

**IMPACT OF COVID-19 AND GENDER-RESPONSIVENESS OF
RECOVERY INTERVENTIONS IN AGRICULTURAL COOPERATIVES IN
KIAMBU COUNTY, KENYA**

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OF KENYA**

NOVEMBER, 2024

DECLARATION

Declaration by Candidate

This thesis is my original work and has not been submitted for a degree in any other University or for any other award

..... 

...22nd November 2024.....

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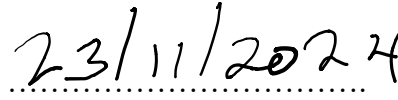
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DEDICATION

This work is dedicated to Beatrice Inyanza, my wife, and my sons Warren and Axel for their inspiration, alongside my supportive workmates who facilitated this endeavour.

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ABBREVIATIONS AND ACRONYMS

CEO	Chief Executive Officer
COVID	Coronavirus Disease
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FIDA	Federation of Women Lawyers
FPE	Feminist Political Ecology
GESI	Gender Equality and Social Inclusion
ICA	International Cooperative Alliance
IDI	In-Depth Interview
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
KII	Key Informant Interview
SEM	Social Ecological Model

ABSTRACT

Emerging data from global COVID-19 recovery operations show a detrimental, gender-specific impact on all sectors, particularly agriculture. Despite efforts to promote women's involvement in agricultural cooperatives, understanding the pandemic's effects on different social groups is crucial for creating effective recovery plans. Since the initial outbreak, COVID-19 has posed significant challenges in Kenya, especially for women and girls. Identifying and addressing gender disparities is essential for implementing inclusive and fair policies to advance gender equality. This study investigated COVID-19's impact on agricultural cooperatives in Kiambu County and the gender-responsiveness of recovery interventions. It examined gender inclusion, the gendered impact of COVID-19, and interventions' responsiveness in Kiambu agricultural cooperatives. Erik Erikson's Social-Ecological Model and Feminist Political Ecology theories guided the study. A descriptive cross-sectional study design was utilized, enabling the researcher to collect both qualitative and quantitative data to effectively address each of the research objectives. The target population for this study was 18,963 individuals affiliated with dairy and coffee agricultural cooperatives in Kiambu County. Key informants were drawn from cooperative development officers, managers of agricultural cooperatives, while the focus group discussion participants were drawn from management committees. A stratified simple random sampling method was employed to select a sample of 303 respondents. Additionally, purposive sampling was utilized to identify key informants and participants for the focus group discussions. Data was collected using household questionnaires for members and focus groups discussion guides for committee members while in-depth interviews and key informant interviews managers and county cooperative officers. 35 respondents were selected for the pilot study from agricultural cooperatives in Kiambu County that were not part of the main study. Validity was ensured by seeking expert opinions from the Department of Community Development and Environmental Management. Reliability was established by pretesting the data collection tools with 10% of the study sample size (30 participants) drawn from dairy and coffee cooperatives excluded from the main study. Cronbach formulae was used to calculate the reliability which was found to be 0.81 indicating that the tools were reliable. Quantitative data was analysed using STATA software while qualitative data was analysed using N-Vivo and presented in themes. The study results found men predominantly held management board positions, with 49% and women 32%. Women were the majority of cooperative employees by 63%. The supervisory committee showed a more balanced representation, with 42% indicating men and 35% indicating women. Cultural norms (54%) were the main barrier to women's leadership participation. Women bore the majority of COVID-19's burden. For instance, women (61%) and men (49%) experienced a change in safety in their homes, and women (61%) and men (30%) reported instances of sexual harassment. During the pandemic, efforts to curb COVID-19 spread were prioritized, often ignoring gender concerns. The distribution of genders throughout the various levels of cooperative governance revealed a generally noteworthy underrepresentation of women in positions involving important decision-making. The study concluded that addressing gender disparities is essential for fostering inclusive and equitable leadership in agricultural cooperatives. It recommended adopting tailored strategies to enhance gender inclusivity, mitigate COVID-19 impacts, and improve cooperative interventions.

