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COLLEGE OF DEVELOPMENTAL STUDIES
CENTER FOR ENVIRONMENT AND DEVELOPMENT
PROGRAM OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

MASTERS THESIS ON;

**GENDER TRANSFORMATIVE APPROACH FOR CLIMATE CHANGE
ADAPTATION IN ETHIOPIA: A CASE STUDY ON GENDER MODEL FAMILY**

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June 2024

Addis Ababa, Ethiopia

**ADDIS ABABA UNIVERSITY COLLEGE OF DEVELOPMENT STUDIES CENTER
FOR ENVIRONMENT AND DEVELOPMENT**

**GENDER TRANSFORMATIVE APPROACH FOR CLIMATE CHANGE
ADAPTATION IN ETHIOPIA: A CASE STUDY ON GENDER MODEL FAMILY**

**A THESIS SUBMITTED TO THE COLLEGE OF DEVELOPMENT STUDIES OF
ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE
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AND SUSTAINABLE DEVELOPMENT STUDIES**

BY

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	Internal examiner	Signature	Date

Declaration

I, the undersigned, thus confirm that this thesis is my original work and that all base resources utilized for the study have been properly recognized, following the guidance and advice of the research advisor. It is offered for the environmental and sustainability MSc, which is half completed. This university, or any other connection, has not submitted a single degree along with this study.

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Signature_____

Department_____

Date_____

Abstract

Climate change is a global phenomenon that poses a significant challenge to people's livelihoods worldwide. Ethiopia, in particular, stands out as one of the most susceptible nations to the effects of climate change, lacking the necessary capacity to effectively respond. Climate resilience pertains to the construction of systems and practices capable of adapting to and enduring the impacts of climate change, which frequently have a disproportionate effect on vulnerable communities. When examining the impact of climate change on women, numerous studies underscore the role of discriminatory norms and regulations, women's socioeconomic status, and restricted mobility in rendering them more susceptible to the effects of climate change. The general objective of this study is to analyze how the Gender Transformative Approach (GTA) has improved the resilience of women in Ethiopia by examining the implementation of a GTA program called Gender Model Family (GMF) in Ethiopia. The data collection format includes key informant interviews, group discussions, and couple and family interviews, as summarized below. A full description of the methodology is also available in Atmadja and Beyene (2024). The sampling technique used in this study is non-probability sampling because it involves purposive selection of specific villages and individuals to gain detailed, contextual insights into the impact of the GMF program, without aiming for generalizable results across a broader population. The methodology employed in this study combines thematic coding, narrative analysis, and descriptive analysis to offer a comprehensive exploration of the research topic. This approach ensures a deep and nuanced understanding of the data, contributing valuable insights to the field. The findings reveal that the GMF program fosters equitable decision-making and shared responsibilities among men and women across various regions and decision areas. In contrast, non-GMF participation tends to favor men having more influence, albeit with regional and gender differences. GMF participants strongly support discussions between men and women and shared responsibilities, unlike non-GMF participants. Overall, the analysis underscores the positive impact of the GMF program on gender dynamics, promoting fairness in work distribution, decision-making, and income opportunities. These findings align with broader research, highlighting the critical role of gender-sensitive programs in transforming traditional gender roles and fostering economic and social well-being within households. And also improves resilience of women by improving equitable decision making, shared responsibilities among men and women and access and control over different resources.

Keywords: *Gender Transformative Approach, Climate Change Adaptation, Gender Model Family, Ethiopia, Women's Resilience.*

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Table of Content

Declaration.....	I
<i>Abstract</i>	II
Acknowledgements.....	III
Table of Content	IV
List of Acronyms	VII
List of figures.....	VIII
CHAPTER ONE.....	1
1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 Statement of the problem.....	4
1.3 Objectives	6
1.3.1 General objective	6
1.3.2 Specific objectives	7
1.4 Research question	7
1.5 Significance of the study	7
1.6 Scope of the study.....	8
1.6.1 Conceptual Scope:	8
1.6.2. Geographical Scope:	8
1.6.3 Methodological Scope:	8
1.7 Limitation of the study	9
1.8 Organization of study	9
CHAPTER TWO	10
2. LITERATURE REVIEW.....	10
2.1 Operational Definitions	10
2.2 Theoretical framework	13
2.2.1 Gender and development framework (GAD)	13
2.2.2 Climate change adaptation framework	14
2.2.3 Harvard analytical framework	16
2.3 Empirical literature	17
2.3.1 Climate change adaptation in Ethiopia	17

2.3.2 Gender transformative approach.....	19
2.3.3 Climate change resilience of rural women.....	21
2.3.4 Gender norms influencing climate change resilience	22
2.4 Conceptual frame work	24
CHAPTER THREE	25
3. RESEARCH METHODOLOGY	25
3.1 Description of the study area	25
3.2 Research design	29
3.2.1 Types and Sources of Data	29
3.2.1 Data collection method	29
3.3. Sample Size and Sampling Techniques.....	30
3.3.1 Sample Size.....	30
3.3.2 Sampling Techniques.....	30
3.4 Method of data analysis.....	31
3.5 Integration of Analyses.....	32
3.6 Credibility of the data	33
3.7 Ethical considerations.....	33
CHAPTER FOUR.....	34
4. RESULT AND DISCUSSION	34
4.1 RESULT	34
4.1.2 Access and Control of Household Resources and Opportunities by Rural Women and Men	34
4.1.2 Women's Rights to Household Resources and Opportunities	37
4.1.3 Influence of Gender on Household and Community Roles and Responsibilities.....	39
4.1.4 Challenges Rural Women and Men Face in Adapting to Climate Change in Relation to Gender Norms.....	40
4.1.5 The Influence of GMF on Couples' Division of Labor in Irrigated Farmland	42
4.1.6 GMF Program Influence on Women and Men's Income Opportunities and Household Labor.....	44
4.1.7 GMF influence on women and men's involvement in decisions, roles and responsibilities at the household and community levels.....	47

4.2 DISCUSSION.....	50
4.2.1 Access and Control of Household Resources and Opportunities by Rural Women and Men	50
4.2.2 Women's Rights to Household Resources and Opportunities	52
4.2.3 Influence of Gender on Household and Community Roles and Responsibilities.....	57
4.2.4 Challenges Rural Women and Men Face in Adapting to Climate Change in Relation to Gender Norms.....	59
4.2.5 The Influence of GMF on Couples' Division of Labor in Irrigated Farmland	61
4.2.6 GMF Program Influence on Women and Men's Income Opportunities and Household Labor.....	63
4.2.7 GMF influence on women and men's involvement in decisions, roles and responsibilities at the household and community levels.....	66
4.2.8 GMF contribution to rural women's resilience in adapting to climate change.....	69
CHAPTER FIVE	71
5. CONCLUSION AND RECOMMENDATION.....	71
5.1 CONCLUSION	71
5.2 RECOMMENDATIONS.....	72
REFERENCE.....	73

List of Acronyms

CCA	Climate change adaptation
GTA	Gender transformative approach
GMF	Gender model family
GAD	Gender and Development
WID	Women in Development
APF	Adaptation Policy Framework
PRO-WEAI	Women's Empowerment in Agricultural Index
FAO	Food and Agriculture Organization
IFAD	International fund for Agricultural Development
WRR	Women's Resource Rights
SMIS	Small-Scale Irrigation Support
WFP	World Food Program
IPCC	Intergovernmental panel for climate change
PASIDP	Participatory Small-Scale Irrigation Development Program
SNNPR	Southern Nation, Nationalities, and people's Region
FGD	Focus Group Discussion

List of figures

Figure 1: Conceptual framework for Gender-Transformative programming	24
Figure 2: Study area (Amhara, Oromia and Central Ethiopia Region).....	28
Figure 3: rights over farm land (PASSDIP).....	54
Figure 4: Right over livestock (PASSDIP).....	55
Figure 5: Rights to earn cash income (PASSDIP)	55
Figure 6: Right to own farmland(non-PASSDIP).....	56
Figure 7: Right to own livestock(non-PASSDIP).....	56
Figure 8: Right to earn cash income(non-PASSDIP)	56

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Climate change is a global phenomenon that poses a significant challenge to people's livelihoods worldwide. Ethiopia, in particular, stands out as one of the most susceptible nations to the effects of climate change, lacking the necessary capacity to effectively respond (Thornton et al., 2009) as cited in Zegeye, 2018). Ethiopia's vulnerability to climate change is primarily attributed to its geographical location, rapid population growth, heavy reliance on agriculture and natural resources for sustenance, widespread poverty, and limited resources in terms of human capital, finances, technology, institutions, and infrastructure (Kobe, 2023). Various interrelated factors contribute to Ethiopia's vulnerability to climate change, including poverty, recurring droughts, population growth, unequal land distribution, overexploitation of natural resources, and reliance on rain-fed agriculture for subsistence (Kobe, 2023). Moreover, Ethiopia's susceptibility to climate change is further exacerbated by its diverse landscape, low-income levels, and heavy dependence on climate-sensitive socioeconomic sectors such as agriculture, pastoralism, and natural resources. Therefore, it is crucial to acknowledge that Ethiopia's vulnerability to the impacts of climate change is influenced by a range of biophysical and socioeconomic factors (Demem, 2023).

The discussion on gender and climate change has garnered considerable scholarly attention in the past three decades. It begins with the widely accepted notion that climate change is not gender-neutral (Corcoran-Nantes & Roy, 2018) as cited in (Dev & Manalo, 2023). The vulnerability to climate change reflects and reinforces gender disparities, as different gender identities result in distinct impacts and responses to climate change risks (Gezie, 2019) as cited in (Dev & Manalo, 2023). The gender norms prevalent within a community play a significant role in determining the range of capacities accessible to individuals for resource access, control, and the acquisition of skills necessary for adaptive capacities (Djoudi et al., 2016) as cited in (Dev & Manalo, 2023). Women, who traditionally serve as the primary users and managers of natural resources, primary caregivers, and participants in unpaid labor, find themselves particularly exposed to livelihoods

and resources that face the greatest risks due to climate change. However, women often encounter greater challenges than men in terms of recovery (Gemechu, 2022).

When examining the impact of climate change on women, studies emphasize that discriminatory norms, socioeconomic status, and restricted mobility render women more vulnerable to the effects of climate change (Tanjeela & Rutherford, 2018), as cited in (Habib, 2021). Furthermore, research highlights that women face heightened vulnerability to climate change due to their limited access to resources (Paul & Routray, 2010) as cited in (Habib, 2021). Notably, a study reveals that poverty and gender inequality significantly shape vulnerabilities, particularly through gender division of labor, which further exposes women to heightened vulnerability compared to men. (Tanjeela & Rutherford, 2018), as cited in (Habib, 2021)

Scholars with a plethora of empirical research in the last three decades have substantiated the necessity to integrate gender concerns in coordinated climate change response. Studies found that socially ascribed gendered norms and expectations, particularly in developing countries, lead to the availability, accessibility and distribution of capacities among social groups (Walker et al., 2022). Research highlights that social differences are produced through social norms and power structures that disadvantage women compared to men in coping with climate change (Rozenstein et al., 2018) as cited in (Habib, 2021).

Climate adaptation is the process by which people reduce the negative consequences of climate change on their health and well-being while also making use of the opportunities presented by their local climate (Abdela, 2022). Adaptation refers to “the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate” (IPCC, 2012 as cite in (Tafere, 2018).

Adapting to climate change is the system of adjusting oneself to enhance and survive from the impacts of climate change. It also includes the accommodation of extreme climate change risks and long-term resistance to it. It is a long-term strategy that humans adjust their systems of living in response to the actual rate of climate change (Nega, 2022).

An interlinked approach that mainstreams both gender and climate change in national and international policies brings the possibility to leverage investments and to contribute for women's empowerment. It is important that gender equality is prioritized by national and international actors and in cooperation and humanitarian activities aligned with international commitments that recognize that women's rights are not only a stand-alone goal, but also a catalyze for other development goals, being relevant by itself and as a means to achieve others.(Pereira et al., 2019).

Many international organizations, both multilateral and bilateral, as well as non-governmental organizations (NGOs), are actively seeking strategies to achieve profound and sustainable development goals by addressing the fundamental causes of gender inequality. These entities acknowledge that while it is essential to address the symptoms of gender inequalities, such as the unequal distribution of productive resources, such measures alone are insufficient to bring about meaningful change. Over the past decade, there has been a growing recognition of the effectiveness of gender transformative approaches (GTAs) in the realm of food security and agriculture. These approaches aim to revolutionize the lives of individuals, families, groups, and communities, ultimately leading to improved development outcomes, enhanced private sector engagement, and increased project performance and sustainability (GMF Manual 2022).

As previously mentioned, climate change poses a global challenge that disproportionately affects human populations, particularly women and girls. This disparity can be attributed to various barriers, including imbalanced gender norms, limited access to information, inadequate representation in decision-making processes, and limited ownership of resources by women. Consequently, women face significant challenges in effectively resisting or coping with the impacts of climate change. To address these barriers, it is crucial to challenge existing gender norms and empower women by promoting their access to information and enhancing their representation in decision-making processes. Additionally, climate change adaptation programs must be designed with a gender-sensitive approach, a characteristic that is currently lacking in most of these programs. Therefore, a gender transformative approach may be needed to ensure that climate change adaptation programs are sensitive to gender considerations. Gender transformative approaches to climate change adaptation aim to address this inequality by taking into account the specific needs and priorities of women, men, boys and girls, putting into

question the underlying norms that have systematically led to inequities between them, and facilitating a path towards identifying and adopting new norms. The objective of this project is to assess the potential of gender transformative approaches in improving gender sensitivity within households and adaptation programs. This was achieved by comparing the gender sensitivity of households participating in GTAs with those not involved in such approaches. In summary, this paper provides an overview of the existing evidence on the effectiveness of applying gender transformative approaches to enhance women's resilience in the context of climate change adaptation.

1.2 Statement of the problem

When examining the impact of climate change on women, numerous studies underscore the role of discriminatory norms and regulations, women's socioeconomic status, and restricted mobility in rendering them more susceptible to the effects of climate change (Tanjeela & Rutherford, 2018) as cited in (Habib, 2021). Additionally, research reveals that women are more vulnerable to climate change than men due to their limited access to resources (Paul & Routray, 2010) & (Rozenstein et al., 2018) as cited in (Habib, 2021). The examination of poverty and gender inequality as influential factors demonstrates that the gendered division of labor increases women's vulnerability compared to men (Tanjeela & Rutherford, 2018) as cited in (Habib, 2021).

The Gender Transformative Approach (GTA) places a stronger emphasis on transforming unequal gender relations and understanding how women and men interact with each other, recognize shared and conflicting interests within the household, and respond to the various identities that shape their respective positions, motivations, and opportunities (Pyburn et al., 2023). According to the Food and Agriculture Organization (Why the Gender Transformative Approach Is Critical to Achieving More Equitable and Resilient Small-Scale Fisheries in Sub-Saharan Africa, 2023), the GTA is pertinent to address activities that use small-scale interventions, such as small-scale fisheries, where women's participation is significant but hindered by gender-based constraints in different aspects of the core and extended value chains. Gender disparities often originate within the household, where dynamics of couples and gender, such as the uneven distribution of caregiving responsibilities and imbalanced power relations, impact the choices and opportunities available to individuals (*Gender Transformative*

Approaches for Food Security, Improved Nutrition and Sustainable Agriculture – A Compendium of Fifteen Good Practices, 2020). By dismantling structural barriers to gender equality and questioning the assignment of roles and responsibilities between men and women, the GTA within the programs targeting small-scale interventions can effectively address inequalities and provide both women and men with the recognition and space they deserve. Integrating the GTA into programs with small-scale interventions can facilitate the transformation of rigid gender norms and roles, as well as discriminatory social structures, to the advantage of all stakeholders involved.

By addressing the needs pertaining to gender, such as knowledge, capacity-building, access to resources, and technology, as well as the interests related to gender, such as decision-making power and status in society, gender transformative interventions initiate alterations in agency, social relations, and social structures within both formal and informal spheres of life, as well as at individual and systemic levels (GMF Manual, 2022). In order to effectively implement gender transformative interventions, it is imperative to modify the conventional understanding and execution of programming. Gender transformative programming integrates the Gender Transformative Approach (GTA) into the design, implementation, monitoring, reporting, and evaluation of projects and programs (GMF Manual, 2022). In this manner, small-scale interventions will ensure that discriminatory social norms and unequal gender roles are consistently identified, questioned, and addressed through appropriate actions, and that change is facilitated throughout the life cycle of the project/program, as well as in the long run. As stated in the publication "Gender-Transformative Adaptation – From Good Practice to Better Policy," gender-transformative approaches create opportunities for individuals to actively challenge existing gender norms, promote positions of social and political influence for women, and address power inequalities between individuals of different genders (Atmadja, 2023)

(CARE and FAO, 2019). To achieve this, it is crucial to address women's agency, which encompasses their capacities, skills, and confidence, as well as the power dynamics that impact their choices, particularly within household relationships and community groups, and the structures, such as agriculture and market institutions, land policies, and social norms that govern their lives and decision-making processes (CARE, 2018c).

While numerous studies have been conducted on the topic of gender transformative approaches, most of these studies have focused on countries other than Ethiopia. Therefore, there exists a significant research gap regarding gender transformative approaches to climate change adaptation in Ethiopia. While there is an increasing body of literature on the relationship between gender and climate change, the majority of this research primarily examines the impacts of climate change on women and girls, rather than exploring how gender norms can be transformed to address climate change and increase rural resilience, notably that of rural women. Thus, it is evident that there is a lack of research on the transformation of gender norms in relation to climate change. This is mainly due to the prevailing perception that gender norms are fixed and unalterable. However, it is important to note that gender norms are not static and can be changed through social and political transformations.

