluation of women's role in supporting the family hinders their overall ability to improve their socio-economic status (Assefa et al., n.d.).

Addressing these challenges requires a cultural and attitudinal shift in the perception of unpaid domestic work. Community members must begin to recognize the economic and social importance of women's tireless domestic work. Such change can be achieved through education and awareness campaigns that focus on challenging traditional gender norms and promoting equitable household roles. Policy interventions to improve women's livelihoods are also critical. Investments in rural infrastructure, such as access to water, sanitation and energy-saving technologies, can reduce the time and effort required for domestic tasks. Programs that support women's participation in education and market work are essential to increasing their bargaining power and socioeconomic mobility.

In general, the perception of unpaid domestic work as a natural and unimportant aspect of women's fate maintains gender inequalities and undermines their welfare. Therefore, efforts to redistribute domestic responsibilities through shared household roles or compensation for unpaid work can create a more equitable balance between men and women. For example, policies that support child care or provide incentives for housewives and caregivers can reduce the burden. Empowering women with equal access to resources and markets not only improves their living conditions but also contributes to broader societal development by reducing hunger and increasing agricultural productivity (Oxfam, 2019).

2.2.2. Factors influencing gender division of labor in rural Ethiopia

The gender division of labor in rural Ethiopia is driven by a combination of social, cultural, economic, and institutional factors that shape and sustain unequal roles for men and women in both domestic and agricultural work. Cultural traditions and ingrained social norms are among the primary causes of the gender division of labor. Men are typically associated with high-value agricultural activities and decision-making roles, while women are relegated to subsistence farming, domestic work, and caregiving. These norms assign men tasks such

as plowing and livestock management that are perceived to require strength and technical expertise, while women are relegated to socially and economically undervalued roles such as post-harvest processing and food preparation (Gutema & Sultan, 2019; Owitti, 2015).

Religious beliefs and traditional practices further reinforce the notion of women's subordinate role. Women are often socialized to assume submissive and caring roles, while men are encouraged to be assertive and independent. This socialization perpetuates stereotypes that undermine women's agency and reinforce the unequal division of labor (Yadeta & Fojo, 2019). Traditional patriarchal structures, embedded in local customs and institutional frameworks, normalize male dominance in household and community decision-making. These ideologies position men as the primary contributors to agricultural work, despite the significant involvement of women, thereby legitimizing the unequal distribution of resources and labor (Braunstein et al., n.d.; Galiè et al., 2013).

Economic structures also contribute significantly to the gendered division of labor. Women often lack control over productive resources such as finance, land, income and credit. Traditional inheritance practices favor men and limit women's ownership of land, a critical resource for economic independence in smallholder farming communities. In addition, women are disproportionately excluded from financial markets, agricultural cooperatives and income-generating opportunities, increasing their confinement to unpaid work (Dida & Workitu Hordofa, 2022; Wegari Obosha, 2020). In agricultural production, men are typically associated with high-value agricultural activities, while women's work is largely invisible and poorly paid. This wage discrimination and undervaluation of women's contributions in agriculture worsen women's opportunities for decent work (Bekele Bayu, 2017; Lungu et al., 2024).

Local governance structures and institutional practices often contribute to upholding gender roles and inequalities. Patriarchal norms embedded in these systems influence the distribution of resources and decision-making processes in favor of men. Despite national laws promoting gender equality, weak enforcement mechanisms allow repressive local traditions and informal institutions to become the main rules of the community. For example, customary laws prioritize male inheritance and property rights and limit women's access to land and productive assets (Cohen et al., 2024; Ferrant et al., 2014a). Furthermore, women are minimally represented in leadership positions and institutions, further

marginalizing their voices in decision-making processes that affect the division of labor (M & N, 2018).

Educational differences play a crucial role in shaping the division of labor. Boys are often encouraged to pursue formal education and careers, while girls are socialized into domestic roles. This imbalance limits women's access to education and skills development, limits their opportunities for economic mobility, and reinforces their role in unpaid domestic and agricultural work. Socialization processes also perpetuate rigid gender roles. Women are socialized to see themselves as caregivers and homemakers, while men are seen as breadwinners and decision-makers. These social expectations limit women's access to key resources and services that are essential for economic participation (Sapkota et al., 2018).

In conclusion, the gender division of labor in rural Ethiopia is rooted in cultural, social, economic, and institutional factors that perpetuate women's subordination and unequal access to resources. Addressing these root causes requires a multidimensional approach that includes challenging social norms, reforming inheritance and governance practices, and ensuring equal access to education, land, and financial resources. By addressing these root causes, it is possible to foster a more equitable division of labor and promote gender equality in rural communities.

2.3. Time poverty and gender dimensions: A measurement of individual well-being

Time poverty is an essential but often overlooked dimension of poverty that highlights the lack of leisure time due to the demands of unpaid domestic and care work. It serves as a critical indicator of gender inequality and individual well-being, providing insights into the hidden burdens faced by individuals, particularly women, in both low- and high-income settings. Traditional measures of poverty, which focus primarily on income and material deprivation, fail to capture the multidimensional nature of well-being. Time poverty complements these measures by addressing the trade-offs between time, income and personal agency.

Time poverty disproportionately affects women due to entrenched gender norms and unequal division of labor. Studies by Bardasi & Wodon (2009) and Singh & Nagaich (2022) highlight how unpaid domestic and care work falls disproportionately on women, limiting their access to education, employment and personal development. In sub-Saharan Africa and other low-income regions, time-intensive tasks such as fetching water, cooking and

caregiving exacerbate these inequalities. This unequal burden reinforces systemic gender inequality and perpetuates cycles of poverty and social exclusion.

Zacharias (2011) criticise traditional poverty assessments for their failure to account for time constraints and proposes a two-dimensional measure of time-income poverty. This approach can show the interplay between financial deprivation and lack of flexible time, providing a more comprehensive understanding of welfare. For example, women in rural areas face severe time constraints and sacrifice income-generating activities or self-care to meet household demands.

Time poverty has profound implications for physical health, mental well-being, and social participation. Women who lack time for rest, self-care, or leisure are at higher risk of chronic stress, fatigue, and mental health problems (Sherka, 2023). The relentless demands of unpaid work contribute to anxiety, depression, and reduced quality of life. These effects are magnified in low-income households, where limited access to labor-saving technologies exacerbates the burden of time-intensive tasks. Women who engage in labor-intensive tasks such as collecting firewood or carrying water, leading to chronic physical strain and health risks, including respiratory illnesses from cooking with biomass fuels. Addressing these challenges requires targeted interventions, such as the provision of clean energy sources and labor-saving household technologies, to reduce the physical burden of unpaid work.

The unequal distribution of unpaid work hinders women's economic participation and reinforces gender inequalities. Women in low-income households are less likely to participate in paid employment or education due to time constraints (Hyde et al., 2020; Khan, 2020). This limits household income, reduces economic productivity, and perpetuates gender inequality. At the societal level, time poverty marginalizes women from community participation, leadership, and decision-making roles, reducing their influence and stalling social progress (Arora, 2014b; Tengland, 2020). In addition, time poverty reveals hidden vulnerabilities among those who do not appear to be financially poor. Antonopoulos et al., (2016) found that increased employment opportunities can alleviate income poverty but exacerbate time poverty.

Tackling time poverty requires systemic changes that address its causes and mitigate its effects. Policies should focus on reducing unpaid domestic work through the promotion of

labor-saving technologies, affordable childcare and equitable sharing of domestic tasks. Flexible working hours and workplace policies that accommodate care responsibilities can also reduce time pressures, particularly for women. Investments in infrastructure, such as access to clean water and energy, can significantly reduce time spent on domestic tasks, freeing up opportunities for education, employment and leisure. Programs that challenge traditional gender norms and promote shared domestic responsibilities are essential to advancing gender equality and improving overall well-being (Burchardt, 2008; Hirway, 2015).

Therefore, integrating time poverty into broader well-being metrics provides a more nuanced understanding of human development. Unlike traditional income-based measures, time poverty highlights the hidden costs of unpaid work and its impact on life satisfaction, health and social mobility. By taking time deficits into account, policymakers can design interventions that address both material and non-material aspects of poverty. For example, time poverty illustrates how cultural norms and household dynamics shape individual autonomy and opportunities for growth (Masvotore & Tsara, 2023). It serves as a lens to examine the intersection of economic deprivation, social norms, and gender roles, shedding light on the structural barriers that limit human potential.

2.3.1. Balancing household and farm work: A major cause of women's time poverty

Time poverty in the rural context, defined as insufficient time for rest or leisure due to excessive workloads, disproportionately affects rural women who juggle both agricultural work and household responsibilities. Both men and women in rural areas often engage in agricultural activities, but women bear the additional burden of unpaid domestic work, such as cooking, childcare, fetching water and collecting firewood. This “double burden” results in women working significantly longer hours than men, leaving them with less time for leisure, education or self-care. These constraints deepen gender inequality and limit women's social and economic opportunities (Arora, 2014a; Marter-Kenyon et al., 2023).

In Ethiopia, women's overlapping roles in domestic and agricultural work are a major cause of time poverty. For example, women in the Arsi zone work 15-19 hours per day, compared to 9-13 hours for men, with little or no time for breaks (Catholic Relief Services, 2013). This relentless workload forces women to sacrifice their energy and time for the sake of their family, which negatively affects their physical and mental well-being. Moreover,

economic hardship exacerbates these time constraints, as resource-poor households often rely heavily on women's unpaid labor to meet basic needs, perpetuating the cycle of poverty and inequality (Adeyonu & Oni, 2014).

Table 2.1. Men's and women's daily activities in Ethiopia (CRS, 2013)

Women	Time	Men
Prepare breakfast and serve coffee, clean house, fetch water, milking and take care of livestock	4:00 a.m. - 9:00 a.m.	Sleep, pray, have breakfast and drink coffee, work in the farm
Work in the field, take care of livestock, fetch water & firewood, prepare food	9:00 a.m.- 12:00 p.m.	Work in the fields
Prepare lunch and bring it to the field, work in the farm	1:00 p.m.- 3:00 p.m.	Eat lunch & rest, work in the farm, feed for animals
Feed animals, collect firewood, work in the farm, wash clothes and clean house	3:00 p.m.- 5:00 p.m.	Work in the fields
Feed livestock, fetch water, prepare and serve dinner	5:00 p.m.- 9:00 p.m.	Feed livestock, eat dinner
Prepare bed, make coffee Clean house, Prepare dough	9:00 p.m.- 12:00 a.m.	Drink coffee Go to bed (9:00–10:00 pm)
Go to bed	11:00 p.m.- 12:00 a.m.	

Women are key to both household and agricultural productivity, performing key agricultural tasks such as planting, weeding, harvesting and livestock management, as well as time-consuming household chores. They typically perform all of these tasks simultaneously, exacerbating their time poverty. Unlike men, whose agricultural contributions are often more visible and limited to a few tasks such as plowing or sowing, women's dual responsibilities remain undervalued in economic and policy frameworks (Arora & Rada, 2013). Time constraints prohibit women from fully participate in income-generating opportunities, education, or community engagement, reinforcing their economic dependency and social marginalization (Ndimele et al., 2023).

The impact of time poverty goes beyond individual women, affecting household well-being and rural development. Limited time for self-care challenges women's health, which in turn affects food security as women have less time to adopt improved farming techniques or

engage in productive activities (Zacharias, 2011). Traditional measures of poverty fail to capture the challenges of time poverty. Women's workloads and inability to allocate time for personal care or economic advancement reflect a critical aspect of gender inequality that is not captured by traditional measures of poverty (Zacharias, 2011). Research on time use is therefore essential for understanding these inequalities and informing interventions (Saboor et al., 2016).

Given the diverse drivers, addressing time poverty requires a multifaceted approach, including improving access to clean water, energy-efficient cooking technologies, and transportation, which can significantly reduce the amount of time women spend on household chores. Similarly, promoting the equitable distribution of household responsibilities can challenge entrenched norms that perpetuate women's disproportionate workload (Irani & Vemireddy, 2020). Rural policies should also prioritize women's access to agricultural resources and decision-making platforms to maximise their economic contribution while reducing their workload. Childcare facilities and support services can ease women's burdens and allow for greater participation in productive and community activities (Permanyer et al., n.d.).

In conclusion, rural women's dual responsibilities in managing the household and agricultural work contribute significantly to their time poverty, reinforcing gender inequalities and limiting their opportunities for personal and economic development. The combination of domestic and agricultural tasks creates an excessive workload that deprives women of rest, leisure and access to education or paid employment. Policy interventions and a focus on time poverty are essential not only to improve women's well-being but also to promote equality, social sustainability and development. Investment in infrastructure, equitable division of labor and supportive policies are critical to mitigating these challenges and empowering women to participate in all aspects of life.

2.3.2. The invisible costs of time poverty on physical and emotional well-being

Time poverty, the lack of adequate time for rest, personal care, and leisure due to excessive workloads, has significant socioeconomic impacts and invisible costs to individuals' physical and psychological well-being, particularly in traditional communities. This problem disproportionately affects women, who often bear the double burden of unpaid housework and economic responsibilities. The unequal distribution of time exacerbates

existing gender inequalities, hinders personal development and hinders socio-economic progress (Hyde et al., 2020; Sherka, 2023).

Time poverty directly limits economic participation, particularly for women in low-income households. The demands of unpaid care work, including childcare, cooking and collecting water or firewood, reduce the time women can spend on income-generating activities, education and skills development. This double burden not only reduces household productivity and income, but also reinforces systemic gender inequalities and slows community development (Hirway, 2015; Khan, 2020). For example, in rural areas with inadequate infrastructure, women spend a disproportionate amount of time on labor-intensive tasks such as water collection or subsistence farming, leaving little time for self-improvement or paid work.

At a societal level, time poverty excludes women from leadership, decision-making and meaningful participation in community activities. This exclusion limits women's influence in policy-making and resource distribution, perpetuating their economic marginalization. Research shows that when women are provided with time-saving tools and equitable opportunities, communities experience measurable improvements in household income, educational outcomes, and overall economic stability (Ndimele et al., 2023). Time poverty also exacerbates economic vulnerability by forcing trade-offs between basic needs. Women in low-income households often prioritize immediate domestic tasks over paid work or education, limiting their long-term economic prospects. Lower income, in turn, perpetuates cycles of poverty as households are unable to invest in sustainable solutions such as labor-saving technologies or hired help (Bardasi & Wodon, 2009).

The physical toll of time poverty is particularly evident among women in traditional communities, where manual labor dominates daily life. Tasks such as collecting firewood, carrying water and cooking on inefficient stoves expose women to chronic fatigue and health risks. For example, in regions dependent on biomass fuels, such as parts of India, Guatemala, and Burkina Faso, prolonged exposure to indoor air pollution leads to respiratory diseases such as asthma and reduced lung function (Díaz et al., 2009). The physical strain of carrying heavy loads over long distances also leads to work-related musculoskeletal injuries and chronic pain.

These health problems are exacerbated by limited access to healthcare and limited time for self-care, which further compromises women's physical well-being. Time poverty prevents women from seeking timely medical care, engaging in regular physical activity, or taking preventive health measures. In rural communities, where healthcare infrastructure is often inadequate, time lost traveling to medical facilities places additional burdens and exacerbating the physical costs of time poverty.

The impact of time poverty manifesting itself in mental fatigue, stress, anxiety and depression. The relentless cycle of housework, combined with economic pressures, leaves women with little or no time for rest or personal care. This time poverty limits their opportunities for social interaction, exacerbating psychological distress (Khatoon et al., 2023). Cultural norms and patriarchal structures compound these effects by imposing rigid gender roles that disproportionately burden women with domestic tasks. Even in households where women contribute proportionally to agricultural work with their male counterparts, women in some societies tend to do all the housework. This imbalance fosters resentment and emotional feelings of invisibility among women who feel their contributions are undervalued. Empirical studies highlight equitable task sharing, improved household technologies and subsidized childcare services have been shown to reduce time poverty and its health challenges (Stratton, 2020; Taghizadeh-Hesary et al., n.d.).

The COVID-19 pandemic highlighted the psychological burden of time poverty, as closures increased unpaid domestic responsibilities, particularly for women. Increased household stress, combined with limited access to external support systems, further reduced women's quality of life, stress the urgent need for interventions to address these hidden costs (Seedat & Rondon, 2021). The invisible costs of time poverty in such pandemics reinforce gender inequalities and limit human potential. Women's inability to participate in paid work or education perpetuates their economic dependence and reduces household resilience to poverty. Studies show that tackling time poverty can empower women to engage in economic activities, improve family well-being and contribute to community development (Jagoe et al., 2020; Marter-Kenyon et al., 2023).

Time poverty also undermines broader development goals such as gender equality, poverty reduction, and improved health outcomes. Incorporating time-use data into poverty assessments can provide a clearer understanding of these impacts and inform policies to address time-related inequalities. For example, investments in labor-saving infrastructure

such as access to clean water, energy-efficient cooking technologies, and transportation can significantly reduce women's workload and free up time for economic and social participation (Arora, 2014c; Oswald Spring, 2013).

In general, time constraints impose significant socio-economic, physical and psychological costs, particularly on women in traditional communities. The relentless demands of unpaid domestic work reduce opportunities for paid work, education and personal development, and perpetuate gender inequalities and economic vulnerability. Physically, time poverty leads to chronic fatigue, health risks and limited access to health care. Psychologically, it leads to stress, anxiety and reduced well-being due to lack of leisure time. Tackling time poverty requires a multifaceted approach, including a fair division of labor, access to labor-saving technologies, and supportive social policies.

2.4. Intra-household bargaining power and decision-making roles of men and women

Cultural norms, socio-economic factors and structural inequalities strongly influence the dynamics of intra-household bargaining and decision-making power between couples. In many rural communities, men dominate key decisions about income, resources and agricultural production, while women are relegated to traditionally female domains. Factors such as education, urbanization and women's economic empowerment can change this dynamic, but persistent gender norms limit their decision-making power. Such power dynamics within the household also have a significant impact on women's participation in local governance and leadership. Increasing women's power within the household can lead to greater participation in social institutions, community decision-making, access to education, and public roles. This equitable decision-making is critical for improving household well-being and for addressing broader economic and social inequalities.

2.4.1. Intra-household power relations: Gender roles in decision making

Intra-household decision-making dynamics are strongly influenced by cultural norms, economic conditions, and migration patterns, particularly in rural areas. In many such communities, men dominate decision-making in income-generating activities, while women's influence is often limited to traditionally female domains (Niemann et al., 2024; Shibata et al., 2020). Although men can shift decision-making responsibilities to women, this transfer of bargaining power is often constrained by factors such as age, family structure, and broader household characteristics (Ram Mohan et al., 2023). These dynamics

highlight the need for gender-responsive policies to address structural inequalities that impede equitable decision-making, especially as households face challenges such as climate change and economic transitions (Wang et al., 2020).

Women's economic participation and educational attainment significantly increase their decision-making power within households. Women who engage in market activities or control resources tend to have greater influence over decisions, particularly those related to child welfare and household well-being (Adekunle et al., 2023). Higher levels of education also increase women's authority in family and community affairs, improving their social status and reducing gender gaps in decision-making. Income and education gaps between spouses shape bargaining dynamics, with more equitable conditions empowering women to take an active role in household and community decisions (Amjad et al., 2021).

Traditional gender norms continue to reinforce men's dominance over household resources and decision-making in many rural areas. Men are often seen as the “head of the family,” giving them control over income, land, and agricultural production, while women's roles are limited to domestic matters (Tamba Issa et al., 2022). This entrenched imbalance undervalues women's contributions to agricultural and economic activities and limits their ability to influence decisions on resource allocation and major expenditures.

Household decision-making structures also have far-reaching implications for economic and human development. Decisions about education, health care and the distribution of financial resources have a direct impact on family well-being and overall economic stability. Including all household members in decision-making processes promotes social harmony and maximizes the potential of women's contributions in all areas (Singh Godara et al., 2014). However, traditional gender hierarchies remain unchallenged in policy frameworks. The perception of men as primary decision-makers extends beyond the household to village governance and community leadership. Women are often limited to decisions related to domestic or peripheral community matters (Hakim et al., 2024). In Bangladesh, for example, men control about 90% of the decision-making power in critical areas such as finance and education, while women's influence is minimal (Koli, 2024). Research shows that empowering women to participate in household decisions can lead to improved health and social outcomes. Women with greater decision-making autonomy are 20–27% more likely to use modern contraception (Bhowmik et al., 2024).

Despite their significant contribution to agricultural labor, rural women often lack authority over decisions related to agricultural production and income. Men typically dominate decisions about inputs, production strategies, and marketing, leaving women with minimal influence beyond their domestic responsibilities. In some areas, men make up to 88 percent of decisions about land use and income distribution, while women participate in less than 1 percent of such decisions (Mulugeta & Amsalu, 2014; Owitti, 2015). Women's limited decision-making power is exacerbated by mobility restrictions that require them to seek permission from men to access community resources or social networks. These restrictions limit women's economic opportunities and their access to essential services and increase their vulnerability to gender-based violence.

2.4.2. Spillover effect of household power on participating in local governance

Household power dynamics play a central role in shaping women's participation in local governance and community leadership. Studies from Ghana, Ethiopia, and Bolivia show that while women are involved in local government activities, their decision-making influence remains constrained by cultural norms and societal perceptions of their leadership abilities (Abakah, 2018; Hamlet et al., 2022). Factors such as inadequate education, limited experience, and discomfort with public speaking compound these challenges and reinforce women's subordinate roles in both the private and public spheres (Baba et al., n.d.; Bekele & Nigatu, 2023). Addressing these barriers requires systemic interventions such as quotas for women's representation, civic education programs, and strategies to challenge social stigma. Empowering women at the household level is fundamental to increasing their participation and influence in local governance.

Household bargaining dynamics strongly influence women's ability to participate in community decision-making processes. Research from Ghana shows a positive correlation between women's participation in household decision-making and their involvement in local governance, highlighting the importance of intra-household empowerment as a precursor to public engagement. However, constraints within households often reflect societal hierarchies, with limited bargaining power at home translating into reduced agency in public spaces. In contexts where women must seek permission from male family members to access resources, travel, or attend public meetings, their opportunities for civic and economic engagement are severely limited. This restriction not only hinders their participation in governance but also perpetuates broader gender inequalities.

Rural Honduras, for example, illustrates how structural constraints and traditional gender roles impede women's role in community leadership and decision-making (Hyde et al., 2020). Similarly, initiatives in India that reserve village leadership positions for women have shown positive impacts on women's labor force participation and influence over household decisions, although measuring these changes is complicated by differences in spouses' perceptions of decision-making roles (Ambler & Kieran, 2020).

Cultural norms and societal expectations remain significant barriers to women's participation in local governance. These norms limit women's mobility, access to social networks, and ability to participate in governance structures. For example, in Pakistan, despite legal mandates for women's representation, traditional values and stereotypes continue to limit women's participation in local government (Jabeen et al., 2009). Similarly, in Iraq, entrenched gender norms and stereotypes hinder women's active engagement in decision-making processes, particularly in contexts characterized by political instability and weak governance (Luisa Dietrich et al., 2021). Therefore, a multifaceted approach such as gender mainstreaming, capacity building, networking, promoting gender equality and raising awareness of the benefits of inclusive governance are critical steps towards sustainable change (Jabeen et al., 2009; Luisa Dietrich et al., 2021).

Socio-economic factors also have a significant impact on women's ability to participate in local governance. Limited access to education, information, and financial resources, coupled with domestic burdens, limit women's roles in administrative and leadership positions. In Ethiopia, these constraints have resulted in low representation of women in local government (Bekele & Nigatu, 2023). Conversely, initiatives in India to reserve leadership roles for women have increased their participation in public works and increased their influence in household decision-making. Similar trends are observed in Pakistan, where education and income are critical determinants of women's bargaining power at both the household and community levels (Amjad et al., 2021).

Programs that promote shared decision-making within households can also have positive spillover effects on community governance. For example, equitable wealth transfer initiatives have been shown to promote collective decision-making and enhance women's agency in broader social contexts (Kafle et al., 2018). Women's employment plays a key role in this dynamic, increasing their bargaining power and enabling them to assume leadership roles within and beyond the household (Sadiq et al., 2022). While the link

between household gender dynamics and public participation is well documented. Women often report higher levels of decision-making influence than their male counterparts acknowledge, indicating asymmetries in household power dynamics (Ambler & Kieran, 2020; Kamuya et al., 2017).

Strengthening women's bargaining power within households is essential to promoting their participation in local governance. Overcoming cultural and structural barriers can promote socioeconomic opportunities, and implementing inclusive policies can pave the way for more equitable representation and influence in both the private and public spheres. Therefore, future research and programming should focus on the methodological challenges and the intersection of household and community empowerment initiatives to develop holistic strategies to promote gender equality.

2.5. Gender gaps in access, participation and barriers in agricultural extension

Agricultural extension services are a cornerstone of rural development and play a key role in increasing agricultural productivity, reducing poverty, and promoting sustainable practices. These services serve as a vital link between farmers and key stakeholders, including government agencies, NGOs, and research institutions, facilitating the transfer of agricultural knowledge, skills, and resources essential for modern agriculture. Addressing food security, environmental sustainability, and gender equity, extension services not only empower rural communities but also contribute to broader socioeconomic development. With this introduction, the following themes highlight the multiple roles, challenges, and strategies for inclusive and effective extension, particularly the persistent gender inequalities that shape rural agricultural systems.

2.5.1. Agricultural extension services for sustainable rural development

Agricultural extension services are critical to improving agricultural productivity, reducing poverty, and promoting sustainable rural development. These services act as a bridge between farmers and development actors such as government agencies, NGOs, and research institutions, enabling the dissemination of critical knowledge and resources for sustainable agricultural practices (Maulu et al., 2021; Qwabe et al., 2022). They address a wide range of rural development priorities, including food security, environmental sustainability, gender equity, and access to water and health services (Oke, 2020).

The primary goal of agricultural extension services is to increase farmers' incomes through improved yields, diversification of agricultural practices, and access to markets, while promoting sustainable practices. By equipping farmers with knowledge of advanced techniques and emerging technologies such as machine learning and precision agriculture, these programs aim to empower rural communities and drive the agricultural transformation essential for poverty reduction (Bunkar et al., 2024; Kiara, 2011). They also address critical challenges such as production constraints and limited market access, which are integral to sustaining rural agricultural economies (Dowsing & Cardey, 2020; Qwabe et al., 2022).

Effective agricultural extension services are context-specific and require adaptation to the diverse social, economic, and geographic conditions of rural communities. Approaches such as Kenya's Priority Areas Model demonstrate how participatory and inclusive planning can effectively engage smallholder farmers, including marginalized groups such as women and youth, to achieve tangible results in productivity and commercial agriculture (Kiara, 2011). Participatory community planning and the formation of communities of practice are successful strategies that foster collaboration among farmers, traders, and researchers, improving problem solving and knowledge sharing (Dowsing & Cardey, 2020; Kassem, 2022). Partnerships with local governments and NGOs further strengthen these initiatives and create a collaborative framework for sustainable rural development.

Despite their importance, agricultural extension services face many challenges, particularly in reaching marginalized populations. A major barrier is the exclusion of rural women from regular interaction with extension workers. This exclusion results in inadequate practical advice for women, who often play a critical role in agricultural production (Adjoa Akpalu, 2013; Qwabe et al., 2022). In addition, the digital divide limits access to technology-based tools that could improve agricultural efficiency and sustainability, further marginalizing resource-poor farmers (Bunkar et al., 2024). Other persistent challenges include the limited accountability of extension services and their inability to adapt to the rapidly changing needs of rural farmers and markets. For example, rural communities often experience poor outreach and responsiveness from extension programs, reducing their effectiveness in addressing local concerns (Hlatshwayo & Worth, 2019).

It is therefore essential to adopt strategies that promote inclusiveness and adaptability in agricultural extension services. Gender mainstreaming should be a key focus to ensure that

women have equitable access to resources, training and other opportunities in agriculture. This requires targeted interventions to overcome cultural and structural barriers to women's participation in extension programs. Extension services also need to address broader issues of accessibility through the use of digital tools and technologies. Policies should prioritize inclusive growth and actively work to bridge gender gaps in access to extension services, recognizing the central role women play in rural agricultural systems. Equitable and responsive agricultural extension strategies play a transformative role in rural development, promoting sustainable agricultural practices, improving livelihoods and reducing poverty.

2.5.2. Structural barriers and gender gaps in agricultural extension services

Women in many regions face entrenched barriers to accessing agricultural extension services, largely due to patriarchal norms and structural inequalities. In Ethiopia, agricultural extension services often lack a gender-sensitive approach, prioritizing male-dominated areas such as cash crops and market integration while neglecting women's agricultural roles in food crops and household-focused tasks (Elias et al., 2014). Such gender-blind strategies perpetuate inequalities in access and outcomes. These gaps require the implementation of gender-responsive measures, such as increasing the number of female extension workers and designing programs that address women's specific needs. These adaptations can significantly improve women's access to resources, information, and technology, thereby promoting increased household productivity and economic resilience.

Patriarchal social structures further impede women's access to key agricultural resources, including land, credit, and extension services. Female-headed households often produce less than male-headed households due to limited access to land, livestock, and other key resources (Gebrehiwot & Ndinda, 2024). Despite legislative efforts to promote gender equality, deeply ingrained cultural norms continue to limit women's economic contributions and decision-making power. Addressing these structural inequities requires interventions that ensure equal access to productive resources. For example, increased access to economic resources correlates with women's improved social and political status where land ownership and financial autonomy enable greater participation in economy. Conversely, patriarchal systems limit women's control over resources and restrict their participation. In Ethiopia, only 15.8% of women have access to agricultural extension services compared to 70.7% of men, a stark indicator of the gender gap (Elias et al., 2014).

Educational inequalities and household responsibilities exacerbate barriers to women's participation in agricultural extension programs. In Ethiopia, heavy domestic workloads prevent many women from attending agricultural training or health and nutrition education sessions. Educational disparities exacerbate this problem, with men's primary school completion rates 10.1 percent higher than women's, which increases men's access to extension programs (Adugna, 2018; Assefa et al., 2015). As a result, men are more likely to manage high-value crops and household assets, while women are limited to garden produce and small livestock, which are typically used for subsistence. This gendered division of labor limits women's economic agency and reduces their engagement with agricultural extension services (Qwabe et al., 2022).

Cultural norms and traditional gender roles severely limit women's opportunities in agriculture. Social expectations that position men as primary decision-makers discourage women from participating in agricultural training and other activities. In patrilineal systems, such as in western Ethiopia, land inheritance is predominantly male, limiting women's access to farmland and further marginalizing them in agricultural development (Owitti, 2015). In addition, cultural taboos may discourage male extension workers from engaging with women farmers, a gap that is exacerbated by the insufficient number of female extension workers. These cultural and structural constraints perpetuate women's exclusion from key agricultural programs (Azanaw & Tassew, 2017; Sitachew et al., 2018)).

Socioeconomic challenges also hinder women's participation in agricultural extension services. Limited transportation, financial resources, and access to credit make it difficult for women to participate in training programs. Policies that require land ownership for program eligibility disproportionately exclude women, who often lack formal property rights (Etefa, 2020). Women's participation in extension services is generally limited in male-headed households because decision-making power typically rests with men (Haile, 2016; Sherka, 2023).

Both policy reforms and community-led initiatives must explicitly support women's participation by promoting inclusive extension programs and ensuring equitable access to resources. Training programs should consider women's multiple roles and social status and tailor content to their specific needs. Strengthening women's organizational capacity and integrating them into local institutions can also increase their participation in agricultural

extension. In particular, community-based initiatives should focus on challenging social norms by fostering a supportive environment that recognizes and values women's contributions to agriculture. For example, engaging male partners, challenging cultural taboos, and promoting female role models within extension services can catalyze broader social change (Azanaw & Tassew, 2017; Tarekegne & Dessie, 2020).