CHAPTER ONE

INTRODUCTION

1.1 Background information

Pandemics have demonstrated their capacity to severely impact societies on a global scale. Diseases such as the Spanish flu, H1N1 influenza and Ebola have had far-reaching consequences (Smith, 2018; Brown et al., 2020). The COVID-19 pandemic served as a stark reminder of the vulnerability of communities to such crises (World Health Organization, 2020; Centre for Disease Control and Prevention, 2021). The COVID-19 pandemic, in particular, disrupted economies, overwhelmed healthcare systems, and caused a significant loss of lives worldwide (WHO, 2020; Centers for Disease Control and Prevention, 2021). Research indicate varous impacts of disasters and pandemics are not gender-neutral. Women and girls often experience specific vulnerabilities and are disproportionately affected by these crises (Denton et al., 2020; UN Women, 2021). Women and girls may face heightened risks of violence, limited access to healthcare, increased caregiving responsibilities, and economic insecurities (Gupta et al., 2020). Gender inequalities and social norms worsen these vulnerabilities, further marginalizing women and hindering their ability to recover and rebuild their lives in the aftermath of disasters and pandemics (United Nations, 2018; IASC, 2020).

In Africa, previous pandemics had significant impacts on agriculture, affecting different aspects of the sector. Ebola outbreak in Africa, particularly over the period of between 2014-2016 in West Africa had significant impacts on the agricultural sector, leading to disruptions in farming activities, loss of livelihoods, decreased food production, market disruptions, and challenges in cash crop cultivation (FAO, 2015; Lamine et al., 2019). Movement restrictions, fear of infection, and overwhelmed

healthcare systems prevented farmers from tending to their fields, resulting in decreased agricultural production and increased food insecurity among affected communities. Market disruptions and limited access to transportation hindered the trade of agricultural products, affecting both farmers' income and consumers' access to food. Furthermore, the diversion of resources towards controlling the outbreak had long-term implications for agricultural development (FAO, 2015). Mitigation efforts included providing assistance to farmers, distributing food aid, promoting safe agricultural practices, and supporting the recovery of the agricultural sector (Lamine et al., 2019).

In Kenya, the COVID-19 pandemic presented significant challenges following its outbreak, with the first confirmed case reported on March 13, 2020 (Ministry of Health Kenya, 2020). Since that time, the number of cases escalated rapidly, leading to multiple waves of infections that impacted the entire country. By July 2023, Kenya had recorded a total of 343,786 confirmed cases and 5,689 deaths (WHO, 2023). To mitigate the spread of the virus, the Kenyan government implemented various measures, including lockdowns, curfews, and limitations on public gatherings (Ministry of Health Kenya, 2020). Despite these efforts, the healthcare system faced considerable strain, highlighting the urgent need for enhanced testing capacity, improved healthcare infrastructure, and effective vaccine distribution. To alleviate the impact of the pandemic, public health campaigns, vaccination initiatives, and the promotion of preventive measures such as mask-wearing and social distancing were launched (Ministry of Health Kenya, 2021). Currently, the World Health Organization (WHO) reports that a total of 23,750,431 vaccine doses have been administered throughout the country (WHO, 2023).

Understanding the differential impacts of pandemics on various social groups, including women, is essential for developing effective recovery management strategies and public health responses. By recognizing and addressing gender disparities, policymakers and practitioners can implement inclusive and equitable measures to mitigate the adverse effects on either gender and promote gender equality in disaster and pandemic management (United Nations, 2019; World Bank, 2020).

1.2 Statement of the problem

While cooperatives are noted to provide avenues through which objectives of financial inclusion can be realized, gender disparities in agricultural cooperatives have persisted despite numerous interventions to promote women's participation. Throughout the decades, efforts to promote gender equality within agricultural cooperatives have been met with persistent challenges. Historical data stretching back to 1980 reveals a disheartening trend: women's representation within these cooperatives has remained disproportionately low. In 1980, women accounted for a mere 15% of cooperative membership. Progress has been slow, with a marginal increase to 20% by 2000, and a further rise to only 30% by 2020 (Nyagah & Sitati 2022; UN Women, 2020). This long-standing underrepresentation underscores systemic issues that demand immediate attention. Beyond the numbers, this disparity perpetuates gender inequalities, denying women access to crucial economic opportunities within agricultural cooperatives.