One example of a GTA that is being implemented in Ethiopia is the Gender Model Family. It is an approach adopted by the Ministry of Agriculture that was piloted in the Small-Scale Irrigation Support (SMIS) project, and is being rolled out in other programs, including the Participatory Small-Scale Irrigation Development Program II (PASIDP II). This approach targets married couples and is designed as a capacity-building activity for rural households consisting of a series of joint couple training and communal activities such as community sensitization, follow-up and graduation (Atmadja, 2023). While there is anecdotal evidence that GMF provides significant benefits for rural households, there has not been a systematic examination of this approach's influence on improving men and women's climate change resilience. Such examination is needed in view of the significant public investment that has been made to roll out this approach in subsequent programs.

1.3 Objectives

1.3.1 General objective

The general objective of this study is to analyze how gender transformative approach (GTA) has improved resilience of women in Ethiopia, by examining the implementation of a GTA called Gender Model Family in Ethiopia.

1.3.2 Specific objectives

1. To characterize gender norms influencing climate change resilience in rural Ethiopia
2. To identify the influence of the Gender Model Family in improving the resilience of rural women for climate change adaptation in Ethiopia.

1.4 Research question

1. How do rural women and men access and control household resources and opportunities, such as irrigated, non-irrigated and income opportunities?
2. What rights do women have over household resources and opportunities?
3. How does gender influence the roles and responsibilities within the household and community?
4. What challenges do rural women and men face in adapting to climate change that is related to gender norms?
5. How does GMF influence the way couples share the work related to irrigated farmland?
6. How does GMF influence women and men's income opportunities/house work labor?
7. How does GMF influence women and men's involvement in decisions, roles and responsibilities at the household and community levels?

1.5 Significance of the study

The research holds significance due to its provision of a field-based analysis of gender norms affecting women and men's ability to adapt to climate change. Additionally, it discerns the key challenges and opportunities for progressing gender transformative approaches in climate change adaptation programming in the country. This information holds importance for policymakers, practitioners, and researchers who are dedicated to promoting gender equality and climate change adaptation in Ethiopia. The research suggests that policymakers, practitioners, and researchers in Ethiopia should make use of these opportunities to advance gender transformative

approaches in climate change adaptation programming, while identifying measures to mitigate potential negative influences. This will aid in ensuring that climate change adaptation programs are more effective and equitable, and that they contribute to the attainment of gender equality in Ethiopia.

1.6 Scope of the study

1.6.1 Conceptual Scope:

The conceptual scope of this paper is to explore the potential of a gender transformative approach to improve climate change resilience among rural households in Ethiopia. The paper will examine the ways in which a gender transformative approach can address the specific needs of women and men in the context of climate change, and how it can contribute to more equitable and sustainable development outcomes. This includes an exploration of the conceptual framework, key principles, and the underlying factors influencing the adoption and implementation of gender transformative approach in climate change adaptation programs in Ethiopia.

1.6.2. Geographical Scope:

The geographical scope of the study is specifically focused on three regions in Ethiopia, Amhara, Oromia and Central Ethiopia (formerly SNNPR). They are located in the central, southern, and southwestern parts of the country, respectively, where the GMF approach was implemented by the PASIDP II program.

1.6.3 Methodological Scope:

The methodological scope of this study outlines the research design and techniques employed to gather and analyze data. The data collection process includes quantitative methods, with a strong emphasis on open-ended questions. This approach allows for in-depth exploration and provides participants with the freedom to express them fully, enabling the researcher to delve deeper into specific threads of conversation. This is crucial for understanding gender norms, which require insights into the ‘why’ and ‘how’ aspects of behaviors and attitudes (Trutman, 2023; Rubin, 2016).

A mixed-method approach will be applied to data analysis, incorporating narrative analysis and thematic coding of interviews. This methodological approach combines narrative analysis and thematic coding to deeply explore and understand the research topic, with an additional quantitative component to provide context. This comprehensive method ensures a thorough understanding of gender norms and climate change resilience in rural agriculture development.

1.7 Limitation of the study

While the mixed-method approach provides a robust analysis, it also presents challenges such as the complexity of data integration and potential biases in subjective interpretations. These limitations were addressed by employing integration analytical procedures and maintaining reflexivity throughout the research process.

1.8 Organization of study

The study comprises five main chapters. Chapter one devoted to the general introduction covering background of the study, statement of the problem, objectives, significance, scope and how the research was organized, Chapter two is mainly concerned with the review of related literatures, theoretical foundation of the study and review of empirical studies and conceptual frameworks of the study respectively, Chapter three provides the methodology that will be applied to achieve the research objectives, and chapter four covers result and discussion and chapter five provides conclusion and reference.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Operational Definitions

Gender Transformative Approach (GTA)

The Gender Transformative Approach (GTA) refers to an approach that aims to overhaul gender relations and power dynamics in order to achieve gender equality. This approach entails addressing the fundamental causes of gender inequality, such as the perpetuation of discriminatory social norms and stereotypes against women, men, girls and boys. Moreover, the Gender Transformative Approach seeks to ensure that people of all genders have equal access to resources, opportunities, and decision-making power (Elson, 2009). Similarly, (Kandiyoti, 2007) highlights that the Gender Transformative Approach is centered around transforming gender relations and power dynamics to achieve gender equality. This involves addressing the root causes of gender inequality, such as social norms and stereotypes that perpetuate discrimination against women and girls. Additionally, the approach strives to ensure that women and girls have equal access to resources, opportunities, and decision-making power.

To compare the Gender Model Family Approach with other climate change adaptation strategies in Ethiopia, it's important to recognize the unique aspects of each approach. The Gender Model Family Approach focuses on gender equality, empowering women within families and communities by promoting shared responsibilities and decision-making, offering capacity building through training on climate-resilient practices, and involving community leaders and organizations to support gender equality and resilience. This approach benefits by enhancing household resilience, empowering women, and promoting social equity and sustainable development (Wangui, 2018).

In contrast, Ecosystem-Based Adaptation (EbA) utilizes biodiversity and ecosystem services, focusing on ecosystem restoration and sustainable management, which enhances biodiversity and supports livelihoods (Vignola et al., 2015). Community-Based Adaptation (CBA) emphasizes community participation in planning and implementation, using local knowledge and participatory assessments to build ownership and resilience (Reid, 2016). Technology-Driven

Approaches leverage technological innovations like drought-resistant crops and irrigation technologies to improve agricultural productivity and reduce climate vulnerability (FAO, 2017). Policy and Institutional Approaches develop and implement supportive policies and regulations, providing a framework for coordinated action and long-term sustainability (UNFCCC, 2015).

Comparative Analysis:

Inclusiveness: The Gender Model Family Approach is highly inclusive, directly addressing gender disparities and promoting equal participation, whereas other approaches vary in inclusiveness, with some (e.g., CBA) being potentially inclusive if designed with gender considerations (Tschakert & Machado, 2012).

Scale of Implementation: The Gender Model Family Approach is typically implemented at the household and community levels, while other approaches can range from local to national scales (e.g., EbA can be local, whereas policy approaches are national) (Seddon et al., 2020).

Sustainability: The Gender Model Family Approach promotes social equity and long-term sustainability by empowering women and fostering shared responsibilities. Other approaches vary in sustainability, with ecosystem-based approaches being inherently sustainable and technology-driven approaches depending on ongoing support and maintenance (Jones et al., 2012).

Effectiveness in Addressing Climate Impacts: The Gender Model Family Approach effectively builds household resilience and addresses socio-economic vulnerabilities, while other approaches are effective in specific contexts (e.g., EbA for biodiversity, technology for agricultural productivity) but may not address underlying social inequalities (Schipper, 2007).

Climate Change Adaptation Programs,

Climate Change Adaptation Programs encompass a range of initiatives and strategies aimed at addressing the impacts of climate change and building resilience in communities, ecosystems, and sectors (Adger, 2007). These programs are designed to reduce vulnerability, enhance adaptive capacity, and promote sustainable development in the face of changing climatic conditions (Krieger et al., 2020). They encompass various actions, including policy development, infrastructure improvements, ecosystem restoration, capacity building, and community

engagement(IPCC. (2014)). The objective of these programs is to enhance the ability of individuals, communities, and systems to anticipate, cope with, recover from, and adapt to the impacts of climate change(IPCC. (2014).). Furthermore, adaptation programs are tailored to address current and future climate risks while considering the specific needs and contexts of different regions and sectors(IPCC. (2014)). Collaboration between governments, non-governmental organizations, communities, and the private sector is typically required for the development of these programs(Adger, 2007). They necessitate a multidisciplinary approach that draws on scientific knowledge, local knowledge, and traditional practices (Krieger et al., 2020).

Gender sensitivity

Gender sensitivity involves the awareness and understanding of the diverse range of gender identities and the roles they play in society. It entails recognizing and respecting individual experiences, promoting equality, and challenging stereotypes (Adger, 2007)

Gender sensitivity encompasses the ability to acknowledge and make visible existing gender differences, issues, and inequalities, and to address them through policies, projects, and programs that take into account the impact of decisions on the situation of women relative to men (UN REDD Programme, n.d.; Vélez & Ochoa, 2021, n.d.). It encompasses strategies and actions aimed at promoting equal participation and fair distribution of benefits based on gender analysis and inclusion. However, it does not necessarily imply the achievement of long-term transformations of unequal gender relations (UNDP Annual Report 2001, n.d.).

Climate change resilience

Climate change resilience refers to the capacity of a system to adapt to the impacts of climate change, including variations in climate patterns and extreme weather events, while still maintaining its essential functions and structures(Adger, 2007). It encompasses the ability of a system to withstand, adjust to, and recover from the adverse consequences of climate change(Nelson, 2019). Furthermore, climate resilience involves the capability of a system to respond to climate change, including both variations in climate patterns and extreme events, and effectively manage the associated risks(IPCC. (2014). Climate Change 2014: Impacts, Adaptation, and Vulnerability. Cambridge, UK: Cambridge University Press. (n.d.), n.d.).

Gender model family

A GMF consists of a marital unit, composed of a husband, wife, and their offspring, who aspire to serve as a model for societal change and transformation. This is achieved by challenging traditional convictions regarding gender roles and responsibilities. A GMF firmly believes that their existence will undergo a significant metamorphosis as a result of their endeavors to distribute labor, resources, and decision-making authority equitably. Furthermore, they advocate for the notion that every family member possesses identical entitlements and thus should be afforded opportunities to attain empowerment. In this context, empowerment refers to the ability of men and women to jointly seize control and enhance the quality of their lives, without exerting dominance over one another. Consequently, the family unit collaboratively makes decisions, shares resources, and reaps the benefits derived from such actions. Moreover, within the household, any individual has the capacity to contribute towards culinary and domestic tasks, manage a business, or participate in financial decision-making processes. Additionally, each member of the family should have unrestricted access to and control over resources, including education, which serves as a catalyst for improved decision-making and overall life direction (FAO, IFAD and WFP. 2020).

2.2 Theoretical framework

2.2.1 Gender and development framework (GAD)

The GAD concept emerged in the 1980s out of the criticisms of the earlier women in development(WID) concept, and has its roots in socialist feminism: Socialist feminists have identified the social construction of production and reproduction as the basis of women's oppression and have focused attention on the social relations of gender, questioning the validity of roles that have been ascribed to both women and men in different societies(Rathgeber, 1990).The GAD concept and the WID concept differ above all in their focuses. In contrast to the WID concept which mainly focuses on 'women', the GAD concept approaches the matter in terms of the 'social relations of gender'. According to (*Justice and the Politics of Difference*, 2011), relations between women and men are shaped in a variety of settings. Some relations are shaped through a person's position in a network of kinship and affinity 24 ("ascribed relations"), i.e. relations by birth or marriage. Moreover, some are shaped through a person's involvement in

socio-economic and political life ("achieved relations"). Both ascribed and achieved relations interact in a complex matrix under the influence of a variety of factors such as class, race, religion, etc.

The GAD concept begins from this 'holistic' perspective and approaches gender relations in the totality of the complex environment of socio-economic and political structures. Whitehead (Ostergaard, 1992) points out that gender relations are "not necessarily nor obviously harmonious and non-conflicting", and they often take the form of "male dominance and female subordination." Gender relations closely correlate with the socio-economic and political distribution of power as well as the distribution of resources, wealth, and work. In contrast to the WID concept, the GAD concept recognizes this fact, and questions the underlying assumptions of current socio-economic and political structures: A gender-and-development perspective does not lead only to the design of intervention and affirmative action strategies to ensure that women are better integrated into ongoing development efforts. It leads, inevitably, to a fundamental reexamination of social structures and institutions and, ultimately, to the loss of power of entrenched elites, which will affect some women as well as men demands a degree of commitment to structural change and power shifts (Rathgeber, 1990).

2.2.2 Climate change adaptation framework

Adaptation – is a process by which strategies to moderate, cope with, and take advantage of the consequences of climatic events are enhanced, developed, and implemented.

Adaptation baseline – also referred to as an adaptation *policy* baseline, this includes a description of adaptations to current climate that are already in place (e.g., existing risk mitigation policies and programs).

Adaptation Policy Framework – is a structured process for developing adaptation strategies, policies, and measures to enhance and ensure human development in the face of climate change, including climate variability. The APF is designed to link climate change adaptation to sustainable development and other global environmental issues. It consists of five basic Components: scoping and designing and adaptation project, assessing current vulnerability, characterizing future climate risks, developing an adaptation strategy, and continuing the adaptation process (Executive Summary and User's Guidebook).

Adaptive capacity – is the property of a system to adjust its characteristics or behavior, in order to expand its coping range under existing climate variability, or future climate conditions. The expression of adaptive capacity as actions that lead to adaptation can serve to enhance a system’s coping capacity and increase its coping range thereby reducing its vulnerability to climate hazards. The adaptive capacity inherent in a system represents the set of resources available for adaptation, as well as the ability or capacity of that system to use these resources effectively in the pursuit of adaptation. It is possible to differentiate between adaptive potential, a theoretical upper boundary of responses based on global expertise and anticipated developments within the planning horizon of the assessment, and adaptive capacity that is constrained by existing information, technology and resources of the system under consideration.

Adaptive-capacity approach – is one of several conceptual and analytical approaches that can be applied to adaptation projects. With this approach, a project can investigate a system with respect to its current adaptive capacity, and assess ways in which adaptive capacity can be increased (or ways in which it may be lessened) so that the system is better able cope with climate variability and change.

Adaptation capacity baseline – includes a description of the current capacity within a priority system to cope with and adapt to climate variability.

Adaptation project approaches – are conceptual and analytical approaches that can be selected to respond to the unique needs of adaptation projects. Four major approaches that can be applied to adaptation projects include the hazards-based approach, the vulnerability-based approach, the adaptive- capacity approach and the policy-based approach. See also the individual project approach definitions.

Baselines – used in two distinct ways in the APF, the term “baseline” can refer to either a *project baseline* (definitions) or a future baseline or *reference scenario* (definition). The project baseline describes where the project is starting from (for use in, e.g., subsequent monitoring and evaluation), while the reference scenario provides a plausible picture of a future in the priority system *without* adaptation, to allow for comparison of different adaptation strategies, policies and measures.

Climate change – refers to any change in climate over time, whether due to natural variability or because of human activity(TAR Climate Change 2001: Impacts, Adaptation, and Vulnerability, n.d.).

Climate change vulnerability – is the degree to which a system is susceptible to, or unable to cope with the adverse effects of climate change, including climate variability and extremes(TAR Climate Change 2001: Impacts, Adaptation, and Vulnerability, n.d.).

Climate risk baseline – includes a description of the current climate risk within the priority system (i.e., the probability of a climate hazard combined with the system’s current vulnerability).

Climate variability – refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all temporal and spatial scales beyond that of individual weather events. Variability may result from natural internal processes within the climate system (internal variability) or to variations in natural or anthropogenic external forcing (external variability(TAR Climate Change 2001: Impacts, Adaptation, and Vulnerability, n.d.).

Coping range – is the range of climate where the outcomes are beneficial or negative but tolerable; beyond the coping range, the damages or loss are no longer tolerable and a society (or system) is said to be vulnerable.

Cost-benefit analysis – is a quantitative method that makes a detailed comparison of the costs and benefits of a particular measure, or set of measures. A decision to fund a project, e.g., can depend on the ratio of benefits to costs the higher the ratio, the more attractive the investment. Its major advantages are its verifiable bottom line and its familiarity to ministries and planning agencies. Disadvantages include limitations regarding the ability to directly address equity considerations and represent non-quantifiable benefits

2.2.3 Harvard analytical framework

The Harvard Analytical Framework, also known as the "Gender Roles Framework," is a practical and straightforward set of tools used to identify the specific tasks performed by men and women

in a household, farm, or community. Additionally, it facilitates the documentation of disparities in gendered access and control over resources such as land, water, seeds, and extension information. The data collected through this toolset can be utilized by extension agents to gain clarity on the roles of men and women, allowing them to tailor programs to meet the unique needs and interests of farmers or community members, particularly women. This toolset can be easily adapted for use in agricultural, livestock, or combined production systems (Ines, n.d.).

The effectiveness of this toolset relies on the collection of detailed data at the individual, household, or community level. For data collection, it is recommended to organize participatory meetings with farmers or community members. These meetings provide an opportunity for everyone to contribute to the discussion and assist men and women in mapping out their respective roles and responsibilities. It may be necessary to gather this information in separate groups for men and women if the latter do not feel comfortable speaking in mixed groups. Subsequently, male and female groups can come together to share their findings. The data is collected through three interconnected tools: an activity profile, an access and control profile, and a list of influencing factors. Each tool comprises a series of checklists containing pertinent questions that can be utilized by any extension agent (Ines, n.d).

2.3 Empirical literature

2.3.1 Climate change adaptation in Ethiopia

Climate change presents considerable challenges to nations globally, affecting various sectors such as agriculture, water resources, health, and infrastructure. Ethiopia, situated in the Horn of Africa, faces heightened vulnerability to the negative impacts of climate change owing to its geographic location, reliance on rain-fed agriculture, and constrained adaptive capacity.