2.6 Patriarchal social structure and sustainable development pathways for change

Patriarchal social structures significantly impede sustainable development by perpetuating gender inequalities that limit women's autonomy, economic opportunities, and social participation (Altay, 2019; Hiller, n.d.). These structures are deeply rooted in cultural norms that enforce rigid gender roles, resulting in disparities in access to education, economic resources, and decision-making power. These inequalities create “time poverty” for women, limiting their ability to engage in education, skills development, and civic activities. This perpetuates cycles of poverty and undermines broader development goals (Bartel et al., 2022; Roig et al., 2020).

In rural areas, patriarchal norms reinforce economic marginalization by confining women to unpaid domestic work and excluding them from income-generating roles such as agricultural production. This devaluation of women's work reinforces economic dependency and limits their influence in household and community decisions (Luisa Dietrich et al., n.d.). For example, women's contributions to agricultural tasks such as weeding and post-harvest processing are undervalued, which hinders their economic mobility and reinforces systemic poverty and inequality (Leach et al., 2015).

Patriarchal systems also exacerbate environmental challenges, as women disproportionately bear the burden of managing household resources such as water and fuel. Environmental degradation and resource scarcity further burden women's responsibilities and deepen gender inequalities. Sustainable development strategies that fail to address gender dynamics risk perpetuating inequalities and undermining environmental resilience. Policies that ensure equitable access to land, resources and decision-making platforms are essential to address these interlinked challenges. Moreover, gender inequality requires the following comprehensive and transformative key strategies:

Educational initiatives that encourage critical reflection on gender norms are essential for promoting equitable social values and behaviors. Targeted awareness-raising campaigns

involving male partners can help challenge entrenched patriarchal attitudes and promote shared responsibility in both domestic and economic spheres (Yetiş & Bakırlioğlu, 2024). Hence, policies that promote equal access to education, health care, employment, and political participation are critical to achieving the Sustainable Development Goals (SDGs) and fostering inclusive development. These policies must address institutional biases and actively work to dismantle gendered power structures (Glazebrook & Opoku, 2020).

Community-based approaches that engage both men and women can promote behavior change and support sustainable development. Studies in low- and middle-income regions highlight the effectiveness of participatory initiatives in improving health, environmental practices, and local governance (Farnsworth et al., 2014; Grilli et al., 2021). Empowering women through access to education, skills training and financial resources is a cornerstone of sustainable development. Programs that increase women's leadership in resource management and decision-making not only strengthen gender equity, but also improve environmental and economic outcomes.

Achieving sustainable development requires addressing the underlying gender inequalities embedded in patriarchal systems. Education and policy reforms must be aligned with broader societal changes to break down systemic barriers and promote gender equality. Empowering women as active participants in economic, social and environmental processes is essential to achieving equitable growth and advancing global development goals.

2.7. Theoretical and Conceptual Framework of the Study

2.7.1. Theoretical insights from feminist economics and collective household model

To comprehensively analyze the gendered division of labor and time poverty within households, a combined theoretical approach based on the Collective Household Model and the Feminist Economics Model is highly recommended. The Collective Household Model focuses on the analysis of power dynamics and resource allocation within households. It emphasizes decision-making processes and the ways in which power imbalances affect the distribution of labor and resources among household members. This model is critical for understanding how negotiations within households shape gendered divisions of labor and how disparities in decision-making power perpetuate unequal workloads and access to resources.

In contrast, the feminist economic model broadens the scope by emphasizing the economic and social consequences of unpaid work and time poverty for women's well-being. It critically examines the systemic undervaluation of domestic and care work and how this contributes to gender inequalities in economic participation and personal development. Feminist economics also advocates for policies that recognize and support unpaid domestic work and challenges traditional measures of economic productivity that marginalize women's contributions.

The integration of these models provides a robust, multifaceted framework for studying gender relations within households. While the collective household model sheds light on power asymmetries within households, the feminist economic model places these findings in a larger economic and societal context. Together, they offer complementary perspectives that enhance understanding of the gendered division of labor and time poverty and provide critical insights for policy formulation.

A. Feminist Economics Perspective: Gendered division of labor and time poverty

Feminist economics challenges traditional economic frameworks that overlook the economic impact of unpaid domestic and care work, which is predominantly performed by women (Shibata et al., 2020). Unlike mainstream economic theories that prioritize paid work, feminist economics critiques the exclusion of care and domestic work from economic analyses and metrics. This omission perpetuates gender inequalities by devaluing women's labor contributions to households and society (Zachorowska-Mazurkiewicz, 2017). Failing to include these reproductive activities in economic analysis, traditional models ignore critical aspects of labor that sustain both the household and the market economy. According to (Hirway, 2015), unpaid housework constitutes 35-50% of total work time in economies but it is invisible in national statistical systems.

Central to feminist economics is the call to include unpaid work in economic measurements and policy decisions, thereby broadening the definition of "work". This perspective critiques societal norms that position women's domestic roles as secondary to paid employment, arguing that such norms exacerbate economic dependency. Limited access to paid employment and financial resources results in women weakened bargaining power within the household, compromising their economic security and autonomy. Feminist economics

explains how unpaid work reinforces structural inequalities both within households and in broader economic systems (Blecker & Braunstein, 2022; Hirway, 2015).

Feminist economists advocate for frameworks that integrate domestic work into national accounting and policymaking. Such frameworks would address entrenched gender biases and allow for more comprehensive assessments of household contributions and economic justice. They also show how inequalities in the workplace that result from these biases limit women's access to education, resources, and career development, leading to economic dependency on men. This perspective underscores the systemic nature of unpaid work and its role in perpetuating inequalities in both private and public spheres.

Therefore, proponents of the feminist economic model call for policy reforms that recognize unpaid work as an essential economic activity. Proposed interventions include paid parental leave, accessible childcare, and equal pay initiatives to create more equitable systems that value women's contributions both inside and outside the home. Analysis of the division of labor in the household, particularly through the lens of time poverty, shows how the overlap between paid employment and unpaid domestic work disproportionately affects women. Feminist economists argue that unpaid work is not just a private issue but an economic one, with far-reaching implications for women's opportunities.

Unpaid work, including childcare, housework and care for elderly family members, remains overwhelmingly the responsibility of women, even as women increasingly participate in the labor force. This double burden, in which women take on domestic responsibilities after their economic work ends, persists globally and limits their ability to pursue economic advancement, education, or personal well-being (Gorges et al., 2021). Feminist economists emphasize that these time constraints contribute to a cycle of economic dependence and limited autonomy, reducing women's earning potential and long-term economic security.

Gender imbalances in workload and time poverty are considered one of the drivers of economic inequality. Women's disproportionate allocation of time to unpaid work limits their participation in the labor market, reducing their earning potential and opportunities for career development. This unequal division of labor entrenches economic dependency within households and also leads to structural gender inequalities in the community. Studies show that the unequal division of labor and "time poverty" limit women's autonomy and

access to economic resources and community services compared to their male counterparts (World Bank, 2020). For this reason, feminist economics recognizes unpaid domestic work as a fundamental component of economic growth, social sustainability and equality.

During natural disasters such as the COVID-19 pandemic, gender inequalities in unpaid care and employment were exacerbated. Women shouldered a disproportionate share of the increased domestic responsibilities during the lockdown, particularly care responsibilities (Augustine & Prickett, 2022). This exacerbated time poverty as they faced greater challenges in balancing productive work and family responsibilities (Power, 2020). In addition, incidents of domestic violence increased in such situations. These trends underscore the need for policies that recognize and value unpaid care work, promote a more equitable distribution of domestic work, and support women's economic empowerment. Interestingly, countries led by women showed more favorable outcomes in managing the crisis (Kabeer et al., 2021; Power, 2020).

Feminist economic perspectives on the gendered division of labor provide critical insights into the structural barriers that perpetuate women's time poverty. Reframing unpaid work as economic activity, feminist economists advocate for policies that address the unequal distribution of household responsibilities. Structural changes such as equitable parental leave policies, accessible childcare services, and cultural shifts that challenge traditional gender norms around domestic work are essential. These policies have the potential to alleviate women's time poverty, promote a more equitable division of labor, and advance gender equality in both the private and public spheres.

B. Comparative analysis of household models: Unitary and collective household model

The unitary and collective household models provide different frameworks for analyzing the dynamics of intra-household resource allocation and decision making. The unitary model, referred to as the "benevolent dictator" model, conceptualizes the household as a single entity in which resources are pooled and distributed to maximize common welfare. This framework assumes that all household members have homogeneous preferences and make decisions collectively for mutual benefit. While convenient for theoretical and policy purposes, the unitary model has been criticized as an oversimplification. It neglects individual preferences, resource inequalities, and gender dynamics within households (Apps & Rees, 2010; Bolt & Bird, 2003). The assumption of homogeneous preferences in

the unitary model fails to capture the complex gendered nature of the division of labor and resource allocation (Saelens, 2019).

In contrast, the collective household model considers the different welfare levels of individual members. This framework assumes that household decisions are the result of bargaining and compromise. With this assumption, welfare outcomes reflect the economic contributions, needs, and preferences of each member. By recognizing heterogeneity within households, collective models, especially those that incorporate cooperative bargaining, provide a clear understanding of power relations and their impact on decision-making (Chavas et al., 2018). Empirical evidence suggests that households that adopt a collective approach achieve a more equitable distribution of resources that can improve well-being and household stability (Chuta, 2017).

The collective model provides a more nuanced framework for analyzing the division of labor within households. In this approach, the well-being of each household member is shaped by his or her income share and bargaining power. This model is based on economic models, such as the bargaining model that emphasize the significant influence of bargaining power on the division of labor in the household. Members who contribute more economically typically bargain for less involvement in domestic tasks and a greater allocation of resources according to their preferences (Stratton, 2020). A simplified mathematical representation of welfare under the unitary model assumes that all pooled resources benefit household members equally:

$$W_{M, F, K} = \frac{Y_M + Y_F}{N} \dots\dots\dots 1$$

$W_{M, F, K}$ denotes the welfare of men, women, and children, Y_M = the male income, Y_F = the female income; and N the total number of household members. While the unitary household model is simple to apply, it ignores individual income contributions and control over resources (Falkingham & Baschieri, 2005). It has been widely criticized for oversimplifying the complexities of household dynamics, such as differing preferences and power imbalances among individual members. Feminist critiques emphasize that this model fails to account for the disproportionate distribution of labor and resources and its impact on gender inequalities within the household. In contrast, the collective household model considers the contributions, needs, and bargaining power of each member. This approach allows for a more detailed analysis of intrahousehold inequalities and provides

insight into how these dynamics shape resource allocation, financial decisions, and the division of labor. The collective model adjusts for this by bearing in mind the retained and pooled portions of income:

$$W_M = \frac{(1 - C_M)Y_M}{M} + \frac{C_M Y_M + C_F Y_F}{N} \dots\dots\dots 2$$

In the same vein, the welfare of women can be described as:

$$W_F = \frac{(1 - C_F)Y_F}{F} + \frac{C_F Y_F + C_M Y_M}{N} \dots\dots\dots 3$$

Here, C_M and C_F represent the shares of male and female income aggregated for the household, which represents a more individualized view of welfare. Within the collective household model, cooperative and non-cooperative frameworks provide insights into household decision-making processes, particularly how resources are allocated to maximize overall household utility. In cooperative models, household members bargain and decide which resources to pool and which to keep individually. In this context, relative bargaining power plays a key role in determining the degree of control each member has over household resources. Conversely, non-cooperative models assume that individuals prioritize self-interest over collective benefit, often leading to less efficient and equitable outcomes.

A bargaining approach to household decision-making aligns with the feminist perspective by emphasizing how individuals' well-being is shaped by their relative positions within the household. Empirical evidence suggests that when both men and women retain partial control over their income, women are more likely to allocate their resources to children and shared household needs (Pierotti et al., 2022). This is indicative of maternal altruism, where women sacrifice their own well-being to benefit other household members.

Economic theories also examine how households allocate resources, time, and income to optimize total utility. In particular, the allocation of time within households is influenced by opportunity costs: individuals with longer working hours in the labor market are likely to spend less time on domestic tasks. As a result, inequalities in the division of household labor arise from different opportunity costs and entrenched social norms. For example, working women often experience time poverty as they balance the demands of paid employment with unpaid domestic work. This reflects structural gender inequalities and the decline in women's overall well-being (Stratton, 2020).

Therefore, the analysis of household models, especially collective approaches, has important policy implications for promoting a more equitable distribution of household work and resources. Moreover, recognizing and valuing domestic work could improve both equity and economic efficiency within households. This perspective is particularly relevant in contexts where women, especially in rural households, work alongside their husbands but lack control over critical resources such as labor, time, and income (Pierotti et al., 2022).

2.7.2. Conceptual framework for the study

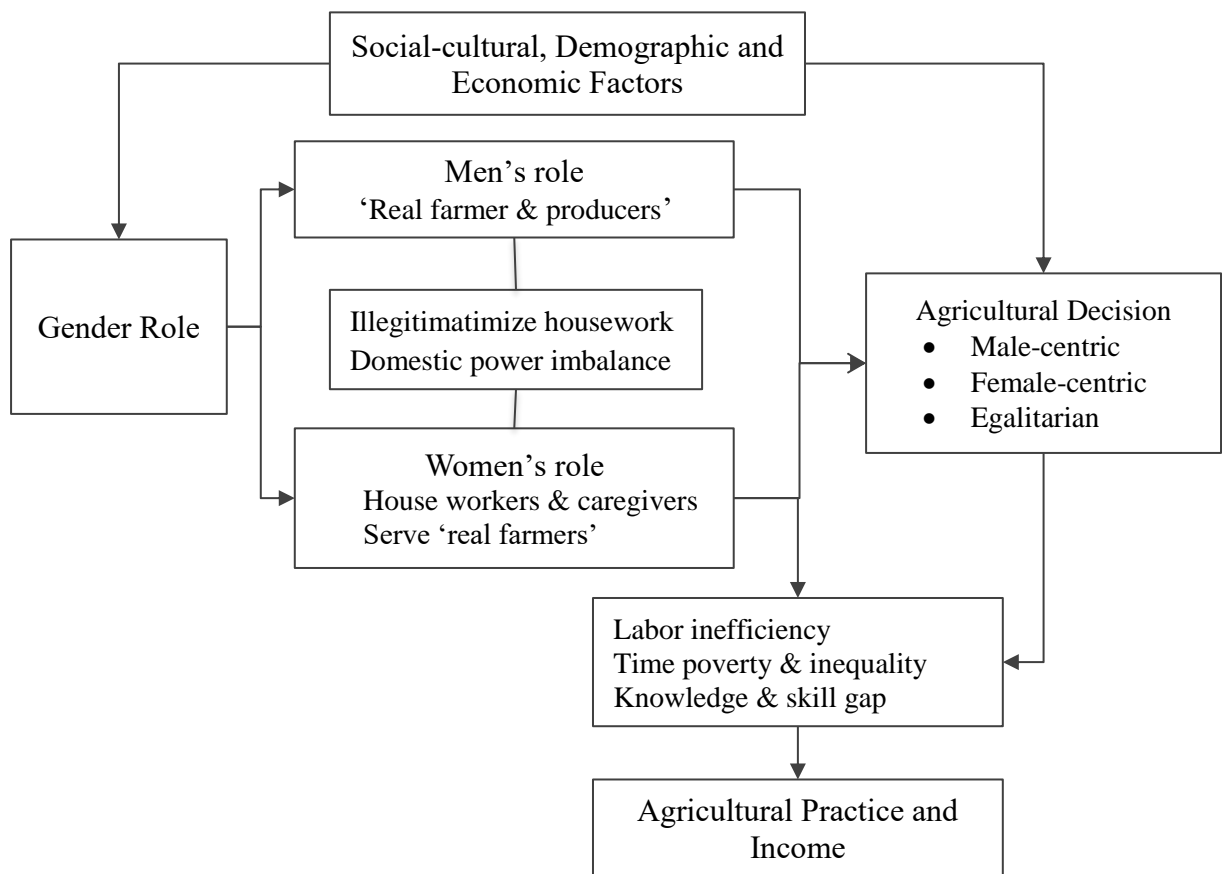
The conceptual framework of this study shows how intra-household gender dynamics, particularly the gendered division of labor, time poverty, and household decision-making, shape agricultural productivity and individual well-being in rural settings. By integrating insights from feminist economic theory and household economic models, this framework synthesizes the implications of these gender dynamics for broader socioeconomic outcomes. In traditional rural societies, entrenched cultural norms perpetuate rigid gender roles that assign different responsibilities and behaviors to men and women. Men are typically seen as the primary breadwinners and decision-makers, performing economically valued tasks such as plowing, while women are burdened with unpaid domestic labor, including caregiving, food preparation, and fuel collection. These roles, ingrained through early socialization, reinforce power hierarchies that limit women's access to education, resources, and opportunities.

As a result of the unequal division of household labor, time poverty is a critical dimension within this framework, indicating the "double burden" faced by rural women who must balance agricultural work with extensive domestic responsibilities. This double burden leaves little time for rest, personal development or participation in more income-generating activities. As a result, it has a significant impact on women's quality of life, health and ability to engage in social and economic activities. Including time poverty as a key variable helps to understand how the unequal distribution of unpaid work perpetuates gender inequality and women's economic dependence. Its consequences are linked to stress, physical strain and social exclusion, further marginalizing women both in the household and in the community.

The gendered division of labor and time poverty have a significant impact on agricultural productivity. Excluding women from key agricultural decisions, such as adopting

technologies, accessing training, or participating in markets, results in the underutilization of their labor and expertise. This exclusion reduces productivity and compromises the sustainability of agricultural practices, as women's contributions are essential for effective land and crop management. In addition, the burden of domestic responsibilities prevents women from fully engaging in agricultural tasks, leading to inefficiencies such as post-harvest losses and reduced yields.

Figure 2.2: Conceptual framework of the study



Another key factor is the dominance of men in household decision-making, particularly in patriarchal societies where men control decisions related to finances, land use and major expenditures. This concentration of authority marginalizes women's voices, disregards their knowledge and contributions, and limits their ability to influence resource allocation and the division of labor. Such dynamics not only impede women's potential to improve household and agricultural outcomes, but also deepen their socio-economic vulnerability. By analyzing decision-making structures, the framework shows how domestic power imbalances affect women's autonomy and the overall functioning of rural households.

Based on feminist economic theory, this research framework could portray contemporary work patterns by emphasizing the economic importance of unpaid work and advocating for an equitable distribution of resources within households. Feminist economics broadens the scope of analysis by examining how the division of labor, time constraints, and decision-making power intersect to influence sustainable development. This perspective is essential for understanding how intra-household dynamics shape agricultural productivity and social welfare while advocating for gender-responsive policies that recognize unpaid work and improve equitable distribution of resources. Initiatives such as subsidized child care, accessible training programs, and recognition of unpaid domestic work can reduce women's workload, increase their economic independence, and improve agricultural productivity.

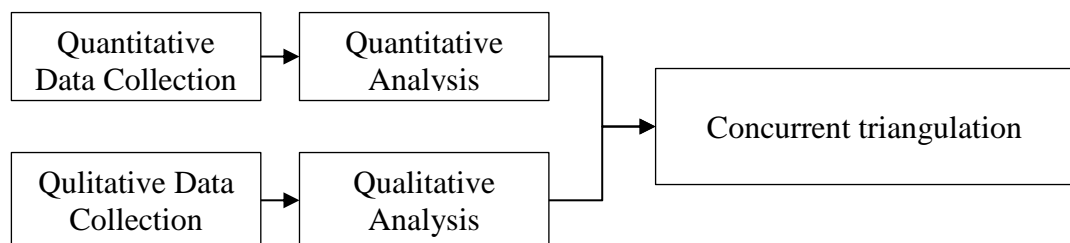
3. RESEARCH DESIGN AND METHODOLOGY

3.1. Research Design and Approaches

Research in gender dynamics and other social sciences often requires a multifaceted approach to gain a comprehensive understanding of complex phenomena. One such approach is mixed methods research, which helps to leverage the strengths of both quantitative and qualitative approaches, resulting in a more holistic and robust analysis. The quantitative approach can sometimes fail to capture the details that characterize the topic under study. Therefore, the in-depth exploration, interpretation, and contextualization of human experiences adds depth and richness to our social understanding. In essence, this study uses a mixed research approach in a cross-sectional design. It focuses primarily on the quantitative domain, where statistical data provides a structured and measurable basis for exploring qualitative narratives. Specifically, it is used to quantify the gender distribution of hours worked and time poverty, as well as their impact on the agricultural income of rural households. This extensive dataset, collected using survey methods with a sample size of 400, provided statistical trends and insights using structured questionnaires with closed and open-ended questions.

The qualitative method used group discussions and observational data to capture perspectives and subjective experiences regarding division of labor, decision-making roles, and time use patterns. The qualitative results thus acted as a validation mechanism for the quantitative results, examining the same research questions to elaborate on the trends and patterns identified quantitatively.

Figure 3.1. Research Design



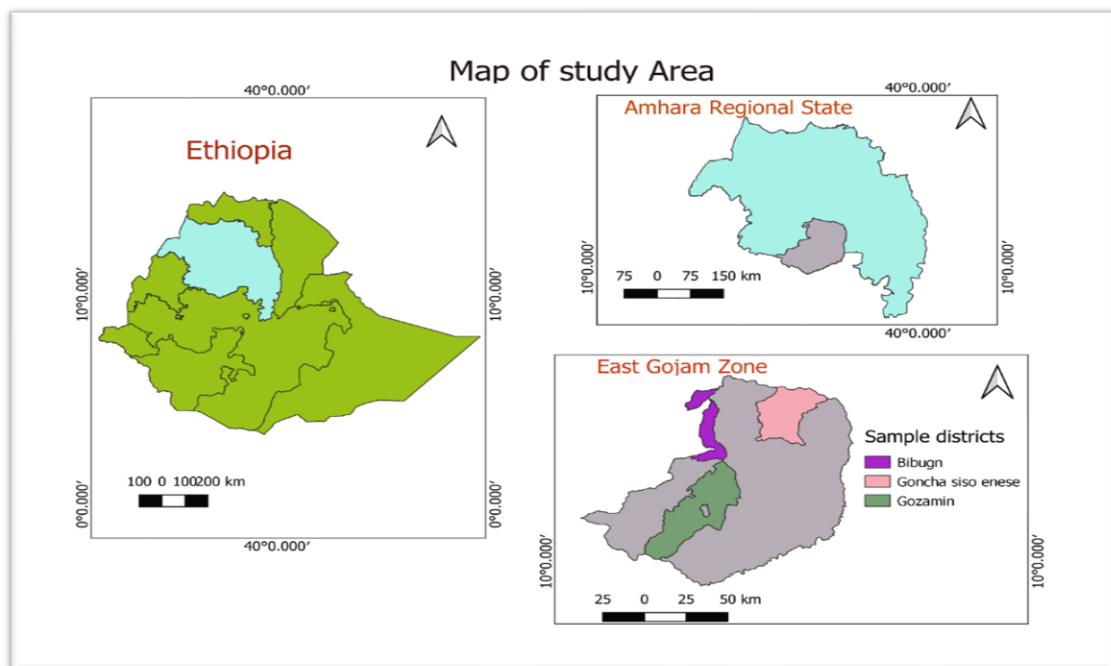
During the analysis phase, a convergent mixed methods approach was used to identify common themes between the quantitative and qualitative data. First, the quantitative data were analyzed using both inferential and econometric statistical techniques. The qualitative data were then analyzed through deductive coding and identification of overarching themes

to contextualize the quantitative data set. Finally, both sets of findings were integrated into the discussion section of the dissertation, where any discrepancies were described and explained descriptively to ensure a comprehensive interpretation of the findings. This triangulation of the evidence is intended to strengthen the credibility and validity of the results. This means that the quantitative results provided us with a numerical representation of the variables, while the qualitative component allowed us to examine the underlying reasons and motivations behind statistical results.

3.2. Description of the Study Area

The study was conducted in Gozamin, Bibugn and Goncha Siso Enesie Woredas in East Gojjam Zone of Amhara Regional State (Figure 3.2). East Gojjam Zone is one of the 11 administrative zones in the region. There are 18 woredas and 4 municipalities. Debre Markos is located 300 km northwest of Addis Ababa and 265 km from the regional capital Bahir Dar. The zone is geographically located at 10°20' N latitude and 37°43' E longitude and is bordered by South Gondar to the north, the Oromia Region to the south, South Wollo to the east and the West Gojjam Zone to the west. The topography of Eastern Gojjam includes four agroecological zones: Kola (lowlands with low rainfall and high temperatures), Woina-Dega (middle highlands), Dega (highlands with cooler temperatures) and Wirch (highlands with very cold conditions and high rainfall) (Mengist, 2017).

Figure 3.2. Map of study areas



Agriculture is the main rural livelihood in the zone, which is characterized by a mixed rain-fed farming system. It is the agricultural potential area where surplus is produced in the region. Teff is the dominant cereal crop grown in the zone. Other important crops after Teff in terms of area are wheat, corn, barley, field beans, sorghum, sesame and haricot beans (Ferede et al., 2020). Grain dominates the agricultural landscape in the zone and serves as the country's most important staple food and export commodity (FDRE, 2003). However, the administrative zone faces significant challenges related to climate change and its impacts on agriculture (Mulugeta et al., 2017). Recurrent droughts, erratic rainfall and high temperatures are affecting food security and agricultural practices. Onarheim et al., (2020) also highlights the need for area-specific adaptation strategies, with factors such as age, gender, family size and farm income influencing farmers' decisions.

Demographically, according to the 2014 census, East Gojjam had a population of 2.45 million, of which 1,199,952 were male and 1,252,006 were female. About 91.29% of the total population lives in rural areas where agriculture is the main source of income. The population density averages 89 people per square kilometer with significant variation between woredas. Hulet Eji Enesie has the highest population, Bibugn the lowest, and the highlands are more densely populated than the lowlands (EIAR, 2020). Specifically, in the study districts, Goncha Siso Enese has a rural population of 141,960 and an urban population of 7,690; Gozamin has a rural population of 130,300 and an urban population of 2,590; and Bibugn has a rural population of 75,760 and an urban population of 6,240. A total of 348,020 people lives in these districts in the countryside and 16,520 people in the city, much less, which reflects the rural and agricultural character of the region.

Table 3.1. Population distribution in the selected districts

No.	Districts	Male		Female		Total	
		(in thousands)		(in thousands)		(in thousands)	
		Rural	Urban	Rural	Urban	Rural	Urban
1	GonchaSiso Enese	70.52	3.83	71.44	3.86	141.96	7.69
2	Gozamin	65.17	1.18	65.13	1.41	130.30	2.58
3	Bibugn	37.09	3.10	38.67	3.14	75.76	6.24

Source (Population and Households Statistics of Ethiopia - Public Knoema Data Hub, 2019)

3.3. Data Collection Methods and Procedures

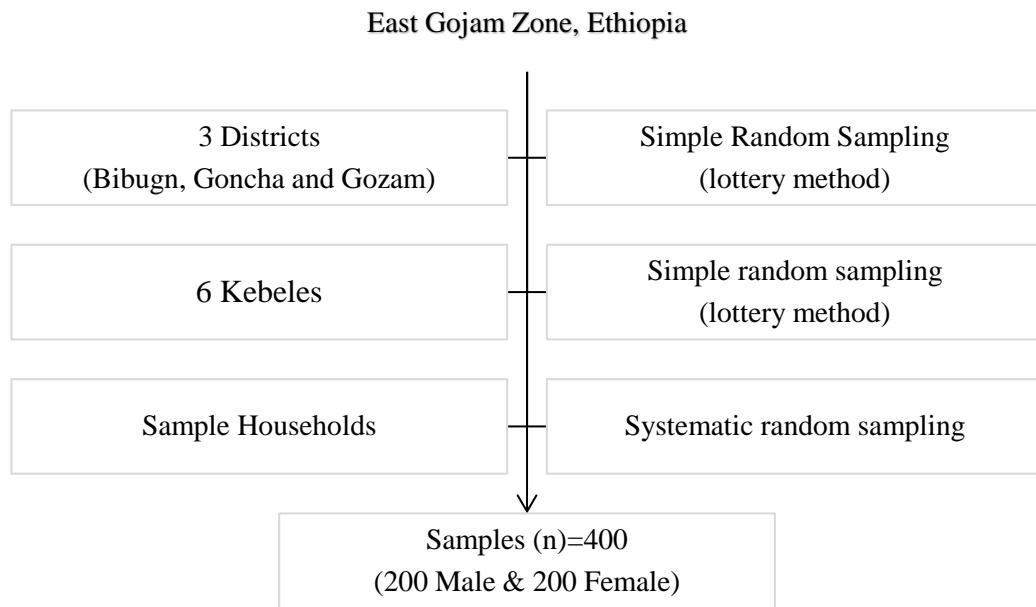
3.3.1. Quantitative research methodology

This research focuses on smallholder farmers and their roles in both domestic and agricultural activities. The main objective is to examine the distribution of work time between men and women in farm households and their respective roles. Although there may be several family members in each household, the target population of this study was married couples, regardless of age. Therefore, the unit of analysis for this study is the individual farmer: married men and women engaged in agricultural production in rural kebeles. In particular, the study examines their roles, decision-making powers, distribution of working hours, and experiences of time poverty. Finally, it aims to provide insights into how these gender dynamics affect the agricultural practices of smallholder farmers.

Sampling and sample size determination: To ensure a representative sample of the total population, a multistage random sampling technique was used. The sampling technique consists of several stages. In the first stage, three districts (Bibugn, Goncha Siso Enese and Gozamin) were selected from 14 districts using simple random sampling, specifically the lottery method. Second, six rural kebeles (districts/small administrative units) were randomly selected from the preselected districts using the lottery method. The sampling frame was the list of kebeles in each district, in which the names of the kebeles were numbered on folded pieces of paper and then thoroughly shuffled. The researcher randomly selected pieces of paper until a total of six kebeles were selected.

In the final step, representative farm households and single couples were selected from each kebele. Each rural kebele in the selected districts was assumed to have similar socioeconomic characteristics. Therefore, we decided to enumerate an equal number of male and female participants from each of the six kebeles, regardless of population proportion. The enumerators and kebele leaders helped to compile the list of farmers. The farmers' registration file, available at the respective administrative offices, served as the sampling base. Once the population size of each kebele was known, the next step was to determine the sample size for the survey.

Figure 3.3. Graphical representation of sampling methods



The total population in the selected districts was 347750. Hence, the sample size was determined by using the following formula;

$$Sample\ size\ (n) = \frac{N}{1 + N(e^2)} = \frac{347750}{1 + 347750(0.05)^2} \approx 400$$

n = is the sample size

N = total number of populations in six kebeles

e = maximum variability or estimated standard error (5%)

A systematic random sampling technique was then used to select a total of 200 men and 200 women from the 6 kebeles. Purposive sampling was used for the qualitative data, particularly the focus group discussions. Eight participants were selected from the survey respondents in six kebeles based on their interest and availability to participate in the discussions.

Quantitative data collection methods: A structured questionnaire was used as the primary data collection tool to collect quantitative data on socioeconomic characteristics, gender division of labor, and time allocation to activities. The questionnaire consisted of three main parts. The first part focused on socioeconomic and demographic characteristics of rural household members, such as age, gender, education level, economic activity, and household composition. The second part focused on gender relations in the household, covering aspects such as gender division of labor, decision-making power, access to extension services and rural facilities. The final part focused on recording individual daily

activities and time spent, including the type of agricultural and domestic work performed by each gender and the time required to complete each task. Respondents were asked to recall their activities in different time frames and to report the time spent on activities in the 24 hours prior to the day of the interview, covering typical agricultural and domestic tasks such as cultivation, marketing and care, etc.