Addressing the gender gap within agricultural cooperatives promises significant benefits for both women and communities at large. Enabling greater female participation brings diverse perspectives to decision-making processes, fostering innovation and enhancing overall productivity. Studies indicate that addressing gender

gaps in agriculture could lead to significant improvements in productivity, potentially increasing output by up to 30% and reducing hunger by as much as 17% (Chirwa, 2016; Wanyama et al., 2019). Additionally, economically empowering women can have extensive benefits, enhancing household well-being, driving community development, and advancing broader socio-economic objectives.

Despite a wealth of research on women's roles in agricultural cooperatives, there remain significant knowledge gaps, particularly regarding the gender-specific effects of the COVID-19 pandemic. While existing studies underscore the consistently low levels of female participation, there is a lack of detailed statistical data on how the pandemic has affected gender disparities within cooperatives. Furthermore, the effectiveness of gender-responsive recovery interventions has not been thoroughly examined. This study aims to fill these gaps by investigating the gendered impact of COVID-19 and gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County, Kenya.

1.3 General objective

The main objective of this study was to investigate impact of COVID-19 and gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County.

1.4 Specific objectives

The objectives of the study were to:

1. Analyze gender inclusivity in agricultural cooperatives in Kiambu County
2. Analyze gendered impacts of COVID-19 on Agricultural Cooperatives in Kiambu County

3. Evaluate gender-responsiveness of the interventions put in place to enable Agricultural Cooperatives in Kiambu County to recover from impacts of COVID-19

1.5 Research questions

1. Is there gender inclusivity in agricultural cooperatives in Kiambu County?
2. What are the gendered impact of COVID-19 on Agricultural Cooperatives in Kiambu County?
3. Are interventions put in place to enable Agricultural Cooperatives in Kiambu County to recover from COVID-19 impact gender responsive?

1.6 Significance of the research

The primary aim of this study was to investigate the impact of COVID-19 and the gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County. By analyzing gender inclusivity, the gendered impacts of the pandemic, and the effectiveness of recovery strategies, the research aligns with the objectives of promoting gender equality (SDG 5), sustainable agriculture (SDG 2), and poverty alleviation (SDG 1).

The study identifies challenges and opportunities within agricultural cooperatives, emphasizing the need for targeted approaches to address gender vulnerabilities exacerbated by the pandemic. These findings support Kenya's Vision 2030 goals of reducing inequalities, fostering equitable social development, and building a resilient agricultural sector.

Furthermore, by evaluating gender-responsive recovery interventions, the research highlights best practices that can be scaled to strengthen agricultural cooperatives. These insights are expected to inform policies and practices that enhance gender equality, promote economic growth (SDG 8), and contribute to a sustainable and competitive agricultural sector, both in Kiambu County and beyond.

1.7 Scope of the research

The research was conducted within the geographical confines of Kiambu County, Kenya, specifically targeting agricultural cooperatives in the coffee and dairy sectors. It focused on post-COVID-19 recovery interventions and gender inclusion in these cooperatives, aiming to explore the distinct gendered experiences and vulnerabilities faced during the pandemic. The study analyzed the impacts of COVID-19 on both women and men within agricultural cooperatives, examining their paid and unpaid labor, access to resources, decision-making power, and overall well-being.

Additionally, the research evaluated the gender responsiveness of recovery interventions implemented by these agricultural cooperatives, assessing how effectively these strategies addressed the specific needs and priorities of men and women. The target population comprised 18,952 individuals involved in agricultural cooperatives within the coffee and dairy sectors in Kiambu County. A sample size of 303 participants was selected using a multistage sampling strategy that included purposive, stratified, and simple random sampling methods.

The study was grounded in Erik Erikson's Social-Ecological Model (SEM) and the theories of Feminist Political Ecology (FPE). The key variables identified in the study include gender inclusivity as the independent variable, the gendered impacts of COVID-19 as the dependent variable, and gender-responsive recovery interventions

as the moderating variable within the context of agricultural cooperatives in Kiambu County.