The agricultural sector serves as the cornerstone of Ethiopia's economy, engaging a substantial segment of the populace and making a significant contribution to the nation's GDP. Nevertheless, the variability in rainfall patterns, rising temperatures, and extreme weather events induced by climate change jeopardize agricultural productivity. Numerous research works underscore the significance of embracing climate-smart agricultural techniques in Ethiopia to bolster resilience against climate change. For instance, (Teklewold et al., 2019a) underscore the importance of conservation agriculture, agroforestry, and enhanced crop

varieties in alleviating climate-related risks and enhancing food security. Furthermore, (Von Wettberg et al., 2018) propose amalgamating traditional knowledge with contemporary agricultural practices to formulate adaptation strategies tailored to the specific context.

Climate change adaptation and gender equality in Ethiopia – Climate change represents a universal occurrence with localized repercussions, presenting substantial hurdles to sustainable progress. In Ethiopia, where agriculture remains a prevailing sector employing a majority of the populace, the impacts of climate change are particularly evident. Furthermore, the intertwining of climate change with gender dynamics introduces an additional layer of intricacy to adaptation endeavors. This review of literature seeks to investigate the connection between climate change adaptation and gender equality in Ethiopia, shedding light on the obstacle, prospects, and prevailing approaches.

Studies have consistently demonstrated the disproportionate impact of climate change on women in Ethiopia as a result of prevailing gender disparities. Women, who commonly bear the responsibility for household food security and water management, are particularly affected by climate-related events such as droughts, floods, and unpredictable rainfall patterns. This is especially evident in rural areas where women are predominantly involved in agricultural activities, leading to decreased agricultural productivity directly affecting their livelihoods (Deressa, 2008). Furthermore, entrenched gender roles and socio-cultural norms exacerbate the vulnerability of women to the impacts of climate change. Challenges such as limited access to resources, land rights, credit, and extension services not only hinder women's capacity to adapt to changing climatic conditions but also perpetuate their susceptibility to these impacts (Tadesa, 2020). Additionally, restrictions on women's mobility and decision-making processes impede their involvement in initiatives aimed at climate change adaptation (Dankelman, 2002).

Ethiopia has made notable progress in integrating gender perspectives into climate change policies and strategies. The National Adaptation Program of Action (NAPA) and the Climate Resilient Green Economy (CRGE) strategy acknowledge the significance of addressing gender disparities in adaptation endeavors (FDRE, 2011). Nevertheless, the effective implementation of these policies remains a persistent challenge. Moreover, despite the recognition of the necessity

for gender-sensitive approaches in climate change adaptation, the practical incorporation of gender considerations into adaptation projects at the grassroots level is limited (Gezie, 2019). The gap between policy objectives and on-the-ground realities underscores the importance of bridging this disparity through targeted interventions

Amidst the obstacles, various innovative strategies and successful practices have emerged in Ethiopia that integrates gender equality into climate change adaptation measures. For instance, community-based adaptation initiatives involving women in decision-making processes and providing them with training and resources have shown promising outcomes (Demssie, 2020). Similarly, initiatives focusing on income-generating activities for women, such as beekeeping and sustainable agricultural practices, contribute to both climate resilience and women's empowerment (FAO, 2018). Furthermore, endeavors to enhance women's leadership and engagement in local governance structures, such as water user associations and cooperatives, have bolstered community resilience to climate change (Birhanu, 2014). These instances underscore the significance of adopting a comprehensive approach that addresses the interconnected vulnerabilities of climate change and gender inequality.

In conclusion, the intersection between climate change adaptation and gender equality in Ethiopia presents challenges as well as opportunities. While women are disproportionately impacted by climate change, they also possess valuable knowledge and adaptive capabilities that can enrich resilience-building efforts. The integration of gender perspectives into climate change policies, programs, and projects is essential to ensure that adaptation strategies are effective, fair, and enduring. Moving forward, enhanced collaboration between government entities, civil society organizations, and local communities is imperative to mainstream gender considerations across all aspects of climate change adaptation in Ethiopia.

2.3.2 Gender transformative approach

Gender equality and the empowerment of women constitute essential elements of sustainable development and social justice. Despite advancements on a global scale, enduring gaps and disparities persist. Gender transformative strategies draw on feminist theories and critical viewpoints to comprehend and confront the fundamental causes of gender disparity. Notions

such as patriarchy, inter-sectionalist, and power dynamics guide the examination of societal frameworks and processes that perpetuate gender gaps(Kabeer, 2015a).

Transformative strategies acknowledge that achieving gender equality necessitates not only addressing individual behaviors and mindsets but also reshaping institutional protocols and regulations to foster more just and inclusive societies(Bereket, 2016). Numerous programs and endeavors have embraced gender transformative methodologies to advocate for gender equality in diverse sectors and environments. For instance, gender-transformative interventions in healthcare and reproductive rights aim to challenge detrimental gender norms and enhance women's autonomy and decision-making authority in matters concerning their well-being(*Women, Business and the Law*, 2019). Within the realm of education, endeavors to advance gender equality transcend mere access to education for girls to tackle issues of quality, safety, and inclusivity, including the interrogation of gender stereotypes and prejudices in curricula and teaching methods (*UNESCO, 2017*, n.d.).

In the professional sphere, gender transformative approaches strive to establish more inclusive and fair settings by contesting discriminatory behaviors, fostering female leadership and engagement in decision-making processes, and addressing systemic obstacles to women's progress(*Women, Business and the Law*, 2019). Likewise, in endeavors related to peace building and conflict resolution, gender transformative strategies recognize the significance of addressing gender-based violence, advocating for women's involvement in peace initiatives, and tackling the root causes of conflicts through gender-sensitive strategies(*Women's Participation in Peace Processes: Global Trends*, 2020).

Evidence indicates that gender transformative methodologies can trigger positive transformations in gender norms, attitudes, and conduct, as well as advancements in gender equality outcomes. For instance, assessments of gender-transformative interventions in agriculture have demonstrated heightened empowerment among women, enhanced agricultural productivity, and improved food security (Doss et al., 2018). Similarly, efforts that challenge harmful masculinities and promote gender equality among men and boys have been linked to decreases in gender-based violence and enhancements in sexual and reproductive health outcomes (Jewkes et al., 2015). Nonetheless, the implementation of gender transformative strategies presents

challenges, such as opposition from conservative factions, a lack of political resolve, and inadequate resources for sustained initiatives(Bereket, 2016). Moreover, gauging the enduring impacts of gender-transformative interventions necessitates robust monitoring and evaluation frameworks that capture alterations in gender norms, power dynamics, and structural inequities over time(Greene, 2010).

2.3.3 Climate change resilience of rural women

Climate change has a significant impact on rural communities, particularly affecting rural women due to various socio-economic and cultural factors. Recent studies have increasingly concentrated on comprehending and improving the resilience of rural women towards climate change. Rural women often encounter more socio-economic vulnerabilities than men, thereby escalating their susceptibility to the impacts of climate change. As stated by (Khan et al., 2024), rural women rely more on natural resources for their livelihoods, rendering them more susceptible to environmental shifts. Moreover, socio-economic limitations such as restricted access to education, financial assets, and land ownership diminish their capacity to adapt (Khan et al., 2024). The effects of climate change are frequently gender-specific, impacting men and women differently. According to (Rao et al., 2019), in numerous rural regions, women bear the primary burden of water scarcity and food insecurity triggered by climate change. They typically manage household water supplies and food preparation, duties that become increasingly arduous under climatic pressures. This additional responsibility exacerbates prevailing gender disparities and restricts women's prospects for education and employment (Rao et al., 2019). Despite these obstacles, rural women implement various adaptation strategies to confront climate change.

Education and training are crucial in boosting the resilience of rural women towards climate change. (Oparaocha & Dutta, 2011) highlighted that offering tailored training in sustainable agricultural practices and climate-smart technologies significantly enhances women's adaptive capacities. These initiatives also foster gender equality by equipping women with knowledge and skills that have conventionally been associated with men (Oparaocha & Dutta, 2011). Effective policies and institutional support are imperative for bolstering the climate resilience of rural women. Recent research by (Ahmed & Kiester, 2021) underscores the significance of incorporating gender perspectives into climate policies and initiatives. Policies addressing

gender-specific requirements and advocating for women's leadership in climate governance can substantially boost resilience (Ahmed & Kiester, 2021).

While substantial strides have been taken in comprehending the resilience of rural women to climate change, several gaps persist. For example, there is a necessity for more localized research that considers the varied socio-cultural backgrounds of rural women globally. Additionally, further studies are required on the enduring impacts of climate change on the health and well-being of rural women. The resilience of rural women towards climate change is a complex issue that demands holistic approaches addressing socio-economic, educational, and policy-related aspects. Recent studies emphasize the significance of empowering women through education, community involvement, and supportive policies. Persistent endeavors in these realms are indispensable for constructing sustainable and resilient rural communities in the face of climate change.

2.3.4 Gender norms influencing climate change resilience

The interaction of gender norms and climate change resilience is increasingly a key focus of recent scholarly investigations, given that gender norms play a significant role in shaping the adaptive capacities and vulnerabilities of various demographic groups. This review of existing literature delves into the influence of gender norms on climate change resilience, amalgamating insights from recent research and pinpointing crucial avenues for further exploration.

Gender norms commonly determine societal roles, obligations, and resource access, consequently impacting individuals' resilience to climate change. As posited by (Bradshaw & Fordham, 2015), women, especially those in rural settings, often encounter heightened vulnerabilities due to societal norms that restrict their mobility and decision-making authority. These limitations diminish their capacity to effectively address climate-induced pressures and calamities (Bradshaw & Fordham, 2015). The availability of resources like land, credit, and education is frequently influenced by gender norms, thereby affecting climate resilience. A study conducted by (Arora-Jonsson, 2011) underscores that in numerous developing nations, women have lesser access to land and financial resources compared to men. This imbalance constrains their ability to adopt adaptive measures and technologies, consequently escalating their susceptibility to climate-related repercussions (Arora-Jonsson, 2011).

Gender norms shape the livelihood strategies accessible to men and women, thereby impacting their resilience to climate change. For example, in various societies, men are expected to partake in income-generating endeavors, while women are often tasked with subsistence farming and domestic chores. According to (Djouidi et al., 2016), these gendered livelihood responsibilities result in disparate experiences and responses to climate change. Women's involvement in managing household food security and water reserves renders them particularly susceptible to climate fluctuations (Djouidi et al., 2016). Education and capacity-building endeavors play a pivotal role in challenging constraining gender norms and bolstering resilience. (Campero et al., 2023) discovered that educational initiatives aimed at fostering gender parity and delivering climate-centric training can significantly enhance women's adaptive capabilities. These initiatives aid in dismantling traditional gender roles, empowering women to engage more actively in climate resilience efforts (Campero et al., 2023).

Robust policy frameworks and institutional structures that consider gender norms are indispensable for nurturing climate resilience. As indicated by (Nelson, 2019), integrating gender perspectives into climate policies ensures that the needs and capacities of both men and women are catered to. Policies that advocate for women's involvement in decision-making processes and ensure fair access to resources can fortify community resilience to climate change (Nelson, 2019).

Community-centered adaptation strategies that involve both men and women are more likely to yield positive outcomes. A study by (Tschakert & Machado, 2012) underscores the significance of participatory methodologies that engage women in designing and executing climate resilience projects. These methodologies guarantee that adaptation strategies are tailored to specific contexts and address the distinct requirements and strengths of women (Tschakert & Machado, 2012). Despite the increasing awareness, there are notable deficiencies in comprehending the ways in which gender norms impact climate resilience. Further investigation is required to explore the enduring effects of evolving gender norms on resilience outcomes and the efficacy of policy measures in diverse socio-cultural settings. Moreover, research that delves into the interconnectedness of gender with other social classifications like age, ethnicity, and socio-economic standing is imperative for a thorough comprehension.

The role of gender norms is pivotal in molding the resilience of both individuals and communities to the challenges posed by climate change. Recent studies emphasize the necessity of challenging constrictive gender norms and advocating for policies and practices that promote gender equality. It is essential to facilitate women's access to resources, education, and decision-making processes to foster the development of resilient communities capable of withstanding the impacts of climate change.

2.4 Conceptual frame work

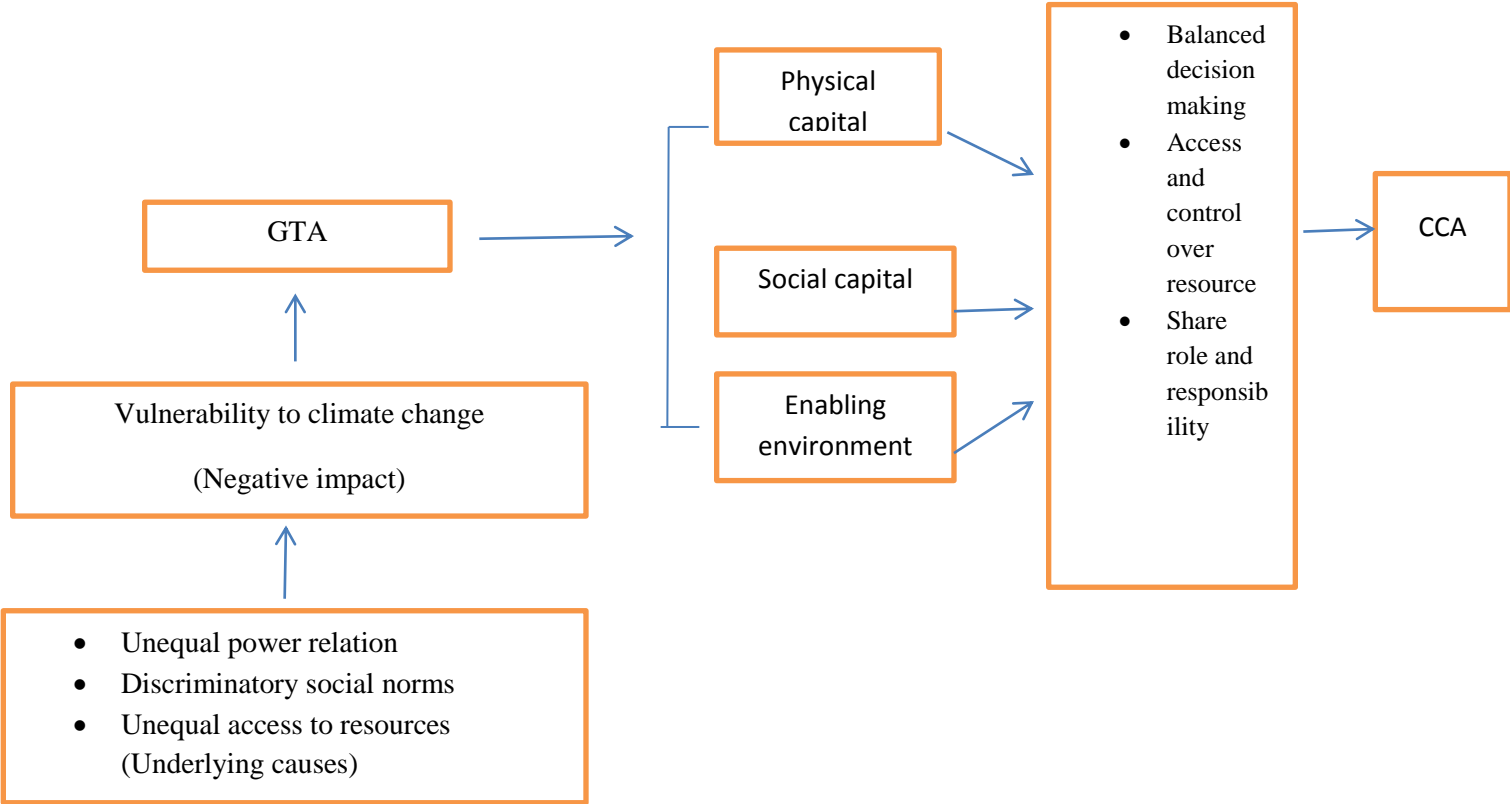


Figure 1: Conceptual framework for Gender-Transformative programming

Adapted and modified from: FAO, IFAD & WFP (forthcoming), JP GTA Theory of change for gender transformative approach for food security and nutrition.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1 Description of the study area

Amhara, Oromia, and Central Ethiopia (The previous SNNPR) are three regional states of Ethiopia. The three states are home to a diverse range of ethnic groups, languages, and cultures. Amhara is home to the Amhara people, who speak Amharic. Oromia is home to the Oromo people, who speak Afan Oromo. Central Ethiopia is home to a number of different ethnic groups.

The Amhara region is located in the northwestern part of Ethiopia. It is bordered by the Tigray region to the north, the Afar region to the east, the Benishangul-Gumuz region to the west, and the Oromia region to the south. The highland part of the region is characterized by a temperate climate with moderate rainfall. The region experiences two rainy seasons: the main rainy season (Kiremt) from June to September and the small rains (Belg) from March to May, and the lowland part of the region have a semi-arid climate with hotter temperatures and less rainfall.

The region is significantly vulnerable to climate change due to its reliance on rain-fed agriculture, which is highly sensitive to climatic variations. Research indicates that the region faces increased frequency and intensity of droughts, erratic rainfall patterns, and rising temperatures. These climatic changes threaten food security, water availability, and overall livelihoods in the region.

A study by (Abera, n.d.) highlights that the Amhara region's agricultural sector, which employs the majority of the population, is particularly at risk from these climatic stresses. Crop yields have been declining due to prolonged dry spells and inconsistent rainfall, exacerbating food insecurity. Furthermore, the region's water resources are under pressure, with rivers and lakes experiencing reduced water levels, impacting both agricultural irrigation and drinking water supply (Deressa, 2008).