To ensure clarity and consistency, the questionnaire was initially prepared in English, translated into the local language (Amharic) for data collection, and then back-translated into English for analysis. A pre-test was conducted two weeks prior to data collection with 14 farmers to assess the content validity, flow, structure and length of the questionnaire. It also helps to assess respondent fatigue and determine fieldwork logistics. Feedback from the pretest was incorporated into the final revision of the instrument.

Enumerator training and data collection procedures: Enumerators received extensive training on the study objectives, ethical considerations, and data collection protocols. All enumerators had at least a bachelor's degree and previous experience in rural extension as development workers, which gave them familiarity with local communities. This background facilitated effective administration of the questionnaire through face-to-face interviews with household members. Interviews were scheduled based on respondents' availability, and men and women were interviewed privately to ensure independent and unbiased responses. The principal investigator supervised the data collection process to ensure consistency, reliability, and adherence to the study's methodological standards.

3.2.2. Qualitative research methods and procedures

This study uses a multifaceted approach to qualitative data collection, utilizing focus group discussions (FGDs) and field observations to gain an in-depth understanding of the research topic. These methods were chosen for their flexibility and ability to provide holistic insights into the complex gender dynamics within rural Ethiopian households. After completing the surveys in each target kebele, assistant data collectors identified and nominated participants for FGDs. A purposive sampling method was used, with development workers in each kebele facilitating the selection process. There were two main inclusion criteria: First, participants had to belong to the target group of the study population: farmers, living in rural areas, over 15 years old, and married. Second, they had to have participated in the questionnaire survey that preceded the qualitative data collection. This resulted in 48

participants, evenly divided between men and women, with the majority between the ages of 20 and 64. Educational levels were generally low, with only seven participants (six men and one woman) having completed primary school.

Once viable members were identified, facilitators contacted them two days before the meetings to confirm their interest and availability, and verbal consent was obtained. Group discussions were held at various times between October 2022 and January 2023 at a location suggested by the development agents, usually farmer training centers, to ensure accessibility for both participants and facilitators. Prior to the discussion, the participants were fully informed about the objectives of the discussion and additional verbal consent was obtained. To protect the privacy of the participants during the recording, note-taking and analysis process, each individual “i” was assigned a unique code, “Gpi” for group participant, based on their order in the note list.

The principal researcher then led the primary moderation of all discussion sessions, while assistant moderators recorded the proceedings in each kebele. The discussions were intense and each session lasted on average about two hours. Interviews were conducted in Amharic using checklists with open-ended questions on key research themes such as gendered division of labor, decision-making, control over resources, time poverty, individual well-being, and farm income. The key questions were based on the theoretical backgrounds of gender inequality, male dominance, and women's workload in the study area. The researcher and the assistant data collector worked together to update these discussion guides. To enhance understanding, exploratory questions were occasionally asked during the discussions. Any discussion topics or ambiguities deemed relevant during the quantitative data collection were included in this guide. Finally, the audio recordings were transcribed into text and translated into English, and the resulting transcriptions were checked against the original recordings to ensure accuracy.

Participants were first asked to identify activities common to men, women, or both in rural households and to observe changes in gender roles. The Likert scale, used as a psychometric tool, allowed participants to express their level of participation in some activities. Sticks of different sizes helped them to measure their level of participation. This was followed by a discussion of decision-making patterns regarding household activities, ownership of assets, access to extension services, control over income, etc. Finally,

participants were asked to identify factors that contribute to the division of labor between men and women in agricultural households.

In addition to face-to-face interviews with farmers, the lead author and development staff collected observational data by visiting nearby villages and farmer training centers. Field notes were taken during the various stages of data collection, providing contextual insights into the discussion situation and also documenting the stories in the kebele. Field observation, in conjunction with other research methods, included indirect observation and careful listening during informal conversations, allowing for a comprehensive assessment of participants' impressions or emotional states. The focus of the field observation and document key issues such as the division of labor, gender dynamics and the distribution of household resources and services between men and women. This practical observation able to understand the broader context of farmers' lives including their personal and professional cultures. During the process, detailed notes were taken immediately upon leaving the field sites. In some cases, with the explicit permission of the farmers involved, relevant photographs were taken to record various activities.

In addition to the primary data collection, there was a continuous process of referencing secondary sources from the preparation of the proposal to the completion of the analysis paper. During the fieldwork, the researcher collected various articles, statistical information, and reports from local administrative offices to supplement the data collected during the fieldwork. Secondary data mainly included the historical context of the study area, population size and distribution, economic activities and agricultural practices. This complementary data collection process allows us to examine the root causes of gender dynamics within a household in terms of division of labor, time poverty, and household decision making, while assessing the impact on farm income.

3.4. Data Processing and Analysis Strategies

After completing the household survey, the questionnaire was carefully reviewed to ensure the completeness and accuracy of the raw data. The quantitative data were then coded, categorized, and entered into SPSS version 25. The data were then exported to Stata version 15 for comprehensive analysis. Before further analysis, basic statistical methods were used to check response rates and assess the consistency of responses. This step was critical to maintaining data quality throughout the processing phase. Descriptive statistics such as frequencies, percentages, means, and crosstabs were used to present the distribution of

activities, hours worked by gender, and socioeconomic characteristics within farm households. Descriptive results were presented using tables, pie charts, and graphs to provide a concise overview of the variables studied. It was contextualized within the broader framework of gender inequality in rural Ethiopia and made connections between dynamics within a household and structures at the societal level.

A summary table was created to illustrate the daily activities of women and men and the duration of these activities. This table provides valuable information on the relative workload by gender based on the time spent on different activities. The analysis considered gender differences in the average time spent on various domestic and agricultural activities and considered demographic characteristics such as household composition, marital status, education and economic status. Depending on the appropriateness of the measurement scale and the relationships between variables, non-parametric tests of statistical significance were used to analyze time distribution and income patterns.

3.4.1. Analysis of household decision-making: A multinomial regression approach

Within farming households, husbands and wives make decisions about farming either together or separately, depending on the bargaining power they have in the family. Here, joint decision-making does not necessarily imply equality, as one partner may have more influence than the other. The degree of influence and bargaining power of men and women is likely to be influenced by various household characteristics and socio-economic factors. Therefore, one of the questions offered to each spouse was: 'How would you describe the extent of your decision-making role in all agricultural areas, especially in relation to income? This was recorded on a Likert scale with 1 being very low and 5 being very high.

For the analysis, three categories were then created: those where decisions were made jointly, those where the husband had more input, and those where the wife had more input. As the dependent variable, household decision-making, thus has three possible categories, a multinomial logit model was used to analyse how the socio-economic characteristics of the study population affected the likelihood of household decision-making falling into one of these outcomes. Multinomial logistic regression is a type of predictive analysis used when the dependent variable has more than two categories. It extends the principles of binary logistic regression to allow for multiple categories of outcomes (Gujarati & Porter,

2009). Therefore, this model is relevant to this study as it allows for the incorporation of feminist insights by classifying the household as patriarchal, matriarchal and egalitarian.

When the dependent variable has M categories, M-1 equations are estimated, using one category as the baseline or reference category against which the other outcomes are compared (Williams, 2018). For the degree of decision-making (y) in a given household (i), the three possible outcomes are: mainly men/husband (y_i = h), where household decision-making is skewed towards the husband; mainly women (y_i = w), where household decision-making is skewed towards the wife; or joint decision making/egalitarian (y_i = j), where both the husband and wife have made decisions in a collaborative manner. The observed outcome of the degree of decision-making (y_i) in household i is given by:

$$y_i = X_i \beta + \epsilon_i \quad \dots \dots \dots (1)$$

where X is a vector of socio-economic characteristics that affect the bargaining power of a husband and wife in a given household deciding on agricultural activities. Thus, the observed outcome, say a joint decision by a husband and wife (y_i = j), occurs if the probability of j occurring is greater than h and w. That is;

$$Prob (y_i = j | X) = Prob \{y_i^j > \max (y_i^h, y_i^w)\} \quad \dots \dots \dots (2)$$

Similarly, for y_i = h and y_i = w, it is specified as:

$$Prob (y_i = h | X) = Prob \{y_i^h > \max (y_i^j, y_i^w)\} \quad \dots \dots \dots (3)$$

$$Prob (y_i = w | X) = Prob \{y_i^w > \max (y_i^j, y_i^h)\} \quad \dots \dots \dots (4)$$

Assuming that ε_i are mutually independent, 0 ≤ Prob (y_i = r) ≤ 1 for all r = j, h, w; and ∑Prob (y_i = r) = 1; the probability that a specific decision-making outcome (say, j) is observed in a given household is given as:

$$Prob (y_i = j | X) = \frac{\exp (x_i \beta_j)}{\exp (x_i \beta_j) + \exp (x_i \beta_w) + \exp (x_i \beta_h)} \quad \dots \dots \dots (5)$$

Considering the joint decision-making as a reference category, the probability that the degree of decision-making skewed to men or husband (h) is given as:

$$Prob (y_i = h | X) = \frac{\exp (x_i \beta_h)}{1 + \exp (x_i \beta_h) + \exp (x_i \beta_w)} \quad \dots \dots \dots (6)$$

Similarly, the probability that the intensity of decision- making on agriculture skewed to the woman (wife) is given as:

$$Prob (y_i = w | X) = \frac{\exp (x_i\beta_w)}{1 + \exp (x_i\beta_h) + \exp (x_i\beta_w)} \dots\dots\dots (7)$$

Simple multinomial regression techniques were first used to identify significant predictors, before multinomial logistic regression was used to assess their combined effects. Several predictors were tested in the model, namely age, education, duration of marriage, time spent on crop production and household chores, time poor, access to extension services, expert visits, regular participation in public meetings and source of agricultural information (Table 4.20). The MLR produces two odds ratios for each predictor variable. The significant variables were then entered into a multinomial logistic regression model to determine their predictive power for the outcome variable.

3.4.2. Analysis of time poverty and farm income

Time Use Surveys (TUS) provide critical insights into how individuals allocate their time and thus serve as the basis for the analysis of time poverty. This analysis begins with the establishment of a time poverty threshold based on TUS data, which serves as a benchmark for distinguishing between time-poor and non-time-poor households (Dong & An, 2015). Unlike traditional income or consumption measures, time poverty provides a unique lens through which to assess individual well-being, particularly in agricultural households where excessive working hours reduce leisure and rest, exacerbating labor exploitation and gender-based violence (Bardasi & Wodon, 2009).

3.4.2.1. Analysis of work intensity and severity using time poverty indicators

To determine the threshold for time poverty, the average daily hours worked by the population were calculated by aggregating the total hours spent in different activity categories and dividing the total by the number of respondents (CSA, 2013). Using these data, the lower threshold for time poverty was calculated by adding a quarter of the mean to the average daily hours worked by the population, while the upper threshold was derived by adding half of the mean to the average daily hours worked. A person is considered time poor if the total number of hours worked per day (ti) exceeds a given poverty threshold (t).

Once the time poverty thresholds were established, three key measures were used to assess differences in workload between men and women: the poverty index/time poverty rate (P_0), the time poverty gap (P_1) and the square of the time poverty gap (P_2).

P_0 measures the exact proportion of the population above the time poverty threshold:

$$P_0 = N_p / N \text{ -----1}$$

Where N_p is the number of time-poor individuals (number of people for whom $t_i > t$) and N is the size of the population.

Indicator P_1 (poverty gap) quantifies the depth of poverty by estimating the distance above the threshold. This measure represents the average time gap relative to the poverty line (t) and serves as an indicator of the intensity of time poverty.

$$P_1 = \frac{1}{N} \sum_{i=1}^{N_p} \left(\frac{t_i - t}{t} \right) \text{ -----2}$$

Similarly, the squared poverty gap (P_2) is an important indicator for assessing the severity of poverty and inequality among the time poor. It gives more weight to those further above the time poverty line. By squaring the average time deficit with the at-risk of poverty threshold, this measure assigns higher values to those who are more overburdened. In order to compare gender differences, this measure was calculated separately for men and women.

$$P_2 = \frac{1}{N} \sum_{i=1}^{N_p} \left(\frac{t_i - t}{t} \right)^2 \text{ -----3}$$

3.4.2.2. Determinant factors of time poverty by gender

A logit regression model was used to identify the key determinants of the likelihood of experiencing time poverty by gender. This model included personal, household and social variables as predictors, allowing for an in-depth examination of factors contributing to time poverty at the individual level. Each individual was classified as either time poor or not time poor based on the total number of hours worked per day relative to predefined lower- and upper-time poverty thresholds. Specifically, the dependent variable (y_i) was binary, taking the value of 1 if the individual was classified as time poor and 0 otherwise.

The regression equation (Model 1) included a comprehensive set of explanatory variables. It included demographic variables such as age (x_1) and education level (x_2), as well as socioeconomic factors such as religious affiliation (x_3), farm size (x_4), household income (x_5), family size (x_6), and number of dependents categorized as children under 5 (x_7),

children aged 6-14 (x_8), and elderly aged 65 and older (x_9). To account for possible gender differences in time allocation and work demands, separate regressions were run for men and women. The analysis used the lower time poverty line (10.5 hours per day) as a reference point.

$$\log\left(\frac{p_i}{1-p_i}\right) = \beta + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_kx_k + e$$

where P_i is the probability that individual i is time-poor; x_1, x_2, \dots, x_k are the explanatory variables (predictors); β_0 is the intercept; $\beta_1, \beta_2, \dots, \beta_k$ are the coefficients associated with each explanatory variable and e is the error term.

Marginal effects, along with their corresponding standard errors and significance levels, were calculated separately for men and women in order to capture gender-specific determinants of time poverty. These marginal effects represent the average change in the probability of experiencing time poverty as a result of a change in the predictor variables. For dummy variables, the marginal effect indicates the change in probability when the variable goes from 0 to 1. For continuous variables, it reflects the change in probability associated with a one-unit increase in the variable. The focus of the analysis is primarily on these marginal effects rather than on the raw coefficients, as they provide a more intuitive interpretation of the relationship between the predictors and the likelihood of time poverty.

4.5.3. Identify determinant factors of agricultural income

The fourth objective of the study was to analyze the functional relationship between farm income and time allocation along other predictors through linear regression analysis. This approach allows modeling and quantifying the relationships between agricultural income (Y) and various explanatory variables in the East Gojam Zone. Therefore, the linear regression model included a number of explanatory variables, including:

Variable	Description
Age (x_1)	Respondent's age (years)
Education (x_2)	Highest education level attained
Family Size (x_3)	Total household members
Child under 5 (x_4)	Presence of child under 5 (Yes = 1, No = 0)
Distance to market (x_5)	Distance to the nearest market in kilometer
Land ownership (x_6)	Owens land (Yes = 1, No = 0)

Land size (x_7)	Agricultural land size in hectares
Access to extension services (x_8)	Receives extension services (Yes = 1, No = 0)
Frequency of expert visits (x_9)	Frequency of agricultural expert visits
Radio ownership (x_{10})	Owens a radio (Yes = 1, No = 0)
Hours spent on household chores (x_{11})	Hours spent on household work
Time poverty status (x_{12})	Classified as time poor (Yes = 1, No = 0)

Encapsulating these predictors, the general form of the linear regression equation is:

$$Y = \beta + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_kx_k + e$$

Where

- Y is the agricultural income,
- β_0 is the intercept,
- $\beta_1, \beta_2, \beta_3, \dots, \beta_k$ are the coefficients representing the influence of each independent variable $X_1, X_2, X_3, \dots, X_k$
- e is the error term, capturing the variance unexplained by the model.

This analysis aimed to elucidate how demographic, economic, and time-use factors collectively influence agricultural income. In particular, by incorporating time poverty and household task allocation as predictor variables, the model provides insights into the trade-offs and constraints faced by smallholder farmers and helps to triangulate with qualitative narratives.

3.4.3. Qualitative data analysis

This study used thematic and quotation analysis to systematically examine data from focus group discussions and field observations. The method involved identifying and interpreting recurring themes to generate meaningful insights. The first step was to transcribe all audio recordings and integrate relevant field notes into the written data set. Recordings were meticulously transcribed, capturing spoken words verbatim and refined to remove extraneous language while ensuring coherence. Field notes were categorized and aligned with the primary discussion transcripts to provide a contextual framework. Through repeated readings of the transcribed material, the researcher gained familiarity with the data and a comprehensive understanding of the issues discussed.

Common categories and themes were identified by analyzing the participants' contributions to each research question. Thematic analysis included areas such as participation in

household decision-making, access to resources and services, valuation of domestic and caregiving activities, gendered division of labor, workload disparities, and violence against women. Each theme identified was coded and labeled using QDA Minor Lit software for systematic organization. Summaries of findings were prepared under specific subcategory headings to identify similarities and differences between participant groups.

Coding was then a critical part of the analysis and was conducted in two stages: initial line-by-line coding to organize the data into categorized segments. The codes identified included concepts such as gendered division of labor, household decision-making, time poverty, underreporting of violence, access to resources, and coping mechanisms. Iterative comparisons of data, codes, and categories facilitated the development of conceptual abstractions and improved the coherence of the analysis.

Synthesized qualitative findings were further analyzed in conjunction with the quantitative data, allowing for triangulation and a holistic understanding of the research findings. The qualitative analysis primarily explored gender inequalities, power dynamics, and systemic social injustices in rural society. The reliability of the study was ensured by the theoretical saturation achieved through triangulation with quantitative results. The involvement of local extension workers with aware of socio-cultural norms and gender values further enriched the analytical depth of the study.

3.5. Ethical Consideration

Ethical issues were fundamental to the successful conduct of the research and ensured the safety of both researchers and research participants. The study began with a comprehensive survey of the study kebeles. During this phase, the researcher visited and interacted with community leaders, development officers and district authorities to obtain approval for the study. The nature and purpose of the study were explained in detail to the respondents and district administrators. Ethical approval was then obtained from the district administrators and verbal consent was obtained from each farmer who agreed to participate in the study. Participants were informed that they were free to withdraw or discontinue their participation at any time without prejudice. They were also assured that their identities would not be mentioned in the results and that strict confidentiality were maintained throughout the data collection process.

4. QUANTITATIVE ANALYSIS: RURAL SOCIO-ECONOMIC STRUCTURES AND GENDER DYNAMICS

This chapter provides a basic analysis of the demographic and socioeconomic characteristics of the study population, which is essential for contextualizing the findings in the following sections. It begins with a detailed demographic profile of the participants, including age, gender, marital status, family size, and education level. It also analyzes the economic conditions and living standards of the participants through indicators such as access to energy and water, land ownership, and farm income, which are critical factors in rural areas where agriculture is a predominant source of livelihood. The chapter also examines intra-household division of labor, household decision-making processes, and time allocation by gender and type of activity, providing a basis for understanding gender roles within the study population. Descriptive and inferential statistical methods, including frequency tables, pie charts, graphs, and bar charts, are used to present these data and set the stage for more in-depth analysis in subsequent sections.

4.1. Demography characteristics, economic features and accessibility of rural facilities

This section provides an in-depth analysis of the socio-economic characteristics of the study population in the Western Amhara Region. The survey, conducted among 386 participants (197 men and 189 women), focuses on critical variables that shape intra-household gender dynamics and time poverty, with direct implications for agricultural productivity. These variables include demographic and socioeconomic characteristics, landholding patterns, household income distribution, and access to rural energy and water resources. Each variable reveals complex linkages between gender roles, resource allocation and household workloads.

Demographic factors such as age distribution, education levels, and marriage patterns are important for examining household decision-making and labor contributions in agriculture. Land size and income levels underscore the economic constraints that disproportionately affect rural women, limiting their access to productive resources and opportunities for economic empowerment. Meanwhile, dependence on traditional energy sources and the time-consuming nature of collecting water and firewood underscore the disproportionate impact on women and limit their ability to participate fully in economic activities.

Therefore, the following content details how these interrelated variables shape gender dynamics within traditional rural households.

4.1.1. Demographic characteristics of study population: Age, education, family composition and religious affiliation

A total of 400 farmers were initially recruited for the survey, with 386 participants fully completing the interview questionnaires, resulting in a high response rate of 96.5%. A small proportion of questionnaires (3.5%) were excluded due to incomplete responses, resulting in a final data set of 386 respondents, equally divided between men (197) and women (189). As shown in Table 1, the demographic breakdown shows that the majority of participants (79.5%) fall into the 25-54 age group, with 77.7% male and 81.5% female. It is noteworthy that in the 15-24 age group there are more women (7.4%) than men (0.5%), while in the 65+ age group there are only men (7.1%). The average age of male respondents is 45.46 years, compared to 38.01 years for female respondents, indicating a significant age difference between genders within the study sample.

Table 4.1. Age distribution of survey participants in the study area (n=386)

Age distribution	Male (n=197)		Female (n=189)		Total	
	Count	%	Count	%	Count	%
15-24 years	1	0.5%	14	7.4%	15	3.9%
25-54 years	153	77.7%	154	81.5%	307	79.5%
55-64 years	29	14.7%	21	11.1%	50	13.0%
65 years and above	14	7.1%	0	0.0%	14	3.6%
Mean	45.46		38.01		41.89	
Minimum	22		18		18	
Maximum	81		63		81	

A significant proportion of the study population has no formal education, with women disproportionately affected: 66.7% of women have no formal education, compared to 51.8% of men. Educational attainment is generally higher for men at both primary and secondary levels. Specifically, 40.6% of men and 29.6% of women have completed primary education, while 38.8% of men and 31.8% of women have completed secondary education. The proportion of people with 9 to 12 years of education is relatively low, but slightly higher for men (6.6%) than for women (3.7%). Higher education (diploma or higher) is

almost non-existent; only 1.0% of men and no women have reached this level. Regarding religious affiliation, the majority of respondents (89.9%) identify as Orthodox Christians. Smaller percentages are Muslim (7.0%) or Protestant (3.1%), with minimal differences between genders.

Table 4.2. Gender disparities in educational attainment and religious affiliation (n=386)

Education and religion		Male (n=197)		Female (n=189)		Total	
Education status	No studies	102	51.8%	126	66.7%	228	59.1%
	Grade 1_8	80	40.6%	56	29.6%	136	35.2%
	Grade 9_12	13	6.6%	7	3.7%	20	5.2%
	Diploma & above	2	1.0%	0	0.0%	2	0.5%
Religion	Orthodox	179	90.9%	168	88.9%	347	89.9%
	Muslim	12	6.1%	15	7.9%	27	7.0%
	Catholic	0	0.0%	0	0.0%	0	0.0%
	Protestant	6	3.0%	6	3.2%	12	3.1%

The length of marriage varies widely among respondents: 36.7% were married between 21 and 30 years, indicating long-term marital stability within the community. More women (31.1%) than men (21.8%) have been married for 11-20 years, while more men (23.3%) than women (13.9%) have been married for over 31 years. Family size is typically four to five members, accounting for 47.5% of respondents, reflecting a traditional extended family structure in the study area.

Table 4.3. Trends in marital duration and family structure among surveyed farmers

		Male (n=197)		Female (n=189)		Total	
Years in marriage and family size		Count	%	Count	%	Count	%
Years in marriage	≤10 years	28	14.5%	40	22.2%	68	18.2%
	11-20 years	42	21.8%	56	31.1%	98	26.3%
	21-30 years	78	40.4%	59	32.8%	137	36.7%
	≥31 years	45	23.3%	25	13.9%	70	18.8%
Family size	≤3 members	27	13.9%	42	22.5%	69	18.1%
	4-5 members	82	42.3%	99	52.9%	181	47.5%
	6-7 members	76	39.2%	42	22.5%	118	31.0%
	≥8 members	9	4.6%	4	2.1%	13	3.4%

Family composition was considered one of the most important variables in studying gender relations in the household, since the division of labor and the burden of housework can be influenced by the number of family members, their ages, and the presence of relatives such as children or elderly people. The survey therefore included questions on the number of children and elderly relatives in each household. As shown in Table 4.4, 256 respondents reported having an average of 1.26 children under the age of five. In addition, 285 respondents had children between the ages of 5 and 14, and 217 had children between the ages of 15 and 18. Older family members aged 65 or older were less common, with only 35 respondents reporting an average of 1.29 older family members.

Table 4.4. Average number of children and elderly dependents within rural households

Sex of respondents		<5 years	5-14 years	15-18 years	≥65 years
Male	Mean	1.29	1.60	1.49	1.30
	Number	136	163	128	27
	%	53.1%	57.2%	59.0%	77.1%
Female	Mean	1.23	1.62	1.43	1.25
	Number	120	122	89	8
	%	46.9%	42.8%	41.0%	22.9%
Total	Mean	1.26	1.61	1.47	1.29
	Number	256	285	217	35
	%	100.0%	100.0%	100.0%	100.0%

In summary, the demographic characteristics of the study population show different patterns in terms of age, education, religion, marital status and family structure. Although men and women were almost equally represented, there were significant differences in age and education, with women generally being younger and less formally educated than men. While religious affiliation was predominantly Orthodox Christian, suggesting cultural homogeneity, marriage patterns reflected both stability and gender differences in marriage duration and age at family formation. Family size tended to be larger, with family composition influencing gender roles in the household, particularly as women often assumed greater domestic responsibilities.

4.1.2. Landholding and household income in rural farming households

This section assesses agricultural income and economic status in rural communities in the Eastern Amhara Region where agriculture is the main source of income. Income from

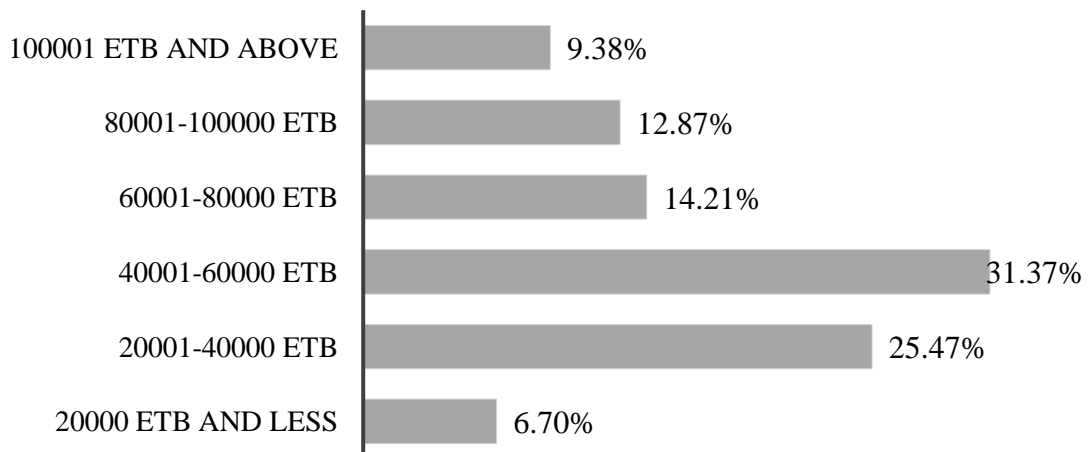
agricultural activities is a key indicator of socio-economic conditions in these communities (Degefa, 2020). The study presents estimates of annual agricultural income from the previous growing season, focusing on income from crop production. To estimate the cumulative monetary value of their products, farmers were asked to recall and estimate the amount of crops they produced in quintals. The study found that the average annual income of the respondents was 61,265.36 Ethiopian Birr, which was significantly lower than the national average income of 95,820 Birr (Prates et al., 2021).

As shown in the figure below, only a small proportion of farmers fall into the lowest income category, earning ETB 20,000 or less per year. About a quarter of farmers earn between ETB 20,001 and ETB 40,000 per year, which likely indicates that a significant proportion of the population is struggling to meet basic needs and may be in severe poverty. The largest group of farmers falls into the middle-income category, earning between ETB 40,001 and ETB 60,000 per year. This modest income may cover basic needs but leaves limited resources for reinvestment in their businesses.

A smaller group of farmers earn between ETB 60,001 and ETB 80,000, indicating a relatively stable income level that provides a situational standard of living and some financial security. Some farmers earn between ETB 80,001 and ETB 100,000 and are expected to enjoy greater economic stability in their farming activities. The smallest group, with an annual income of more than ETB 100,000, represents the top earners in the study. This income level ensures a comparatively higher standard of living and may allow for start-up investments in agriculture or other ventures.

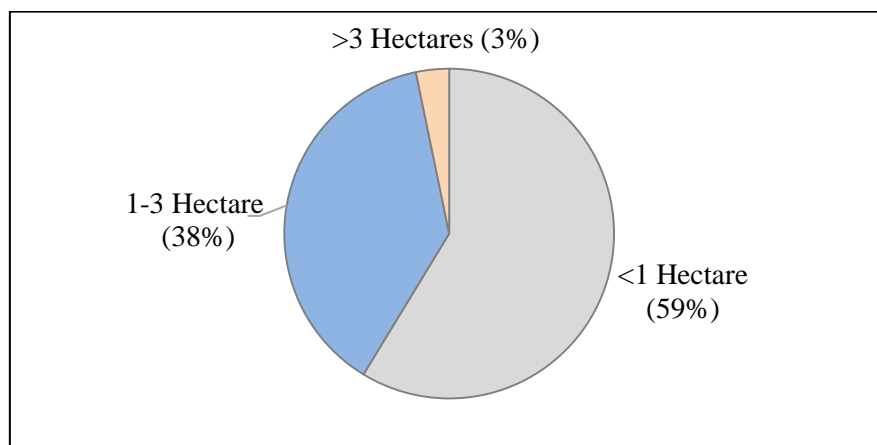
In summary, the income distribution of these rural farmers reflects significant income disparities, with the majority falling into the middle-income category but a significant number falling into both the lower and upper-income categories. This diversity in income levels suggests an uneven economic landscape influenced by factors such as land size and access to rural services. The finding that the average income remains below the national level highlights the need for targeted interventions to improve the economic well-being of these communities and to promote a better understanding of the underlying social and economic structures.

Figure 4.1. Average annual agricultural income of farm households



Land ownership and plot size were key variables in this study, as they have a significant impact on livelihoods and economic status in rural Ethiopia. In East Gojam, where this study was conducted, 59% of the 339 surveyed households own less than 1 hectare of agricultural land, indicating that the majority of the rural population has access to relatively small plots of land. Small landholdings limit agricultural productivity by limiting crop diversity and reducing the feasibility of modern agricultural techniques. The second largest group, consisting of 38% of households, owns between 1 and 3 hectares. Only 0.6% of households own more than 3 hectares. The average farmland size in the sample area was 1.14 hectares, slightly higher than the national average of 0.96 hectares per household (Headey et al., 2014). Regional differences in average farmland size further illustrate this figure: an average of 1.15 hectares in Oromia, 1.09 hectares in Amhara, and only 0.49 hectares in the SNNP region (Headey et al., 2014). This regional disparity highlights the importance of considering local population density and land availability when assessing agricultural capacity and economic potential in rural Ethiopia.

Figure 4.2. Farmland size per households in hectares



4.1.3. Rural energy and water supply in the study area and other impacts

This section examines rural energy and water supply in the three study districts of Gozamin, Bibugn, and Goncha Siso Enese, located in the East Gojam Administrative Zone. Energy, water, and transportation are critical to the well-being of rural communities, and their accessibility can have significant socioeconomic impacts, as shown by Degefa (2020). In all three districts, firewood is the main source of energy for cooking, indicating a heavy reliance on traditional biomass. This dependence has wider environmental impacts, including deforestation and degradation of natural resources. Modern energy sources such as electricity and biogas are comparatively low in all districts. Biogas consumption is slightly higher, but still limited: 6.3% in Gozamin, 6.2% in Bibugn, and 3.8% in Goncha Siso Enese. These data suggest that while some alternative energy initiatives are underway, their reach remains limited.