1.8 Limitations of the study

Firstly, the study focused solely on Kiambu County, which may limit the generalizability of the findings to other regions or counties in Kenya. Therefore, caution should be exercised when attempting to apply the results beyond the specific study area. To address this limitation, the research design included efforts to capture a range of perspectives from the selected agricultural cooperatives. Additionally, the study discussed the unique contextual factors specific to Kiambu County to offer a more nuanced interpretation of the findings.

Secondly, given the sensitive nature of the impacts of COVID-19, the researcher needed to provide thorough explanations of the study's objectives to the respondents. This step was essential for obtaining informed consent and ensuring transparency throughout the data collection process. To facilitate this, the research emphasized clear communication with participants, highlighting the voluntary nature of their involvement and assuring them of the confidentiality of their responses. Ethical considerations were prioritized throughout the research process to uphold the integrity of the study.

Thirdly, the study sampled agricultural cooperatives across various sectors, potentially resulting in variations in experiences and challenges among cooperatives. Therefore, the findings may not fully represent the broader landscape of agricultural cooperatives in Kiambu County or other regions within Kenya. To mitigate this, a purposive sampling approach was employed, selecting cooperatives from diverse sectors to

capture a range of experiences. Additionally, the study acknowledged the potential limitations of the sample and contextualized the findings within the scope of the selected cooperatives to avoid overgeneralization.

1.9 Definition of Key Terms

Agricultural Cooperatives: Refers to voluntary associations of farmers, producers, or other stakeholders in the agricultural sector who come together to collectively undertake activities related to agricultural production, processing, marketing, and other aspects of the value chain

Gender: In this study, it denotes the roles, behaviors, and identities assigned to individuals by society according to their assumed sex. The focus is specifically on women's experiences within agricultural cooperatives in Kiambu County during the COVID-19 pandemic. Recognizing societal norms and power dynamics, the research acknowledges that women may face distinct challenges and vulnerabilities compared to men during crises such as the COVID-19 pandemic.

Gender Responsiveness: In this study, its defined as the extent to which policies, practices, and strategies are designed and implemented in a way that recognizes and addresses the specific needs, experiences, and priorities of different genders especially women.

Gender-specific: Refers to the characteristics, experiences, or impacts that are associated with a particular gender. In the context of this study, it pertains to the distinct challenges, opportunities, and perspectives encountered by women in agricultural cooperatives, recognizing that gender roles, expectations, and inequalities can shape their experiences differently.

Interventions: In this study, it refers to the planned actions or strategies implemented to address COVID-19 pandemic from a gender perspective.

Post COVID-19 recovery: Refers to the period after the COVID-19 pandemic when efforts are made to rebuild, rehabilitate, and revitalize various sectors, including

agriculture, that have been significantly affected by the pandemic. In this study, it refers to implementing strategies and measures aimed at restoring and enhancing the the well-being of communities and systems in economic, social, and environmental aspects.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on examining previous studies on gender and pandemics. The literature review begins by exploring the concept of gender and Pandemics, examining previous studies on gendered impacts of pandemics, and analyzing gender responsiveness frameworks. The literature review also explores the impact of COVID-19 on the agricultural sector, with a particular focus on agricultural cooperatives, examines previous studies on exposure factors to these impacts and post-disaster recovery strategies. Finally, this review identifies gaps in existing literature and highlights the importance of this study in addressing these gaps.

2.2 Gender inclusivity in agricultural cooperatives

Research on gender inclusivity in cooperatives has extensively examined the barriers women face and the progress made toward fostering equitable participation. For example, Ahmed and Mesfin (2017) investigated the impact of cooperative membership on the livelihoods of smallholder farmers in Ethiopia. Their study, which utilized cross-sectional data and econometric methods such as propensity score matching and endogenous switching regression, highlighted the critical role cooperatives play in rural economies by enhancing market access and enabling resource sharing. However, they also noted persistent gender inequalities that limit women's opportunities and representation in these cooperatives.

Similarly, the INNOVAFRICA study (2019) focused on agricultural cooperatives across six African countries, including Kenya, Nigeria, Ethiopia, Uganda, Tanzania, and Ghana. Employing a combination of literature reviews, focus group discussions,

and surveys with over 3,800 participants, the study assessed inclusivity by evaluating women's and youth's participation in decision-making roles, access to resources like land and credit, and engagement in income-generating activities. It found significant barriers to inclusivity but noted increasing awareness of the importance of gender equality in agricultural settings.