The socio-economic impact of climate change in Amhara is profound. According to (Bewket & Conway, 2007), the region's limited adaptive capacity, due to poverty, low levels of education, and inadequate infrastructure, exacerbates its vulnerability. Efforts to enhance resilience, such as

introducing drought-resistant crop varieties and improving water management practices, are essential but currently insufficient. Overall, the climate vulnerability of the Amhara region underscores the urgent need for comprehensive adaptation strategies and sustainable development initiatives to mitigate the adverse effects of climate change on this vulnerable population.

Oromia is the largest region in Ethiopia, located in the central and southwestern part of the country. It surrounds the capital city, Addis Ababa, and shares borders with all regional states except Tigray. The region has diverse Climate ranges from tropical in the southwest to arid in the east. The region experiences bimodal rainfall patterns with the main rainy season (Ganna) from June to September and a shorter rainy season (Arfasa) from March to May.

The region faces significant climate vulnerability due to its dependence on agriculture, which is highly susceptible to climate variability and change. The region experiences frequent droughts, erratic rainfall, and increasing temperatures, posing severe risks to agricultural productivity, water resources, and food security.

According to research by (Deressa, 2008), the Oromia region is one of the most affected areas by climate change in Ethiopia. The study reveals that smallholder farmers, who constitute the majority of the population, are particularly vulnerable due to their reliance on rain-fed agriculture. Crop failures and reduced yields are common outcomes of the unpredictable weather patterns, leading to food insecurity and economic hardships.

The impact of climate change on water resources in Oromia is also significant. Studies by (Teshome, 2016) Indicate that the region's rivers and groundwater levels are declining, affecting both agricultural irrigation and drinking water supplies. This scarcity of water resources further exacerbates the vulnerability of rural communities, who already face challenges in accessing reliable water sources.

Socio-economic factors play a crucial role in Oromia's climate vulnerability. (Deressa, 2008) Highlight that limited access to climate information, inadequate infrastructure, and poverty hinders the region's adaptive capacity. The lack of resources and institutional support makes it difficult for communities to implement effective adaptation strategies, such as improved water management practices and the adoption of drought-resistant crops. Overall, the climate

vulnerability of the Oromia region necessitates urgent attention to enhance adaptive capacity and resilience. Implementing sustainable agricultural practices, improving water management, and strengthening institutional support are critical steps towards mitigating the adverse effects of climate change on this vulnerable region.

Central Ethiopia is located in the southwestern part of Ethiopia. It is bordered by Kenya to the south, the Oromia region to the north and east, and the South Sudan border to the west. The region is known by varied climate ranges from humid tropical in the lowlands to temperate in the highlands. The region has bimodal rainfall patterns with the main rainy season from March to May and the shorter rains from September to November.

The region is highly vulnerable to climate change due to its diverse topography and reliance on agriculture. The region is experiencing increased temperatures, erratic rainfall patterns, and frequent droughts, which severely impact agricultural productivity, water resources, and food security.

Research by (Kassie et al., 2014) indicates that the Central Ethiopia is particularly susceptible to climate variability, with smallholder farmers facing significant challenges in adapting to changing climatic conditions. The study shows that erratic rainfall and prolonged dry spells lead to crop failures and reduced agricultural yields, threatening the livelihoods of many rural communities.

Water scarcity is another critical issue in Central Ethiopia. Studies by (Mengistu, 2011) highlight the declining water levels in rivers and lakes, affecting both irrigation and drinking water supplies. This exacerbates the vulnerability of the region's population, who depend heavily on these water resources for their daily needs and agricultural activities.

The socio-economic factors in Central Ethiopia further compound its climate vulnerability. According to (Deressa, 2008), the region's low adaptive capacity is due to high poverty levels, limited access to climate information, and inadequate infrastructure. These constraints hinder effective adaptation measures, such as the adoption of resilient agricultural practices and efficient water management systems. Addressing the climate vulnerability of Central Ethiopia requires comprehensive adaptation strategies that enhance the resilience of local communities.

This includes promoting sustainable agricultural practices, improving water resource management, and providing institutional support to strengthen adaptive capacities.

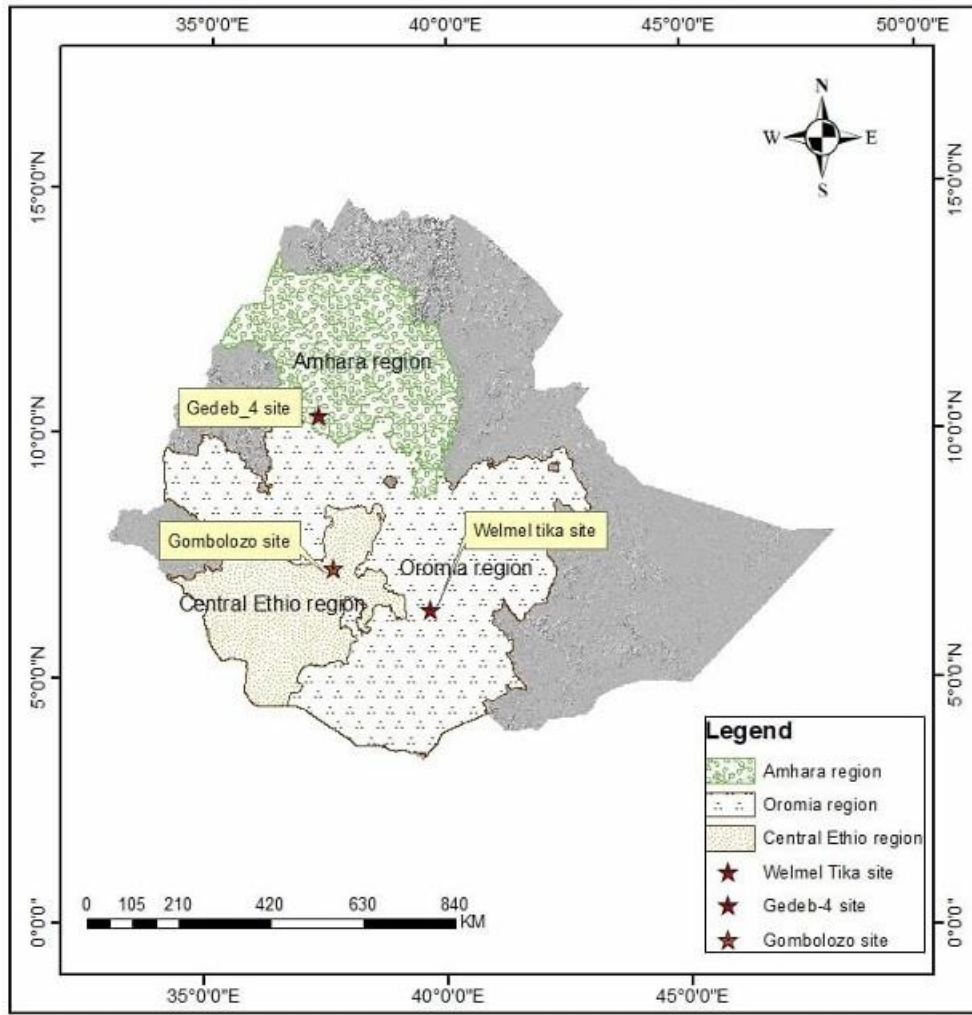


Figure 2: Study area (Amhara, Oromia and Central Ethiopia Region)

Source: [an upcoming report: Atmadja, S., Beyene, T., 2024, Gender analysis to inform the development of gender transformative approaches for enhancing women’s land and resource rights in Ethiopia]

3.2 Research design

This research design outlines a qualitative approach to gather and mixed methods to analyze data, aiming to provide a comprehensive understanding of gender norms and the impact of the GMF program in the studied regions. The study leverages thematic, narrative, and descriptive analysis methods to achieve its objectives.

3.2.1 Types and Sources of Data

In order to achieve the objectives of the study which are stated above, and to discourse research problem, both primary and secondary data has been used. Data has been collected from both primary and secondary sources by using: structured questionnaires, in depth interviews, and group discussion.

The primary data has been collected by my co-supervisor, Dr. Stibniati Atmadja and her research team from the Women's Resource Rights (WRR) project (www.cifor.org/wlr) in February and March of 2023. The data was collected through structured questionnaires, in depth interviews, and group discussion. In addition, I supplemented the data with secondary data that has been obtained from different sources among these, the published and unpublished materials such as journals, books, magazines, articles, websites, research findings, policy documents, different work manuals and other relevant documents.

3.2.1 Data collection method

The WRR project team collected data by adapting a series of tools based on a set of research instruments developed by other research projects: (1) the PRO-WEIA research tools (<https://weai.ifpri.info/versions/pro-weai/>), which is a project-level set of questionnaires to measures women's empowerment in agricultural development projects across three types of agency: intrinsic agency (power within), instrumental agency (power to), and collective agency (power with); and (2) research instruments developed by the Global Comparative Study in Forest Land Tenure (<https://www2.cifor.org/gcs-tenure/research/research-methodology/>).

The data collection format includes key informant interviews, group discussion and couple and family interview, as summarized below. A full description of the methodology is also available at Atmadja and Beyene, 2024.

3.3. Sample Size and Sampling Techniques

3.3.1 Sample Size

The sampling of respondents varies for each research instrument employed. In each village, a community profile was developed to capture basic figures and information about the community. The data was collected using key informant interviews. The selection of participants for focus group discussions was contingent upon their gender, involvement in GMF, and their availability and willingness to attend the discussion. Each group discussion involved between 4 to 12 participants, based on the availability and interest of community members. The Couple, Family and Friends interviews entail the utilization of two sampling frames: the couple, which consists of two subsets of participants from the FGDs. The wife and husband were interviewed individually, and each was requested to nominate a family member or friend of the same gender who possesses knowledge about their daily lives. These family and friends were interviewed using a subset of questions derived from the Couple, Family and Friends questionnaire that pertain to the interactions and sharing of household responsibilities between the wife and husband in the couple who nominated them, as well as their personal perspectives on gender norms within the village.

3.3.2 Sampling Techniques

The sampling technique used in this study is non-probability sampling because it involves purposive selection of specific villages and individuals to gain detailed, contextual insights into the impact of the GMF program, without aiming for generalizable results across a broader population.

The data was collected to produce a deep and layered perspective of gender norms using a narrow sampling of a small number of villages (2 per region) and respondents (2 couples in non-PASIDP II villages, 2 GMF and 2 non-GMF couples in PASIDP II villages), as well as an equal number of family and friends. This allowed us to gain a comprehensive understanding of the various contexts and potential outcomes in three regions with distinct languages, which would also allow us to recruit and train different teams. To achieve this, the research team adopted a mix method approach that centers on the perceptions of the respondents. It is important to note that the results we obtain cannot be generalized to the entire population of each region or village.

Rather, they provide insight into the perceptions of the individuals we interview and the specific circumstances that shape these perceptions. Additionally, they offer indications of the underlying reasons behind these perceptions.

To enhance our learning, the research team chose "mature" villages where GMF has been implemented earliest in the region. Within these villages, they interviewed those within the village that received GMF training (i.e., "Pioneer households") with those that have not within the same village, with the aim of understanding the impact of GMF training. In addition, non-GMF households are interviewed in a nearby village outside of PASID II program area (i.e., comparison village). Spillover effects are expected as the GMF participants serve as role models for their community. Documenting these spillover effects, e.g. by interviewing family and friends, is an important aspect of our analysis. The interview instruments were translated into Amharic and were implemented in four languages: Amharic, Afaan Oromo, Kambatigna, and Hadiyegna.

3.4 Method of data analysis

The data analysis process consisted of three main stages: thematic coding, narrative analysis, and descriptive analysis. Each stage contributed to a holistic understanding of the research findings.

Thematic coding was used to identify and analyze patterns within the data. The process involved:

1. **Familiarization:** Reading and re-reading the data to become immersed and familiar with its content.
2. **Generating Initial Codes:** Systematically coding interesting features across the entire dataset and collating data relevant to each code.
3. **Searching for Themes:** Collating codes into potential themes, gathering all data relevant to each potential theme.
4. **Reviewing Themes:** Checking if the themes work in relation to the coded extracts and the entire dataset, generating a thematic map.
5. **Defining and Naming Themes:** Ongoing analysis to refine the specifics of each theme, generating clear definitions and names for each.

Narrative analysis focused on the stories and personal accounts of the participants. The process included:

1. **Story Mapping:** Identifying key elements of each narrative, including context, characters, events, and resolutions.
2. **Thematic Analysis of Narratives:** Analyzing the content of the narratives to identify common themes and patterns.
3. **Interpreting Stories:** Understanding the meaning and significance of the narratives in relation to the research questions.

Descriptive analysis provided a detailed account of the data, focusing on describing the characteristics and features of the dataset. This involved:

1. **Summarization:** Summarizing the key points and details from the data collected.
2. **Categorization:** Organizing the data into categories to facilitate analysis.
3. **Visualization:** Creating charts, tables, and graphs to visually represent the descriptive data.

3.5 Integration of Analyses

The findings from thematic coding, narrative analysis, and descriptive analysis were integrated to provide a comprehensive understanding of the research topic. This integration involved:

1. **Triangulation:** Cross-verifying data from multiple sources and methods to ensure the reliability and validity of the findings.
2. **Synthesis:** Combining the insights from different analyses to draw comprehensive conclusions.
3. **Interpretation:** Interpreting the integrated findings in the context of the research questions and theoretical framework.

3.6 Credibility of the data

The credibility of the data in this qualitative study is ensured through several practices. Purposeful sampling was employed, selecting "mature" villages where the GMF program was implemented earliest, and including diverse respondents such as GMF and non-GMF couples along with their family and friends. This approach provided a comprehensive understanding of the program's impact. In-depth interviews and multiple perspectives enhanced data richness and triangulation. The study's regional focus and translation of interview instruments into multiple languages ensured contextual accuracy and cultural sensitivity. Training local research teams ensured familiarity with regional variations and consistent data collection. Data analysis involved thick descriptions and reflective analysis to provide depth and mitigate biases. Transparent reporting, including detailed explanation of the research process and acknowledgment of limitations, further bolstered the study's credibility. These practices collectively ensure the findings are trustworthy and accurately reflect participants' experiences and perceptions, offering valuable insights into the GMF program's impact on climate change resilience of rural women in Ethiopia.

3.7 Ethical considerations

Ethical approval was obtained from the relevant institutional review board. Informed consent was obtained from all participants, ensuring they were aware of the study's purpose and their rights. Confidentiality and anonymity were maintained throughout the research process, and data were securely stored to protect participant privacy.

CHAPTER FOUR

4. RESULT AND DISCUSSION

4.1 RESULT

4.1.2 Access and Control of Household Resources and Opportunities by Rural Women and Men

In the Oromia region, the survey data reveals insights into the ownership of farmland among the respondents. According to the responses, 67% of the participants reported owning irrigated farmland. This indicates a relatively high level of access to irrigated land, which is crucial for enhancing agricultural productivity and ensuring water availability for crops. Conversely, 33% of respondents do not own irrigated farmland, highlighting a disparity in access to this valuable resource.

In terms of non-irrigated farmland, the ownership is even more prevalent. A substantial 83% of respondents indicated that they own non-irrigated farmland. This widespread ownership suggests that non-irrigated farming is a common practice and plays a significant role in the region's agricultural activities. However, 17% of the respondents reported not owning any non-irrigated farmland.

The Amhara region shows a distinctive pattern of farmland ownership among the respondents. Remarkably, all respondents in this region reported owning irrigated farmland. This complete ownership underscores the importance and widespread availability of irrigated land, which is essential for sustaining agriculture in areas with variable rainfall patterns.

Regarding non-irrigated farmland, 79% of respondents stated that they own such land. This high percentage indicates that non-irrigated farming is also a common practice in the Amhara region. Nevertheless, 21% of respondents do not own non-irrigated farmland, highlighting that a notable portion of the population may face challenges related to access to agricultural land.

In Central Ethiopia region the data reveals a more balanced but still significant difference in farmland ownership. According to the respondents, 42% own irrigated farmland, reflecting a

considerable but not predominant access to irrigated land but the majority still lacks access to this resource, as 58% of respondents do not own irrigated farmland.

Interestingly, the ownership of non-irrigated farmland in Central Ethiopia is reported, with all respondents indicating they possess such land. This 100% ownership rate underscores the reliance on non-irrigated farming in the region and suggests that access to some form of agricultural land is widespread, even if it is not irrigated.

In conclusion the analysis of farmland ownership across the three regions—Oromia, Amhara, and Central Ethiopia highlight both the prevalence and difference in access to irrigated and non-irrigated farmland. In Oromia, while the majority of respondents have access to both types of farmland, a significant minority still lacks irrigated land. In Amhara, the universal access to irrigated farmland is notable, although some respondents lack non-irrigated land. Central Ethiopia presents a contrasting scenario with universal access to non-irrigated farmland but a majority lacking irrigated land.

Proportion of Households Owning Non-Irrigated and Irrigated Farmland

In the Amhara region, all female GMF respondents indicated that "some" households own non-irrigated farmland. Among female non-GMF respondents, opinions were evenly split, with 50% stating "only a few" and the other 50% stating "most." For male GMF respondents, 13% indicated "some" while a significant 88% indicated "most." Male non-GMF respondents unanimously stated that "most" households own non-irrigated farmland.

In the Oromia region, 100% of female GMF respondents reported that "most" households own non-irrigated farmland. Female non-GMF respondents were evenly divided, with half stating "only a few" and the other half was stating "some." Among male GMF respondents, 25% indicated "only a few," 50% indicated "most," and 25% said they "don't know." Male non-GMF respondents were divided, with 50% stating "only a few," 25% stating "some," and 25% stating "most."

In the Central Ethiopia region of PASSIDP villages, the ownership of non-irrigated farmland varies among different demographic groups. Among female GMF respondents, 14% reported that "some" households own non-irrigated farmland, 57% indicated "most," and 29% said "all."