In terms of water sources, spring water is most commonly used for drinking and washing, especially in Gozamin (55.6%) and Goncha Siso Enese (52.3%), with Bibugn slightly lower at 44.6%. Well water is more common in Bibugn (30.0%) than in Gozamin (13.7%) and Goncha Siso Enese (20.8%) due to differences in groundwater availability and infrastructure. The use of river water is notable in Goncha Siso Enese (19.2%) and Bibugn (13.1%), possibly due to lack of access to clean water sources. Ponds serve as a water source in Gozamin (18.8%), but are less used in Bibugn (12.3%) and Goncha Siso Enese (7.7%), indicating seasonal water availability and the need for improved water management.

When it comes to transportation, most households rely on human labor to collect firewood and water. The use of handcarts is minimal, with very low proportions in Gozamin (0.8%) and Goncha Siso Enese (1.5%). This reliance on manual transport places a burden on individuals, especially women and children, and negatively impacts their health and productivity. The continued reliance on traditional energy sources, coupled with the physical labor required to transport firewood and water, highlights the need for measures to promote sustainable energy and improve infrastructure. Improving access to clean water and reducing the physical burden of resource collection are essential steps to improving the quality of life in these rural areas. In addition, investments in renewable energy technologies and modern transportation systems could bring significant benefits to these communities.

Table 4.5. Main sources of rural energies and water in the rural area of study districts

Water and energy facilities		Gozamin		Bibugn		Goncha Siso		Total	
		Count	%	Count	%	Count	%	Count	%
Main source of energy	Firewood	108	85.7%	108	83.1%	118	90.8%	334	86.5%
	Electricity	3	2.4%	8	6.2%	2	1.5%	13	3.4%
	Biogas	8	6.3%	8	6.2%	5	3.8%	21	5.4%
	Other	7	5.6%	6	4.6%	5	3.8%	18	4.7%
Main source of water	Spring	65	55.6%	58	44.6%	68	52.3%	191	50.7%
	Well	16	13.7%	39	30.0%	27	20.8%	82	21.8%
	River	14	12.0%	17	13.1%	25	19.2%	56	14.9%
	Pond	22	18.8%	16	12.3%	10	7.7%	48	12.7%

Availability and estimated time required to collect firewood and water in round-trip

Accessibility and proximity are crucial factors for rural women, who disproportionately bear the burden of household chores such as collecting water and firewood (World Bank, 2013). These activities not only affect work-life balance, but also have broader economic implications, as the time spent on them directly reduces the availability of labor for agricultural work. To assess this, respondents were asked to estimate the average time spent collecting water, firewood, and traveling to the local market. Table 3 shows the estimated average time spent on these three household tasks in the three study districts.

The majority of farmers in all three districts spend less than an hour collecting firewood. Bibugn has the highest share (78.8%), followed by Goncha Siso Enese (73.7%) and Gozamin (66.1%). However, a significant proportion of respondents in Gozamin (11.6%) and Goncha Siso Enese (3.5%) reported spending more than two hours on this task, suggesting that collecting firewood may be more time-consuming than fetching water. Most respondents in all districts spend less than an hour collecting water, with only a small percentage (in each district) spending more than two hours on this activity.

Regarding market access, the majority of respondents in Gozamin (69.4%) and Bibugn (71.5%) can make the round trip to the local market in less than two hours. In contrast, a significantly lower percentage of respondents in Goncha Siso Enese (47.2%) report similar travel times, suggesting that market access is more time-consuming in this district. Furthermore, 45.7% of respondents in Goncha Siso Enese take 2-4 hours to reach the

market, a significantly higher figure than in the other two districts. In Gozamin, 18.5% of respondents travelled more than four hours. These results show that while most rural residents spend relatively short time in collecting firewood and water, the time required to access local markets varies significantly. This variability suggests differences in infrastructure and accessibility between rural districts.

Table 4.6. The estimated time spend to access firewood, water and market in rural districts

Estimated travel time in a round trip		Gozamin		Bibugn		Goncha Siso	
		Count	%	Count	%	Count	%
Time to collect firewood	<1 hour	74	66.1%	89	78.8%	84	73.7%
	1-2 hours	25	22.3%	23	20.4%	26	22.8%
	>2 hours	13	11.6%	1	0.9%	4	3.5%
Time to fetch water	<1 hour	83	83.0%	94	79.0%	100	81.3%
	1-2 hour	15	15.0%	20	16.8%	18	14.6%
	>2 hours	2	2.0%	5	4.2%	5	4.1%
Time to access local market	<2 hours	86	69.4%	93	71.5%	60	47.2%
	2-4 hours	15	12.1%	33	25.4%	58	45.7%
	>4 hours	23	18.5%	4	3.1%	9	7.1%

In summary, this study highlights major challenges in rural energy and water supply in the three districts of East Gojam. Heavy reliance on traditional biomass for cooking, such as firewood, and limited use of modern energy sources, such as electricity and biogas, have serious environmental and socio-economic impacts, including deforestation and increased workloads, especially for women and girls. Water sources also vary widely. Many households rely on spring, well and river water, which is often of poor quality. In addition, the amount of time spent on collecting firewood, water and traveling to markets differs across depend on accessibility and infrastructure. These findings underline the urgency of investing in sustainable energy solutions, access to clean water, and improved transportation to alleviate the physical burdens of rural communities.

4.2. Gender Roles and Intra-Household Labor Division in Farming Households

The normative gender role has significant implications for access to resources, division of labor, and entitlement to productive services both within households and in society. In rural Ethiopia, gender roles in agricultural activities vary widely, with men and women performing different household tasks. The study examined these roles by surveying farmers

about their participation in various household and agricultural tasks, grouped into three main categories: crop production, livestock production, and household maintenance and care. Respondents' contributions were categorized as “mostly men,” “mostly women,” or “contributions of both sexes with shared responsibility.

4.2.1. Gender roles in farming activities in smallholder farming households

The data in Table 4.7 illustrate the gendered division of labor in agricultural production in six rural villages. The results show that men are predominantly involved in physically intensive activities such as plowing (97.9%), transportation (67.1%), and selling/marketing (42.7%). In contrast, women are more likely to be involved in fertilizing (16.1%), preparing containers (27.7%), and weeding and hoeing (11.7%). However, a significant proportion of agricultural tasks are shared, with harvesting (84.8%), land clearing (82.4%) and weeding (81.3%) reported as shared responsibilities.

Certain activities show a subtle gender division. For example, planting and sowing is mainly attributed to men (55.2%), although a significant proportion of respondents (43.0%) perceive it as a shared task, while only 1.8% associate it mainly with women. Similarly, fertilizer application is largely considered a collective responsibility (74.7%), but 16.1% of respondents identify it as primarily a female task. Harvesting shows similar trends, with 84.8% of respondents acknowledging joint participation of men and women. Women's participation is particularly notable in container preparation, where 27.7% of respondents identified it as a female task. However, the majority (56.4%) consider it a joint task and 15.9% associate it with men. Threshing follows a similar pattern, with 62.4% identifying it as a shared task. Conversely, transport remains a predominantly male-dominated activity, with 67.1% of respondents associating it with men.

Overall, while traditional gender roles persist, there is significant cooperation between men and women in many aspects of farming. Women tend to be more involved in tasks that require preparation and maintenance, while men dominate activities that require physical strength or movement, such as plowing, transportation and marketing. The high percentage of shared responsibility in most tasks indicates a high degree of cooperation in farm work, reflecting the need for both men's and women's contributions to farming.

Table 4.7. Gender role for crop production in the six rural villages (Kebeles)

Agricultural activities	Mainly men		Mainly women		Shared responsibility	
	Count	%	Count	%	Count	%
Land clearing	56	14.5%	12	3.1%	318	82.4%
Ploughing	378	97.9%	0	0.0%	8	2.1%
Planting/sowing	213	55.2%	7	1.8%	166	43.0%
Weeding & hoeing	27	7.0%	45	11.7%	313	81.3%
Fertilizer application	35	9.1%	62	16.1%	287	74.7%
Harvesting	46	12.0%	12	3.1%	324	84.8%
Container preparation	61	15.9%	106	27.7%	216	56.4%
Threshing	125	32.4%	20	5.2%	241	62.4%
Transporting	259	67.1%	52	13.5%	75	19.4%
Selling/marketing	165	42.7%	91	23.6%	130	33.7%

4.2.2. Gender role for livestock production in six rural villages (Kebele's)

The data on gender roles in Table 4.8 show that while certain livestock production activities are carried out predominantly by women or men, many tasks are considered to be shared responsibilities, such as crop production activities. For example, milking and processing milk is largely done by women (46.1%). Similarly, feeding animals is mainly seen as a shared responsibility (69.0%), although men contribute more (26.3%) than women (4.7%). Herding is overwhelmingly seen as a shared responsibility (81.2%), with only 17.3% of respondents associating it mainly with men. This suggests that while livestock mobility and management require significant involvement of both sexes, men are more likely to take on this role than women. Feed preparation follows a similar pattern, with 77.8% of respondents identifying it as a shared responsibility and 14.3% associating it with men.

In contrast, barn cleaning is highly gendered, with an overwhelming 86.5% of respondents identifying it as a female responsibility. This reflects traditional perceptions that associate women with cleaning and maintenance tasks in livestock production. The relatively low percentage (12.0%) of respondents who see it as a shared responsibility further underscores this gender imbalance.

In summary, the data suggest that while certain livestock-related activities, such as cleaning stalls and milking, are strongly associated with women, men tend to play a more significant

role in tasks requiring mobility, such as herding. However, a large proportion of activities, particularly feeding and fodder preparation, are seen as shared responsibilities. This indicates the cooperative nature of livestock management in rural households. Nevertheless, the persistence of traditional gender roles in certain tasks points to entrenched divisions of labor that continue to shape the dynamics of agricultural work.

Table 4.8. Gender roles in livestock production in six rural villages (kebeles)

Activities related to livestock production	Mainly men		Mainly women		Shared responsibility	
	Count	%	Count	%	Count	%
Milking & processing	22	5.7%	177	46.1%	185	48.2%
Animal feeding	101	26.3%	18	4.7%	265	69.0%
Herding animals	66	17.3%	6	1.6%	310	81.2%
Forage preparation	54	14.3%	30	7.9%	294	77.8%
Barn cleaning	6	1.6%	332	86.5%	46	12.0%

4.2.3. Gender role for housework and care activities in rural districts

The data in Table 4.9 highlight the gendered division of labor in household maintenance and care activities in the rural community. The results show that women are overwhelmingly responsible for most household tasks, with particularly high participation in cooking and food processing (83.9%), cleaning the house (90.6%), washing clothes and dishes (63.5%), and preparing local beverages (93.2%). These tasks are traditionally perceived as women's roles, revealing deeply ingrained gender norms that associate domestic responsibilities with women.

Despite the predominance of female involvement in household activities, some tasks are more evenly distributed. For example, buying food is considered a shared responsibility by 56.5% of respondents, although 38.0% still attribute it primarily to women. Similarly, collecting firewood is considered a joint task by 55.8% of respondents, indicating that both men and women contribute to this labor-intensive activity. Fetching water, an essential household task, is also largely done by women (68.1%), although a smaller proportion (28.8%) consider it a shared task. Men's participation in domestic work remains minimal, with very low participation in cooking, food preparation, house cleaning and childcare. In particular, childcare and care of the elderly, while still largely seen as a female responsibility (54.8%), has the highest level of shared participation of all tasks (43.1%).

Overall, the data underline the persistence of a gendered division of labor in the household, with women assuming the bulk of domestic and care responsibilities. However, the presence of shared tasks, particularly in activities such as food shopping, firewood collection and childcare, indicates some male participation and a possible transition towards a more equitable distribution of household tasks. Nevertheless, this study underscores the need for further social change towards gender equality in domestic work.

Table 4.9. Gender role for household maintenance activities in the six rural Kebeles

Household maintenance & care activities	Mainly men		Mainly women		Shared responsibility	
	Count	%	Count	%	Count	%
Care of children & elders	8	2.1%	211	54.8%	166	43.1%
Cooking & food processing	0	0.0%	324	83.9%	62	16.1%
House cleaning	8	2.1%	349	90.6%	28	7.3%
Fetching water	12	3.1%	262	68.1%	111	28.8%
Collecting firewood	22	5.7%	148	38.4%	215	55.8%
Washing cloth & dishes	25	6.5%	244	63.5%	115	29.9%
Purchasing foodstuff	21	5.5%	146	38.0%	217	56.5%
Pounding grains	20	5.2%	294	76.2%	72	18.7%
Preparing local beverages	2	0.5%	357	93.2%	24	6.3%

4.2.4. Experiences and perspectives of women on forced labor and domestic violence

The data presented in Table 4.10 show the prevalence of work-related violence and forced labor among rural women in the study area. A remarkable 9.0 percent of women reported being forced to work by their spouses, and 10.6 percent reported being subjected to physical violence for disobedience. This data shows the disturbing levels of abuse in marital relationships that place women in vulnerable positions. Because of the physical violence and forced labor, about 7.4% of women reported that the hectic pace of their daily activities negatively affects their health. This result indicates that the heavy workload faced by rural women contribute to a wider range of health problems. In addition, 13.8% of women reported suffering from stress associated with their working conditions. Although the majority of women in the study do not face immediate serious challenges, these findings suggest that issues such as forced labor, physical violence, and the psychological strain of work are widespread in rural communities and point to deeper systemic gender inequalities.

Table 4.10. Work-related violence, forced labor, and well-being of rural women

Work-related violence and consequences	Yes		No	
	Count	Percentage	Count	Percentage
My spouse forces me to work	17	9.0%	172	91.0%
My spouse beats me for disobeying his orders	20	10.6%	169	89.4%
The hectic pace of work is affecting my health	14	7.4%	175	92.6%
Developed stress and depression because of work	26	13.8%	163	86.2%

4.3. Work Hour Distribution and Time Poverty by Gender in Farming Households

4.3.1. Working hours distribution in different category of activities by gender

Table 4.11 provides an overview of the average daily time spent by men and women on different activities and shows significant gender differences in time use. On average, men spend more time growing plants (6.34 hours) and caring for animals (1.63 hours) than women, who spend 5.43 hours growing plants and 1.28 hours caring for animals. However, women spend significantly more time on domestic activities than men. They work an average of 11.52 hours per day, while men work 10.22 hours. This data indicates that women spend almost twice as much time on housework as men. The extra hours spent on household tasks such as fetching water, collecting firewood and cooking leave women with little time for rest or leisure. As a result, this busy schedule contributes to higher levels of stress, fatigue and possible negative health effects. It may also limit women's opportunities to engage in other productive or social activities, further exacerbating gender inequality in rural areas.

Table 4.11. Average daily hours spent for various activities by sex of respondents

Time-use activities	Male		Female		Total	
	Mean	SD	Mean	SD	Mean	SD
Time for animal care	1.63	.82	1.28	.93	1.46	.89
Cropping time	6.34	1.63	5.43	1.78	5.89	1.76
Time to collect firewood (Hrs)	.79	.60	1.11	.66	.95	.65
Time to fetch water	.59	.52	.79	.47	.69	.51
Care for children and elders	.45	.57	.96	.66	.70	.67
Cleaning and washing time	.29	.43	.82	.43	.55	.50
Cooking and beverage preparation	.13	.34	1.13	.60	.62	.70
Total working time	10.22	2.60	11.52	3.26	10.86	3.01

Table 4.12 shows the gender division of labor in rural households based on various socioeconomic factors such as age, education, household structure, and access to resources. Relative to age, younger men (under 25) spend an average of 3 hours per day on housework and 6.25 hours on agricultural work. In contrast, older men (25 and over) spend slightly less time on housework (2.25 hours) but more time on agricultural work (7.98 hours). Younger women spend 3.46 hours on housework and 5.79 hours on farm work, while older women (25 and over) spend more time on both activities: 4.92 hours on housework and 6.78 hours on farm work. These data show that women's increasing domestic workload with age, combined with the relatively constant nature of men's domestic responsibilities, contributes to a widening gender gap in household responsibilities.

Looking at education levels, the data show that men with no formal education spend 2.28 hours on housework and 7.76 hours on agricultural work, while men with primary education spend slightly less time on housework (2.22 hours) but more time on agricultural work (8.20 hours). Women with no formal education spend 4.95 hours on housework and 6.74 hours on agricultural work, while women with primary education spend slightly less time on housework (4.53 hours) and almost as much time on agricultural work (6.64 hours). These suggest that education has a small impact on women's household workload, slightly reducing the time spent on housework. Moreover, women with young children spend more time on housework (4.64 hours) than women without children (5.12 hours).

Proximity to markets also affects time allocation. Men with access to markets within 5 km spend more time on agricultural work (8.36 hours) but slightly less time on housework (2.31 hours) than men living further from the market (2.14 hours on housework and 7.29 hours on agricultural work). For women, proximity to markets has a more significant impact on housework: those living near markets spend less time on housework (5.03 hours) than those living farther away (4.56 hours), while their time spent on agricultural work is almost the same regardless of proximity (6.92 vs. 6.45 hours). This suggests that easy access to markets may reduce women's time spent on housework.

Women who attend public meetings spend more time on both housework (4.81 hours) and farm work (7.83 hours) compared to non-participants. The time spent by men on housework and farm work shows no significant difference between participants and non-participants. This indicates that women's participation in public meetings may be associated with greater decision-making power, leading them to take on more productive tasks while their domestic

workload remains high.

Finally, the influence of decision-making power within the household is crucial. In households where men make farm decisions, women spend 4.79 hours on housework and 6.67 hours on farm work. In contrast, in households where women have more decision-making power, women spend slightly more time on both housework (5 hours) and farm work (7 hours). Interestingly, men in these households also spend slightly more time on agricultural work (8.17 hours) when women have more decision-making power.

In summary, the results show significant gender differences in time use across all socio-economic variables, with women consistently spending more time on both domestic and agricultural tasks than men. The data also show that age, education, proximity to markets, energy sources, and household decision-making dynamics influence the gender division of labor. These findings underscore the need for policies that reduce women's domestic workload, promote greater sharing of responsibilities, and improve access to education and labor-saving technologies.

Table 4.12. Mean number of hours spent by men and women on domestic and farm work by age, education and other socio-economic variables

Demographic & accessibility variables		Male				Female			
		Housework		Farm work		Housework		Farm work	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	< 25 years	3.00	.	6.25	.	3.46	.32	5.79	.65
	>=25 years	2.25	.09	7.98	.14	4.92	.14	6.78	.17
Education level	No study	2.28	.13	7.76	.19	4.95	.16	6.74	.20
	Primary grade	2.22	.13	8.20	.19	4.53	.21	6.64	.28
With Children under 5 years	Yes	2.28	.12	8.19	.16	4.64	.17	6.46	.21
	No	2.18	.16	7.47	.23	5.12	.20	7.13	.26
Access to market	<5 kilometer	2.31	.12	8.36	.16	5.03	.16	6.92	.22
	≥5 kilometer	2.14	.15	7.29	.23	4.56	.21	6.45	.23
Participate in meetings	Yes	2.29	.15	8.06	.21	4.81	.41	7.83	.35
	No	2.22	.12	7.90	.18	4.81	.14	6.58	.18
Control over farm decision	Mainly men	2.24	.10	7.95	.14	4.79	.14	6.67	.17
	Mainly women	2.40	.35	8.17	.53	5.00	.36	7.00	.57

4.3.2. Gender differences in time poverty: An analysis of alternative poverty lines

Table 4.13 illustrates gender differences in time poverty rates using alternative poverty lines. In this context, time poverty refers to the lack of sufficient time for leisure and personal care due to the demands of agricultural work, household chores and other responsibilities. Given the complexity of measuring time poverty, two alternative relative poverty lines were used in this analysis. The lower line was set as the sum of the average hours worked plus one quarter of the average, while the upper line was calculated by adding one half of the average to the average hours worked. The average total working time was 10.8 hours per day, resulting in a lower time poverty line of 13.5 hours per day and an upper time poverty line of 16.2 hours per day.

At the lower threshold (13.5 hours per day), 22.54% of people are considered time poor. Broken down by gender, 15.8% of women suffer from a lack of time, compared to just 6.74% of men. This suggests that at the lower threshold, women are disproportionately affected by time poverty and spend more time on agricultural and domestic work than men. At the higher threshold (16.2 hours per day), 5.18% of women and 2.07% of men are considered time poor.

These figures show that women are more likely to experience time poverty, largely due to the greater demands placed on their time by unpaid domestic work and paid work. The gendered division of labor, in which women tend to take on domestic responsibilities in addition to economic activities, leaves them with less time for rest, leisure or personal development. This persistent time poverty among women highlights the need for policies that address gender inequalities in time use, in particular by supporting women in balancing domestic and productive responsibilities.

Table 4.13. Proportion of time-poor individuals in rural Ethiopia by gender

Sex	Mean (10.8hrs/day)	Time poverty line 13.5 hours/day	Time poverty line 16.2 hrs/day
Men	15.28%	6.74%	2.07%
Women	25.65%	15.8%	5.18%
All	40.93%	22.54%	7.25%

Table 4.14 presents the time poverty gap and the squared time poverty gap by gender, which provide an insight into the intensity and severity of time poverty in rural communities. The

time poverty gap measures the average shortfall in hours worked above the time poverty thresholds. At the 13.5 hours/day threshold, the time poverty gap is 14.39% for women and 13.97% for men, indicating that women experience a slightly higher intensity of time poverty. However, at the 16.2 hours/day threshold, the gap is larger for men (4.00%) compared to women (3.00%), suggesting that the burden is more evenly distributed at extreme working hours.

The squared time poverty gap, which considers the severity of time poverty by giving greater weight to those working well above the thresholds, shows that gender gaps persist but are less severe. At the 13.5-hour threshold, the squared gap is almost identical for men (2.69%) and women (2.7%). However, at the 16.2-hour threshold, the squared gap is slightly higher for men (0.25%) than for women (0.15%), suggesting that while fewer people work extremely long hours, those who do tend to be men.

Overall, the results suggest that women face a higher overall intensity of time poverty, probably due to their dual responsibilities in domestic and agricultural work. At higher thresholds, however, the burden is more evenly distributed. These findings indicate the need for interventions that address both the severity of work burdens, particularly for women, to promote better work-life balance and gender equality in rural areas.

Table 4.14. Time poverty gap and squared time poverty gap by gender

Sex	Time Poverty Gap		Squared Time Poverty Gap	
	Time poverty line 13.5 hours/day	Time poverty line 16.2 hrs/day	Time poverty line 13.5 hours/day	Time poverty line 16.2 hrs/day
Men	13.97%	4.00%	2.69%	0.25%
Women	14.39%	3.00%	2.7%	0.15%
All	14.26%	3.29%	2.7%	0.21%

4.3.3. Determinants for an individual being time-poor in rural districts by gender

This section analyzes the factors that determine the likelihood of time poverty among men and women in rural districts. Separate logistic regression models are used to identify gender-specific determinants. A number of demographic and economic variables were included in the models and marginal effects (dy/dx) were calculated to show the impact of each significant factor. Among the key determinants, education stands out as a crucial factor. Women with no formal education ($\beta = 0.98$, $p = 0.035$) and with a child under the

age of five ($\beta = 1.93$, $p < 0.001$) are more likely to experience time poverty, implying that lack of education hinders effective time management and childcare responsibilities require more time.

Annual income also has a significant positive association with time poverty ($\beta = 0$, $p = 0.01$). This implies that higher economic activity and greater engagement in productive work may contribute to women's time poverty. Distance to fuelwood sources ($\beta = 0.394$, $p = 0.018$) is another important factor, as women who live farther from fuelwood sources spend more travel time. Distance to the local market also shows a marginally significant effect ($\beta = 0.096$, $p = 0.05$), implies that longer travel times due to poor rural infrastructure exacerbate women's time poverty. Access to information using radio also significantly increases the likelihood of time poverty ($\beta = 1.611$, $p = 0.01$). This may be because radio programs promote modern and intensive farming methods that require more time (e.g., crop rotation, irrigation, pest control). This leads to higher labor demands in the field and make them more time-poor. Variables such as age, years of marriage, family size, farm size, and source of income are not statistically significant factors on time poverty among women.

Table 4.15. Marginal effects for the probability of time-poverty among women farmers

Time poverty	Coef.	St. Err.	t	p	[95% CI]	Sig
Age in years	.06	.038	1.59	.111	-.014 .134	
Marriage years	-.032	.036	-0.90	.369	-.102 .038	
Education (1= no study)	.98	.466	2.10	.035	.067 1.894	**
Family size in number	.005	.152	0.04	.972	-.292 .303	
Under5 child (1= yes)	1.931	.479	4.03	0	2.869 .993	***
Farm size in hectares	-.021	.341	-0.06	.95	-.69 .647	
Annual income in quintal	0	0	2.57	.01	0 0	**
Income source (1= only crop)	.78	.957	0.81	.415	-1.096 2.656	
Distance to firewood in km	.394	.166	2.37	.018	.068 .72	**
Distance to market in km	.096	.049	1.96	.05	0 .192	*
Have radio (1= yes)	1.611	.624	2.58	.01	.388 2.834	***

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 4.16 shows the factors influencing time poverty among men in the rural districts of Gozamn, Goncha Siso Enesse and Bibugn. In particular, age has a positive and significant impact on time poverty among men ($\beta = 0.157$, $p = 0.001$), suggesting that older men are

more likely to experience time poverty, possibly due to increased responsibilities or the physical demands of work associated with increasing age. In contrast to the trend observed for women, the presence of a child under the age of five significantly reduces time poverty for men ($\beta = -3.07$, $p = 0.002$), suggesting that men with young children may be less involved in time-intensive care activities.

Distance to markets has a significant negative effect on time poverty ($\beta = -0.219$, $p = 0.035$), meaning that men living closer to markets have less time, perhaps because they are more involved in market-related activities. Furthermore, access to agricultural extension services ($\beta = -2.542$, $p = 0.005$) and visits from agricultural experts ($\beta = -4.19$, $p < 0.001$) reduce the likelihood of time poverty, indicating the role of expert advice in improving time efficiency through improved agricultural practices and time management. For effective gender-responsive policy interventions, these results highlight the need for targeted strategies in rural areas: support for older men, improved childcare facilities, expanded access to agricultural extension services, and equal access to education to alleviate time poverty and improve the quality of life of rural communities in Ethiopia.

Table 4.16. Marginal effects for the probability of time-poverty among men farmers

TimePoverty	Coef.	St. Err.	t-value	p	[95% CI]		Sig
Age in years	.157	.049	3.22	.001	.061	.253	***
Under5 child (1 = yes)	-3.07	.969	-3.17	.002	-4.968	-1.172	***
Child aged 15-18(1= yes)	.711	.719	0.99	.322	-.698	2.12	
Distance to firewood (km)	.262	.188	1.39	.164	-.107	.631	
Distance to market (km)	-.219	.104	-2.11	.035	-.422	-.016	**
Farm size in hectar	.749	.647	1.16	.246	-.518	2.016	
Access to extension (1=yes)	-2.542	.914	-2.78	.005	-4.334	-.75	***
Expert visit (1=yes)	-4.19	1.113	-3.76	0	-6.371	-2.008	***
Income source (1=agriculture)	1.467	1.385	1.06	.289	-1.246	4.181	
Have radio (1=yes)	2.954	.985	3.00	.003	1.023	4.885	***

*** $p < .01$, ** $p < .05$, * $p < .1$

4.4. Decision-Making and Control Over Resources by Gender in Rural Households

This analysis examines the roles of men and women in household decision-making in key agricultural and domestic activities in rural households. A categorical variable was used to

classify households based on the influence of each gender in decision-making. Three categories were used: (1) mainly men (where the husband has more influence), (2) mainly women (where the woman has more influence), and (3) joint decision (where decisions are made collectively through discussion and negotiation). The results illustrate the differences in decision-making power between men and women in rural areas.

4.4.1. Gender roles in household decisions on agricultural and domestic care activities

4.4.1.1. Analysis of intra-household decision-making farm activities in rural districts

Table 4.17 provides insights into the decision-making dynamics in six rural kebeles with a focus on agricultural and household activities. Decisions about land use is predominantly made by men (50.3%), while joint decisions account for 33.9 percent. Similarly, decisions on the timing of planting and harvesting are predominantly made by men (54.1 percent), while 31.9% of couples report making joint decisions on these activities. This trend reflects the predominant role of men in managing farms.

Plant selection shows a more balanced approach, with 44.3% of these decisions being made primarily by men and 43.3% being made jointly, suggesting that plant selection is often a shared responsibility within households. For fertilizer expenditures, shared decision-making is slightly higher (50.5%) compared to male-dominated decisions (45.3%), indicating that both genders are often involved in financial decisions on crop production inputs. When purchasing grain supplies, the distribution is relatively even between male-dominated (26.7%), female-dominated (29.0%), and shared decision (44.3%). Women have a significant contribution. There is also a high level of shared decision-making related to selling and managing income (44.8%), although men have greater contributions (39.4%).

Conversely, household consumption and spending decisions are more likely to be dominated by women (43.8%), with 39.1% of households reporting shared decisions. This illustrates that women tend to have more influence on decisions about daily household expenses, while agricultural decisions are more likely to be made by men. While men generally have more autonomy in agricultural decisions, both genders have input in joint decisions. This negotiated approach indicates a degree of flexibility and bargaining within households, but still male bias in agricultural decision.

Table 4.17. Intra-household decision for farming related activities in rural Kebeles

Household decision-making on farm-related activities	Mainly men		Mainly women		Joint decision	
	Count	%	Count	%	Count	%
To rent/ lease land	194	50.3%	61	15.8%	131	33.9%
When to plant and harvest	209	54.1%	54	14.0%	123	31.9%
What crop to grow	171	44.3%	48	12.4%	167	43.3%
Expenditure for fertilizer	175	45.3%	16	4.1%	195	50.5%
To buy grain stock	103	26.7%	112	29.0%	171	44.3%
To sell and spend income	152	39.4%	61	15.8%	173	44.8%
Home consumption	66	17.1%	169	43.8%	151	39.1%

4.4.1.2. Analysis of decision-making over household maintenance and care activities

As shown in Table 4.17, a significant proportion of respondents identified men as the main decision-makers in several housekeeping and caregiving activities. The decision to allocate labor to farm work and housework is predominantly made by men (64.2 percent). Only 9.9 percent of respondents reported that women dominated the decision in this area, while 24.9 percent reported a shared decision. This pattern reflects a gender imbalance, with men having more decision-making power in the allocation of household resources. When it comes to business decisions, men are again the main decision-makers (46.6 percent), but shared decision-making is also common (43.5 percent). Similarly, decisions on labor requirement is almost equally divided between men alone (45.7%) and shared decisions (49.6%), meaning that participants do not believe that this decision is skewed to women.

The majority of households share credit decisions, with 77.2% of respondents reporting that they share responsibility for deciding the amount of credit. This high level of collaboration on financial decisions suggests that both men and women are involved in discussions about credit management. Shared decision-making is also common in health budgeting (50.3%). Shared decision-making is even more pronounced when it comes to children's health in the event of illness, with 76.6% of respondents reported shared decision-making. This trend also extends to decisions about the desired number of children, with 55.1% of respondents reporting shared decision-making, although there is a notable individual influence with 23.4% of women dominating. Similarly, decisions about children's schooling are made jointly (69.6%).