In Kenya, there has been growing attention to women's participation in cooperatives and its influence on cooperative performance and rural empowerment. The CLEAR Program (2022) highlighted this issue through qualitative focus group discussions with cooperative board members and participants. The findings revealed that only 30% of cooperative members in Kenya are women, with even fewer occupying leadership positions. Women expressed a desire for equal opportunities in decision-making and resource access, emphasizing their roles not only as cooperative members but also as contributors to broader economic and social goals. Despite these efforts, gender disparities remain entrenched, highlighting the need for targeted strategies to address systemic inequalities.

Building on these studies, the current research focuses on the gendered impacts of the COVID-19 pandemic on agricultural cooperatives in Kiambu County. While earlier studies explored gender disparities and the benefits of inclusivity, they did not examine the compounded vulnerabilities caused by crises such as COVID-19. This study aims to fill this gap by evaluating how cooperatives have responded to the pandemic and identifying effective recovery strategies. By addressing the limitations in previous research and focusing on crisis-specific challenges, the study seeks to contribute practical insights for fostering gender inclusivity and resilience within agricultural cooperatives.

2.3 Gendered impact of COVID-19 on agricultural Cooperatives

Research on the gendered impact of pandemics, including COVID-19, highlights significant disruptions to agricultural cooperatives, particularly in terms of social, economic, and organizational dimensions. Pandemics often exacerbate existing gender disparities by reshaping societal norms and roles, intensifying vulnerabilities, and limiting access to resources for women and other marginalized groups. For example, studies such as Lee et al. (2018) and Davis et al. (2021) analyzed the economic impact of pandemics on cooperatives, revealing challenges like reduced market demand, price volatility, and limited access to credit. Methods included econometric modeling and cross-sectional analysis, with findings pointing to weakened cooperative structures and disrupted value chains. However, these studies largely overlooked the gendered dimensions of these economic impacts.

Similarly, research by Hernández and Villarreal (2020) and Garrido and Petrick (2019) examined organizational challenges during pandemics, such as labor shortages and disrupted decision-making processes. Their studies relied on qualitative assessments and case studies to highlight how movement restrictions hindered cooperative productivity and member coordination. These findings are relevant but lacked a gender-specific focus, leaving gaps in understanding how such disruptions differentially affect men and women.

Gender disparities during pandemics extend beyond economic impacts to include mental health, caregiving burdens, and exposure to gender-based violence (GBV). For instance, Gupta et al. (2021) noted that school closures during COVID-19 disproportionately affected women, who were compelled to take on additional childcare responsibilities. Jewkes et al. (2017) and García-Moreno et al. (2020)

provided evidence linking pandemics to increased GBV, with studies employing surveys and interviews to document rising domestic violence cases during lockdowns. These findings underscore the compounded vulnerabilities women face during crises but are often disconnected from analyses of agricultural cooperatives.

Specific to agricultural cooperatives, studies like Leena (2015) investigated the Ebola Virus Disease outbreak in Liberia through desk reviews and fieldwork, revealing systematic inequalities exacerbated by the crisis. Women faced reduced access to healthcare, increased maternal mortality, and economic hardships, which hindered their participation in cooperative activities. Mekonnen et al. (2017) and Doss (2018) highlighted similar issues during the HIV/AIDS pandemic, where women in cooperatives experienced stigmatization and decreased market demand, leading to reduced income and economic empowerment. These studies utilized participatory approaches and qualitative analyses, providing valuable insights but lacking quantitative rigor and a focus on long-term impacts.

Moreover, leadership and decision-making within cooperatives are often affected during pandemics. Kabeer (2019) and Ratna et al. (2020) noted that women's representation in leadership roles diminishes during crises as urgent management priorities overshadow inclusivity efforts. These studies employed comparative case studies to highlight gender disparities in cooperative governance but did not explore strategies for sustaining women's leadership in crisis contexts.