For female non-GMF respondents, 14% reported "almost none," 29% stated "some," and 57% indicated "most." Male GMF respondents showed that 13% said "some," 63% indicated "most," and 25% reported "all." All male non-GMF respondents reported that "most" households own non-irrigated farmland.

In non-PASSIDP villages, the ownership of non-irrigated farmland also varies across regions and demographic groups. In the AMH region, female non-GMF respondents indicated that 17% said "some," 33% said "most," and 50% said "all." Male non-GMF respondents were divided with 13% stating "only a few," another 13% saying "some," and 75% indicating "most."

In the Oromia region, female non-GMF respondents reported that 13% said "only a few" and 88% indicated "most." Male non-GMF responses included 8% stating "almost none," 33% indicating "only a few," 17% saying "some," and 42% reporting "most."

In the Central Ethiopia region, all female non-GMF respondents indicated "almost none," while all male non-GMF respondents indicated "most."

Regarding irrigated farmland ownership in PASSIDP villages, responses also varied by region and demographic groups. In the Amhara region, all female GMF respondents stated that "all" households own irrigated farmland. Female non-GMF respondents were evenly split between "only a few" and "some." Among male GMF respondents, 25% said "only a few," 25% said "some," and 50% said "all." Male non-GMF responses were divided, with 50% indicating "only a few," 25% indicating "some," and 25% indicating "most."

In the Oromia region, female GMF and Non-GMF respondents were evenly split between "only a few" and "some." Male GMF responses were varied: 38% said "only a few," 25% said "some," 13% said "all," and 25% said "don't know." Male non-GMF responses included 50% indicating "only a few," 38% indicating "some" and 13% saying "don't know."

In the SNNPR region, 14% of female GMF respondents said "some," 14% said "most," and 71% said "all." Female non-GMF respondents indicated 14% saying "only a few" and 86% saying "all." Male GMF responses were 13% saying "almost none" and 88% saying "all." All male non-GMF respondents indicated "all."

In non-PASSIDP villages, irrigated farmland ownership also varied. In the AMH region, 17% of female Non-GMF respondents said "almost none" and 83% said "only a few." Male non-GMF respondents indicated 88% saying "only a few" and 13% saying "some."

In the Oromia region, all female non-GMF respondents said "only a few." Male non-GMF responses included 8% indicating "almost none," 50% indicating "only a few," and 42% indicating "some."

In the Central Ethiopia region, all female non-GMF respondents said "almost none," while all male non-GMF respondents indicated "don't know."

This analysis underscores the diversity in land ownership perceptions across different regions and demographic groups, reflecting varying degrees of access to and control over agricultural resources.

4.1.2 Women's Rights to Household Resources and Opportunities

The analysis of women's rights over household resources and opportunities reveals distinct perspectives between respondents participating in the Gender Model Family (GMF) program and those who are not. Across the three regions surveyed—Central Ethiopia, Oromia, and Amhara—differences in opinions regarding farmland rights, decision-making authority, and resource usage highlight the influence of cultural norms and program participation on gender dynamics.

In Central Ethiopia (SNNPR region), GMF respondents predominantly advocate for gender equality in land rights, decision-making processes, and benefits from irrigation structures. Most females believe in equal farmland rights (86%) and decision-making (86%), with a majority thinking all community members have irrigation rights (71%). For males, the majority believe in equal farmland rights (75%) and decision-making (63%), with all thinking all community members have irrigation rights (100%). Conversely, Non-GMF respondents often uphold traditional gender roles. All Non-GMF females believe only men have farmland rights and make decisions (100%), with all thinking all community members have irrigation rights (100%). Non-GMF males also predominantly believe only men have farmland rights (88%) and make decisions (100%), with all thinking the household with land rights also has irrigation rights (100%).

In Oromia, GMF respondents largely support gender equality, with all females believing both men and women share rights over farmland and equally decide on its use (100%), and a majority thinking all community members have irrigation rights (63%). For males, a notable percentage believe in shared farmland rights (50%) and equal decision-making (75%), with the majority thinking all community members have irrigation rights (88%). Among Non-GMF respondents, the majority of females believe only men have farmland rights (63%) but believe in equal decision-making (100%), with most thinking all community members have irrigation rights (63%). Non-GMF males have varied opinions, but the majority believe in equal farmland rights (75%) and decision-making (50%), with most thinking all community members have irrigation rights (63%). This diversity reflects ongoing cultural shifts and varying levels of acceptance towards gender-inclusive practices, influenced by both program participation and broader societal factors.

In Amhara, both GMF and Non-GMF respondents generally support gender equality across various dimensions. The majority of GMF females believe men and women equally have rights over farmland (67%) and decide on farmland use (100%), with most thinking all community members have rights over irrigation structures (83%). For GMF males, the majority believe in shared rights over farmland (75%) and equal decision-making (75%), with all thinking all community members have irrigation rights (100%). Non-GMF females mostly believe in equal rights over farmland (75%) and decision-making (100%), with all thinking all community members have irrigation rights (100%). Non-GMF males are more traditional, with the majority believing more men than women have farmland rights (50%) and decide on its use (75%), with all thinking all community members have irrigation rights (100%). These nuanced differences in perspectives underscore the complex interplay between cultural norms, program interventions, and individual beliefs.

Overall, the analysis highlights the importance of the GMF program in promoting gender-inclusive practices and challenging traditional gender roles within households. Program participants exhibit a greater tendency towards advocating for women's rights and gender equality, while non-GMF respondents often adhere to conventional gender norms. These findings underscore the importance of targeted interventions and community engagement efforts to address gender disparities and foster more equitable societies across diverse cultural contexts.

4.1.3 Influence of Gender on Household and Community Roles and Responsibilities

Women play a crucial role in ensuring food security and nutrition, contributing significantly to the education sector, and engaging in Water, Sanitation, and Hygiene (WASH) initiatives. They are actively involved in farming and livestock rearing, which are pivotal for the community's economic sustenance.

Within the household, women are the primary caretakers, handling general household tasks that include maintaining food security and nutrition, educating children, and overseeing WASH-related chores. Their involvement in farming and livestock rearing is substantial, and they manage childcare responsibilities. Additionally, women play a significant role in economic development and decision-making concerning household resource allocation.

Men typically engage in roles that emphasize economic contributions, representing the household in community matters, and participating in the decision-making processes at the community level. They are involved in maintaining peace and security and managing communal land resources. At home, men are primarily involved in economic development and income generation. They take part in decision-making processes related to household resource allocation and contribute to some household tasks.

Women are primarily responsible for vegetable-related activities such as planting, watering, and selling produce. They handle light agricultural tasks including sowing seeds, spraying pesticides, weeding, watering, and post-production activities like harvesting and threshing. Women also manage general livestock-related activities and support their husbands by preparing food and taking care of children. Men take on heavy agricultural tasks like hoeing, ploughing, and clearing land, as well as post-production activities. They are responsible for earning and managing income from farm products and making key farming decisions.

Disagreements often arise between couples over land use and cultivation decisions. These conflicts are generally due to differences in the division of labor and a lack of unity within the household. However, some couples report no disagreements, attributing their harmony to joint decision-making, household unity, or a clear decision-making hierarchy where one spouse typically takes the lead and the other complies. Couples who work together report increased

family income, greater peace, and reduced conflict and work burdens. This collaborative approach is often attributed to gender equality training, which fosters an environment of cooperation. Traditional gender roles persist in some households due to cultural norms. Men typically handle labor-intensive outdoor work, while women manage household tasks.

In conclusion the data reveals distinct but overlapping roles for men and women in both community and household settings. There is a significant amount of shared responsibility, with the management of farmland being a joint effort, though specific tasks are often divided based on traditional gender roles. Efforts towards collaborative work and gender equality have been effective in reducing conflicts and improving household dynamics.

4.1.4 Challenges Rural Women and Men Face in Adapting to Climate Change in Relation to Gender Norms

The analysis of gender-specific challenges faced in various agricultural activities and income opportunities reveals a complex interplay of issues for both women and men across different regions. This comprehensive examination sheds light on the distinct but often overlapping responsibilities and difficulties encountered by each gender, emphasizing the necessity for tailored interventions to address these challenges effectively.

1. Non-Irrigated Lands

Women primarily confront the natural weaknesses of non-irrigated lands and the influence of community dynamics. Additionally, although to a lesser extent, they face problems such as lack of rain, shortages of food and money, and unfavorable landscape conditions. These issues highlight the vulnerability of women to environmental and socio-economic factors in agricultural activities. Men's primary concerns revolve around conflicts with others and shortages of food and money, underscoring the socio-economic pressures they face. Other significant issues include the lack of rain and agricultural inputs, which directly impact their productivity and economic stability.

2. Irrigated Lands

In irrigated lands, women frequently struggle with heavy workloads, water shortages, capacity constraints, and limited access to improved seeds and modern agricultural technology. Cultural

norms further exacerbate these challenges, restricting their ability to fully engage and benefit from agricultural activities. Men's problems in irrigated lands include being affected by disease, shortages of agricultural land, water issues (both scarcity and excess), capacity constraints, and lack of access to modern agricultural inputs. These issues indicate the need for improved health and agricultural infrastructure to support men's agricultural efforts.

3. Livestock

Women dealing with livestock face issues of fatigue, financial shortages, animal deaths, lack of grazing land, and absence of improved breeds. Additionally, some women are not involved in decision-making or activities related to livestock, limiting their control and benefits from livestock farming. Men mainly encounter shortages of money, grazing land, and modern breeds, with animal deaths and lack of food being common problems. These challenges emphasize the economic and resource-based constraints that hinder men's livestock farming activities.

4. Income Opportunities

In the realm of income opportunities, women grapple with corruption, knowledge gaps, unemployment, and lack of saving habits. Restrictions that prevent them from participating in certain economic activities further limit their financial independence and growth. Men face similar issues, including corruption, knowledge gaps, unemployment, and difficulties in money management. Payment problems are also a significant concern, indicating systemic financial barriers that impede men's economic advancement.

The examination of gender-specific challenges in agricultural activities across the regions of Central Ethiopia, Amhara, and Oromia reveals distinct issues faced by women and men, underscoring the need for regionally tailored interventions.

The analysis across Central Ethiopia, Amhara, and Oromia highlights the region-specific and gender-specific challenges in agricultural activities. To the men's perspective Women predominantly struggle with physical labor and capacity constraints, while men face economic and resource-related issues.

In Central Ethiopia, The women said they primarily struggle with the natural weaknesses, which are exacerbated by community influences. These challenges are compounded by the physical demands of carrying loads and managing water shortages. The cumulative effect of these factors results in an overwhelming workload for women, limiting their productivity and well-being. Men in Central Ethiopia face a different set of challenges, with conflicts, food and money shortages, and water-related issues being the most prevalent. These socio-economic and environmental pressures hinder their ability to sustain agricultural activities and secure their livelihoods.

Women in the Amhara region commonly encounter capacity constraints and heavy workloads. These issues highlight the limitations in their access to resources and support, which are necessary to enhance their agricultural productivity and economic participation. Men in Amhara are significantly affected by disease and the lack of grazing land. These health and resource-related challenges impede their ability to manage livestock effectively, which is a crucial component of their agricultural activities and income generation.

In Oromia, women frequently face capacity constraints and heavy workloads, similar to their counterparts in Amhara. These recurring issues emphasize the systemic barriers that limit women's agricultural efficiency and economic empowerment in the region. Men in Oromia contend with shortages of grazing land and improved breeds, which are critical for effective livestock management. These shortages reflect the broader challenges of resource allocation and access to modern agricultural inputs that are essential for sustaining livestock and enhancing productivity.

In summary the data reveals that both women and men face significant challenges related to agricultural activities and income opportunities, for both men's and women's perspective with women often bearing the burden of physical labor, capacity constraints, and limited access to agricultural resources. Men, on the other hand, are more affected by economic challenges such as lack of agricultural inputs and conflicts. Additionally, income opportunities are hampered by corruption, knowledge gaps, and systemic issues for both genders.

4.1.5 The Influence of GMF on Couples' Division of Labor in Irrigated Farmland

The GMF program has had a profound influence on the way couples share work related to irrigated farmland, with respondents from various regions unanimously acknowledging its

positive impact. This influence stems from several key areas: cultural shifts, improved cooperation, enhanced decision-making, conflict reduction, and mutual respect.

In Oromia, respondents highlight notable cultural changes due to GMF training, which has fostered better cooperation, reduced conflicts, and improved attitudes between men and women. This shift towards a more collaborative culture has been instrumental in transforming traditional gender roles and promoting a more inclusive approach to farming activities. One respondent remarked, "The current culture of working together came from GMF training" (Respondent ID 4), underscoring the training's role in cultivating a spirit of teamwork. Another respondent noted, "Women were used to not participate in farm field work previously, but now they are directly involving in production and marketing" (Respondent ID 37), reflecting the positive strides in gender equality and women's empowerment in the region.

In Amhara, participants report increased crop diversity, positive societal impacts, and enhanced familial peace, love, and stability. The training has encouraged farmers to cultivate a variety of crops, such as pepper and cabbage, leading to more efficient use of farmland and improved food security. One participant stated, "Due to GMF training we cultivate vegetables such as pepper, cabbage, and other crops by using the whole farmland" (Respondent ID 13), highlighting the practical benefits of diversified farming practices. Additionally, the program has strengthened familial bonds and collaboration, as evidenced by the comment, "It increases the love between us. We collaborate in different works" (Respondent ID 53).

In the Central Ethiopia region, the emphasis is on cooperative work, joint decision-making, reduced workloads, educational improvements for children, and diversified crop production. Respondents appreciate the training for teaching them to work cooperatively, which has led to decreased workloads and better educational opportunities for their children. A respondent shared, "GMF taught us to work cooperatively, decreasing workloads, and to educate children" (Respondent ID 25), illustrating the broader social benefits of the program. Another noted, "We are currently working together, love increased and conflict reduced" (Respondent ID 65), pointing to the positive changes in family dynamics and conflict resolution.

The detailed impacts noted by respondents across all regions include positive cultural changes, improved cooperation, conflict reduction, crop diversification, and shifts in empowerment and

gender roles. Especially in Oromia, the training has fostered a new culture of working together, with both husbands and wives reporting better teamwork and joint decision-making. Conflict reduction is a common theme in Oromia and Central Ethiopia, attributed to shared responsibilities and improved communication. Crop diversification is particularly mentioned by respondents in Amhara and Central Ethiopia, while empowerment and role shifts are notably observed in Oromia, where women now participate more in farming activities that were previously male-dominated.

Quantitative data further supports these findings. A full 100% of respondents across regions report a positive influence due to GMF training. Improved cooperation and joint decision-making are noted in multiple responses across all regions, with reduced conflicts frequently highlighted in Oromia and Central Ethiopia. Diverse crop cultivation is mainly mentioned by respondents from Amhara, and enhanced attitudes and respect are frequently noted across all regions, especially in Oromia and SNNPR.

In conclusion, the GMF program has had a positive impact on the way couples share work related to irrigated farmland across the three regions. The program has fostered cultural shifts toward greater cooperation, enhanced decision-making processes, reduced conflicts, and promoted mutual respect. Additionally, it has encouraged diversified farming practices and facilitated shifts in traditional gender roles in agricultural activities, resulting in more equitable and efficient farming communities.

4.1.6 GMF Program Influence on Women and Men's Income Opportunities and Household Labor

The study conducted on men's rights to earn cash income and their influence over cash income decisions across different regions reveals diverse opinions and significant insights.

Men's Rights to Earn Cash Income

In Amhara: Both GMF and non-GMF females unanimously disagree with the notion that men should have more rights to earn cash income, with a split between strong disagreement (50%) and general disagreement (50%). Among males, the majority (63-75%) also disagree, with some expressing strong disagreement.

In Oromia: All GMF females strongly disagree with men having more rights to earn cash income. However, non-GMF females show mixed opinions, with most agreeing (88%) and a small portion (13%) strongly agreeing. GMF males are split, with half agreeing, 13% strongly disagreeing, and 38% disagreeing. Non-GMF males predominantly disagree, with 75% strongly disagreeing and 13% disagreeing.

In Central Ethiopia: The majority of both GMF and non-GMF females disagree, with 57-71% expressing disagreement and some strong disagreement. Among GMF males, all participants strongly disagree, whereas 88% of non-GMF males agree.

Men's Influence over Cash Income Decisions

In Amhara: All GMF and non-GMF females strongly disagree with men having more influence over cash income decisions. Males also largely disagree, with 25-38% strongly disagreeing and 63-75% generally disagreeing.

In Oromia: All GMF females strongly disagree, while non-GMF females mostly disagree (63% strongly disagreeing), though 38% agree. GMF males uniformly disagree, with 75% strongly disagreeing. Opinions among non-GMF males are split, with 50% strongly disagreeing and 50% disagreeing.

In Central Ethiopia: Most GMF females strongly disagree (86%), while non-GMF females uniformly agree. GMF males predominantly disagree, with 88% strongly disagreeing, while 75% of non-GMF males agree, and 13% strongly agree.

Interpretations

In Amhara, both genders, regardless of GMF involvement, generally disagree with the idea that men should have more rights to earn cash income and influence over cash income decisions. Oromia displays significant variation: GMF females generally disagree with increased rights for men, while non-GMF females tend to agree. Males in Oromia have mixed opinions, with some non-GMF males agreeing with men's rights but generally disagreeing about their influence over decisions. In Central Ethiopia, the perspectives are mixed again: GMF females generally disagree with increased rights and influence for men, while non-GMF females agree with men

having more influence over cash income decisions. GMF males disagree, whereas non-GMF males mostly agree.