Overall, these results show that men tend to have more influence over decisions related to household responsibilities, business ventures, and hiring workers, while women have more influence over family planning and child-rearing decisions. Shared decision-making is particularly prevalent in areas such as health budgeting, child care, and borrowing. This pattern of decision-making suggests areas where gender imbalances persist, particularly in work and economic roles, while highlighting the collaborative nature of decision-making in financial and health-related areas. Identifying these dynamics can help develop strategies to promote equitable decision-making in rural households.

Table 4.18. Intra-household decision for household maintenance and care activities

Household decision on unpaid domestic activities	Mainly men		Mainly women		Joint decision	
	Count	%	Count	%	Count	%
To allocate time & labor	248	64.2%	42	10.9%	96	24.9%
To engage in business	179	46.6%	38	9.9%	167	43.5%
To hire labour	175	45.7%	18	4.7%	190	49.6%
Amount of loan to borrow	68	18.2%	17	4.6%	288	77.2%
Health care budgeting	143	37.0%	49	12.7%	194	50.3%
What to do when a child falls sick	71	18.4%	19	4.9%	295	76.6%
Number of children to have	83	21.6%	90	23.4%	212	55.1%
Children's schooling	58	15.1%	59	15.3%	268	69.6%

4.4.1.3. Household decision-making power in agriculture across demographic and accessibility factors

Table 4.19 presents an analysis of the dynamics of household decision-making in agricultural settings across variables such as education, proximity to town, participation in training, access to extension services, and time poverty. Overall, the data show that decision-making is overwhelmingly dominated by men. For example, in households with no formal education, men dominate 51.8% of decisions, while only 15.4% of decisions are made by women.

Proximity to the city does not significantly change male dominance in agricultural decisions. Households both within and outside 5 kilometers of a city show similar male-dominated patterns, with over 54% of decisions made in favor of men. However, women's decision-making is slightly higher in households farther from the city (14.6%) than in

households closer to the city (11.0%). This could be due to a stronger adherence to traditional roles and fewer interventions to promote gender equality in remote areas. Participation in gender training shows a modest impact on decision-making dynamics. In trained households, women's decision-making power increases to 17.5%, compared to 10.4% in untrained households.

In households with access to agricultural extension services, male dominance decreases to 44.8% and shared decision-making increases to 43.9%, compared to households without access where male-dominated decision-making increases to 65.5%. These results suggest that extension services not only provide agricultural knowledge but also promote a more balanced decision-making environment. Time poverty appears to affect decision-making dynamics by temporarily increasing women's participation. In households experiencing time poverty, the proportion of male-dominated decision-making falls to 49.4%, while the proportion of women increases to 16.9%, suggesting that women may take on more responsibilities in the absence of male household members. Shared decision-making remains relatively stable regardless of time poverty, at around 33%, suggesting that time constraints primarily shift rather than change gender roles in decision-making.

Table 4.19. Agricultural decision-making power of couples by education, residence, participation in training and access to extension services

Variables		Household decision making power in agriculture					
		Mainly men		Mainly women		Joint decision	
Educational status	Non-educated	118	51.8%	35	15.4%	75	32.9%
	Primary school	89	56.3%	12	7.6%	57	36.1%
Distance to town	< 5 kilometers	128	54.0%	26	11.0%	83	35.0%
	≥ 5 kilometers	78	54.2%	21	14.6%	45	31.3%
Training on gender	Yes	51	52.6%	17	17.5%	29	29.9%
	No	156	54.0%	30	10.4%	103	35.6%
Access to extension	Yes	99	44.8%	25	11.3%	97	43.9%
	No	108	65.5%	22	13.3%	35	21.2%
Time poor	yes	79	49.4%	27	16.9%	54	33.8%
	No	126	57.3%	20	9.1%	74	33.6%

4.4.2. Factors for household decision-making: Multinomial logistic regression analysis

Table 4.20 presents a multinomial logistic regression analysis of the determinants of decision-making among married couples in rural households, focusing on socioeconomic and demographic characteristics. This analysis examines the likelihood of decisions being dominated by either men or women, using joint decision-making as the reference. In this analysis, education is a key factor in gender decision-making. Women with formal education are more likely to have dominant decision-making power than women without education ($\beta = 1.806$, $p < 0.05$). This result indicates that more educated women may challenge traditional gender roles by taking a more active decision-making role.

Time spent on housework has a significant effect on decision-making power for both genders. For women ($\beta = -0.424$, $p < 0.05$) and men ($\beta = -0.273$, $p < 0.05$), spending more time on housework reduces the likelihood of dominating household decisions. These results suggest that when both genders spend many hours on housework, they are less likely to monopolize decision-making authority, leading to a tendency toward shared decision-making. However, when men experience time poverty and have limited free time due to work, they are more likely to maintain control over household decisions ($\beta = 0.136$, $p < 0.1$). This suggests that men prioritize efficiency in decision-making to cope with time constraints, potentially reducing consultation with partners in favor of quicker, unilateral decisions.

Access to agricultural extension services is a key factor in promoting shared decision-making. For both men ($\beta = -1.521$, $p < 0.01$) and women ($\beta = -1.047$, $p < 0.01$), regular access to extension services significantly reduces the likelihood of individual control over agricultural decisions. This suggests that extension services promote a more balanced approach, probably by encouraging cooperation and shared decision-making. In contrast to the above scenario, expert visits are associated with an increase in male-dominated decision-making ($\beta = 0.845$, $p < 0.05$). This is may be the traditional approach of targeting men as the primary recipients of expert advice, thereby increasing their authority in household decisions.

In general, the results show that education, time spent on housework, access to extension services and expert visits are key factors influencing decision-making patterns in rural

households. Therefore, address education, and expand access to inclusive extension services can help shift decision-making towards a more egalitarian model and gender equality.

Table 4.20. Determinants of household decision-making: Multinomial logistic regression analysis

Demographic and socioeconomic factors	Male		Female	
	Mainly men	Mainly women	Mainly men	Mainly women
Age of respondents	-.014 (.017)	-.030 (.033)	-.013 (.023)	-.004 (.032)
Education (1= Yes)	-.182 (.357)	-.128 (.605)	.240 (.408)	1.806** (.738)
Marriage duration (1= ≤ 10 years)	.379 (.521)	-1.203 (1.166)	.070 (.547)	.331 (.881)
Time spend on crop production	-.130 (.128)	.065 (.241)	-.238 (.159)	-.030 (.222)
Time spend on household chores	-.033 (.154)	-.095 (.259)	-.273** (.133)	-.424** (.194)
Time poor (1 = Yes)	.136** (.572)	.716 (.921)	.873 (.653)	1.559 (.958)
Access to extension (1= Yes)	-1.521*** (.396)	-1.264** (.627)	-1.047*** (.396)	-.676 (.578)
Visited by experts (1= Yes)	.845** (.364)	.996 (.634)	.438 (.420)	-.696 (.686)
Participate in meeting (1= Yes)	-.135 (.399)	-.881 (.706)	.228 (.700)	.891 (.839)
Training on gender (1= Yes)	-.015 (.414)	.466 (.646)	.545 (.552)	.583 (.742)
Having radio (1= Yes)	-.143 (.467)	.789 (.724)	.879 (.539)	-.324 (.898)
Observations	197	197	189	189

The reference category is: Joint decision

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.4.3. Gender disparities in access to community services and leadership roles

In rural communities, the primary methods of agricultural extension are individual farm visits by extension agents and group visits to demonstration sites. These services aim to increase farmers' knowledge and skills, thereby improving agricultural productivity and

food security. This analysis focuses on identifying gender differences in access to these extension services in order to identify areas where greater inclusiveness can improve the effectiveness and equity of agricultural extension. The result in Table 4.20 illustrates gender differences in access to extension services, participation in leadership roles, and farmers' attitudes toward gender equality. A significantly higher proportion of men (33.9%) than women (23.3%) used agricultural extension services in the three months prior to the survey date, suggesting that women have less access to key agricultural resources and support. In addition, only 6.3% of women held leadership positions in local governance structures, compared to 16.9% of men, reflecting a significant gap in women's participation in decision-making roles that influence agricultural and community development policies.

In addition, 30.6 percent of men and 13.5 percent of women reported receiving expert visits in the past three months. Expert visits often provide tailored advice and technical support that can significantly increase agricultural productivity, but this lower proportion among women suggests that expert services may be biased toward men, perhaps due to traditional biases or the assumption that men are the primary decision-makers in agriculture. This disparity limits women's ability to receive specialized advice and support that could improve their agricultural practices.

Gender and household management training is a critical component of rural extension packages, as it promotes shared household responsibilities and increases agricultural efficiency. However, only 14.5% of men and an even smaller percentage of women (10.6%) reported having received such training. This low participation rate implies a limited reach of these programs and highlights the need for more effective strategies to engage both men and women in gender-specific training. This gap is particularly troubling because training on gender equality and resource management is essential for empowering women and creating more balanced household dynamics, which can negatively impact community productivity and well-being.

Despite these gender differences in community roles and access to counseling services, 36.7% of men and 21.1% of women reported that they believe gender equality exists in their culture. This perception may reflect limited awareness of existing inequalities or a cultural norm that accepts current gender roles. This discrepancy between perceived equality and actual disparities underscores the need for awareness-raising programs to

better align perceptions with reality in order to promote community-wide commitment to gender inclusion.

In summary, the results show persistent gender disparities in access to agricultural extension services, leadership roles, and expert support. Women are disadvantaged in accessing these vital resources, limiting their ability to fully contribute to agricultural and community progress. The data suggest that targeted interventions are urgently needed to address these gaps, such as restructuring extension services to facilitate women's participation, expanding gender training, and addressing cultural norms that perpetuate gender inequality in rural communities. Implementing these changes would promote a more inclusive agricultural extension system that supports both men and women equally, benefiting overall rural productivity and sustainability.

Table 4.21. Access to agricultural extension service and leadership role by gender

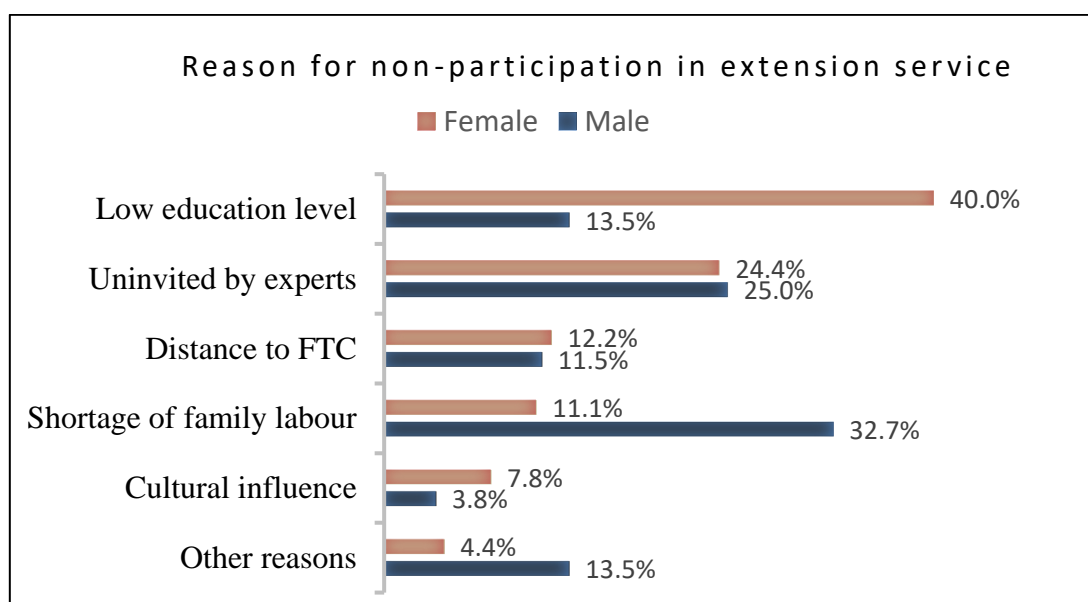
Experiences and perceptions	Male				Female			
	Yes		No		Yes		No	
Access to extension service in the last 3 months	131	33.9%	66	17.1%	90	23.3%	99	25.6%
Participation in leadership position at kebele	65	16.9%	131	34.1%	24	6.3%	164	42.7%
Visited by experts during the last 3 months	118	30.6%	79	20.5%	52	13.5%	137	35.5%
Have taken gender training & home management	56	14.5%	141	36.5%	41	10.6%	148	38.3%
Men and women have equal opportunities by the culture	141	36.7%	55	14.3%	81	21.1%	107	27.9%

A follow-up question was asked to explore the reasons for low participation rates in community counseling services. As Figure 4.3 shows, a significant proportion of both men (25.0%) and women (24.4%) reported that a lack of invitation from experts was a major barrier to their participation in these services. This suggests that extension approaches may not be inclusive enough and proactively. In addition, distance to the Farmer Training Center (FTC) was considered a deterrent by 11.5% of men and 12.2% of women. This suggests that proximity to training centers is an important factor influencing community engagement

and points to the need for more local extension opportunities to improve access. Cultural influences also limit participation, particularly among women.

Finally, additional individual barriers, reported by 13.5% of men and 4.4% of women, indicate unique personal circumstances that affect participation and imply a range of other factors, such as health, mobility, or competing responsibilities. Therefore, these results indicate different and overlapping barriers to participation in Extension services for men and women. Therefore, improving access to education, reducing cultural barriers, inclusive training places are recommended to improve gender participation.

Figure 4.3. Reason for not participate in extension service



4.4.4. Individual perspectives on contemporary gender dynamics in rural districts

Table 4.22 provides insights into respondents' attitudes towards social structure and gender norms in the rural districts of East Gojam Zone in Ethiopia. A significant proportion of respondents (50.1%) agreed that household responsibilities limit women's opportunities for market-based work, including agriculture. In addition, most respondents (39.5%) strongly disagreed with the idea that a husband has the right to beat his wife if she disobeys him, but a worrying 14% still hold supportive views on this issue. This suggests the normalization of harmful traditional practices, including wife beating.

Looking at views on productive and non-productive roles, 46.9% of respondents disagreed with the idea that men should earn an income while women are solely responsible for

household tasks. Encouragingly, a large majority agreed or strongly agreed that couples should share unpaid household tasks, and 85% disagreed that all housework should be the sole responsibility of women. However, views on gender roles in agriculture are more divided. While 41.2% of respondents believe that men play a greater role in agriculture, 57.5% disagree, indicating a push for greater gender equality in agricultural tasks. While 55.4% of respondents support changing the existing gender role, while, 43.1% still support maintaining traditional gender roles.

A large majority (89.8%) disagreed with the statement that women are incapable of making household decisions, highlighting the widespread recognition of women's ability to make decisions. However, the recognition that cultural values often favor men, acknowledged by 54% of respondents. This finding draws attention to deeply ingrained cultural norms that continue to privilege men in social, economic, and family contexts. Overall, the results show a resistance with regard to gender equality, particularly in areas such as shared household responsibilities and decision-making.

Table 4.22. Contemporary perspectives on gender norms and division of labor

Farmers' perspectives	Strongly agree	Agree	Disagree	Strongly disagree	I can't answer
	N (%)	N (%)	N (%)	N (%)	N (%)
Housework hampers economic opportunities	59(15.4%)	192(50.1%)	109(28.5%)	21(5.5%)	2(0.5%)
A disobedient wife should be beaten	17(4.4%)	37(9.6%)	178(46.2%)	152(39.5%)	1(0.3%)
Men earn money and women serve family	30(7.8%)	77(19.9%)	181(46.9%)	93(24.1%)	5(1.3%)
Men's role is greater than women in agriculture	24 (6.3%)	134 (34.9%)	161(41.9%)	60 (15.6%)	5(1.3%)
Existing gender role ought to be maintained	41(10.6%)	125(32.5)	165(42.9%)	48(12.5%)	6(1.6%)
Women are incapable in making decisions	11(2.9%)	25 (6.5%)	218(56.6%)	128(33.2%)	3(0.8%)
Cultural values tend to favor males	76(19.7%)	132(34.2%)	93(24.1%)	71(18.4%)	14(3.6%)
All housework should be done by women	13(3.4%)	44(11.4%)	227(58.8%)	101(26.2%)	1(0.3%)

4.5. Family Labor Dynamics and Other Determinants of Agricultural Income

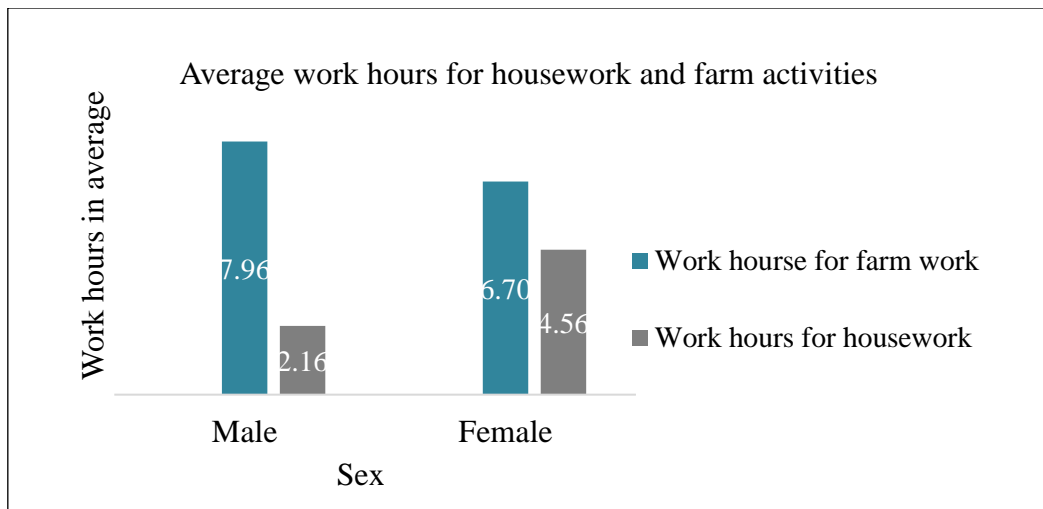
4.5.1. Time allocation and gendered trade-offs between domestic and farm work

In rural farming communities, balancing time between household and farm tasks is a constant challenge. The allocation of family labor and time often depends on factors such as seasonality, weather conditions, and task-specific requirements. Agricultural activities in particular have seasonal peaks, such as planting and harvesting, that require more labor. During these peak periods, time spent on housework is often reduced as family labor is shifted to agriculture to meet these critical agricultural needs. Conversely, housework is essential to the continuity of agricultural work because it supports the daily needs of family members engaged in agricultural work. This dynamic relationship demonstrates that housework and agricultural work are interdependent and both compete for family resources in terms of labor and time.

As shown in Figure 4.4, men spend significantly more time on agricultural work (7.96 hours per day) compared with 6.7 hours for women. On the other hand, women take on a much larger share of domestic work. On average, they spend 4.56 hours per day, more than twice as much as men (2.16 hours). This shows a gender imbalance in the workplace, with women taking on both domestic and agricultural tasks, resulting in a higher workload for them. This time constraints also prevents them from fully participating in other market activities. Women can experience physical and emotional exhaustion as they try to juggle these responsibilities, which leads to a sense of drudgery and reduced motivation. In contrast, men's primary focus on agriculture means that they take on sequential tasks and have plenty of free time on agriculture off seasons.

In general, there is an interdependence between domestic and agricultural tasks in rural communities, but an unbalanced division of labor places a disproportionate burden on women. To address this gender inequality, it may be helpful to advocate for a more equitable division of household responsibilities. Greater support for women, whether through community initiatives or access to time-saving household technologies, could help reduce the heavy workload in the home. Such measures can increase women's ability to participate more actively in agricultural activities and improve their overall quality of life.

Figure 4.4. Daily farmwork time and housework time allocation



4.5.2. Household decision-making and implications for time allocation in agriculture

The results in Table 4.22 show that women consistently work longer hours than men, regardless of who makes the household decisions. Therefore, the phenomenon of “time poverty” emerges as a critical issue for women, as their longer working hours limit their opportunities for education, leisure or paid market work outside the home. In households where men dominate decision-making, they work an average of 9.99 hours per day. This lower average may indicate that when men have primary decision-making authority, they tend to delegate some agricultural tasks and leave household tasks to their spouses. Therefore, women reported longer working hours (11.26 hours) in these male-dominated households.

Interestingly, both men and women in households where decision-making power is predominantly in the hands of women report the highest working hours, with men and women working an average of 10.80 and 12.02 hours per day, respectively. This scenario suggests that even when women have greater decision-making power, they still carry a disproportionate workload. One possible explanation is that when they are given more control, they take a hands-on approach and participate directly in both agricultural and domestic tasks to increase household productivity. This may indicate an ingrained expectation that women will remain heavily involved in multiple roles regardless of their influence in decision-making. In egalitarian households, both men and women report moderate working hours, with men working an average of 10.32 hours and women 11.57

hours. This smaller gap suggests that shared decision-making is associated with a more balanced division of labor, which may improve cooperation and mutual support.

Table 4.23. Commulative hours worked across the decision-making power by gender

Decision-making	Male		Female	
	Mean work hours	%	Mean work hours	%
Skewed to Men	9.99	51.2%	11.26	48.8%
Skewed to women	10.80	40.4%	12.02	59.6%
Egalitarian/joint	10.32	54.5%	11.57	45.5%

4.5.3. Socioeconomic determinants of agricultural income: Regression analysis

The regression analysis in Table 4.24 reveals significant socioeconomic and demographic factors that affect farm income in rural smallholder farming communities. Notably an increase in family size having a positive impact on farm income ($\beta = 3969.7$, $p = 0.001$), likely because larger families can contribute more labor, which increases farm productivity. In addition to family work, the presence of young children is associated with a reduction in farm income ($\beta = -9525.7$, $p = 0.009$). This is likely because young children require a lot of care that distracts caregivers from agricultural tasks. Similarly, time spent on household chores has a negative impact on farm income ($\beta = -2963.9$, $p = 0.036$). Here, the responsibility for household chores significantly reduces the time available for farming, especially for women. Thus, a more equitable distribution of household chores and the introduction of labor-saving technologies could help address these hidden costs of household chores and increase agricultural productivity.

Another important factor affecting farm income is market accessibility. Distance to market is a significant negative factor ($\beta = -929.9$, $p = 0.014$), indicating that income decreases as distance to market increases, likely due to transportation problems and long travel times. This indicates the key role of infrastructure and suggests that policies to improve market accessibility could have a positive impact on farm incomes by linking farmers more directly to buyers and reducing costs. Land ownership and land size are also found to be important positive determinants of income ($\beta = 15538.4$, $p = 0.002$ and $\beta = 6617.4$, $p = 0.016$, respectively). Land ownership provides stability for farmers to invest in and improve their practices, while larger land holdings allow for higher crop yields.

Finally, access to agricultural extension services has a particularly strong positive impact on income ($\beta = 29696.7$, $p < 0.001$). This shows that expert advice, training, and counseling play a critical role in increasing agricultural productivity, as extension services enable farmers to adopt improved techniques and acquire essential skills. Expanding these services to reach more farmers could therefore have a positive impact on sustainable agriculture in the community. On the other hand, factors such as age ($p = 0.749$), education ($p = 0.093$), length of marriage ($p = 0.072$), expert visits ($p = 0.669$), radio ownership ($p = 0.082$), and leadership roles ($p = 0.849$) did not have statistical significance in influencing agricultural income. This means that while these factors may contribute to general empowerment or access to information, they are not statistically correlated with farm incomes.

This finding generally suggests that family size, presence of young children, time spent on household chores, distance to market, land ownership, land size, and access to extension services are all important factors affecting farm income. Therefore, targeted interventions such as the provision of childcare, improvements in rural infrastructure, and the expansion of extension services could improve the economic well-being of rural communities.

Table 4.24. Determinants of farm income: Linear regression analysis ($y = \text{income}$).

Socio-economic variables	Coefficients		t	Sig.	95.0% CI for B	
	β	Std. Err			Lower	Upper
Age (scale)	4239.9	13216.4	0.32	0.749	-21768.4	30248.2
Education status (1 = None)	-5849.5	3471.3	-1.69	0.093	-12680.5	981.6
Longer marriage (scale)	-330.1	182.8	-1.81	0.072	-689.9	29.7
Family size (scale)	3969.7	1201.5	3.3	0.001	1605.4	6334.1
With child under 5 (1= Yes)	-9525.7	3615.5	-2.63	0.009	-16640.6	-2410.8
Distance to market (scale)	-929.9	377.7	-2.46	0.014	-1673.1	-186.7
Own farmland (1 = Yes)	15538.4	5078.5	3.06	0.002	5544.5	25532.3
Land size (scale)	6617.4	2718.9	2.43	0.016	1267.0	11967.8
Access to extension (1 = Yes)	29696.7	3598.9	8.25	0.000	22614.5	36778.8
Visited by experts (1= Yes)	1424.4	3326.6	0.43	0.669	-5121.9	7970.7
Own a radio (1 = Yes)	6448.7	3696.3	1.74	0.082	-825.2	13722.6
Hold leadership role (1= Yes)	-746.8	3922.9	-0.19	0.849	-8466.6	6973.0
Housework time (scale)	-2963.9	1410.2	-2.1	0.036	-5739.0	-188.8
Time poverty (1= Not poor)	2213.9	3705.8	0.6	0.551	-5078.7	9506.6

5. QUALITATIVE INSIGHTS INTO GENDER ROLES AND FARMING PRACTICES

This section explores the complex gender dynamics in rural Ethiopian farming households through qualitative data collected from focus group discussions (FGDs) with male and female farmers in six kebeles. Using a deductive coding approach based on previous research and theoretical frameworks, the analysis was organized into predefined categories. As new themes emerged, the framework was adapted to capture unexpected insights. The analysis is organized around five key themes that illustrate the complex interplay between gender roles and agricultural practices.

The first theme, “Sociocultural elements and contemporary cultural perspectives on gender roles” explores how entrenched sociocultural norms and beliefs perpetuate gender inequalities in rural farming communities. It examines how societal expectations define power dynamics and shape men's and women's roles in agriculture and household management. It explains how these cultural frameworks reinforce inequalities and influence the division of responsibilities, decision-making, and control over resources.

The second theme, "Household decision-making and gender differences in community services," focuses on how decisions about agricultural resources are made within the family unit. It examines the gender norms and stereotypes that influence men's and women's participation in household decisions, including decisions about farm work, time management, and resource allocation. This theme analyzes how power imbalances within the household exacerbate inequalities in access to agricultural resources and community services, ultimately affecting household productivity and income distribution.

The third theme, "Immoral practices, labor abuse and workplace gender-based violence," addresses instances of labor abuse and work-related violence in the rural community. This theme provides an in-depth examination of cultural beliefs that support or challenge violent practices against women, focusing on the ways in which traditional and religious values influence household well-being, educational attainment, health, career development, and interpersonal relationships.

The fourth theme, "Gender differences in agricultural training and extension services," examines gender differences in access to agricultural training and extension services. The

aim of this section is to identify the socio-cultural and logistical barriers that limit one gender's access to these services over the other, often due to ingrained stereotypes or norms.

The final theme, "The impact of gendered division of labor and time-use patterns on agricultural practices," examines how daily time-use patterns and other socioeconomic factors affect agricultural productivity. This theme discussed how the segregation of labor by gender as well as by category of activity affects labor efficiency, timing, and productivity.

5.1. Contemporary Cultural Perspectives on Gender Roles in Rural Communities

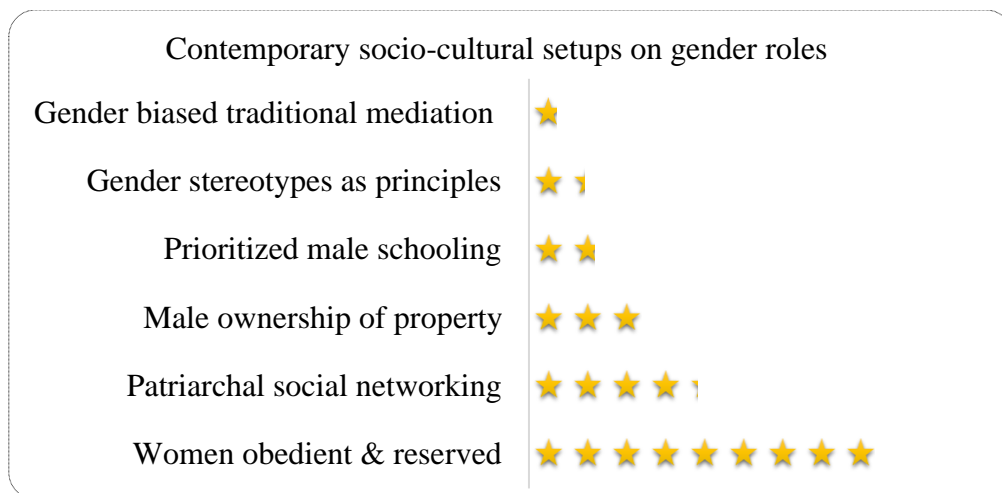
This section examines how gender roles, deeply rooted in the cultural and social fabric of rural communities, continue to shape contemporary social structures. In these settings, culture, religion, and local governance systems combine to influence the expectations and responsibilities assigned to men and women, reinforcing gender roles and power dynamics within families and the broader community. Participants in the study emphasized the strong presence of a patriarchal social order that permeates political, economic and social spheres and leads to notable positional differences between men and women.

Traditional norms portray men as heads of families and primary decision-makers, while women are often relegated to subordinate roles. Cultural beliefs, deeply ingrained and passed down through generations, perpetuate male dominance. One participant reflected:

“The roles of men and women are deeply rooted in our traditions. These values have been passed down from one generation to the next.”

Religious teachings reinforce these gender expectations, insisting that women should be patient, respectful and submissive in marriage. Religious leaders, who are often seen as the guardians of these teachings, play an important role in either reinforcing or challenging patriarchal structures. However, community and religious leaders always invoke the patriarchal dominance of society. “Religious leaders have the authority to either reinforce or challenge the patriarchal structure, but they usually encourage its maintenance . . .,” noted one man.

Figure 5.1. Contemporary socio-cultural setups on gender roles in the study area



In closed and traditional communities, the process of socialization plays a crucial role in perpetuating traditional gender norms. From an early age, boys and girls are taught to behave in ways that are considered appropriate for their gender. Boys are encouraged to develop strength and independence, while girls are often raised to be nurturing, obedient and reserved. These lessons, reinforced by family and community interactions, support the maintenance of traditional gender roles. Reflecting on these early influences, one participant said:

“We were socialized in an environment where girls were often expected to be reserved and supportive of men. Even our community raised girls by discouraging them from interacting with others.”

Such normative experiences shape women's expectations, particularly with regard to marriage and domestic responsibilities. This intergenerational transmission of norms is also evident in the division of labor within households. Men are typically expected to engage in income-generating activities, while women are confined to caregiving and domestic tasks. These expectations continue to define gender roles and maintain a rigid division of responsibilities. Moreover, strongly influenced by religious teachings, marriage imposes rigid expectations on women such as obedience, modesty and expertise in domestic and care activities. These attributes are seen as prerequisites for respectability and marriageability:

". . . to be considered a respectable and safe wife, a girl or woman is expected to conform to societal expectations, including obedience and skillful cooking”.

Failure to comply with these social norms often results in social stigma and a reduction in women's autonomy within their households and communities. Religious leaders play a key role in upholding these norms, as their interpretations of religious texts strongly promote these traditional community values. Their teachings often reinforce male dominance and limit women's representation in outdoor social and leadership activities, as one participant noted:

"Gender bias is reflected in the local community administrative system, social institutions and religious systems by prioritising leadership and management opportunities for men, while overlooking women's contributions and skills".

This dual influence of religious and social structures not only entrenches traditional gender roles, but also limits women's ability to challenge these norms or aspire to positions of influence within their communities.