While the existing literature provides valuable insights into the gendered impacts of pandemics, significant gaps remain. Few studies integrate gender with intersecting dimensions such as age, ethnicity, and social class, limiting a holistic understanding of vulnerabilities within cooperatives. Additionally, robust statistical analyses are scarce,

hindering the ability to generalize findings across different contexts. Lastly, there is limited exploration of the long-term effects of pandemics on gender equality in agricultural cooperatives, particularly regarding recovery and resilience-building strategies.

The present study addresses these gaps by focusing on the gendered impact of COVID-19 on agricultural cooperatives in Kiambu County. It employs a mixed-methods approach to analyze economic, social, and organizational disruptions while examining gender-specific challenges and opportunities. By linking short-term impacts to long-term recovery strategies, this research contributes to the broader discourse on gender equality and resilience in agricultural cooperatives, offering practical recommendations for inclusive and sustainable development.

that affect gender equality in agricultural cooperatives during pandemics.

2.4 Gender-responsive interventions to enable agricultural cooperatives to recover from the impacts of COVID-19

The concept of gender responsiveness has been widely explored, particularly in relation to how interventions can be designed to address the different needs and challenges faced by men and women. Kabeer (2016) defines gender responsiveness as the integration of gender perspectives throughout policy development and implementation. This approach has been applied to various sectors, including agriculture, where gender inequalities often persist. Moser (2017) extends this concept by distinguishing between practical and strategic gender needs, emphasizing the need for comprehensive interventions that address both immediate and long-term challenges. Gender-responsive interventions have also been studied within health

sectors by the World Health Organization (WHO) (2019), which highlights strategies aimed at addressing the unique health needs of different genders, ensuring equitable access to healthcare, and promoting gender equity in health delivery.

Kabeer's (2016) analysis involved reviewing global policies and practices across different sectors, identifying where gender perspectives have been successfully integrated. Moser (2017) conducted a theoretical analysis of gender needs, focusing on the agricultural and development sectors, advocating for a dual approach that addresses both practical and strategic needs. The WHO (2019) explored gender-responsive health interventions through case studies and program evaluations, assessing how health initiatives can incorporate gender-specific considerations. These studies generally use qualitative and policy analysis methods, drawing on case studies, surveys, and reports from international organizations to assess the impact and effectiveness of gender-responsive policies and interventions.

Kabeer (2016) found that gender-responsive interventions are essential in addressing gender inequalities, but transformative strategies are necessary to shift power dynamics. Moser (2017) highlighted the importance of addressing both immediate gender needs (like healthcare or education) and the deeper structural inequalities that sustain gender-based disadvantages. The WHO (2019) concluded that gender-responsive health interventions improve overall health outcomes and promote gender equity in access to services. In the agricultural sector, gender-responsive strategies have been found to be vital in ensuring equitable access to resources, leadership opportunities, and decision-making within cooperatives. These findings underscore that addressing gender inequalities requires a holistic approach that considers both practical needs and the broader social, economic, and cultural factors that shape these needs.

The findings from these studies are directly relevant to the present study on agricultural cooperatives and their recovery from the impacts of COVID-19. The literature emphasizes the need for gender-responsive interventions to ensure that both women and men in cooperatives have equitable access to recovery resources, leadership roles, and decision-making power. However, while these studies offer valuable insights, they often focus more on the theoretical framework of gender responsiveness rather than providing detailed, practical applications in agricultural cooperatives during crises. Moreover, most studies have been limited by a lack of empirical data specifically on how COVID-19 has impacted gender roles and power dynamics within agricultural cooperatives.

The contribution of the existing literature lies in its strong theoretical foundation on gender responsiveness and its focus on the need to incorporate gender considerations into interventions. However, the weaknesses include the lack of empirical research focused specifically on the impacts of pandemics like COVID-19 on agricultural cooperatives, particularly in terms of gendered experiences and recovery processes. Additionally, there is a gap in research on the intersectionality of gender with other social factors such as age, ethnicity, and social class, which further shape the experiences of agricultural cooperative members. Finally, the literature does not sufficiently explore the long-term effects of gender-responsive interventions on agricultural cooperatives' recovery and resilience in the post-pandemic period.

This study aims to fill these gaps by examining the gendered impacts of COVID-19 on agricultural cooperatives and identifying gender-responsive interventions that can enable these cooperatives to recover and thrive. By integrating both practical and strategic gender needs, the study will contribute to the development of inclusive and

sustainable recovery strategies for agricultural cooperatives, ensuring that both women and men benefit equitably from the recovery process.