Impact on Income Opportunities and Housework Labor

Impact on Income Opportunities

The majority of respondents across all regions believe that the GMF program has positively influenced income opportunities. The key positive outcomes include improved collaboration between men and women, increased knowledge about gender equality, increased income, decreased workload, and changed social norms and environmental conditions. Specifically, some respondents (6 out of 24) attribute improved collaboration between men and women to GMF, while many (5 out of 24) noted increased income due to the program. Some respondents (7 out of 24) indicated that GMF has positively changed social norms.

Impact on Housework Labor

A substantial number of respondents (20 out of 24) believe that GMF has positively influenced housework labor. Positive outcomes include a positive change in attitudes towards housework, changed views on housework responsibilities, the notion that there are no separate jobs for men and women, increased discussion and joint decision-making, and increased income opportunities related to housework. Many respondents (12 out of 24) indicated a positive change in attitudes towards housework, and six respondents specifically mentioned changed views on housework responsibilities.

In Oromia: Respondents noted improved collaboration (4 out of 8), increased income (4 respondents), and changed social norms (3 respondents) due to GMF. In terms of housework labor, there was a noted positive attitude change (2 out of 8), changed views (2 respondents), and increased joint decision-making (1 respondent).

In Amhara: Improved collaboration (4 out of 8 respondents), increased income (4 respondents), and changed social norms (3 respondents) were key impacts of GMF. Regarding housework labor, positive attitude changes (4 out of 8 respondents), changed views (3 respondents), and increased joint decision-making (3 respondents) were highlighted.

In Central Ethiopia: Respondents observed improved collaboration (3 out of 8) and changed social norms (3 respondents). In terms of housework labor, positive attitude changes (6 out of 8 respondents), changed views (1 respondent), and increased joint decision-making (2 respondents) were reported.

In conclusion The GMF program has significantly impacted income opportunities and housework labor among couples in the surveyed regions. Positive outcomes include improved collaboration between men and women, increased income, enhanced knowledge about gender equality, and changed social norms. In terms of housework, GMF has fostered positive attitude changes, altered views on housework responsibilities, encouraged joint decision-making, and blurred traditional gender roles. These comprehensive impacts highlight GMF's crucial role in promoting gender equality and economic well-being within households.

4.1.7 GMF influence on women and men's involvement in decisions, roles and responsibilities at the household and community levels

The analysis of decision-making dynamics within households, focusing on the influence of the Gender Model Family (GMF) program, reveals notable differences in gender roles and participation across the three regions and decision areas, particularly regarding irrigated and non-irrigated farmland, livestock, and cash income. The findings highlight the GMF program's positive impact on promoting gender equity and shared responsibilities.

Over Irrigated Farmland; Among GMF participants, both genders across regions tend to agree that decision-making regarding irrigation structures is equal between men and women. However, non-GMF participants, particularly females in Amhara and Central Ethiopia, perceive that men exert more influence over these decisions, while males in the same regions express mixed views, acknowledging male dominance in some cases but also suggesting equal decision-making or uncertainty in others.

Over Non-Irrigated Farmland; GMF participants, regardless of gender or region, typically perceive decision-making between men and women as equal. However, non-GMF participants, particularly females in Amhara and Central Ethiopia, believe that men wield more influence over decisions, while males in these regions express mixed views akin to those observed for irrigated farmland.

Over Livestock; Among GMF participants, females strongly oppose the idea of men having more influence over livestock decisions, advocating for equality in decision-making, while most males also disagree with men having more influence, albeit with some variation. In contrast, non-GMF participants, especially females, display mixed responses leaning towards men having more influence, while some males, particularly in the Central Ethiopia region, support the notion of men having greater influence.

Over Cash Income; GMF participants emphasize the importance of discussions between men and women in decision-making regarding various aspects like farmland, livestock, and cash income, promoting shared responsibilities. Conversely, non-GMF participants, especially males, exhibit varying opinions, with some questioning the need for such discussions, notably in the Central Ethiopia region.

Regarding to Discussion and Shared Responsibilities; GMF participants, regardless of the three regions or gender, strongly advocate for discussions between men and women regarding decisions related to farmland, livestock, and cash income. They also believe that GMF participation fosters shared decision-making and responsibilities. In contrast, non-GMF participants, particularly males, show mixed responses, with some disagreeing on the necessity of men discussing decisions with women, particularly notable in the Central Ethiopia region.

In the Amhara region, GMF participants, regardless of gender, report equitable decision-making, while non-GMF participants, especially females, tend to believe that men have more influence. In Oromia, GMF participants echo similar sentiments of equitable decision-making as Amhara, whereas non-GMF females claim that only men make decisions, with males expressing mixed views. Finally, in the Central Ethiopia region, GMF participants report the most equitable decision-making, whereas non-GMF males assert that men have more influence, contrasting with mixed views from females.

In summary The Gender Model Family (GMF) program fosters equitable decision-making and shared responsibilities among men and women across various regions and decision areas. In contrast, non-GMF participation tends to favor men having more influence, albeit with regional and gender disparities. GMF participants strongly support discussions between men and women and shared responsibilities, unlike non-GMF participants. Overall, the analysis underscores the

positive impact of the GMF program on gender dynamics, promoting fairness in work distribution, decision-making, and income opportunities.



Figure 4.7: GTA national workshop (experience sharing from GMF couples from SNNPR and Oromia regions), Addis Ababa, 30 May 2024

The Gender Model Family (GMF) training program has significantly transformed the lives of participants in the Central Ethiopia and Oromia, as demonstrated through personal accounts shared during a panel discussion at a workshop on Gender Transformative Approach (GTA) for Agricultural Development, sharing lessons from PASSDIP II. The testimonies from both wives and husbands in these regions reveal substantial improvements in family dynamics, work distribution, financial management, and overall well-being.

The GMF program has significantly transformed traditional gender roles and improved socio-economic and emotional well-being in Central Ethiopia and Oromia. In Central Ethiopia, before the training, wives faced overburdening workloads and a lack of respect from their husbands. After the training, couples began sharing responsibilities and making collaborative decisions,

enhancing family relations with increased love and respect. Husbands recognized their wives' contributions and the need for shared responsibilities, resulting in positive family dynamics.

In Oromia, wives initially struggled with husbands' bad habits, lack of support, and restrictions on work and resources. Post-training, couples worked together, increasing their income and savings, and wives gained the right to work outside the home and participate in the community, leading to improved family well-being. Husbands acknowledged wasting money and engaging in conflicts before the training but noted significant positive lifestyle changes afterwards. These findings underscore the GMF program's effectiveness in fostering gender equality and sustainable development through gender-sensitive interventions.

4.2 DISCUSSION

4.2.1 Access and Control of Household Resources and Opportunities by Rural Women and Men

The analysis of farmland ownership in the Oromia, Amhara, and Central Ethiopia regions reveals significant insights into gender dynamics, particularly the influence of the GMF program. The disparities in access to irrigated and non-irrigated farmland underscore the socio-economic challenges and progress towards gender equity in these regions.

Farmland Ownership in Oromia

In Oromia, 67% of respondents both men and women reported owning irrigated farmland, which highlights a relatively high level of access to this valuable resource. This access is crucial for enhancing agricultural productivity and ensuring water availability for crops, aligning with the findings of (Hussain & Hanjra, 2004), who emphasize the positive impact of irrigation on rural livelihoods. Conversely, 33% of respondents do not own irrigated farmland, indicating a significant disparity in access. Ownership of non-irrigated farmland is more prevalent, with 83% of respondents indicating ownership. This widespread ownership suggests that non-irrigated farming plays a significant role in the region's agricultural activities, similar to findings by (Teklewold et al., 2019b), who highlighted the importance of rainfed agriculture in Ethiopia.

The GMF program appears to influence perceptions and realities of farmland ownership. For instance, all female GMF respondents in Oromia reported that "most" households own non-

irrigated farmland, reflecting the program's role in promoting equitable land access. In contrast, non-GMF respondents' show mixed views, with a significant portion indicating limited ownership, especially among females. This contrast highlights the GMF program's effectiveness in fostering more equitable land ownership perceptions and practices, as also discussed in the context of gender-sensitive agricultural interventions by (Doss et al., 2018).

Farmland Ownership in Amhara

The Amhara region presents a distinctive pattern, with all respondents reporting ownership of irrigated farmland. This access underscores the importance of irrigated land in sustaining agriculture in areas with variable rainfall patterns, supporting the findings of (MEKURIA et al., 2020) regarding the critical role of irrigation in Ethiopian highlands. However, 21% of respondents do not own non-irrigated farmland, suggesting that some individuals face challenges related to access to agricultural land.

GMF participants in Amhara overwhelmingly report equitable farmland ownership, with female GMF respondents indicating that "all" households own irrigated farmland. This uniformity suggests the success of the GMF program in promoting land ownership equity. Non-GMF respondents, however, exhibit more varied responses, with significant proportions indicating limited ownership of both irrigated and non-irrigated farmland. These disparities align with broader research by (Doss et al., 2018), who note that gender-sensitive programs can reduce but not entirely eliminate gender-based disparities in land access. We also note the Amhara site is the only study site where joint certification was practiced during the time of the study. Couples are registered as owners, with each of their photos affixed in the land certificate. This may provide women with much more assurance of their land rights, compared to other sites where this policy has yet to be rolled out.

Farmland Ownership in Central Ethiopia

In Central Ethiopia, only 42% of respondents both men and women own irrigated farmland, reflecting a significant gap in access compared to the other regions. This gap underscores the need for targeted interventions to improve irrigation access, which is crucial for agricultural productivity, as noted by (Von Wettberg et al., 2018). However, all respondents indicated

ownership of non-irrigated farmland, suggesting widespread reliance on rainfed agriculture. The influence of the GMF program is evident in the varied responses regarding non-irrigated farmland ownership. Female GMF respondents in Central Ethiopia reported higher ownership rates compared to their non-GMF counterparts, who indicated more limited access. This variation highlights the GMF program's role in promoting equitable land ownership and supporting women's agricultural activities, as also observed by (Njuki et al., 2011) in similar gender-focused agricultural interventions.

In conclusion the difference in farmland ownership across Oromia, Amhara, and Central Ethiopia highlight the complex interplay of gender, regional, and socio-economic factors in agricultural land access. The GMF program has shown positive promise in promoting equitable land ownership and fostering gender equality. However, continued efforts are needed to address the remaining disparities and ensure that all individuals, regardless of gender or region, have equitable access to agricultural resources. The findings underscore the importance of targeted interventions and policies that support both irrigated and non-irrigated farming practices, promoting overall agricultural productivity and economic well-being.

4.2.2 Women's Rights to Household Resources and Opportunities

The analysis of women's rights over household resources and opportunities reveals distinct perspectives between respondents participating in the GMF program and those who are not. Across the three regions surveyed Central Ethiopia, Oromia, and Amhara differences in opinions regarding farmland rights, decision-making authority, and resource usage highlight the influence of cultural norms and program participation on gender dynamics.

In Central Ethiopia, GMF respondents predominantly advocate for gender equality in land rights, decision-making processes, and benefits from irrigation structures. This advocacy reflects the positive impact of the GMF program in promoting gender-inclusive practices. The program's influence in challenging entrenched gender norms and fostering more inclusive practices aligns with findings by (Njuki et al., 2011), who highlighted that gender-focused agricultural programs can significantly empower women and improve their decision-making power within households.

Conversely, non-GMF respondents in Central Ethiopia often uphold traditional gender roles, favoring men in land rights and decision-making authority. This adherence to traditional norms

among non-GMF participants suggests that without targeted interventions, deep-seated cultural practices continue to dominate. The disparity between GMF and Non-GMF respondents highlights the critical role of targeted programs in shifting gender dynamics and promoting equality, as noted by (Doss et al., 2018), who emphasized the need for sustained and context-specific gender interventions.

In Oromia, GMF respondents largely support gender equality, reflecting the program's positive impact. However, opinions among non-GMF respondents are more varied, indicating a region in transition. The mixed perspectives suggest ongoing cultural shifts and varying levels of acceptance towards gender-inclusive practices. This complexity is consistent with findings by Kumar and (Doss et al., 2018), who observed that cultural norms and societal attitudes towards gender equality can evolve but often require deliberate and sustained efforts to change.

The diversity in opinions in Oromia underscores the interplay between program participation and broader societal factors. While the GMF program promotes gender equality, broader societal acceptance of these practices is still evolving. This gradual shift in cultural norms necessitates continuous support and reinforcement of gender equality initiatives to achieve long-term change.

In contrast, both GMF and Non-GMF respondents in Amhara generally support gender equality across various dimensions, indicating a relatively more democratic outlook on women's rights over household resources and opportunities. This region's broader acceptance of gender equality aligns with the findings of (MEKURIA et al., 2020), who noted that regions with higher awareness and educational interventions tend to exhibit more progressive attitudes towards gender equality.

However, nuanced differences in perspectives still exist in Amhara, highlighting the complex interplay between cultural norms, program interventions, and individual beliefs. The relatively more democratic outlook in Amhara suggests that both cultural evolution and program interventions have contributed to a more gender-inclusive environment. The success of the GMF program in this region can serve as a model for other areas, demonstrating the potential for impressive progress when cultural norms are actively addressed and inclusive practices are promoted.

Analysis on who should have more rights over different resources

Note: these were produced independently, and shows the same results as those presented in Atmadja et al (i.e., presentations) and Atmadja and Beyene, 2024.

Compared to a woman, a man should have MORE rights to own farmland (irrigated and non-irrigated)

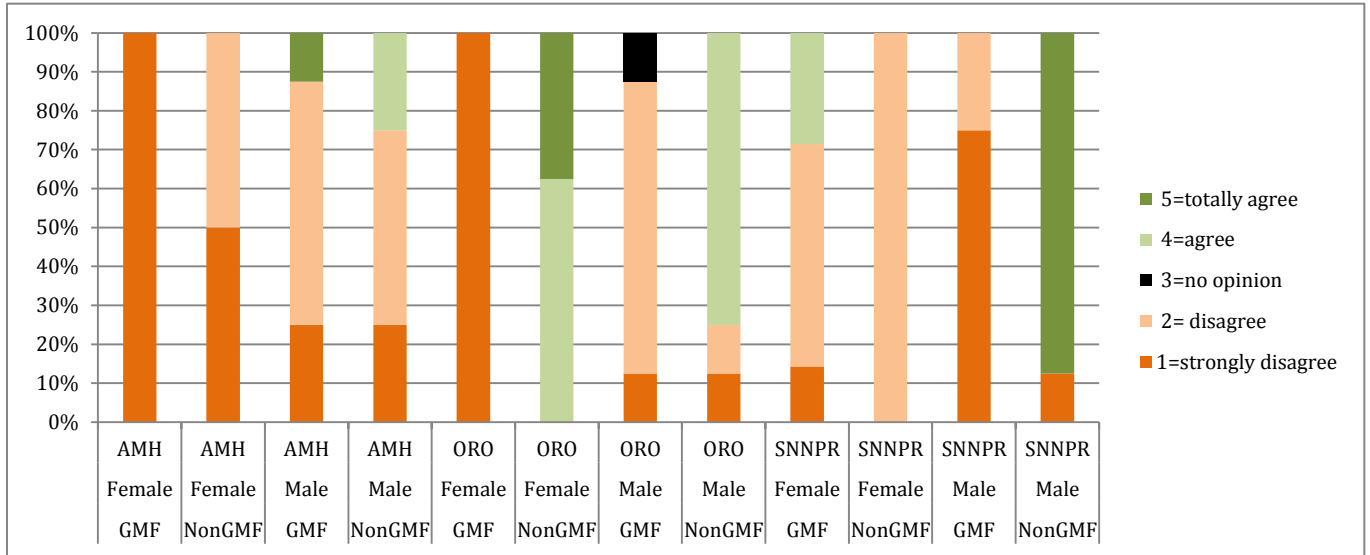


Figure 3: rights over farm land (PASSDIP)

Compared to a woman, a man should have MORE rights to own livestock

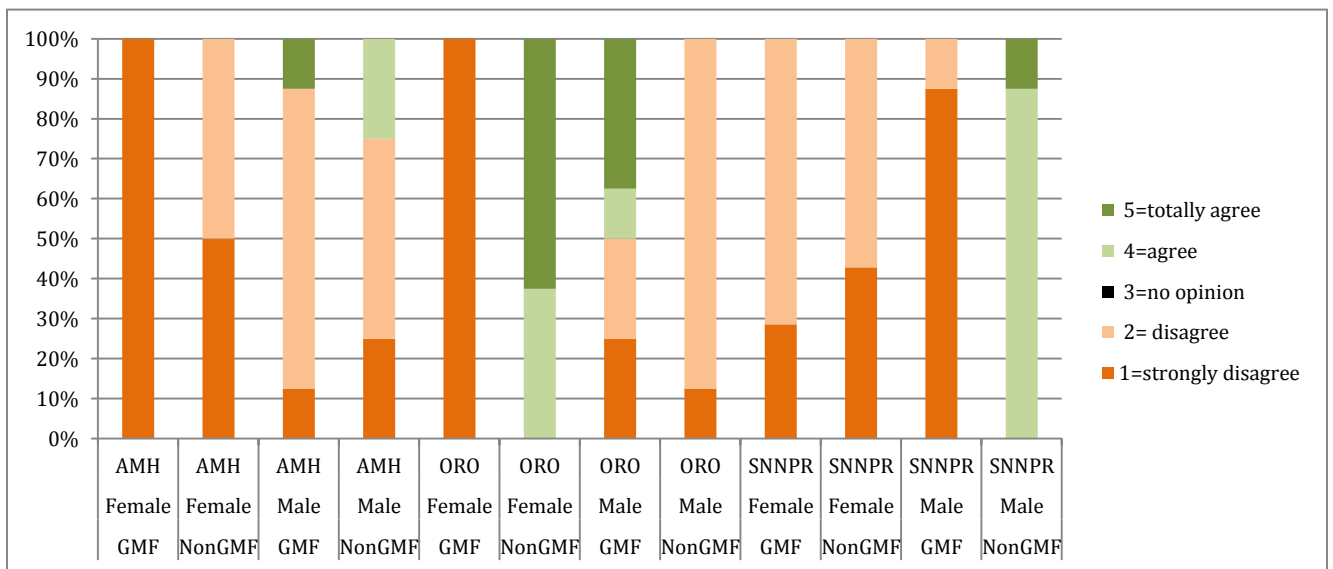


Figure 4: Right over livestock (PASSDIP)