Despite the strong cultural and religious influences that perpetuate traditional gender roles, participants noted that gender dynamics within households can evolve over time, particularly in long-term marriages. Some men shared how their perspectives had changed with age, leading to a greater appreciation of their wives' contributions. One participant reflected, ". . . when I was younger, I didn't help my wife with the housework. Now I understand that she has a lot of responsibilities, and I try to help her." This shift indicates that while traditional norms still prevail, gender roles within intimate relationships can become more flexible over time.

There is also evidence of a growing challenge to traditional gender stereotypes among younger generations. Participants described boys taking on household tasks traditionally seen as feminine, such as cooking and cleaning. An older woman said: 'Younger generations are questioning the need for strict gender roles. For example, my son helps me with housework, unlike his father.' These changes suggest a wider societal trend towards questioning rigid gender roles. However, such behaviour is not always universally accepted. One participant described jokingly referring to his son as "setaset" (feminine) for doing housework, suggesting an inappropriate leveling of men involved in "women's" work.

Education plays a central role in shaping normative gender roles. However, entrenched social expectations often favor men's access to education to improve their leadership skills

and social status. Discussants explained that households with more educated men, even those with only an eighth-grade education, are better able to manage farms and maintain sanitation practices. However, this preference for men's education systematically denies women similar opportunities, perpetuating economic and political inequalities between the sexes. Reflecting on past educational initiatives, some participants noted the inclusiveness of programs during the Derg regime that addressed both men and women. For example, one participant noted:

"During the Derg regime, there were community education programs that could reach both male and female farmers in the villages. If you find some farmers who can read and write, they learned during the Derg. In contrast, the discontinuation of these programs under the EPRDF government has significantly reduced educational opportunities in the rural community."

The interplay of traditional, religious and economic factors continues to shape gender roles in rural communities. Although the interaction of these socio-cultural elements can vary across regions and over time, deeply rooted cultural values tend to reinforce male dominance in many societies. Promoting gender equality requires a comprehensive and context-sensitive approach, such as actively engaging religious leaders, redesigning education systems, and challenging traditional norms. Initiatives that promote an egalitarian society and provide equal educational opportunities for men and women are critical to transforming gender relations. These efforts have the potential to change long-standing stereotypes and promote more equitable social structures, as younger generations are already showing some change in attitudes.

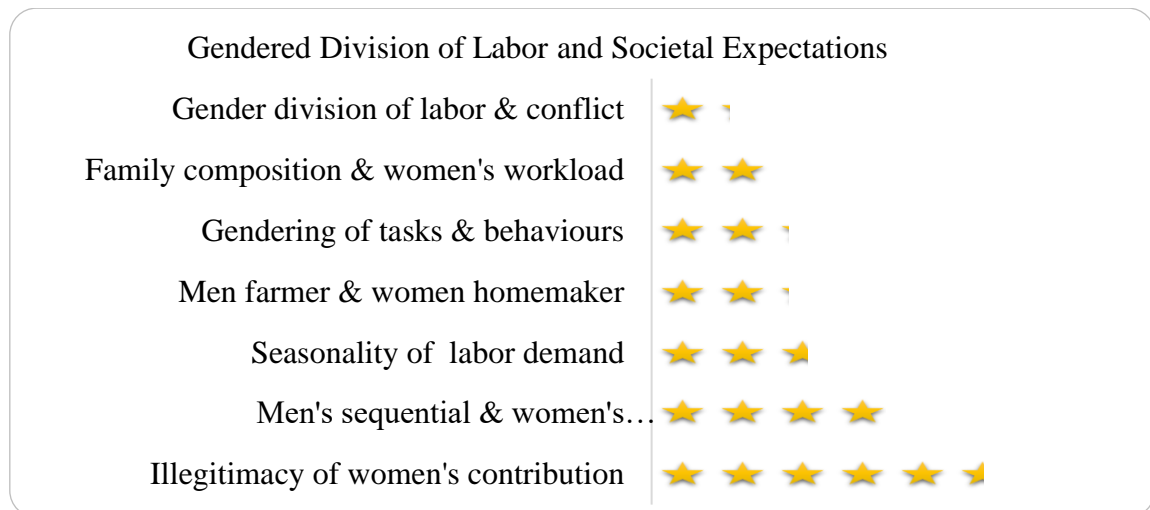
5.2. The complex Dynamics of Labor Division and Devaluation of Women's Labor Contribution

The division of labor in rural households is heavily influenced by traditional gender norms that assign tasks based on gender, resulting in significant inequalities between men and women. Nearly all participants acknowledged that cultural expectations play a central role in determining work roles, resulting in unequal workloads. Women, in particular, bear a disproportionate burden in balancing both agricultural and domestic responsibilities. Certain agricultural tasks, such as plowing, are widely perceived as inherently masculine. This perception is tied to the cultural image of the farmer as a plowman, often reinforced

by proverbs like “the trunk is stronger than the branches,” symbolizing men as the primary actors in labor-intensive agricultural work.

While some participants recognized that this belief is socially constructed rather than rooted in actual physical limitations, it remains deeply ingrained. As a result, women are typically excluded from plowing, and men are rarely involved in domestic tasks such as cooking or childcare. One participant illustrated the extent of this inequality, sharing, “My wife works from early morning until late at night, juggling farm work with her household responsibilities.” This vivid description highlights the heavy workload shouldered by women, often with little support, and underscores the persistent gender inequalities in rural work dynamics.

Figure 5.2. Gendered labor division and societal expectations within rural communities



Cultural beliefs that associate certain tasks with gender have a significant impact on men's participation in domestic work. Many male participants expressed reluctance to participate in domestic tasks because of the stigma associated with kitchen work. One participant shared his embarrassment when he was unable to light a fire to boil milk while his wife rested with their newborn and had to ask a neighbor for help. This incident not only underscored his lack of practical skills but also revealed a deep-seated cultural shame associated with men doing what is traditionally considered “women's work.”

Interestingly, some women actively reinforce these gender boundaries to avoid social criticism. One woman explained, “. . . I forbid my husband from helping with housework because his friends would tease him about it.” This internalize that the kitchen has become

a symbolic and private space for rural women, guarded to maintain traditional roles and avoid external judgment. These insights highlight the pervasive influence of social expectations, which are often upheld by both men and women. The interplay of stigma, cultural norms, and fear of social criticism perpetuates rigid gender roles and leaves little room for redefining responsibilities within the household.

Women's workload in rural households varies significantly with the seasons. Participants noted that men typically work more during the summer months (June to October), when agricultural activities such as land preparation and planting are at their peak. During this time, women must juggle farm work with their household chores, resulting in an even heavier workload. In contrast, men enjoy more leisure time during the agricultural off-season, while women's responsibilities remain constant.

Women also experience increased pressure during traditional and religious festivals in winter, when they are tasked with preparing large quantities of food and drink for celebrations. Participants agreed that one of the most time-consuming aspects of rural women's daily lives is cooking and preparing local beverages. This burden is influenced by the composition and size of the family. Families with adult children often alleviate some of this responsibility, as smaller households require less care and food preparation. However, women in larger families with young children face greater challenges in managing both caregiving and increased domestic demands.

In addition, water scarcity during the dry season significantly increases women's workload, forcing them to spend hours fetching water from distant sources. This problem is particularly acute in areas where water is already scarce. Participants explained that during the dry season, fetching water becomes more time-consuming and labor-intensive as village wells dry up. Women often lose hours waiting in long queues at the few remaining sources, with some having to wait four to six hours. In other cases, they are forced to walk long distances to fetch water from rivers, adding to their physical strain.

The undervaluation of women's work, particularly domestic work, emerged as a central theme in discussions with study participants. Despite their substantial contributions to both agricultural activities and household management, women's efforts are often perceived as secondary to those of men. They cited this as a major cause of gender inequality in the rural community. Participants believe that marital conflict often stems from the division of labor,

especially during peak agricultural seasons when women's workloads are at their highest. For example, during the harvest season, women are expected to complete household chores in the early morning and then work long hours in the fields. The intense demands of these overlapping responsibilities can lead to frustration, conflict and gender-based violence.

However, one participant contrasted the past decades with today's improved recognition of women's efforts, while domestic violence has decreased in many parts of the community. He cites his own awareness of contemporary gender roles within his own family as an example:

"When I was younger, I thought my wife was at home resting all day, but now I realize how much work she does. The older I get, the more I realize how unfairly I treat my wife".

This lesson suggests the need for community behavior change communication to work toward greater recognition of women's labor contributions, both within households and in broader economic systems.

A compelling narrative in this study is the widespread perception that housework is not considered "work" in rural communities. Despite being time-consuming and physically demanding, housework is undervalued both economically and socially. As one participant described, housework is more tiring than farm work because it often goes unnoticed until it is time to sleep. This invisibility of women's work reinforces overwork and leaves rural women with little opportunity for rest or self-care. This gendered division of labor, deeply rooted in traditional norms, perpetuates significant inequalities between men and women. While women bear the burden of both agricultural and domestic work, their contributions are often overlooked or devalued. The persistence of these traditional roles not only creates tensions within households but also exacerbates gender inequalities and hinders progress toward gender equality in rural communities.

A striking example of gender imbalance in the workplace came from a participant who reflected with regret on the overwhelming daily responsibilities of women. He described his wife's daily routine:

"I leave early every morning to work on the farm. In the meantime, she takes care of our livestock and other household chores. Later, she accompanies me to the fields

and works by my side all day. Around 5 p.m., she begins to think about preparing dinner and urges me to go home before dark. On the way home, she collects firewood and hurries to cook dinner for the family. Without exaggeration, her working hours are four times longer than mine”.

Another participant added: “Women usually go to bed after 6 p.m. and get up at 3 a.m. to get everything ready by 7 a.m. so they can go to the fields with the men. Otherwise, they may be late for work, which can cause unnecessary conflict with their husbands. Despite these immense contributions, many husbands remain unaware of the extent of their wives' efforts in managing the household.

In summary, the dynamics of the division of labor are shaped by traditional gender norms that perpetuate inequality. Women's contribution to both agriculture and domestic work is often underestimated, leading to significant workloads and tensions within households. Addressing these issues requires rethinking cultural norms and promoting gender equality in all aspects of rural life.

5.3. Gender Dynamics in household Decision-making and Local Leadership Frameworks

The way decisions are made in rural communities has significant implications for the distribution of resources, including the allocation of time and labor to agricultural and domestic tasks. It is important to understand the roles of women and men in household decision-making, which is key to overall livelihood management. A more egalitarian approach can facilitate the improvement of agricultural strategies and equitable distribution of resources. As contemporary development approaches have shown, excluding women from decision-making not only violates their rights, but also leads to suboptimal decisions that do not consider their knowledge, skills and experience. Accordingly, this section of the study examines the influence of power dynamics on household decision-making processes and their subsequent impact on the livelihoods of rural households.

5.3.1. Gender inequality in household agricultural decisions: From proverbs to practices

Domestic and agricultural decision-making in rural communities is heavily influenced by deeply ingrained patriarchal norms. Data show that men are often seen as the primary

decision-makers in both domestic and agricultural matters, while women are relegated to secondary roles. These entrenched beliefs are reflected in proverbs, social practices and power dynamics that perpetuate gender inequality. In many communities, decision-making is predominantly controlled by men, often within the framework of patriarchal ideologies that reinforce male authority. One male participant summed up this dynamic by rhetorically asking:

“. . . who do you think makes the decisions in the presence of the head of the household [husband]?”

This statement underscores the widespread assumption that men have primary decision-making power, especially in critical areas such as the allocation of agricultural resources. In contrast, women's roles are often limited to complementary tasks, such as saving and storing resources to ensure the availability of seeds and fertilizers: “My husband decides what crops and inputs we will use during the growing season, and I make sure we have enough seeds to plant,” one woman explained. These narratives reveal the deeply rooted gendered power imbalances that limit women's agency and participation in crucial aspects of agricultural and domestic life.

This inequality in decision-making not only reflects the practical division of labor but is also reinforced by local proverbs that undermine women's intellectual and leadership abilities. For example, the Amharic proverb “ሴት ብታውቅ በወንድ ያልቅ” (translated as “A woman who knows is inferior to a man”) illustrates the cultural belief that women are inherently less capable than men. Another proverb, “A woman thinks for a day, a man thinks for a year,” reinforces the notion that men possess long-term vision and strategic thinking, qualities considered essential for managing households and achieving agricultural success. These proverbs play an important role in legitimizing male authority, both in the home and on the farm, and in perpetuating gender inequality.

Traditional roles in agriculture reflect significant gender inequalities in decision-making and control over assets. While women are often involved in labor-intensive agricultural work, they are typically excluded from key decisions about agricultural practices. One participant described this dynamic, explaining, “Every morning, my husband tells me and my children what to do, how to do it, and where to do it.” Although she occasionally has the opportunity to express her opinions, she acknowledged, “My views rarely change what

my husband has already planned.” This power imbalance leaves women feeling powerless and reinforces male dominance in agricultural decision-making.

The broader implications of male-dominated decision-making in agriculture can have a negative impact on families, especially when men make unilateral financial decisions. One participant shared a difficult experience in which her husband took out a loan without consulting her and spent the money on non-essential items. She explained, “At the end of the year, we couldn't pay back the loan and had to lease our land to pay the debt.” This decision had a significant impact on the family's economic stability. However, the participant also noted a positive change: “Now lending institutions require both spouses to sign loan agreements . . .,” which helps prevent such problems.

The social environment in rural communities reinforces gender inequality by ridiculing men who share decision-making power with their wives. One male participant explained that if he allowed his wife to make important decisions, his friends would ridicule him because it would be seen as a sign of weakness. This social pressure to conform to patriarchal norms discourages men from allowing their wives more agency in domestic and agricultural matters. Even when men are willing to involve their wives in decision-making, social expectations and fear of losing social status often prevent meaningful change.

Conversely, some women are reluctant to take on decision-making roles for fear of being blamed for negative outcomes. An older participant shared her experience: “When my husband asked my opinion, I let him decide because if something went wrong, he would blame me for what I said.” This fear of responsibility prevents women from fully participating in household decisions and reinforces their subordinate status. In addition, women often seek their husbands' approval for even minor tasks, further underscoring the entrenched power imbalance within the household.

The power imbalance in household decision-making within rural communities has a profound impact on women's overall well-being. In many cases, women lack access to essential resources such as health care and education because their husbands make most of the decisions. One participant shared that her husband controls whether she can seek medical attention, which often results in her relying on traditional remedies rather than visiting a health center. This illustrates the broader consequences of male control over household resources, including health budgets. The unequal distribution of power and

resources between men and women contributes to women's feelings of powerlessness, perpetuating a cycle of poverty and social exclusion. The effects of this inequality extend beyond individual households, reinforcing patriarchal structures that limit women's ability to contribute fully to family and economic life.

Despite the entrenched nature of gender inequality in household and agricultural decision-making, the study reveals an emerging awareness among some individuals of the need for change. A striking example comes from a participant who expressed regret at the ingrained discrimination against women in the local culture:

“Our society already believes that men are the leaders and controllers of the family. I feel that this normative culture not only physically abuses our women, but we also harm them psychologically by rejecting their ideas in common household matters.

This sentiment reflects the psychological damage inflicted on women by their exclusion from decision-making and the pervasive societal norms that reinforce male dominance. The participant's acknowledgement indicates a growing understanding and recognition of the negative consequences of such practices, both for women and for the community at large. Therefore, promoting discussions about the value of women's contributions to households and communities and addressing the underlying cultural and institutional barriers can pave the way for more equitable and sustainable development.

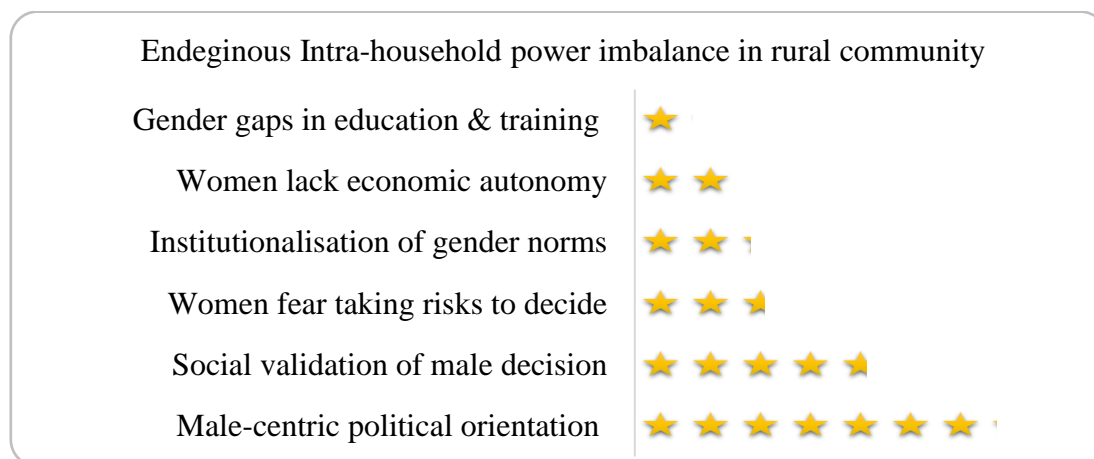
5.3.2. Gender disparities in community decision-making and leadership frameworks

The shared sentiments of the discussion reveal the gender disparities in household decision-making and community leadership. Traditional norms, legal barriers, and cultural expectations collectively marginalize women's active participation in family affairs. Their inactive participation extends beyond the household into broader socioeconomic and political contexts. For example, women are excluded from leadership positions within local government structures, which severely limits their socio-economic destiny. As one participant articulated this disparity, women are completely absent from influential roles within the kebele (local administrative units):

“In our kebele, there are no women in leadership positions, in any position, including the kebele administration, youth and women's associations, farmers' cooperatives, or the judiciary.”

This lack of representation has profound implications. Without women's voices in these key community structures, decision-making processes remain male-dominated, further entrenching systemic inequalities and disempowering women.

Figure 5.3. Endeginous power imbalance and institutional barriers.



Another major obstacle to gender equality is women's access to productive resources, especially land. Although the Ethiopian constitution guarantees women equal rights to access and use rural land, cultural norms often undermine these legal provisions in practice. Traditional views that associate land ownership and control with men make it difficult for women to exercise their legal rights in rural areas:

“... most women do not see themselves as landowners, especially if they have not been entitled in the land registration process. ...”

Despite positive developments, such as the inclusion of women's photographs on land registration certificates, the implementation of these legal reforms remains uneven and many women remain unaware of their rights. One young woman shared her vulnerability within her marriage, explaining that the land she works on legally belongs to her husband: “My husband has the power to evict me at any time, so I have no legal right to the land.” This ownership structure deprives her of decision-making power over the land, leaving her feeling dependent and insecure. These legal and social barriers prevent women from gaining full control over assets that are critical to their livelihoods and personal autonomy.

Traditional gender roles contribute significantly to legal barriers that limit women's autonomy in agricultural activities. The widespread belief that plowing is a man's job forces women, especially those in female-headed households, to rely on male assistance to

manage their land. As a result, they often have limited control over how their land is used, even if they are the legal owners. “Even if a woman owns land, she may have to rent it to a man who can plow it or pay someone to work it for her,” said one participant. This dependence on male labor leads to a loss of women’s autonomy over household resources, thereby reinforcing their economic dependence on men.

The division of decision-making responsibilities within agricultural households underscores broader systemic inequalities in the political and social spheres. As noted above, men are typically responsible for critical agricultural decisions, such as crop selection, while women manage post-harvest tasks, including storage and preservation. One male respondent described this division:

“After the harvest, our women [wives] are responsible for managing both daily consumption and future supplies. They have to manage expenses and savings. If we do not get seeds during the planting season, we [men] may even have to fight with our wives”.

This structure means that while women play a critical role in food security, they are excluded from the initial decisions that affect agricultural productivity. Women's expertise in post-harvest management, their detailed knowledge of food stocks, and their essential role in ensuring household food security are often undervalued. These findings underscore the need to integrate women's knowledge and skills into broader agricultural strategies, as their exclusion limits the household's ability to optimize resources and increase productivity.

The cultural belief that a man is the natural leader of the household and community is deeply rooted in the study area. One participant emphasized the stigma that men face for allowing their wives to make decisions, explaining that men who allow their wives autonomy are often ridiculed by their peers for being ‘controlled’ by women. This social pressure discourages both men and women from challenging traditional gender roles, further reinforcing patriarchal norms. In addition, women often internalize these norms, making them afraid to assert their rights or take on leadership roles. One older woman shared that fear of being blamed for negative outcomes prevented her from speaking out on important issues. It is simply a cultural norm that outwardly marginalizes women and prevents them from making decisions about their own lives.

The analysis shows that promoting more inclusive decision-making at both the household and community levels is essential to optimizing human resources and improving the quality of life for all community members. It enables women to bring valuable perspectives that can improve economic stability, food security and overall well-being. Therefore, it is necessary to address both traditional and legal barriers in the household and in the broader community. Interventions should focus on challenging cultural norms, raising awareness of legal rights, and creating a supportive environment in which women can participate in decision-making without fear of social stigma.

5.4. Cultural and Structural Aspects of Work-Related Violence in Rural Communities

This component of the study examines the complex relationships between gender roles and individual well-being in traditional rural communities. It examines how division of labor, power imbalances, and lack of access to resources affect the lives of rural women. It also explores the broader impact of gender dynamics on economic dependency, physical and mental stress, and barriers to personal growth and development. In particular, physical and emotional violence against women in their work environment was identified as a significant factor in individual well-being. In this context, the study sought to understand how specific cultural norms and perspectives shape individual social lives, rather than relying solely on modern indicators of well-being.

Focusing on rural farmers, the study identified the different challenges faced by young men and women in rural and urban settings. Young men are more likely to seek independence by moving to urban areas when they have disagreements with their parents. In contrast, young women and girls are less likely than men to leave their families. Many of these women, despite experiencing intimate partner violence, stay behind for fear of increased sexual assault and other forms of violence in urban areas. As a result, the social and economic struggles of women are far more complex in rural areas than urban, as they are trapped in cycles of abuse and limited opportunities for mobility.

5.4.1. Experiences and normalization of wife beating in the community

Testimonies from group discussion participants underscore the normalization of domestic violence, particularly wife beating. Participants shared experiences that reflect a widespread acceptance of such violence as a normal aspect of marital life. One male

participant expressed a disturbing story shared by many in the area: “Even women accept it [wife beating] as a normal aspect of marital life, and it does not attract the attention of parents and neighbors unless it results in serious injuries.” This disturbing opinion implies that violence is often viewed as a method of maintaining marital stability or discipline. In many cases, it is seen as a demonstration of male dominance and female obedience. Such deeply held beliefs are a major obstacle to bringing social and economic change to the rural community.

Such attitudes are reinforced by proverbs and sayings that glorify abuse and position violence as a means of discipline. Participants mentioned a common saying in the community: “Women and donkeys get better the more they are beaten,” which refers that women, like animals, must endure violence in order to be capable. Such proverbs have a powerful effect on solidifying traditional norms, in this case perpetuating the idea that physical punishment is a legitimate method of controlling women. This mindset reinforces the subjugation of women by portraying them as inferior and deserving of punishment. The acceptance of verbal and physical violence ensures that gender-based violence remains widespread and is seen as an inherent part of the marital dynamic.

The result shows a causal link between the heavy burden of domestic and agricultural work and the prevalence of violence against women. In rural communities, women are expected to do most of the housework while also contributing to agricultural work. Many participants believe that this division of labor disrupts family harmony: "When I am busy with household chores, I come to the farm late. This sometimes makes my husband unhappy, which can lead to arguments and sometimes even physical fights," said one woman. As a result, women's dual responsibilities can become a source of tension in the household that can escalate into abuse.

Farmers gave practical examples of the physical and emotional vulnerability of women due to their heavy workload and stress. One participant shared how his father used to beat his mother with a tool called a "mensch" for being late to work on the farm, resulting in serious injuries. This participant acknowledged that he no longer physically hurts his wife, but admitted that he never helps her with housework. This may indicate that while the level of wife beating has decreased, traditional gender roles that assign housework exclusively to women persist. Even in the absence of direct physical violence, the unequal division of

labor places a constant burden on women, making them vulnerable to emotional and psychological strain.

The narratives also show that there have been gradual changes in some aspects of immoral cultural practices. Participants mentioned some of the harmful practices that had previously been a source of violence and exploitation. For example, the traditional expectation that women should wash their husbands' feet when they return from work has largely disappeared in many households. This is a sign of a slow change in attitudes about gender roles and shows the progress that has been made in reducing pressure on women. However, several testimonies showed that the forms of violence and exploitation are not the same in all households. One panelist noted: "It is wrong to assume that violence against women is a uniform phenomenon in all households. For example, some men never look up to their wives, let alone physically abuse them, and some are good enough to help their wives with the housework. On the other hand, others spend their income on unimportant things and bring hardship to their families". It is an indication that at least some households are in a good progress practicing equitable relationships, while others remain stuck in harmful norms.

Another important issue raised was the role of social institutions in reinforcing the subordination of women, particularly in religious and community ceremonies. Women are usually given the responsibility of arranging setups and supporting roles, primarily preparing food and drink for social events. In some cases, some festivals and religious ceremonies are held exclusively for men. As one participant explained, when women make mistakes in food preparation, they are insulted and ridiculed by community members. This mistreatment not only distracts their moral status, but also creates a climate of fear and anxiety that contributes to psychological distress. As a result, women's social roles are often defined by their obedience and service, which limits their equal participation in both religious and social activities. These patterns of social structure around religious traditions marginalize and subordinate women in all social, economic, and political spheres.

In general, the cultural normalization of gender-based violence, coupled with overwhelming workloads, exclusion from decision-making and underrepresentation in social affairs, continues to oppress women in rural communities. Although there have been gradual changes in certain practices, the underlying traditional gender roles and power imbalances remain deeply entrenched. This social structure requires concerted efforts by

community leaders, policymakers and activists to promote gender equality by challenging and changing cultural attitudes about women's roles in society in order to address the root causes of violence and labor exploitation against women. A multifaceted approach that includes cultural education, legal reform and community engagement can break the cycle of violence and promote women's equal participation in household and community affairs.

5.4.2. Gender norms and legal barriers to combating forced labor and violence in workplace

The discussion scenarios provided valuable insights into rural women's daily struggles with forced labor, work-related violence, and barriers to seeking legal redress. An overwhelming workload of domestic and agricultural responsibilities for rural women contributes to significant physical and emotional stress. One woman described the relentless nature of her daily routine:

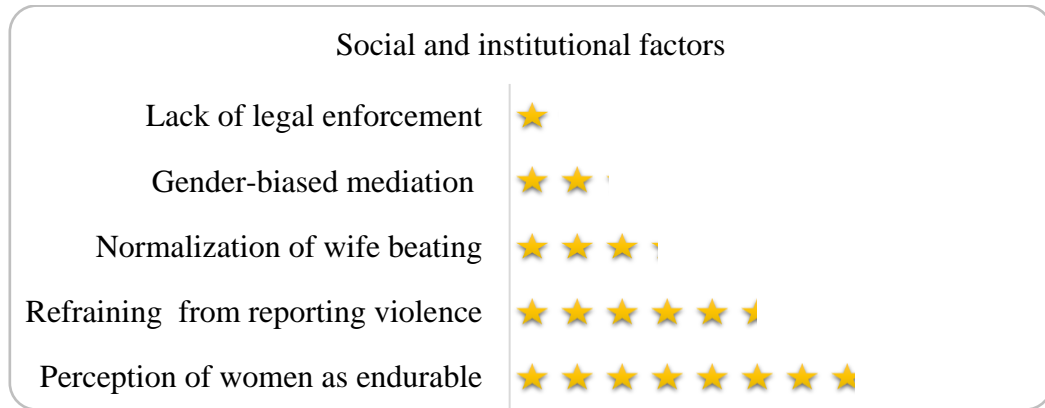
"From the moment I wake up until I go to bed, I am busy with work, juggling farm work and housework, which leaves me physically and emotionally exhausted." Another participant added: "I wake up early in the morning to do my chores and make sure I'm not late for work. Any delay can result in insults, threats, and even physical harm from my husband"

These few examples of common sentiments indicate the excessive workload imposed on women, which fuels marital conflict and exposes them to physical, emotional and psychological strain. As a result, many rural women feel trapped by their overwhelming workload and fear of spousal punishment, which limits their ability to negotiate or express their need for rest or medical care. This sense of vulnerability affects their physical well-being and deepens their sense of powerlessness within their households. For example, one of the participants shared how her lack of decision-making power affects her ability to access health services:

"I didn't go to a health center for my eye irritation . . . because I feel I don't have the right to rest or seek medical attention. My husband should let me go and take care of the money".

This personal reflection makes it clear that women's lack of autonomy over their health decisions exacerbates the challenges they face and limits their ability to prioritize their well-being and seek the care they need.

Figure 5.4. Cultural constraints and legal barriers for forced labor and violence



Cultural beliefs and proverbs reinforce the oppression of women and normalize both forced labor and violence. A particularly vivid example came from a 63-year-old man who compared the resilience of women to that of the earth:

“I am always amazed at the patience I observe in women. Look at this earth! It is able to bear the burdens of all. Similarly, women endure all the challenges in their lives. Our society perpetuates the belief that women should tolerate challenges in the workplace without complaining, just as the earth quietly bears its burdens”.

These cultural sentiments are reinforced by proverbs that explicitly promote corporal punishment. Phrases such as "women and donkeys become more efficient the more they are beaten" suggest that women, like donkeys, must be physically disciplined to improve their behavior. Such stereotypes reflect a deeply rooted traditional normative system that encourages physical punishment to sharpen women to serve their male counterparts. This is the root cause of gender-based violence and women's subordination.

Although such abuse has complicated their individual lives, many women are reluctant to take legal action for the sake of social harmony, especially for fear of divorce. Rather, they strongly prefer traditional methods of conflict resolution, which are often seen as more harmonious and less likely to disrupt family unity:

“I have never reported cases of harassment to the police. If I sue my husband, there is a possibility of divorce, which would complicate my life and that of my children. That is why I prefer to be guided by traditional mediators, even if they are biased against men”.

This statement navigates a widely accepted patriarchal system that consistently favors men in both legal and traditional contexts. In addition, participants mentioned a gender taboo that helps to cool the conflict without the intervention of community leaders, elders, or formal legal mechanisms:

“In our culture, it is considered shameful for a man to enter the majet [kitchen]. When my husband gets angry, I retreat to the majet. That way, I escape possible harm, and after a while we return to normal life. However, reporting the incident to the police could make the situation worse and lead to divorce”. *This underscores the persistence of abuse in a system with rigid patriarchal social structures and an ineffective local justice system.*

The tone of the discussion revealed that cultural norms typically provide women with a more immediate, but flawed, form of protection than the formal legal system. As a result, many participants expressed a preference for traditional approaches to conflict resolution over legal intervention, citing concerns that court cases could escalate conflicts within households. However, traditional methods are not sufficient to ensure the equitable treatment of women, as they undoubtedly reaffirm the patriarchal social system and prioritize male perspectives.

From a human rights perspective, male-dominated community leadership perpetuates gender inequality and limits women's ability to exercise their basic human rights. It points to the need to develop a culturally sensitive legal framework that integrates traditional practices with formal legal processes. Such an approach would help to apply positive traditional rules without compromising the justice system. Training community leaders in gender-sensitive and impartial mediation practices could also bridge the gap between traditional and legal conflict resolution methods. This approach has the potential to create a more equitable system that balances respect for cultural norms with the need to uphold women's rights and dignity.