2.5 Literature gaps

The literature reviewed predominantly focuses on conceptualizations and studies conducted in global or general contexts of Pandemics. However, there may be variations in the context of Kiambu County specifically in the context of the impacts of COVID-19, which is a very recent pandemic. To fill this gap, the study aimed to include a more geographical and COVID-19 contextual factors that may influence the implementation and effectiveness of gender-responsive interventions and contribute to a clearer understanding of gender responsiveness by considering the diverse experiences and challenges faced during the pandemic. By synthesizing the key insights from the literature and the study's own analysis, the research offered practical recommendations for practitioners and stakeholders on how to design and implement effective gender-responsive interventions for Agricultural Cooperatives in Kiambu County and beyond. This assisted in bridging the gap between research and practice, facilitating the translation of theoretical knowledge into actionable strategies for promoting gender equality in Agricultural cooperatives.

2.6 Theoretical review

Gender-responsive recovery strategies refer to interventions that address the differential impacts of the pandemic on women and men in agriculture cooperatives. According to Kabeer (2020), gender-responsive strategies should address the root causes of gender inequalities in agriculture cooperatives. Such strategies should address women farmers' specific needs, such as access to credit, inputs, and markets,

and promote gender equality in agricultural value chains. Effective gender-responsive recovery strategies should also address women workers' specific needs, such as access to social protection, safe working conditions, and measures to prevent gender-based violence (ILO, 2020). By integrating Erikson's SEM and Feminist Political Ecology, this study aims to provide a comprehensive understanding of the gendered impacts of COVID-19 and the effectiveness of recovery interventions in promoting gender equality within agricultural cooperatives in Kiambu County. These theoretical frameworks guide the study's analysis towards more holistic and nuanced insights, informing policy and practice for inclusive and resilient agricultural development.

2.6.1 The social ecological model

The Social Ecological Model (SEM) is a theoretical framework that emphasizes the interrelatedness between individual, social, and environmental factors in shaping behavior and health outcomes (CDC, 2018). The SEM framework is particularly pertinent to developing gender-responsive post-COVID-19 recovery strategies in agricultural cooperatives, as it acknowledges the intricate interactions among individual, interpersonal, community, and structural factors that impact gender equity and social justice within the agricultural sector. By understanding these dynamics, stakeholders can create more effective policies and interventions that address the diverse needs of women farmers and promote equitable opportunities in agriculture.

At the individual level, the SEM framework stresses the need to address the unique challenges faced by women farmers, including issues related to access to credit, agricultural inputs, and education. At the interpersonal level, it underscores how social norms, values, and expectations influence gender roles and responsibilities within agricultural cooperatives. At the community level, the SEM framework highlights the

critical role of supportive networks and social capital in enhancing women's involvement and leadership in agriculture (Francoise, 2015).

At the structural level, the SEM highlights the role of policies, laws, and institutions in shaping gender equity and social justice in the agriculture sector. Several studies have used the SEM framework to analyze the gendered dynamics of agriculture and the implications for post-COVID-19 recovery strategies. For instance, in a recent investigation involving women farmers in Kenya, Kiptot et al. (2021) identified several critical factors impacting women's involvement and productivity in agriculture. Specifically, they highlighted that access to credit, land, and water played significant roles at the individual level. The study also underscored the impact of gender norms and stereotypes on women's decision-making abilities and resource access at the interpersonal level. Furthermore, supportive networks and social capital within the community were found to be instrumental in fostering women's empowerment and agency in agriculture. Lastly, the researchers noted that policies and institutional frameworks often contributed to perpetuating gender disparities in resource access and decision-making authority at the structural level.

Similarly, in a study conducted by Thapa and colleagues (2020) among women farmers in Nepal, the SEM framework was utilized to uncover various influences on women's engagement in agriculture. These factors encompassed access to land, inputs, and credit at the individual level, while social norms and gender roles were highlighted at the interpersonal level. Additionally, the study highlighted the crucial role of supportive networks and social capital within communities. It underscored the need for gender-responsive policies and interventions to tackle these complex issues, thereby enhancing women's empowerment and agency in the agricultural sector. By applying the SEM framework, the study effectively explored the intricate interactions

between individual, interpersonal, community, and structural factors, revealing their impact on gender equity and social justice within agricultural cooperatives. This approach facilitated a deeper understanding of how various levels of influence contribute to or hinder progress toward gender equality.