Compared to a woman, a man should have MORE rights to earn cash income

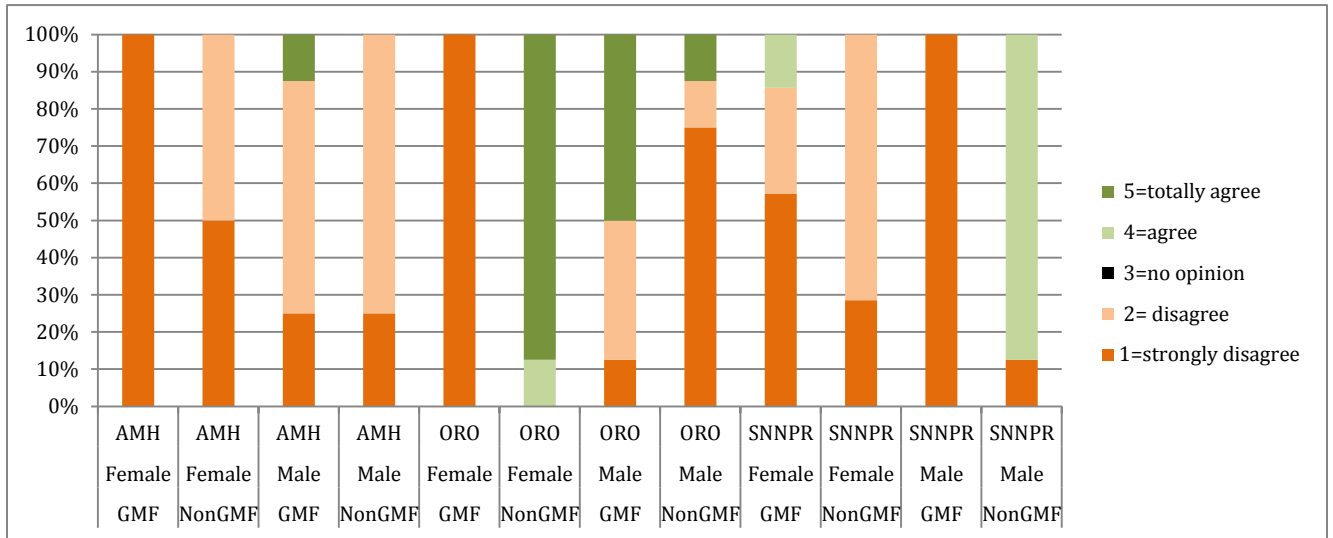


Figure 5: Rights to earn cash income (PASSDIP)

Non PASSIDP Village

Compared to a woman, a man should have MORE rights to own farmland (irrigated and non-irrigated)

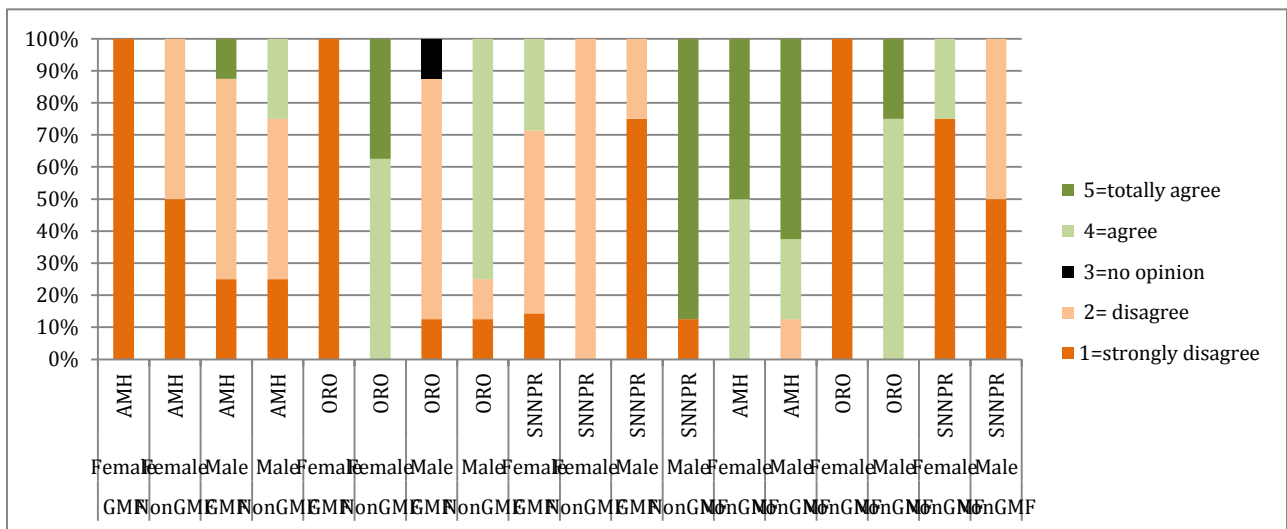


Figure 6: Right to own farmland(non-PASSDIP)

Compared to a woman, a man should have MORE rights to own livestock

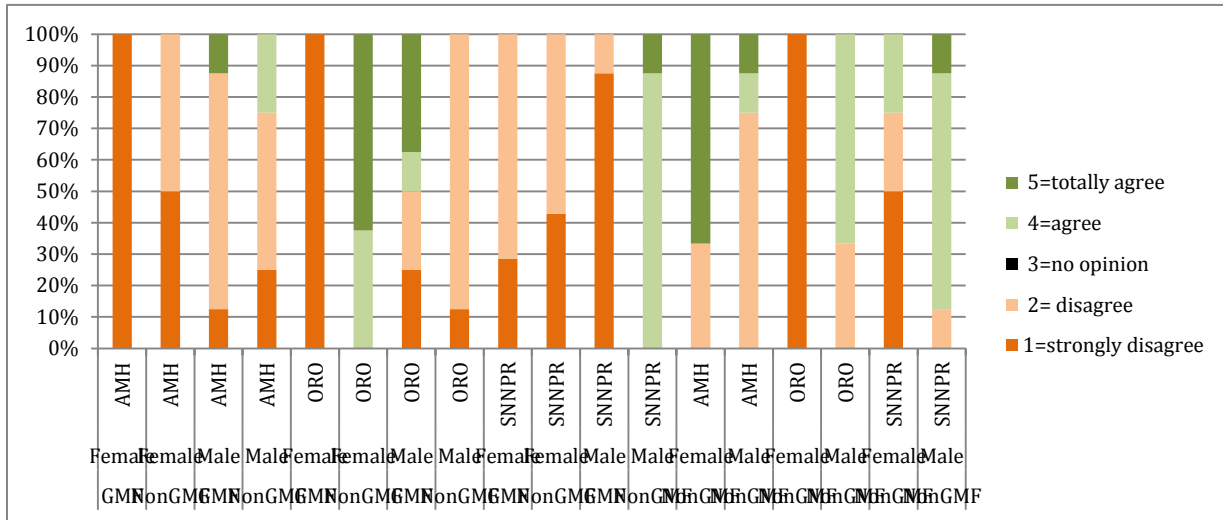


Figure 7: Right to own livestock(non-PASSDIP)

Compared to a woman, a man should have MORE rights to earn cash income

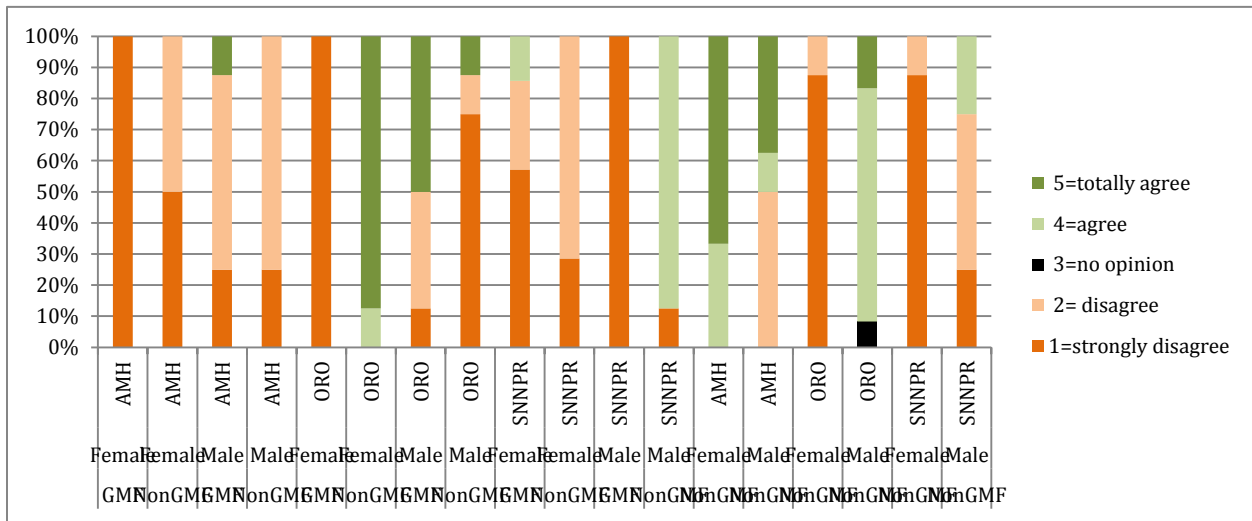


Figure 8: Right to earn cash income(non-PASSDIP)

In conclusion the difference in perspectives on women's rights over household resources and opportunities across Central Ethiopia, Oromia, and Amhara highlight the complex interplay of cultural norms, program participation, and individual beliefs. The GMF program has shown positive promise in promoting gender-inclusive practices and challenging traditional gender

roles. However, continued efforts are needed to address the remaining disparities and ensure that all individuals, regardless of gender or region, have equitable access to resources and opportunities. The findings underscore the importance of targeted interventions and community engagement efforts to foster more equitable societies across diverse cultural contexts.

4.2.3 Influence of Gender on Household and Community Roles and Responsibilities

The analysis of gender roles within households and communities highlights the crucial contributions of women to food security, nutrition, education, and WASH initiatives. These findings align with the broader literature on gender dynamics in agricultural communities, which underscores the indispensable role of women in ensuring the well-being and economic sustainability of their households and communities.

Women in the surveyed regions are heavily involved in farming and livestock rearing, which are pivotal for their community's economic sustenance. Their responsibilities include planting, watering, and selling vegetables, as well as light agricultural tasks such as sowing seeds, spraying pesticides, weeding, and post-production activities like harvesting and threshing. These findings are consistent with the work of (Doss et al., 2018), who emphasize that women's labor in agriculture is critical for food security and economic stability in rural areas.

In addition to their agricultural roles, women are the primary caretakers within households, handling tasks related to food security and nutrition, educating children, and overseeing WASH-related chores. According to (Doss et al., 2018), women's involvement in these areas is crucial for improving household health and educational outcomes, thereby contributing to the overall development of their communities.

Men typically engage in roles that emphasize economic contributions, representing the household in community matters, and participating in decision-making processes at the community level. They are involved in maintaining peace and security, managing communal land resources, and performing heavy agricultural tasks such as hoeing, ploughing, and clearing land. These roles align with findings by (Deere & Doss, 2006a), who highlight men's dominance in labor-intensive agricultural activities and community leadership.

At home, men are primarily involved in economic development and income generation. They participate in decision-making processes related to household resource allocation and contribute to some household tasks. This division of labor reflects traditional gender roles but also shows a degree of shared responsibility, particularly in economic activities and decision-making, as noted by (Kabeer, 2015b).

Disagreements over land use and cultivation decisions often arise due to differences in the division of labor and a lack of unity within households. However, some couples report no disagreements, attributing their harmony to joint decision-making, household unity, or a clear decision-making hierarchy. This collaborative approach to household management is often linked to gender equality training, which fosters cooperation and reduces conflicts. The positive impact of gender equality training on household dynamics and economic outcomes is supported by the findings of (Farnworth, 2013), who observed that households practicing joint decision-making tend to experience better economic and social outcomes.

Traditional gender roles persist in some households due to cultural norms, with men typically handling labor-intensive outdoor work and women managing household tasks. However, the data reveals a significant amount of shared responsibility, particularly in the management of farmland. This division of labor, while traditional, also shows the adaptability and cooperation between genders in achieving household goals, as discussed by (Peterman, n.d.).

In conclusion the analysis reveals distinct but overlapping roles for men and women in both community and household settings. Women play a crucial role in ensuring food security, nutrition, education, and WASH initiatives, while men are primarily involved in economic development and community decision-making. Efforts towards collaborative work and gender equality have been effective in reducing conflicts and improving household dynamics. These findings underscore the importance of targeted interventions and community engagement efforts to address gender disparities and foster more equitable societies across diverse cultural contexts.

4.2.4 Challenges Rural Women and Men Face in Adapting to Climate Change in Relation to Gender Norms

The analysis of gender-specific challenges in agricultural activities and income opportunities across the regions of Central Ethiopia, Amhara, and Oromia reveals a complex interplay of socio-economic and environmental issues that affect both women and men. This comprehensive examination highlights the necessity for tailored interventions to address these challenges effectively and underscores the distinct but often overlapping responsibilities and difficulties encountered by each gender.

Women face significant challenges related to the natural weaknesses of non-irrigated lands, such as drought and poor soil quality, which limit their agricultural productivity. This vulnerability is compounded by community dynamics that may restrict their access to resources and support. Additional issues such as lack of rain, food shortages, financial constraints, and unfavorable landscape conditions further exacerbate the difficulties faced by women in non-irrigated farming. These findings are consistent with the research by (Doss et al., 2018), which highlights the disproportionate impact of environmental and socio-economic factors on women's agricultural activities.

Men's primary concerns in non-irrigated lands include conflicts with others and shortages of food and money. These socio-economic pressures highlight the need for improved conflict resolution mechanisms and economic support systems. Other significant issues for men include lack of rain and agricultural inputs, which directly impact their productivity and economic stability. This aligns with the findings of (Kassie et al., 2014), who emphasize the importance of access to agricultural inputs for enhancing productivity.

In irrigated lands, women frequently struggle with heavy workloads, water shortages, capacity constraints, and limited access to improved seeds and modern agricultural technology. Cultural norms often exacerbate these challenges, restricting their ability to fully engage in and benefit from agricultural activities. This scenario is well-documented by (Farnworth, 2013), who highlight the gender-specific barriers that limit women's participation in irrigated agriculture.

Men's problems in irrigated lands include health issues, shortages of agricultural land, water-related problems, capacity constraints, and lack of access to modern agricultural inputs. These

issues indicate the need for improved health and agricultural infrastructure to support men's agricultural efforts. The importance of addressing these challenges is supported by (Hussain & Hanjra, 2004), who discuss the critical role of irrigation infrastructure in enhancing agricultural productivity and economic stability.

Women dealing with livestock face issues such as fatigue, financial shortages, animal deaths, lack of grazing land, and absence of improved breeds. These challenges limit their control and benefits from livestock farming. The lack of involvement in decision-making further restricts women's potential in livestock management, as highlighted by (Njuki et al., 2011), emphasize the need for empowering women in livestock-related activities.

Men primarily encounter shortages of money, grazing land, and modern breeds, with animal deaths and lack of fodder being common problems. These challenges emphasize the economic and resource-based constraints that hinder men's livestock farming activities. These findings are consistent with studies by (Farnworth, 2013), which underline the resource-related challenges in livestock farming.

Women grapple with corruption, knowledge gaps, unemployment, and lack of saving habits. Restrictions on participating in certain economic activities further limit their financial independence and growth. This situation is described by (Doss et al., 2018), who note that women's economic opportunities are often constrained by systemic barriers and socio-cultural norms.

Men face similar issues, including corruption, knowledge gaps, unemployment, and difficulties in money management. Payment problems are also significant concerns, indicating systemic financial barriers that impede men's economic advancement. These challenges highlight the need for financial literacy programs and systemic reforms to improve economic opportunities for both genders, as suggested by the (World Bank Annual Report 2015, n.d.).

In Central Ethiopia women primarily struggle with the natural weaknesses of the land and the physical demands of agricultural activities. The cumulative effect of these factors results in an overwhelming workload, limiting their productivity and well-being. Men face conflicts, food

and money shortages, and water-related issues, highlighting the socio-economic and environmental pressures that hinder their agricultural activities.

In Amhara women commonly encounter capacity constraints and heavy workloads, highlighting the limitations in their access to resources and support necessary for enhancing productivity. Men are significantly affected by health issues and the lack of grazing land, which impede their ability to manage livestock effectively.

In Oromia women frequently face capacity constraints and heavy workloads, emphasizing systemic barriers that limit their agricultural efficiency and economic empowerment. Men contend with shortages of grazing land and improved breeds, reflecting broader challenges in resource allocation and access to modern agricultural inputs.

In conclusion the data reveals that both women and men face significant challenges related to agricultural activities and income opportunities, with women often bearing the burden of physical labor, capacity constraints, and limited access to resources. Men, on the other hand, are more affected by economic challenges such as lack of agricultural inputs and conflicts. Additionally, income opportunities are hampered by corruption, knowledge gaps, and systemic issues for both genders. Addressing these challenges requires regionally tailored interventions that consider the distinct needs and roles of women and men in agricultural and economic activities.

4.2.5 The Influence of GMF on Couples' Division of Labor in Irrigated Farmland

The profound influence of the GMF program on how couples share work related to irrigated farmland is evident from the unanimous positive feedback from respondents across various regions. This program's impact is multi-faceted, encompassing cultural shifts, improved cooperation, enhanced decision-making, conflict reduction, and mutual respect between men and women. These findings align with existing research on gender mainstreaming and agricultural productivity, which highlights the critical role of gender equality in sustainable development and food security.