In general, a combination of cultural norms and an inadequate legal system leave women with few viable options to protect their physical, social and economic well-being. Society's long-standing perception of women as resilient and persevering has both positive and negative effects. While it acknowledges women's strength, it also hinders efforts to reduce gender inequality. Although traditional methods of conflict resolution are preferred because of their perceived ability to maintain family harmony, they do little to protect women's rights or ensure their safety. Changing these cultural norms and reforming the legal framework are therefore essential to creating an equitable environment for women.

5.5. Rural Extension Programs and Gender Priorities for Access and Participation

The main interest of the discussion in this section was to address the persistent gender disparities in access to agricultural extension services and the challenges women face in participating in community training. There is ample evidence that women play a critical role in agricultural production, yet they are systematically excluded from agricultural extension programs. Longstanding gender roles and institutional practices have neglected women's equal participation in community outreach initiatives. A biased approach to service delivery prevents them from acquiring agricultural skills and knowledge.

Like the tradition of assigning certain activities to different genders, there is also a segregation of extension services by gender. Agricultural extension services are primarily for men, while health extension services are for women. This segregation reflects the link between the extension approach and culturally constructed gender roles in rural societies. Cultural norms reinforce the institutional extension system by positioning men as the primary landowners and household decision-makers, leading agricultural extension services to prioritize men. As man noted:

“It is not common for women to attend training sessions conducted by extension workers at the farmers' training center. Alternatively, health extension workers occasionally visit them at home to give advice on hygiene and maternal health.”.

Another woman also mentioned the barriers of communication with the development agents, even when visited in the garden or at home:

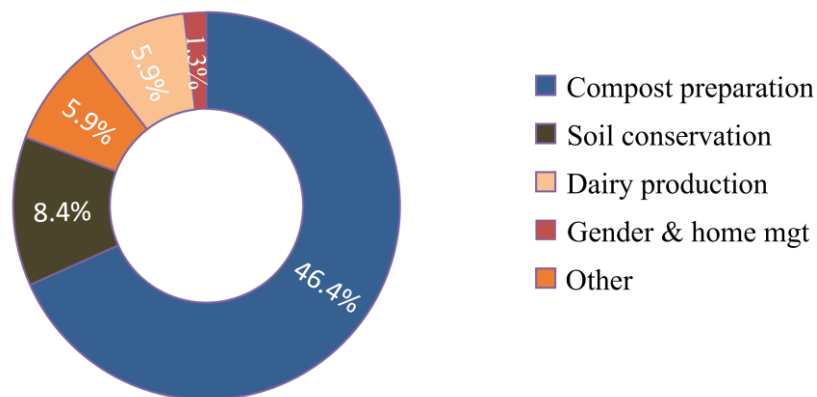
“When an agency like development workers or teachers or local security comes to the house, their first question is, "Is your husband home? If he is available, they give their message or information directly to my husband. If he is not home at that

time, they say they want to see him and make an appointment to come back and talk to him directly because they consider him the head of the household and the authority”.

This gender-blind approach to extension services can limit women's participation in household decision-making and deny them access to agricultural information. To make matters worse, the failure to address gender and household management issues in training programs contributes to the perpetuation of gender inequalities in rural communities. One participant illustrated this gap by sharing her experience: "Although I have attended a number of training sessions, I do not remember any training on gender and related household management issues. Instead, training programs tend to focus on topics such as crop management, compost production, and livestock fattening”.

The success of mainstream agricultural interventions depends on practical social practices, including the willingness of household members to apply a particular extension package on their plot. However, focusing only on agrarian economic domains, while undermining broader gender participation and household power dynamics, will not achieve the intended goal. The quantitative results support this observation, showing that agricultural services tend to emphasize issues such as composting, soil conservation, and dairy production, with limited attention to underlying gender inequalities (Figure 5.5). Therefore, integrating gender issues as a cross-cutting issue in the rural development platform could promote equitable and sustainable development.

Figure 5.5. Coverage of gender issues in the community training package.



Another dimension of gender inequality is manifested in social attitudes that devalue girls' education in rural areas. These perceptions are embodied in proverbs and applied in practice, such as "ሴት ብትማር ዳሌዋ እንጅ ጭንቅላቷ አይሰፋም" ("Education doesn't make a

woman's brain bigger; It enlarges her bottom"), which perpetuate the belief that educating girls is useless. Although there have been improvements over the past decade, such attitudes discourage girls from attending school and promote early marriage as a more appropriate path for their advancement.

These social norms limit women's ability to improve their social status and create a cycle of economic dependency. The ridicule and insults associated with these beliefs force many adolescent girls to leave school, especially those approaching marriageable age.

“I have no education myself and I have five children. My eldest daughter didn't go to school and my youngest daughter dropped out of sixth grade. However, my two sons are currently in grades 9 and 11”, Said a woman.

This disparity in access to education contributes to gender-based economic and social inequalities within the community. In addition to the formal education system, women's participation in agricultural training and other awareness sessions is also superficial. Many respondents pointed out that these training sessions are predominantly male-oriented and that women are either unable to participate or receive less attention than men, even when they are physically present. A male participant confirmed this:

“The extension workers ask women to attend the meetings, but as husbands we discourage our wives from attending because if we are both out, who can prepare lunch at home? ...”

Even on the rare occasions when women do manage to attend, their participation is for formality rather than a substantive engagement. It indicates a significant shortcoming in agricultural extension approaches: a focus on superficial metrics such as attendance, rather than fostering active and meaningful engagement among participants, as a woman described:

“We only attend to avoid financial penalties. The experts are also not concerned with our attention, but with our presence; they are only interested in the number of participants in the training for their report to the higher authority”.

In addition to farmers' oral testimonies, field observations revealed systemic discrimination against women's meaningful participation in agricultural extension programs. Although women were physically present at training sessions, they were neglected by extension agents, perhaps because of the women's own personal interests. One woman's statement is

indicative of this: "I attend the training but I sit far away because I feel that the subject is not my concern. . .". This is exactly what we observed in the field, as shown in Figure 5.6. In these settings, women were relegated to passive roles, with little effort made by the experts to address women from a distant physical seat. This lack of attention to women tells us that there is less acceptance of women as farmers in both cultural and institutional settings. Such social and institutional neglect may limit their power in overall agricultural decision-making.

Figure 5.6. Farmers' training about adoption of improved agricultural technology



The practical example in the figure above clearly showed that women were invited to participate along with men, but the expert paid no attention to them. They were sitting on the other side of the fence making coffee where the training was taking place. This reflects the continuing societal expectation that women should take care of the domestic tasks that have a direct impact on their wider social and economic lives, regardless of their public or political involvement. This clear demonstration of the extension service's focus on attendance figures to meet bureaucratic requirements results in women becoming mere numbers rather than the target of development interventions (Figure 5.6).

Therefore, women's participation in counseling activities depends on two key factors: an invitation from experts and permission from their husbands. It is further complicated by personal or spatial reasons such as lack of awareness, lack of workers at home, distance from the center, and other reasons. In the expert visit form of extension delivery, development workers are mostly male and they strive to reach male farmers. Therefore, we

can say that the existing extension delivery excludes women from direct communication channels and makes them secondary recipients of information from their husbands. This unequal access, coupled with restrictions on women's freedom of movement, undermines their participation in the community.

In summary, the results of this study reveal significant gender gaps in access to agricultural extension services in the study area. These gaps are shaped by gender-segregated service delivery, cultural norms that prioritize men's education and training, extension approaches that prioritize participation over meaningful change, and a narrow focus on the social structure of society. The exclusion of women from direct access to education, coupled with the normative association of women with chores, that maintains the cycle of gender inequality in access to services and resources. Recognizing women as key actors in agriculture and rural development and ensuring their equal access to information and training could contribute to more equitable and sustainable community growth.

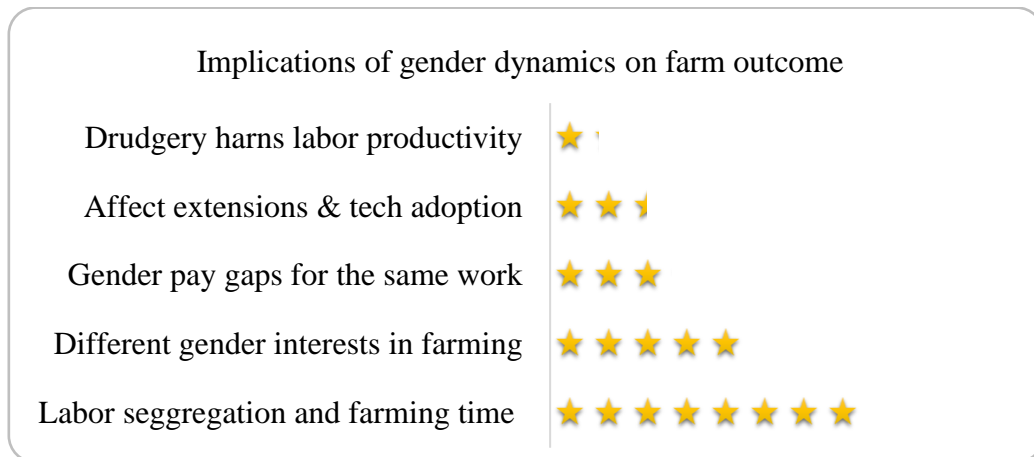
5.6. Gender and workload imbalance in shaping economic outcomes in rural community

This part of the analysis examines the impact of gender roles and traditional practices on agricultural outcomes in rural Ethiopia. Based on group discussions and field observations, the study highlighted the critical role that traditional gender division of labor plays in determining the roles that men and women should play in daily agricultural practices in communities. For easy analysis, we categorized the narratives into five key themes:

1. Mutual exclusion and the burden of domestic work on agricultural activities: Illustrates how women's disproportionate domestic workload limits their labor contribution to agriculture.
2. Gender wage gap and perceptions of women's incompetence in agriculture: Examines the biases that undervalue women's contributions and leads to the wage gap.
3. Divergent gender interests in agricultural practices: Examines how men's and women's different interests and priorities affect agricultural decision-making.
4. Women's drudgery, absence and labor productivity: Examining how the physical toll of women's workloads affects their well-being and efficiency.
5. Gender inequalities in agricultural extension services: Discuss on the implication of women's lack of access to community services could affect agricultural outcomes.

The overarching premise of this analysis is that the gendered division of labor is deeply embedded in cultural norms that profoundly affect agricultural productivity, household income, and social welfare in rural Ethiopia.

Figure 5.7. Impact of gender dynamics and cultural practices on agricultural outcomes



5.6.1. Overlapping labor demands of household and agricultural activities affect agricultural productivity

In rural communities, the gendered division of labor and cultural practices have a significant impact on labor efficiency and productivity in agriculture. According to commonly accepted gender norms, women are primarily responsible for domestic tasks such as cooking, cleaning, and childcare, while men perform physically demanding agricultural tasks such as plowing and harvesting. This division places a disproportionate burden on women, especially during the peak agricultural season, and limits their ability to fully engage in agricultural activities. As a result, labor shortages have a serious impact on crop yields, as subsistence agriculture is highly dependent on the efficiency of family labor:

“Our agricultural production depends heavily on planting, weeding and harvesting. Since we only produce once a year, effective management of labor and resources during this season is critical. Failure to do so could pose a significant threat to our livelihoods”, said a 46-years old man.

The mutual exclusivity of domestic and agricultural work exacerbates the burden on women during critical agricultural periods. Time-consuming domestic tasks, such as cooking and childcare, limit the time they can spend on essential agricultural activities. For example, one participant said,

"I prepare breakfast for the family and do household chores, but when I go to the field, I am too exhausted to contribute effectively. But some men, including my husband, think that if we are not energetic enough in the field, we are lazy".

This woman's explanation suggests that the physical and emotional burdens women face stem from their multiple roles, as well as the undervaluing and misunderstanding of their contributions. Because of societal attitudes that women should prioritize domestic work and support their husbands on the farm, their labor contributions to economic activity are considered less important and unrecognized. "Women's work on the farm and in the home is much more important for the well-being of the family, but our husbands do not recognize the importance of our work," said a woman. This has a negative impact on agricultural productivity, as labor spent on household chores could affect labor efficiency in very important agricultural activities.

Religious customs, particularly the Gizt Days, a commemoration of Orthodox Christian saints, further complicate household labor management in rural communities. These observances prohibit physically demanding agricultural activities such as plowing and harvesting, even during critical periods of the season. A 49-year-old participant elaborated on the practice:

"During the days of Gizt, no Orthodox Christian is allowed to do heavy work, including farm work. Disregarding this normative culture and being caught working during these days could lead to social condemnation and is believed to be a divine punishment".

The term *gizt* refers to the priests' instruction to abstain from agricultural work on certain days. Adherence to this custom results in significant delays in agricultural work, which ultimately affects the daily agricultural activities of community members. Fear of social stigma and perceived spiritual punishment enforce strict adherence to these rules, which are seen as a challenge to farm management. The combination of gender roles and religious segregation of family labor results in a rigid work structure that disproportionately affects women and can undermine overall agricultural efficiency.

As a bottom-up solution, rural communities need to adopt more inclusive approaches and share household responsibilities. Encouraging men's participation in domestic tasks and valuing women's labor contribution to agriculture can shape stereotypical norms. Promoting flexible working hours would improve labor efficiency, increase productivity

and promote greater economic stability. In addition, promoting shared responsibility and gender equality in community education could help achieve broader goals of gender equality and sustainable rural development.

5.6.2. Gender wage gap and stereotypical incompetence of women: Implications for traditional agricultural cooperatives

Another critical issue that emerged from the group discussions is the persistent gender wage gap among agricultural workers. Although men and women contribute proportionally to agricultural tasks such as planting, weeding, and cultivating, women are consistently paid less than men for the same work. One of the panelists even overvalued women's labor contribution to agricultural production:

“. . . women do all agricultural work equally with men, except plowing; they plant, weed and cultivate even more. But they are paid less for the same work and the same hours”.

This disparity stems from entrenched norms that devalue women's work, create economic inequality, and impede women's access to financial independence. A participant from Debre Sina described this inequality: "Even though women work as hard as men, they are still considered less capable than men and are paid less". This systemic invalidation of their work suppresses their earning potential and limits their participation in vital agricultural and community activities, reinforcing cycles of economic and social inequality.

Another key factor considered to affect women's marginalization in productive sectors such as agriculture is men's perspective and less acceptance of women's competence in traditional cooperative systems such as the Wonfel, a labor-sharing network essential for carrying out labor-intensive agricultural tasks. The Wonfel operates on the principle of mutuality, with members taking turns helping each other. However, women are sometimes excluded from membership due to the perception that they are less productive than men in agricultural work, participants explained:

“When it is a man's turn to get help, he may be unhappy if many women are sent to work on his plot. . . . “

This illustrates how patriarchal social norms persist even within community support systems that disadvantage women. Female-headed households are disproportionately affected by this exclusion, as the lack of male labor makes it difficult to complete essential

agricultural tasks, especially plowing, in a timely manner. A resident of Enesekol Kebele described her struggle to complete work in her husband's absence as follows:

". . . . when my husband went on military service for one and a half years, I was in a difficult situation to manage our farm. I asked male neighbors to plow the land, but some areas remained unplowed, resulting in a decline in yields”.

These and other practical scenarios help to show how the division of labor and structural gender inequalities in cooperative systems exacerbate the vulnerability of women and their households. As a result, agricultural production has declined and economic instability has increased. Beyond the economic impact, these discriminatory traditional practices have far-reaching social implications. Women's exclusion from cooperative networks and decision-making processes reduces their sense of belonging and ownership of agricultural activities. As one participant explained:

“"Women already do the lion's share of household and farm work, but they are made to feel that they are working under the fixed order of us. This reduces their motivation and commitment to work. Sometimes, when they are late for work or do not complete the intended task, they worry about our potential upset instead of worrying about the delay in the task. This can affect their work synergy in farming”.

These dynamics not only affect individual women, but also have broader implications for agricultural productivity and social sustainability. This is because agriculture relies on both physical labor and workers' sense of purpose and commitment. Therefore, enforced, ordered, and persistent gender inequality undermines women's contributions, reduces their sense of ownership, and ultimately limits their maximum effort for household production.

5.6.3. Diverse gender interests in agricultural practices: Impact on income diversification and farm operations

Couples' different interests in farming systems, crop choices, production timing, and decision-making have significant implications for farm management, household income, and family aspects of change. The stories highlighted how these conflicting preferences are shaped by gender roles and power imbalances and how they affect income diversification, productivity, and equitable resource use. A recurring theme in the group discussion was the large differences between men and women in their choices of crop diversification and specialization. Men often preferred staple crops with high market value, such as maize and

teff, because they provided immediate financial returns. In contrast, women valued crop diversity to support household consumption, reduce risk, and stabilize long-term income. A male participant described this difference:

“I prefer to plant maize on all our land, but my wife wants to include crops like garlic, pepper, horicoat beans, and pumpkin. Sometimes I pull them out when she plants them without my permission”.

This story, particularly the incident of men pulling up the crops their wives had planted without their permission, clearly illustrates the rigid, male-dominated decision-making structures that inhibit women's strategies. Many women believed that there were many benefits to diversifying beyond the risk of a single crop failing, as another woman from Genbore Kebele noted:

"We [women] prefer to plant several crops in a single season to reduce risks. If the main crop fails, at least we can feed our family from different crops grown together. I think this approach contributes to the family's nutrition and income stability, but our husband's interest is often in practice".

As this scenario was repeated in several discussion groups, it shows that the gender imbalance in agricultural decision-making not only affects agricultural practices but also fuels domestic conflicts:

"I sometimes disagree with my wife about what to plant in the garden. I prefer to plant maize in the whole garden, but she wants to add some spicy plants like cabbage. Sometimes I pull them out when she plants them without my permission. Then she gets angry and it is a source of conflict between us [couples].

Participants went on to explain that autocratic decisions and actions in common household matters can affect household productivity, disrupt family relationships, and undermine cooperation among family members. As a result, the broader consequences of gender imbalance inevitably affect responsible outcomes, particularly in business management: "Unilateral decisions by men can lead to poor financial management, debt, and even poverty," said a group discussant from Debresina Kebele. In contrast, it is widely recognized that inclusive decision-making that includes women's perspectives improves agricultural performance and household harmony. Women's indigenous knowledge of crop varieties, seasonal forecasting, and food security strategies contributes to a more balanced

approach that reduces overdependence on a single crop and ensures that short-term gains do not compromise long-term resilience.

"When we decide together what to grow, we get better results. There are fewer arguments and we have more food and income," a 38-year woman said.

This demonstrates the potential of shared decision-making to increase productivity and social harmony. Alienating women from agricultural decision-making can undermine their sense of ownership and commitment. Therefore, it is necessary to include women in household decision-making, recognize their multilateral roles, empower them, and incorporate their perspectives into agricultural practices to further increase their motivation for household and farm productivity.

In general, we understood from the findings that men's and women's agricultural priorities appear contradictory due to their different roles and responsibilities within the household. Men's focus on market-oriented crops and women's focus on diversification are two critical aspects of subsistence agriculture. To address gender power imbalances and promote shared decision-making, households can compromise these perspectives to improve agricultural productivity, income stability, and overall well-being. This gender-equitable decision-making is not only an ethical imperative but also a practical necessity for sustainable agricultural practices. Integrating women's knowledge and perspectives into agricultural strategies can improve food security and household harmony.

5.6.4. Unequal workload and drudgery of women's work affect labor productivity

According to the narratives, the disproportionate workload that women face in juggling household responsibilities with agricultural work is linked to their health and overall economic participation. These overlapping work demands create a double burden that leaves women exhausted and with limited energy to meaningfully participate in agricultural work. In other words, the workload and work environment cause health problems that lead to absenteeism. This has a lasting impact on agricultural work. The vivid statement of a 42-year-old woman confirms this:

"I get up early to prepare breakfast for six family members while they are still asleep. After household chores, I join them in the fields, but I'm often too exhausted to work efficiently. Unfortunately, some men, including my husband, consider this to be laziness".

As a result, societal perspectives and misinterpretations of women's overburdening exacerbate their physical and emotional stress. The physical strain of this dual responsibility leads to chronic health problems, including muscle fatigue, which further limits their effective participation in labor-intensive agricultural tasks. As their time poverty and related drudgery worsen, it leads to absenteeism from work. Women's limited control over agricultural or financial resources also limits their ability to access medical care or needed rest, perpetuating a vicious cycle of poor health and reduced economic performance. The impact of women's workloads goes beyond individual well-being and directly affects agricultural productivity. Fatigue and illness hinder their ability to fully participate in key agricultural activities such as planting, weeding, and harvesting. In particular, gender segregation and absenteeism during harvest season lead to labor shortages that result in significant food losses.

“Most of the time, we [the men] blame our women when the weeds invade the crop, and when the land is left unplowed, they blame us. In any case, it affects our common livelihood, especially during the harvest and threshing season. If we argue and say this is mine and that is yours, we may lose our harvest,” said the 9th grade complete man.

The solution lies in overcoming long-standing gender stereotypes and promoting gender equality, collaborating on awareness campaigns, and investing in home technology and on-site health care. All of these efforts can promote equitable work practices; a more harmonious and sustainable work environment leads to productivity.

5.6.5. Gender disparity in access to extension: Implications for agricultural knowledge and technology transfer

The results show that women are intentionally or by default marginalized from the formal and informal education system, including agricultural training at farmer training centers. This marginalization of women from agricultural extension services is the most important gap in community outreach programs in rural communities. Although it is well known that women play an essential role in agricultural production, development initiatives have been targeted at men as they are considered to be the decision-makers on whether or not to implement an extension package. This gap creates a significant knowledge deficit for women that limits their ability to adopt improved agricultural practices that could increase productivity, as a participant pointed out:

"I personally think that inclusive education and training is crucial for both male and female farmers. This is because any demonstration such as row planting of teff requires a joint effort on a common plot of land. Without active efforts to bridge this gap, traditional and less efficient farming practices will persist in smallholder farming communities, negatively affecting willingness to change and productivity"

The lack of gender mainstreaming in agricultural extension and other community advisory services was identified as a major barrier to the adoption of more efficient agricultural practices. For example, some farmers said that development experts come up with new farming techniques and technologies to be applied on individual plots, such as row planting instead of broadcasting. However, most of the packages are never tested or are adopted very slowly on the ground. Many of the farmers said that this happened because women were excluded from awareness meetings before they were ordered to apply. They felt that including women in the discussions and giving them equal responsibility would lead to more informed household decisions to test the package and see the gains or losses.

Moreover, a common sentiment that emerged from the group discussions indicate that women's limited participation in agricultural extension services not only broaden the gap in skill development but also ruins the political, social and community engagement:

"Women have limited opportunities to participate in training at the kebele level because they are expected to carry the burden of household chores. As a result, they are less aware of improved agricultural techniques. I think this can affect their equal benefit in social economic matters," said a 29-year-old man.

Agricultural extension services are expected to be the main tool for transforming smallholder agriculture through the adoption of improved production practices, regardless of the gender of the farmer. However, in many rural societies where men traditionally dominate production and decision-making roles in agriculture, they tend to have more favorable access to information, training and resources. This inequality undermines women's confidence and ability to actively participate in and improve agricultural practices. They are less likely than men to adopt new and efficient farming techniques, resulting in missed opportunities for agricultural innovation and productivity gains.

Reducing the gender gap in agricultural extension services is therefore critical to empowering women and improving the overall productivity of farming communities. Women's active and equal participation in training, knowledge sharing, and agricultural

decision-making platforms leads to more informed decisions and higher adoption of modern techniques. Closing this gender gap is also a matter of justice and social security; as study participants mentioned, gender-responsive community services are key to increasing women's community participation beyond agriculture. Therefore, empowering women through targeted training and skills development could be a strategy to reduce the skills gap, increase their confidence, and improve the labor efficiency and sustainability of agricultural practices.

6. TRIANGULATED DISCUSSION: STATISTICAL AND NARRATIVE INSIGHTS ON GENDER ROLES AND AGRICULTURAL PRACTICES

The importance of conducting mixed-methods research and triangulating quantitative and qualitative findings in the context of studying intra-household division of labor and time poverty is significant in capturing the complexity of gender dynamics. This research method allows for a holistic understanding of how labor and time are distributed between men and women within households and farms. It reveals patterns and implications that a single approach might miss. The quantitative method provides measurable trends, such as the number of hours men and women spend on specific tasks and their corresponding contributions to farm income. On the other hand, qualitative findings shed light on the cultural, social, and economic factors that influence the division of labor and how they either perpetuate or alleviate time poverty.

Triangulation therefore ensures a more robust analysis by validating data from different sources and methodologies. It brings together the statistical numbers and narratives of how gendered divisions of labor affect productivity, decision-making, and income distribution on farms. In addition, this approach reveals gender inequalities in access to resources that quantitative data alone cannot explain. Overall, the use of mixed methods and triangulated discussion ensures that the study captures both measurable outcomes and the lived experiences of individuals for comprehensive and actionable conclusions. Based on the above premises, this chapter addresses the three selected themes, such as gender roles and time use patterns, gendered division of labor and individual well-being, and gendered work culture and its implications for farm income.

6.1. Gender roles and time-use patterns in both farm work and household chores

The findings of this study reinforce global patterns of gendered division of labor observed in many agrarian economies, demonstrating that women's dual burden of domestic and agricultural work limits their economic opportunities, exacerbates time poverty, and reinforces gender inequality. These gender disparities are consistent with the broader global development agenda, particularly the Sustainable Development Goals (SDGs), which emphasize gender equality, economic inclusion, and sustainable livelihoods.

The entrenched gender division of labor in the study area reflects similar trends found in other regions, such as South Asia, Latin America, and sub-Saharan Africa, where men

dominate economically valued tasks while women remain engaged in unpaid or low-value activities (Yadeta & Fojo (2019) and Bekele & Nigatu (2023) ; FAO, 2021; Deere & Leon, 2022). In particular, in the East Gojam Administrative Zone, men tend to perform physically demanding tasks such as plowing and strategic management tasks such as marketing. Women, on the other hand, focus on labor-intensive tasks such as hoeing, fertilizing, weeding, and harvesting, in addition to their primary role in unpaid household work.

Qualitative findings provide further insight into how social norms and expectations exacerbate gender inequalities in workload. To justify men's dominant role in agricultural activities and women's role in domestic work, community members used proverbs and metaphors that implied men's strength and women's fragility, such as comparing men to "tree trunks" and women to "branches. Traditionally, the kitchen is considered a private space for women, limiting their social engagement and reinforcing the notion that housework is inherently a woman's responsibility.

From a global development perspective, this division of labor contradicts SDG 5 (Target 5.4), which calls for the recognition and redistribution of unpaid domestic and care work through public services and social protection policies. Women's continued marginalization from decision-making roles in agriculture, coupled with their exclusion from land ownership, extension services and cooperatives, further reinforces the cycle of gendered economic disempowerment. Addressing these labor market inequalities is not only a matter of social justice, but also essential to achieving inclusive agricultural growth and food security.

Time use analysis reveals significant gender disparities in daily workloads, with women working an average of 11.52 hours per day compared to 10.22 hours for men. This imbalance is consistent with global trends, where rural women in regions such as Burundi work up to 13 hours per day, dividing their time between agricultural work and unpaid care work (Blecker & Braunstein, 2022; Musyoka et al., 2024). The disproportionate amount of time women spend on unpaid domestic work, such as cooking, fetching water, and collecting firewood, directly affects their ability to engage in wage employment or entrepreneurial activities (Sharma et al., 2013). This unequal time burden has serious implications for SDG 8.5 (Decent work and economic growth), which promotes equal pay and economic opportunities for all.

The study identifies several key structural determinants of time poverty among women, including childcare responsibilities, limited education, higher dependence on agriculture, and distance from essential resources such as water, firewood, and markets. This finding resonates with SDG 10 (Target 10.2), which calls for the social, economic, and political inclusion of marginalized groups. However, in this study, women's exclusion from agricultural decision-making and cooperative structures further contributes to their time poverty and economic disempowerment. On the other hand, access to agricultural extension services and expert visits alleviates this burden for men, as such interactions are perceived as a relief from physically demanding farm work. For women, however, the impact remains insignificant, suggesting that extension programs do not target women. This illustrates the systemic gender bias in rural extension programs, a pattern similarly documented in India, Kenya, and Latin America, where male-centric agricultural extension services limit women's productivity gains (Khatoon et al., (2023); Aryal, 2019).

Despite the qualitative narratives that confirm women's flexible participation in both reproductive and productive work, their labor contribution as farmers remains undervalued and their domestic work is not recognized in the community. In this regard, about 43.8% of the participants accepted farming as legitimate work. This devaluation of women's multiple roles denies them decision-making authority within the household and the community.

The seasonality of labor also increases women's time burden, especially during the dry season when local springs dry up and women must walk longer distances to collect water from rivers. This additional workload is consistent with the findings of Aryal (2019), who highlights how seasonal shifts in labor intensity disproportionately burden women and trap them in cycles of labor exploitation. Feminist economic perspectives argue that these systemic barriers, compounded by inadequate rural infrastructure, exacerbate violence against women and limit their economic options (Elson, 2017). The unequal distribution of labor within households also means that while men experience periods of rest during the agricultural off-season, women's work is continuous and overlapping throughout the year, further exacerbating time poverty.

The gendered division of labor and workload imbalances also contribute to social disharmony and gender-based violence. The study finds that the unequal distribution of domestic and agricultural labor fuels domestic tensions, with participants citing intimate

partner violence as a common consequence of gendered division of labor and women's limited economic autonomy. Research from Latin America and South Asia confirms that women who lack economic independence are more vulnerable to financial abuse and coercion (Cezar-Vaz et al., (2015) and Gupta (2020)).

In general, the triangulated data show that traditional norms limit men's participation in domestic work, creating a double burden for women who have to take care of it exclusively in addition to their agricultural responsibilities. This imbalance not only affects women's well-being, but also limits their access to important economic and social opportunities. Such traditional, systemic inequalities perpetuate cycles of poverty and women's disempowerment. Therefore, strategic investments in rural infrastructure, such as improved access to education, water and energy, can reduce women's time poverty. More broadly, rural communities can increase productivity, improve gender equality and create pathways to sustainable development by promoting shared responsibility and reducing the disproportionate burden on women.

6.2. Invisible costs of intrahousehold labor division and power imbalances on individual wellbeing

The results show that gendered divisions of labor and power imbalances within rural households have far-reaching consequences for women's economic autonomy, decision-making power, and overall well-being. Quantitative data illustrate the continued dominance of men in agricultural decision-making, planting decisions (54.1%) and land leasing decisions (50.3%), while women's participation is estimated at only 14%. This finding is consistent with global trends where patriarchal structures limit women's access to economic and agricultural decision-making, reinforcing economic dependency and marginalization (Kangas & Lamsa, 2021). While women tend to have greater influence over children's education and decisions about family size. Despite some evidence of shared decision-making on household expenditures (39.1%), men still retain ultimate authority over key financial and agricultural matters, including family labor allocation (64.2%), loans (18.2%), and health budgets (37.0%). This is directly contradicting SDG 5 (Target 5.5), which calls for equal participation in leadership and decision-making at all levels.

Qualitative findings reinforce these patterns, as women's voices in critical household decisions remain subordinate to male authority. As one participant explained, "My husband

decides everything about the farm and my role is limited to doing what he orders and managing the household grain stock wisely. This statement encapsulates how traditional norms entrench inequality by reinforcing male dominance in resource allocation while limiting women's role in financial and agricultural decisions. Cultural proverbs such as "No matter how smart a woman is, she is no better than a man" further highlight the pervasive gendered ideologies that legitimize male control over economic resources and marginalize women both within households and broader community structures.

Consistent with studies by Juma et al., (2023), access to land ownership, financial services, and agricultural extension programs are key determinants of women's financial independence and decision-making power. One focus group participant aptly summarized this disparity by stating, ". . . our men control over everything related to land use, so we [women] have to follow their decisions". Such findings underscore how patriarchal control of land perpetuates women's dependence on male relatives and limits their ability to engage in independent economic activities. Globally, similar patterns are observed in South Asia and sub-Saharan Africa, where women's lack of land rights reduces their bargaining power in agricultural markets and financial institutions (FAO, 2021; Deere & León, 2022). Addressing these inequalities is critical to achieving SDG 1 (Target 1.4), which promotes equal access to ownership and control of land and other economic resources.

Women's exclusion from agricultural extension services and leadership roles at the kebele (local government) level further entrenches systemic gender inequalities. In this study, only 23.3% of women had access to agricultural extension services, compared to 34% of men. Women are often denied participation in community leadership and training programs, reinforcing their economic marginalization. This exclusion is consistent with research by Chaudhry et al., (2019) and Rose et al., (2018) that rural extension services primarily target male farmers, sidelining women's contributions to food production and agribusiness.

Cultural attitudes that discourage women's participation in education, training, and leadership further confine them to invisible domestic roles. One respondent lamented, "My husband attends all the training sessions while I take care of the house. I have no idea what he has learned; I personally feel that he is wasting his time by slacking off when he goes to the kebele". This is an indication of traditional gender roles that challenge women's participation in political, social and economic systems. Such systemic exclusion from education and leadership opportunities further limits women's representation in political

affairs and reinforces cycles of economic disempowerment and subordination (Hussein, 2022; Burdeos, 2023).

The consequences of these inequalities go beyond economic marginalization and affect women's physical and mental well-being. Survey data show that 9% of women are forced to work under pressure, while 10.6% experience physical violence related to their workload. The effects of forced labor, overwork, and domestic violence are severe and contribute to poor mental health outcomes such as stress, anxiety, and depression. As documented in studies by Akhter et al., (2017) and Luis et al., (2018), the double burden of domestic and productive work exacerbates stress, anxiety, and depression. Cultural sayings such as "a woman and a donkey get better the more they are beaten" normalize intimate partner violence, equating women with animals and reinforcing patriarchal authority. These findings resonate with global patterns of gender-based violence (GBV) in traditional societies, where economic dependence and legal vulnerability prevent women from escaping abusive environments (García-Moreno et al., 2015).

Patriarchal norms further limit women's mobility and economic prospects, contributing to cycles of dependency and vulnerability. Unlike young men, who often migrate to urban areas in search of better economic opportunities, women in rural communities face higher risks of gender-based violence and labor exploitation, discouraging them from seeking economic independence. Studies have shown that fear of violence, lack of secure employment, and systemic undervaluation of women's labor discourage rural women from migrating to cities, leaving them trapped in exploitative working conditions (Hussein, 2022; Burdeos, 2023). In addition, women are excluded from traditional agricultural cooperative systems, such as Wonfel, because cultural perceptions undermine women's contributions to cooperative systems. This social marginalization disproportionately affects female-headed households and exacerbates their economic vulnerability (Adjoa Akpalu, 2013; Lecoutere & Wuyts, 2021). This normative work culture is a barrier to achieving SDG 8 Target 8.3, which promotes women's productive employment and equal access to economic resources.

In general, gender inequality and violence in rural Ethiopia are deeply embedded in cultural, institutional and religious barriers. For example, fear of social consequences such as divorce and distrust of the legal system prevent victims from reporting abuse. At the same time, traditional mediation systems that prioritize reconciliation over justice further

normalize intimate partner violence against women. Therefore, transformative cultural and structural change requires a multifaceted approach that combines legal reform, community education, gender training, and targeted interventions in equitable work practices and inclusive decision-making. Increasing access to resources, leadership and community services, strengthening law enforcement and implementing robust support systems are essential steps to improving gender equality and sustainable development in rural communities.

6.3. Gendered work culture and time use patterns: Implications for agricultural performance

The integration of quantitative and qualitative findings in this study demonstrates the significant impact of gendered work patterns and time use on agricultural productivity and rural livelihoods. The findings are consistent with global debates on gender and economic inclusion, particularly within the framework of the Sustainable Development Goals, which include gender equality (SDG 5), economic empowerment (SDG 8), and food security (SDG 2). Traditional divisions of labor, which assign certain agricultural tasks as "male" or "female," continue to shape participation in agricultural activities and limit women's ability to contribute to agricultural performance.

The study shows that men spend an average of 7.96 hours per day on agricultural tasks, while women spend 6.7 hours per day, reflecting their reduced involvement in agriculture due to competing household responsibilities. Women bear a disproportionate burden of domestic work, spending 4.56 hours per day on household chores compared to 2.16 hours for men. This double workload limits women's availability for key agricultural activities such as planting, weeding and harvesting, resulting in delays and inadequate labor input during critical agricultural seasons. These findings are consistent with global studies on time poverty and gendered labor constraints, which highlight that women's excessive domestic responsibilities reduce their economic participation and agricultural efficiency (Santos et al., 2020; Minot et al., 2022).

From a feminist economic perspective, women's unpaid domestic work represents "invisible labor," an undervalued contribution that is often excluded from economic productivity assessments and agricultural policy frameworks. This lack of recognition perpetuates gendered economic marginalization and limits women's bargaining power in

financial decision-making and farm management (Jabeen et al., 2009; Kinati & Mulema, 2019). The growing debate on the work/non-work dichotomy highlights the need to integrate domestic work into economic models and ensure that women's multiple contributions to food production and household well-being are formally recognized (Minot et al., 2022).

The study finds that traditional labor segregation affects agricultural efficiency and income generation, as wage differentials and exclusion from agricultural cooperatives disempower women and reduce farm productivity. Women's limited participation in collective labor systems such as *Wonfel* limits their access to shared agricultural inputs, labor pools, and market networks, leading to delays in farm operations and reduced yields. Similar challenges have been documented in India and Kenya, where women's exclusion from agricultural cooperatives weakens market access and reduces bargaining power (UNDP, 2020).

The gendered division of labor also influences wage differentials, with women consistently earning less than men for the same agricultural work. This persistent gender wage gap reinforces economic dependency, discourages women from participating in commercial agriculture, and reduces labor efficiency in agricultural supply chains (Saha et al., 2021; Sadiq et al., 2022). The undervaluation of women's labor contributions further limits their participation in leadership roles within cooperatives, creating systemic barriers to economic empowerment and productivity growth.

Qualitative narratives reveal the exhaustion and inefficiency caused by the double burden of domestic and agricultural work. One participant stated, "After I finish household chores, I go to the farm with little energy to do agricultural work, but I cannot perform as expected and my husband thinks I am lazy." This statement illustrates the labor trade-offs that limit women's contributions to agriculture, as excessive household responsibilities reduce their ability to engage in physically demanding agricultural tasks. The more time women spend on household chores, the less energy and focus they can devote to farming, resulting in lower yields and missed production opportunities.

This imbalance in time use directly affects farm productivity and income levels, as confirmed by the regression analysis, which shows a negative correlation between time spent on unpaid household work and farm income ($\beta = -2963.9$, $p = 0.036$). Similarly,

larger family sizes and the presence of young children significantly reduce farm income as women are forced to spend more time on care work rather than farm work. These findings are consistent with Norfahmi et al., (2017), who reported that unpaid household work reduces women's availability for agricultural activities, leading to lower productivity and income levels. Addressing these constraints is critical to achieving SDG 8 (Decent work and economic growth, target 8.5), which promotes equal labor market opportunities and fair wages for women in agriculture.

Another critical finding of this study is the impact of market access on farm income. Regression results indicate that increased distance to markets negatively affects income levels ($\beta = -929.9$, $p = 0.014$), as transportation costs and travel time create significant barriers to selling agricultural products profitably. These findings are consistent with global research, where limited market access disproportionately affects women farmers, reducing their earnings and economic independence (Inwood & Stengel (2020); Korgitet, 2019). Expanding rural infrastructure and improving market linkages is therefore essential to increasing women's economic participation in agriculture and ensuring sustainable farm incomes (SDG 2, Target 2.3).

The study also finds gender differences in crop choice and farming strategies, with men favoring market-oriented monoculture systems and women prioritizing crop diversification for food security. These differences influence agricultural decision-making, shaping planting schedules, resource allocation, and market engagement. Similar patterns have been observed in Latin America and parts of Africa, where women's agricultural priorities focus on household subsistence, while men's strategies emphasize profit maximization (Reynolds et al., 2020; Covarrubias & Alejandra, 2015). However, in other African countries, such as The Gambia, agroecological factors play a stronger role than gender in shaping farming systems and seed choices, suggesting that gendered decision-making in agriculture is highly contextual.

One of the most significant barriers to women's agricultural productivity is their exclusion from rural development programs and extension services. The study finds a positive correlation between access to extension services and farm income ($p < 0.01$), yet women remain underrepresented in agricultural training programs. Cultural norms and institutional biases prioritize male farmers for training opportunities, limiting women's ability to adopt modern agricultural techniques and access financial resources (Lee et al., (2023). Similar

studies confirm that rural women face significant institutional barriers to accessing agricultural training and extension services (Kalogiannidis & Syndoukas, 2024; Atsbeha & Gebre, 2021).

The results of this study reveal widespread gender inequalities in labour allocation, time use, and decision-making that negatively affect agricultural productivity and women's well-being. To mitigate these problems, targeted policy interventions are needed, such as reducing women's time burden on domestic work through investments in childcare services, clean energy solutions, and labour-saving technologies, which can free up time for agricultural work and economic participation. In addition, increasing women's participation in agricultural cooperatives can improve market access and financial independence. Addressing the gender wage gap in agriculture by implementing fair wage policies and ensuring equal pay for men and women can also reduce economic inequalities. In addition, expanding gender-sensitive extension services by integrating women-specific agricultural training and support programs can increase productivity and promote inclusive rural development.

7. CONCLUSION AND POLICY RECOMMENDATIONS

7.1. Conclusion

This integrated quantitative and qualitative study provided a comprehensive examination of intra-household gender relations in rural Ethiopia, focusing on their implication on farm practices and individual well-being. The study explored the complex dynamics of the gendered division of labor and time allocation between agricultural and domestic tasks. The triangulated findings, combining quantitative data from household surveys with qualitative insights from group discussions, reveal a strict gender division of labor in both agricultural and domestic activities. While both men and women engage in various labor-intensive agricultural activities, men tend to be the actual farmers and household decision-makers, while women are relegated to invisible domestic work. As a result, rural women suffer significant time poverty and work longer hours than men due to their dual roles in agricultural production and domestic work. Factors such as entrenched gender norms, socio-cultural, religious and seasonal factors play a critical role in promoting an unequal division of labor and the subordination of women. In addition, barriers such as lack of education, childcare responsibilities, and distances to vital resources exacerbate women's time poverty.

The consequences of this unequal gender division of labor are twofold. First, it has a significant impact on gender-based violence, including forced labor and work-related stress. In addition, the normalization of intimate partner violence based on the expectation of obedient and submissive female partners causes psychological harm and reduces their overall well-being. In addition, women's demanding daily routines are often not recognized and supported by their male counterparts, resulting in lower wages for women who work the same hours as men. This highlights the pervasive gender discrimination fueled by regressive cultural norms that threatens women's individual and collective social and economic well-being.

Second, households where women bear a greater burden of unpaid household work tend to have lower agricultural productivity and income. This is mainly due to women's limited access to resources, reduced decision-making power, and lower participation in agricultural training and extension services. Work segregation leads to inefficient agricultural practices due to the feminine or masculine nature of activities, while wage differentials and women's

exclusion from cooperatives hinder their contribution to agricultural income. In addition, abusive practices such as forced labor undermine women's motivation and sense of responsibility for agricultural tasks. Other socio-economic factors such as education, family size, land ownership and market access exacerbate these gender inequalities, as shown by linear regression analysis.

Addressing these gender inequalities requires a multi-pronged approach that includes targeted policy interventions and investments in time-saving technologies. Implementing gender-responsive agricultural policies is critical to ensuring women's equal access to resources and decision-making power. Targeted community education programs can provide women with the skills and knowledge they need to fully participate in economic activities. In addition, encouraging community-based initiatives that challenge traditional gender norms and promote shared household responsibilities will promote a more equitable division of labor. Engaging men and women in dialogue on these issues is critical to sustainable change. Investments in infrastructure, such as improved water supplies, energy-efficient stoves and childcare facilities, can also significantly reduce time poverty, allowing women to spend more time on income-generating activities.

In conclusion, this study advances our understanding of the complex relationship between gender, time use and economic outcomes in rural Ethiopia. It highlights the urgent need to address the root causes of gender inequality and time poverty in order to improve agricultural productivity, individual well-being and sustainable development in rural communities. The integration of statistical data with qualitative narratives provides valuable insights that can inform policy and development efforts in this region. However, further research, particularly involving time series analysis, is essential to deepen our understanding of how socioeconomic and policy changes affect gender relations and household dynamics over time. Future studies should continue to address these issues, considering the evolving socioeconomic landscape and its impact on rural livelihoods.

7.2. Policy Recommendations

Promoting gender equality, addressing abuse and violence in the workplace, increasing agricultural productivity and promoting sustainable development require comprehensive, integrated and targeted strategies. These strategies must take a gender-sensitive approach from the grassroots to the national level, with a focus on empowering women and

improving livelihoods. Achieving these goals requires a multidimensional approach that includes legal reforms, awareness campaigns and community engagement to challenge entrenched discriminatory societal attitudes. The following recommendations are tailored to key stakeholders:

Community leaders

Community leaders: Community leaders play a critical role in promoting gender equality by advocating for inclusive development in their communities. To achieve this, they should integrate gender perspectives into mainstream development programs by establishing participatory communication channels that actively involve families, regardless of gender, institutions and local groups. These channels can facilitate discussions and training aimed at addressing economic inequalities, challenging harmful social norms, and promoting shared responsibilities.

Increasing women's representation in local councils and agricultural cooperatives, is essential to ensure that women's voices are heard and valued in the community. In addition, community-based support networks should be established to provide women with equal access to resources, networking opportunities and collective work initiatives. Encouraging the formation of women-led associations can improve their economic and social status through mutual support and knowledge sharing.

Finally, community leaders should advocate for a more equitable division of labor by encouraging the active participation of both men and women in caregiving and agricultural work. Involving influential figures, including religious leaders, can help change cultural attitudes and promote acceptance of shared responsibilities.

Local authorities and policymakers

Local governments and policymakers should design policies that address the unequal division of labor and time poverty by recognizing women's unpaid care work and its reproductive value for economic labor production. This can be achieved through investments in labor-saving technologies and improvements in rural infrastructure, such as access to clean water and energy-efficient cooking solutions.

Equally important is ensuring women's equal access to productive resources, including land and agricultural inputs, which can build their self-confidence. Land tenure policies must secure women's property and inheritance rights to promote financial independence and empowerment. Local governments should create opportunities for women to undertake leadership roles in government and agricultural cooperatives by establishing quotas for equal representation and promoting shared decision-making within communities.

Enforcing laws that protect women from domestic violence and discrimination in the workplace is also critical. This requires the establishment of accessible reporting mechanisms and support services for victims, enabling them to participate in economic activities without fear of harm or prejudice. In addition, policymakers should launch awareness-raising campaigns that challenge discriminatory gender norms by working with civil society.

NGOs and donors

In efforts to address gender equality, women's time poverty and agricultural productivity, NGOs and donors can play an important role by organizing awareness-raising campaigns and workshops involving both men and women to promote mutual understanding and shared responsibilities in domestic and economic roles. Providing women with the financial and technical support to acquire modern agricultural technology can ease their household responsibilities.

NGOs and donors should support economic empowerment initiatives such as microfinance, skills training and entrepreneurship programs to increase women's financial independence and decision-making power. Initiate mentoring programs that support women-led cooperatives and networks to promote mutual support and collective action. They should also work with local leaders and influencers to advocate for gender equality and promote cultural change within communities.

In addition, initiatives that focus on education, economic empowerment, and protection from intimate partner violence are essential, as leadership training and legal services can empower women to exercise their rights. Finally, supporting research can provide critical insights for evidence-based policies and sustainable development strategies on gender issues.

Academic and Research Institutions

Universities and research centers should prioritize the study of gender dynamics in agriculture and rural communities, addressing structural and methodological gaps in gender data analysis. This research should explore the influence of social norms on economic development and social well-being in a broader range of communities and provide actionable insights for policy and practice.

Higher education institutions need to integrate gender-responsive content into academic programs to educate students about the importance of gender equality, challenge harmful stereotypes, and analyze the causes and effects of gender-based violence. This educational approach can cultivate future leaders who will advocate for gender-responsive policies and initiatives.

Moreover, gender issues should be incorporated into community outreach activities such as counseling and awareness workshops. Encourage students to foster their civic responsibility by organizing community dialogues on the community service platform.

7.3. Study limitations and issues for future research

This study examines the interplay between traditional gender roles, gendered division of labor and time poverty, with a focus on their impact on agricultural practices and individual well-being. The study focuses on rural farming communities in the East Gojam Administrative Zone of Ethiopia. While the study provides in-depth insights into selected districts within this region, its findings may not be fully generalizable to other areas of Ethiopia due to differences in cultural norms, economic structures, and agricultural practices. Such differences may limit the broader applicability of the findings to different regional and cultural contexts within the country.

The cross-sectional design of the study is a major limitation, as it limits the ability to identify causal relationships between variables. Longitudinal studies would be better suited to capture the dynamics of time poverty and its long-term effects on economic outcomes and overall well-being. In addition, the reliance on self-reported time use data introduces the potential for recall bias, which may affect the accuracy of the statistical figures. The division of labor and workload between men and women would also be expected to vary

by weather conditions, aging, and season, but such confounding factors were not comprehensively addressed in this research framework due to time limitations.

In addition, while the study shows that women devote significant hours to unpaid work and its contribution to the rural economy, it was difficult to quantify its monetary values within the broader economic analysis. This is because there is no standard agricultural wage in the community. Therefore, time-series research is needed to provide a more holistic understanding of rural economic dynamics, quantify the value of women's unpaid work, and integrate it into economic models.

The study is limited to a specific time period, which may not adequately capture historical changes or long-term trends in gender roles. The cross-sectional nature of this study limits its ability to evaluate the effectiveness of specific policy interventions or development programs. Long-term follow-up studies are needed to assess the sustainable impact of interventions aimed at improving gender equality and agricultural productivity.

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ANNEX

Survey questionnaire on gender role and time-use activities

Project Title: Intra-household gender division of labor and time poverty in farming households, in the case of rural Ethiopia.

My name is Manale Andargie Embiyale and I am a Ph.D. student at the Justus Liebig University Giessen under the supervision of Prof. Dr. Stefan Wahlen. My research focuses on intra-household gender relations and women's time poverty in rural agricultural households, specifically in the East Gojam Zone of Ethiopia. The results of my study will provide insights into the extent of women's participation in productive and reproductive activities, the severity of their time poverty, and the association with double burden and labor exploitation in rural Ethiopia. This can assist agricultural policy makers, rural development practitioners, and other stakeholders working on household technologies to reduce women's workload. Removing barriers to women's full participation in agricultural production can potentially increase food production and reduce household food insecurity and poverty.

All of your personal information, including your name, will be kept confidential and will not be shared with any third parties. To protect your privacy, only pseudonyms will be used in the final report. All information obtained from the interview will be kept strictly confidential and will only be used for research purposes. The interview questionnaire and notes will be kept securely in a locked filing cabinet to which only I will have access. With this in mind, I invite you to participate in this study as your ideas will be of great value to this study. If you agree to participate, you will be asked to share your insights and experiences about the division of labor, duration of activities, and decision-making authority between spouses in the household. The interview will take approximately 45 minutes to one hour. Your participation in this research is voluntary and you may choose not to participate. Your participation and input will be greatly appreciated.

Wereda name _____, kebele name _____

Participant name _____, Code _____

Date _____

Section 1: Personal and socio-economic characteristics of individuals living in rural households.

1. Sex
 - a. Male 1
 - b. Female 2
2. How old are you?
_____ years
3. What is the highest level of education you completed?
 - a. No studies 1
 - b. Grade 1-8 2
 - c. Grade 9-12 3
 - d. Diploma and above 4
4. What is your religion?
 - a. Orthodox 1
 - b. Muslim 2
 - c. Catholic 3
 - d. Protestant 4
5. How long have you and your spouse been living together?
_____ Years
6. In addition to yourself, how many family members are living in your home?

	Yes	No	Number
a. Child <5 years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
b. 5-14 years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
c. >18 years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
d. >65 years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
7. What is the main source of energy/fuel for your household for cooking, and lighting?

- 7(a) If you mention fuel wood for question 7, how far do you travel to collect fuel wood? (The distance in km or time taken to walk).
_____ Kilometers; _____ hours to walk
8. What is the household's main source of water for domestic use such as washing and drinking?

- 8(a) If you mention spring or river for question 8, how far do you travel to fetch water? (The distance in km or time taken to walk).
_____ Kilometers; _____ hours walk
9. How far do you travel to the nearby local market? (The distance in km or time taken to walk).
_____ Kilometers; _____ hours walk
9. How far do you travel to the nearby local market? (The distance in km or time taken to walk).

_____ Kilometers; _____ hours walk

10. Which of the following is the major source of income for your household?

- a. Earnings from crop and livestock 1
- b. Business/ trade 2
- c. Salaries/wages 3
- d. Aid in kind/cash 4
- e. Other (Specify) _____

11. What is the annual income of this household from farming and animal husbandry? (Please indicate income from the last year).

_____ Birr

12. Do you have farmland (arable land, garden)?

- a Yes 1
- b No 2

11(a) If your answer to question 11 is yes, what is the size of the farmland?

_____ hectare

Section 2: Intra-household decision-making and access to resources

13. How do you describe your level of participation for household decision and control of the following activities in your household? (*Please tick only one box on each column*)

Decision	Very low	Low	Both Jointly	High	Very high
Management of crop and livestock production					
a Determine crop types to grow in a season	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b How much to spend on pesticides and fertilizer	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c What to do with the products (to sell, store, or consume)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d How to use the earnings from the sales of crops and animals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e Buying and restocking grains	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. What food to buy for family meals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g Determine the amount of your own daily consumption	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h Sale of livestock products	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Slaughter animals for home consumption	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Restocking or buying animals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k Engage in off-farm activities	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Labor, time, and health treatment					
a Determine time and labor for family activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b What to do when a child falls sick/child healthcare	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c Recruiting wage worker /daily worker	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d Determine the number of children to have	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

- e The amount of loan and time of repayment 1 2 3 4 5
- f. Participate in any leadership position at the kebele level 1 2 3 4 5
- g How much to spend on family healthcare 1 2 3 4 5

14. In managing your farm, how would you describe the extent of your decision-making role across all agricultural domains, such as income allocation, crop selection, harvesting strategies, and management of farm inputs?

Decision	Very low	Low	Both Jointly	High	Very high
Management of crop and livestock production	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Household maintenance and care	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Financial matters	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

15. Did you receive any form of extension services during the last 3 months?

- a. Yes 1
- b. No 2

14(a). If your answer to question number 14 is “yes”, what extension services did you get?

14(b) If your answer to question number 14 is “no”, why? (Explain the reason)

16. Did local development agents or health extension workers visit you in the last three months?

- a. Yes 1
- b. No 2

16(a) If your answer for question number 16 is “yes”, how often did the experts visit you in the last three months?

- a. Once 1
- b. Twice 2
- c. Any other, _____ 3

17. Do you ever participate in any leadership positions at the kebele level (kebele leader, social court judge, cooperatives)?

- a. Yes 1
- b. No 2

17(a) If your answer to question number 15 is ‘No’, why?

18. When there is a village assembly of any kind, how often do you participate in?

- a Always 1
- b Sometimes 2
- c Never 3

19. Did you participate in any type of training last year or before in the farmer training center?

- a Yes 1

b No 2

19(a) If your answer to question number 17 is “yes”, what kind of training did you receive?

18(b) Did you take any training related to sharing of household activities and gender equality?

a) Yes 1 b) No 2

19. How you rating your understanding about gender equality?

a) high 1 b) medium 2 c) low 2

20. What are your sources of information to learn about agriculture and household management?

a. Radio 1

b. Television 2

c. Any other, _____ 3

21. In your opinion, who has more access and control over agricultural resources and services in your area? (Consider inputs, outcomes, education and counseling, health service, farm visit, etc.)

a. Mostly men 1

b. Mostly women 2

c. Both have equal access 3

19(a). If your answer to question number 19 is “Mostly Men”, why do men have more access and control over agricultural services and resources?

22. In your opinion, do you believe that a single partner's monopolistic control over capital and productive assets has an impact on farm productivity and family income?

a Yes 1

b No 2

20(a). If your answer to question number 20 is “yes”, how can it affect farm production?

Section 3: gender labor divisions and individual perceptions of gender roles

23. In your household, how do you describe your responsibility in each of the following activities? (Please tick one box only and tell me the reasons)

	Very little	Little	Both (Jointly)	High	Very high
System of national account activities (farming and animal husbandry)					
a. Milking and processing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Animal feeding	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Herding animals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Field preparation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

e. Plowing farm with animals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Planting/sowing seeds	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Crop cultivating	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Transplanting	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Weeding unwanted plants	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Fertilizer application	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Harvesting crops	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Container preparation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. Threshing crops	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Extended system of national account (unpaid housework and care)					
a. Care for children and elders	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Prepares the meals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. House cleaning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Barn cleaning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Fetching water	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Firewood collection	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Washing cloth and dishes	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Fence construction	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Purchasing foodstuff	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Preparing traditional beverages	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

24. In your opinion, how do you describe the division of household chores between you and your spouse/partner?
- I do more than my spouse does 1
 - My spouse does more than me 2
 - We have equal contribution 3
 - I do not know 4
25. In your opinion, how do you describe the division of farming work between you and your spouse/partner?
- I do more than my spouse does 1
 - My spouse does more than me 2
 - We have equal contribution 3
 - I do not know 4
26. Considering all sources of income and efforts between you and your spouse, who has the highest contribution to household income?
- I have a greater contribution to our income 1
 - My spouse has a greater contribution 2
 - We have about the same contribution 3
 - It is difficult to compare 4
27. Who worries more about household expenses?
- Mostly men 1
 - Mostly women 2
28. Consider the way you spent your time over the last 7 days. Do you feel that time is too rushing to complete your activities?

- a. Yes 1
- b. No 2

29. In your opinion, who spends more time and is exhausted in doing housework and farm activities?

- a. Mostly men 1
- b. Mostly women 2
- c. Both have equal access 3

30. To what extent do you agree or disagree about the following statements? (*Please tick one box on each line*)

	Strongly agree	Agree	Disagree	Strongly disagree	Can't Choose
a) Housework hampers career opportunities in the market work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b) A husband can beat his wife if she disobeys his order.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c) A man's job is to earn money and a woman's job is to serve family	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d) Women contribute less to crop production than men do.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e) The existing gender relationship is not bad and should be maintained	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f) In comparison to men, women are incapable of making decisions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g) Cultural values and practices usually favor the male gender	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

31. How often has each of the following happened to you during the past three months?

	Always	Sometimes	Never
a) My spouse made me to work by force or treat me without my consent.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
b) I came to my home from the field too tired to do the chores for the family	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
c) Difficult to work on the farm because of the amount of time I spent on housework.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
d) I have arrived at work too tired to function because of the housework	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
e) I cannot participate in extension programs due to my housework.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
f) I disagree with my spouse about the sharing of household work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

- g) My spouse has beaten me due to my disobedience to his order (for females) 1 2 3
- h) The rushed daily activities hampered my physical and mental health. 1 2 3
- i) I have work stress and depression 1 2 3

32. Have you observed changes in the patterns of gender division of labor for the past 10 or earlier years?

- a. Yes 1
- b. No 2

33. If your answer to question number 29 is yes, what kinds of change do you observe?

34. What were you doing yesterday in the following time slot? (Activities within one-hour slots for a Day (24 hrs.) beginning at 5 pm on the previous day).

Time	What were you doing? (1 main activity on each line)	Duration of activity? (hrs. or min)		What else were you doing? (Most important parallel activity)	Duration of activity (hrs. or min)	
		Hrs.	Min		Hrs.	Min
Morning 7_12 am.						
Afternoon 13_18 pm						
Before midnight 18_24 pm						
After midnight 1_6 am						
	Total					
Activity codes						
Crop farming (weeding, planting, harvesting etc)					01	
Animal farming (herding, forage preparation etc)					02	
Care for children and elders					03	

Fetching water	04
Collection of firewood	05
Washing and cleaning activities	06
Cooking and beverage preparation	07
Doing nothing/leisure time	08

35. Do you think the work burdens for men and women are similar throughout the year?

- a. Yes 1
- b. No 2

31(a) If your response to question number 31 is No, which agricultural season is the toughest for men and women?

- | | Men | Women |
|--|----------------------------|----------------------------|
| a. Summer (June, July, and August) | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 |
| b. Autumn (September, October, and November) | <input type="checkbox"/> 2 | <input type="checkbox"/> 2 |
| c. Winter (December, January, and February) | <input type="checkbox"/> 3 | <input type="checkbox"/> 3 |
| d. Spring (March, April, and May) | <input type="checkbox"/> 4 | <input type="checkbox"/> 4 |

36. Do you think that unequal distribution of household work by gender affects farming production?

- a. Yes 1
- b. No 2

32(a) If your answer to question 32 is yes, how does unequal labor division affect family income?

32(b) How do you rate the effect of unequal labor division on family income?

- a. High 1
- b. Very high 2
- c. Low 3
- d. Very low 4
- e. No effect at all 5

37. If you perceive the overall intra-household gender relations as unfair, what solutions do you think to balance men and women's burdens in farming households?

Guideline for Focus Group Discussion

Research Topic: An Assessment of intra-household gender division of labor and time poverty in rural Ethiopia.

My name is Manale Andargie Embiyale and I am a PhD student at the Justus Liebig University in Giessen. I am conducting a study that examines the nature of intra-household gender relations and time poverty in rural households under the supervision of Prof. Stefan Wahlen. The aim of this discussion is to understand the knowledge, perceptions, attitudes, experiences and challenges of farmers (men and women) regarding gender roles, power relations and division of labor in agricultural households. That's why I am here to listen to your ideas and feelings that are important for my studies. You are free to agree or disagree with each other's ideas/views on a particular topic. With this in mind, I invite you to participate in this personal group discussion. Any information you provide will be used for research purposes only. It will remain anonymous and confidential. The results of this study are expected to provide evidence-based information for agricultural policy makers, rural development practitioners and other interested stakeholders to focus on rural home technologies and reduce the excessive workload of rural people. The interview will take approximately 45 minutes to 1 hour. Your participation and input will be greatly appreciated.

Date: _____

Participant Name _____

Participant Signature _____

Interviewer name _____

Interviewer Signature _____

Discussion Questions

- 1) What roles are assigned to men and women in housework and agricultural activities in this community?
 - 2) What factors contribute to the gender division of labor and gender inequality in this rural community?
 - 3) Who contributes more to the household income: men or women? Why?
 - 4) How do you describe the effects of existing gender relation including labor division on individual well-being?
 - 5) Who mainly makes the household decision and controls agricultural resources: men or women? (Land, capital, inputs, etc.). Why?
 - 6) Do women and men have equal access to services in your community (education, training, and other extension services, etc.)?
 - 7) How do men and women manage their time, particularly during the cropping season, and how does this affect household income?
 - 8) Besides labor and time, what socio-cultural factors do you believe influence agricultural production?
 - 9) What specific actions or changes do you think could help to enhance agricultural productivity?
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