Cultural Shifts and Improved Cooperation

In Oromia, the GMF training has been instrumental in fostering cultural changes that promote better cooperation between men and women. Respondents emphasized that the training has helped reduce conflicts and improve attitudes, creating a more inclusive and collaborative farming environment. One respondent noted, "The current culture of working together came from GMF training," illustrating the program's role in nurturing teamwork. Another highlighted the significant shift in gender roles, stating, "Women were used to not participate in farm field work previously, but now they are directly involving in production and marketing." This shift is consistent with findings from the International Food Policy Research Institute (IFPRI), which indicate that gender-sensitive interventions can lead to increased agricultural productivity and economic empowerment for women.

Enhanced Decision-Making and Conflict Reduction

In Amhara, respondents reported that GMF training has led to increased crop diversity and positive societal impacts, including enhanced familial peace, love, and stability. The training encouraged farmers to cultivate a variety of crops, such as pepper and cabbage, leading to more efficient use of farmland and improved food security. This aligns with research by the Food and Agriculture Organization (FAO), which suggests that crop diversification, can enhance resilience and food security in farming communities. Additionally, the program has strengthened familial bonds and collaboration, as one participant remarked, "It increases the love between us. We collaborate in different works." This observation is supported by studies that highlight the importance of shared responsibilities in reducing domestic conflicts and promoting harmonious relationships.

Reduced Workloads and Educational Improvements

In the Central Ethiopia region, the emphasis on cooperative work and joint decision-making has led to reduced workloads and better educational opportunities for children. One respondent shared, "GMF taught us to work cooperatively, decreasing workloads, and to educate children," underscoring the broader social benefits of the program. Another noted, "We are currently working together, love increased and conflict reduced," pointing to the positive changes in

family dynamics and conflict resolution. These findings are in line with research from the World Bank, which emphasizes that cooperative farming practices and gender equality can lead to more sustainable agricultural systems and improved educational outcomes for children.

Quantitative Support and Regional Variations

Quantitative data further supports these qualitative findings. Across all regions, 100% of respondents reported a positive influence due to GMF training. Improved cooperation and joint decision-making were noted in multiple responses, with reduced conflicts frequently highlighted in Oromia and Central Ethiopia. Crop diversification was particularly mentioned by respondents in Amhara and Central Ethiopia, while empowerment and role shifts were notably observed in Oromia, where women now participate more in farming activities that were previously male-dominated.

In conclusion, the GMF program has had a significant positive impact on the way couples share work related to irrigated farmland across the three regions studied. The program has fostered cultural shifts towards greater cooperation, enhanced decision-making processes, reduced conflicts, and promoted mutual respect. Additionally, it has encouraged diversified farming practices and facilitated shifts in traditional gender roles in agricultural activities, resulting in more equitable and efficient farming communities. These findings are consistent with related research, highlighting the critical importance of gender mainstreaming in achieving sustainable agricultural development and improving the livelihoods of farming households. The positive outcomes observed in the GMF program suggest that similar gender-sensitive interventions could be beneficial in other regions and contexts, contributing to broader goals of gender equality and sustainable development.

4.2.6 GMF Program Influence on Women and Men's Income Opportunities and Household Labor

The study on men's rights to earn cash income and their influence over cash income decisions across different regions provides significant insights into gender dynamics and economic participation. The findings highlight the varied opinions among males and females in different regions and underscore the profound influence of the Gender Model Family (GMF) program on these perspectives.

Men's Rights to Earn Cash Income

In the Amhara region, both GMF and non-GMF females unanimously disagree with the notion that men should have more rights to earn cash income, indicating a strong stance towards gender equality. Among males, a majority also disagree, with some expressing strong disagreement. This consensus reflects a progressive shift towards egalitarian views on economic participation. Research by (Peterman, n.d.) supports this, noting that gender-sensitive agricultural interventions can promote more equitable economic opportunities.

In Oromia, the perspectives are more varied. All GMF females strongly disagree with men having more rights, while non-GMF females' show mixed opinions, with most agreeing. GMF males are split in their views, while non-GMF males predominantly disagree. This variation suggests that GMF training may play a crucial role in shaping egalitarian views. (Doss et al., 2018) highlights that training programs targeting gender equality can lead to significant shifts in cultural norms and economic behaviors.

In the Central Ethiopia region, the majority of both GMF and non-GMF females disagree with men having more rights to earn cash income. Among males, all GMF participants strongly disagree, whereas a significant proportion of non-GMF males agree. This disparity indicates that the GMF program may effectively challenge traditional gender norms among its participants. The (FAO, 2011) emphasizes that empowering women through agricultural training can lead to more balanced economic roles within households.

Men's Influence over Cash Income Decisions

In Amhara, both GMF and non-GMF females strongly disagree with men having more influence over cash income decisions, and males largely share this sentiment. This unified stance highlights the impact of gender mainstreaming efforts in promoting joint decision-making. (Doss et al., 2018) suggest that inclusive decision-making in agricultural households leads to better outcomes for all members.

In Oromia, GMF females uniformly disagree with men having more influence, while non-GMF females mostly disagree but with some in agreement. GMF males uniformly disagree, but non-GMF males are split. These findings indicate the GMF program's role in fostering more equitable

decision-making practices. (World Bank Annual Report 2015, n.d.) notes that gender-focused interventions can significantly alter traditional power dynamics in household decision-making.

Most GMF females in Central Ethiopia strongly disagree with men having more influence over cash income decisions, while non-GMF females uniformly agree. GMF males predominantly disagree, whereas non-GMF males mostly agree. This dichotomy suggests that GMF training encourages more balanced decision-making processes. (UNDP (2016), n.d.) asserts that promoting gender equality in economic decision-making enhances household welfare and development.

Impact on Income Opportunities and Housework Labor

Income Opportunities:

The majority of respondents across all regions believe that the GMF program has positively influenced income opportunities. Improved collaboration between men and women, increased knowledge about gender equality, increased income, decreased workload, and changed social norms are key outcomes. Specifically, respondents attribute improved collaboration and increased income to the GMF program. (Elson, 2009) highlights that gender mainstreaming in agriculture can lead to significant economic benefits and improved household income.

Housework Labor:

A substantial number of respondents believe that the GMF program has positively influenced housework labor, including positive changes in attitudes towards housework, altered views on responsibilities, and increased joint decision-making. These changes reflect a shift towards more equitable household dynamics. The (FAO, 2016) that equitable division of labor in households contributes to overall well-being and efficiency.

Regional Impacts:

In Oromia Respondents noted improved collaboration, increased income, and changed social norms due to GMF. Positive attitude changes and increased joint decision-making in housework were also highlighted. In Amhara Improved collaboration, increased income, and changed social norms were key impacts. Positive attitude changes and increased joint decision-making in

housework were significant outcomes. And SNNPR Respondents observed improved collaboration and changed social norms. Positive attitude changes towards housework were also noted.

In conclusion the GMF program has positively impacted income opportunities and housework labor among couples in the surveyed regions. The program has fostered improved collaboration, increased income, enhanced knowledge about gender equality, and changed social norms. In terms of housework, GMF has promoted positive attitude changes, altered views on responsibilities, and encouraged joint decision-making. These comprehensive impacts highlight the crucial role of the GMF program in promoting gender equality and economic well-being within households.

4.2.7 GMF influence on women and men's involvement in decisions, roles and responsibilities at the household and community levels

The analysis of decision-making dynamics within households, focusing on the influence of the Gender Model Family (GMF) program, reveals notable differences in gender roles and participation across three regions Amhara, Oromia, and Central Ethiopia and across various decision areas, particularly regarding irrigated and non-irrigated farmland, livestock, and cash income. The findings highlight the GMF program's positive impact on promoting gender equity and shared responsibilities, contrasting sharply with the perspectives of non-GMF participants.

Decision-Making over Irrigated Farmland

Among GMF participants, both genders across regions generally agree that decision-making regarding irrigation structures are shared equally between men and women. This is supported by (Agarwal, 2001a) research, which emphasizes that collaborative decision-making in agricultural practices enhances productivity and social harmony. However, non-GMF participants, particularly females in Amhara and Central Ethiopia, perceive that men exert more influence over these decisions. Males in these regions show mixed views, acknowledging male dominance in some cases but also suggesting either equal decision-making or uncertainty in others. This disparity suggests that the GMF program effectively promotes gender-balanced decision-making, aligning with the findings of (Doss et al., 2018) on the benefits of inclusive agricultural decision processes.

Decision-Making over Non-Irrigated Farmland

Similar to irrigated farmland, GMF participants, irrespective of gender or region, typically perceive decision-making between men and women as equal regarding non-irrigated farmland. This perception aligns with (Peterman, n.d.) findings, which show that gender-sensitive interventions can lead to more equitable agricultural practices. Conversely, non-GMF participants, particularly females in Amhara and SNNPR, believe that men wield more influence over these decisions. Males in these regions exhibit mixed views, highlighting a cultural lag in adopting egalitarian decision-making practices outside the GMF framework.

Decision-Making over Livestock

Among GMF participants, females strongly oppose the notion that men should have more influence over livestock decisions, advocating for equality, while most males also disagree with male dominance, albeit with some variations. This opposition aligns with studies by (Farnworth, 2013), which suggest that women's involvement in livestock decisions can lead to improved household welfare. In contrast, non-GMF participants, especially females, display mixed responses leaning towards men having more influence, while some males, particularly in the SNNPR region, support the idea of male dominance. These findings indicate that the GMF program significantly challenges traditional gender norms, promoting a more balanced approach to livestock management.

Decision-Making over Cash Income

GMF participants emphasize the importance of discussions between men and women in decision-making regarding various aspects like farmland, livestock, and cash income, promoting shared responsibilities. This collaborative approach is supported by the World Bank (2015), which notes that joint decision-making in financial matters leads to better economic outcomes for households. Conversely, non-GMF participants, especially males, exhibit varying opinions, with some questioning the need for such discussions, notably in the SNNPR region. This reluctance reflects persistent traditional views on gender roles in financial decision-making, which the GMF program seeks to address.

Discussion and Shared Responsibilities

GMF participants, regardless of the region or gender, strongly advocate for discussions between men and women regarding decisions related to farmland, livestock, and cash income. They believe that GMF participation fosters shared decision-making and responsibilities. This sentiment aligns with research by (Deere & Doss, 2006a), which underscores the importance of gender equity in enhancing household economic stability. In contrast, non-GMF participants, particularly males, show mixed responses, with some disagreeing on the necessity of men discussing decisions with women, particularly in the SNNPR region. This resistance highlights the entrenched patriarchal norms that the GMF program aims to dismantle.

Regional Comparisons

In the Amhara region, GMF participants, regardless of gender, report equitable decision-making, while non-GMF participants, especially females, tend to believe that men have more influence. In Oromia, GMF participants echo similar sentiments of equitable decision-making as in Amhara, whereas non-GMF females claim that only men make decisions, with males expressing mixed views. Finally, in the Central Ethiopia region, GMF participants report the most equitable decision-making, whereas non-GMF males assert that men have more influence, contrasting with mixed views from females. These regional differences underscore the varying degrees of cultural resistance to gender equality, which the GMF program addresses through targeted interventions.

In conclusion the Gender Model Family (GMF) program fosters equitable decision-making and shared responsibilities among men and women across various regions and decision areas. In contrast, non-GMF participation tends to favor men having more influence, albeit with regional and gender difference. GMF participants strongly support discussions between men and women and shared responsibilities, unlike non-GMF participants. Overall, the analysis underscores the positive impact of the GMF program on gender dynamics, promoting fairness in work distribution, decision-making, and income opportunities. These findings align with broader research, highlighting the critical role of gender-sensitive programs in transforming traditional gender roles and fostering economic and social well-being within households.

4.2.8 GMF contribution to rural women's resilience in adapting to climate change

This discussion explores how the changes facilitated by the GMF program not only enhance household dynamics but also hold implications for climate change resilience.

Across regions such as Oromia, Amhara, and Central Ethiopia, respondents uniformly reported significant cultural shifts attributable to GMF training. These shifts include improved cooperation between spouses, reduced conflicts, and enhanced attitudes towards joint decision-making in agricultural activities. Such cultural changes are crucial in fostering resilient farming practices, as they promote inclusivity and mutual respect in managing agricultural resources.

Research suggests that improved cooperation and reduced conflict within households can lead to more efficient resource management, which is vital for climate change adaptation. When men and women work together collaboratively, they are more likely to adopt sustainable agricultural practices, such as efficient water use in irrigated farming, which mitigates the impact of droughts and water scarcity exacerbated by climate change (Deere & Doss, 2006b).

In Amhara and Central Ethiopia, the GMF program has encouraged farmers to diversify their crop production. Respondents noted the cultivation of various crops like pepper and cabbage, which not only optimize land use but also contribute to food security and economic resilience. Diversified cropping systems are crucial for climate change adaptation as they reduce vulnerability to climate variability and enhance ecosystem resilience (IPCC, 2021).

Studies emphasize that crop diversification can buffer against the adverse effects of climate change by spreading risks associated with crop failures and pests, thereby ensuring stable food production (FAO, 2020). The GMF's role in promoting diversified farming practices aligns with these findings, suggesting that such initiatives can contribute significantly to climate resilience at the local level.

The GMF program has also facilitated shifts in traditional gender roles by empowering women to participate more actively in agricultural production and decision-making processes. This

empowerment not only enhances women's socio-economic status but also strengthens household resilience to climate change impacts.

Evidence indicates that women's involvement in decision-making at the household level enhances adaptive capacity to climate change. Women often bring different perspectives and priorities to decision-making processes, such as prioritizing water and food security, which are crucial for climate resilience (Agarwal, 2001b, Elson, 2010).

In conclusion, the GMF program in Ethiopia has demonstrated significant positive impacts on couples' division of labor in irrigated farmland, influencing cultural shifts, cooperation, crop diversification, and gender empowerment. These outcomes not only enhance household dynamics but also hold promise for climate change adaptation by promoting resilient agricultural practices. Moving forward, sustaining and expanding such initiatives will be critical in building adaptive capacity and resilience to climate change at the community level. The findings highlight the significant alignment of the GMF program with the Gender and Development (GAD) framework and the Harvard Analytical Framework, demonstrating its success in addressing both practical gender needs and strategic gender interests. The GMF program has increased women's access to irrigated and non-irrigated farmland, meeting their immediate agricultural needs and enhancing their economic opportunities. It has also shifted perceptions towards gender equality in land ownership and decision-making, promoting strategic gender interests. In the studied regions the GMF program has improved women's access to and control over household resources and decision-making authority, although differences remain in the areas. The program fosters joint decision-making and equitable distribution of household responsibilities, contributing to positive changes in attitudes towards gender equality. Despite regional variations, the GMF program's overall impact underscores the importance of targeted interventions to sustain and expand gender equity in resource access and economic participation. These comprehensive findings highlight the GMF program's crucial role in promoting gender equality and economic well-being, supporting the GAD framework's emphasis on equity and the Harvard Analytical Framework's focus on resource access and control.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

In conclusion, the GMF program has had a positive impact on gender dynamics and work distribution among couples in the studied regions. It has fostered cultural shifts towards greater cooperation, enhanced decision-making, reduced conflicts, and promoted mutual respect. The program has encouraged diversified farming practices, facilitated shifts in traditional gender roles, and promoted equitable land ownership, resulting in more efficient and equitable farming communities. The GMF program has also positively impacted income opportunities and housework labor, promoting collaboration, increasing income, and enhancing knowledge about gender equality. These changes have altered social norms, promoted joint decision-making, and encouraged gender-inclusive practices, aligning with broader research that highlights the critical importance of gender mainstreaming in sustainable agricultural development.

Overall, the findings underscore that GMF program has not only advanced gender equality and improved household dynamics but has also laid a strong foundation for building climate resilience among rural women. By promoting cooperation, equitable land ownership, diversified farming, and inclusive decision-making, the program ensures that rural communities are better equipped to face the challenges posed by climate change. The positive outcomes of the GMF program suggest that similar gender-sensitive interventions could be beneficial in other contexts, contributing to broader goals of gender equality and sustainable development.

5.2 RECOMMENDATIONS

These recommendations are directed towards **policy-makers, development agencies, researchers, and institutions involved in the implementation and evaluation of the Gender Model Family (GMF) program**. They are aimed at enhancing the program's positive impacts and addressing any remaining challenges.

Longitudinal Studies: It is imperative to assess the long-term effects of the GMF program on gender dynamics, decision-making processes, and economic outcomes within farming communities. Such studies will help determine the sustainability of the program's benefits and identify areas requiring ongoing support.

Regional Disparities: Investigating the specific regional and cultural factors that influence the effectiveness of the GMF program is crucial. Understanding these nuances will allow for the development of tailored interventions that address the unique needs of different communities, ensuring more effective and context-sensitive implementations.

Economic Impact Analysis: Conducting comprehensive economic impact analyses will quantify the benefits of the GMF program on household incomes, agricultural productivity, and community economic development. These analyses will provide valuable data for advocating for policy support and securing funding for the program.

Policy and Institutional Support: Examining the role of policy and institutional frameworks in either supporting or hindering the implementation and success of gender-sensitive programs like the GMF is crucial. Identifying best practices and potential barriers will inform future policy-making and enhance program effectiveness.

Community Engagement Strategies: Identifying the most effective community engagement and awareness-raising strategies is critical for enhancing the acceptance and impact of gender-sensitive programs. Research should focus on communication methods, cultural sensitivity, and participatory approaches to ensure broad community support and involvement.

By focusing on these research areas, future studies can provide valuable insights and data to refine and expand the GMF program, contributing to broader goals of gender equality and sustainable development.

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