In this study, Erikson's Social-Ecological Model (SEM) offered a thorough framework for exploring human development across different environmental contexts. It emphasized the interplay between individual characteristics, interpersonal relationships, community influences, and broader societal factors. Applying this model to the study enabled the analysis of how the COVID-19 pandemic affected individuals, families, communities, and agricultural cooperatives at multiple levels. The model facilitated exploration of how gender dynamics intersected with other socio-ecological factors to shape vulnerability, resilience, and recovery processes within agricultural cooperatives in Kiambu County. This approach allowed examination of the interconnectedness of various systems and understanding of how interventions at different levels could promote gender-responsive recovery.

2.6.2 Feminist Political Ecology theory

Feminist Political Ecology (FPE) provides valuable insights for developing gender-responsive recovery strategies in agricultural cooperatives following COVID-19. FPE emphasizes the intricate connections between gender, environmental factors, and power dynamics (Rocheleau et al., 1996). In the context of agricultural cooperatives, FPE stresses the importance of examining how gendered power structures affect access to essential resources such as land, water, and agricultural inputs. This perspective helps to understand how these dynamics create varying impacts and opportunities across different gender groups within the sector (Leder et al., 2019). By addressing

these gendered power relations, FPE can guide the creation of more equitable and effective recovery strategies.

Feminist Political Ecology (FPE) is a theoretical framework that examines the intersection of gender, power, and ecology in relation to social and environmental issues (Sundberg & Juanita, 2015). In the context of agriculture cooperatives, FPE highlights how gendered power relations influence access to and control over resources, such as land, water, and inputs, and shape the distribution of benefits and burdens of agricultural practices. FPE argues that gender-responsive policies should not only address the specific needs of women farmers but also challenge the underlying power structures that perpetuate gender inequality in the agriculture sector (Leder et al, 2019). For example, policies that aim to increase women's access to credit or inputs should also address the gendered norms and stereotypes that limit women's decision-making power and hinder their access to resources.

Numerous studies have applied the Framework of Power and Empowerment (FPE) to examine gendered power dynamics in agriculture and their impact on recovery strategies in the post-COVID-19 context. For example, Li et al. (2020) conducted research on women farmers in Tanzania, revealing how gendered power relations affect women's access to land, agricultural inputs, and involvement in decision-making. The study highlights that addressing these power imbalances through gender-responsive policies is crucial for enhancing women's agency and fostering their empowerment.

In a related study focusing on women farmers in India, Mukhopadhyay (2021) explores the influence of gendered power dynamics on women's involvement in agricultural cooperatives and their ability to access resources. The study emphasizes

that entrenched patriarchal norms and structures significantly impact women's participation and resource access. Mukhopadhyay (2021) advocates for the implementation of gender-responsive policies that address and dismantle these patriarchal barriers, aiming to enhance women's decision-making authority and improve their resource accessibility.

In this study, Feminist Political Ecology provided a critical lens for analyzing the intersections of gender, power, and the environment. It highlighted the ways in which gender inequalities were produced and reproduced through social, economic, and political processes, particularly within resource-dependent contexts. By employing FPE in the study, exploration was focused on how the COVID-19 pandemic exacerbated existing gender disparities within agricultural cooperatives in Kiambu County. The analysis examined how recovery interventions were shaped by unequal power relations, resource access, and decision-making processes, and how they may have perpetuated or challenged gender inequalities. FPE encouraged critical evaluation of the underlying structures of gendered power and privilege and identification of transformative pathways towards more equitable and sustainable recovery strategies.

2.7 Conceptual Framework

The conceptual framework of this study guided investigation into the interplay between gender inclusivity (Independent Variable); the gendered impacts of COVID-19 (Dependent Variable); and the intervening variable (moderating) the gender-responsive recovery interventions in the agricultural cooperatives in Kiambu County.

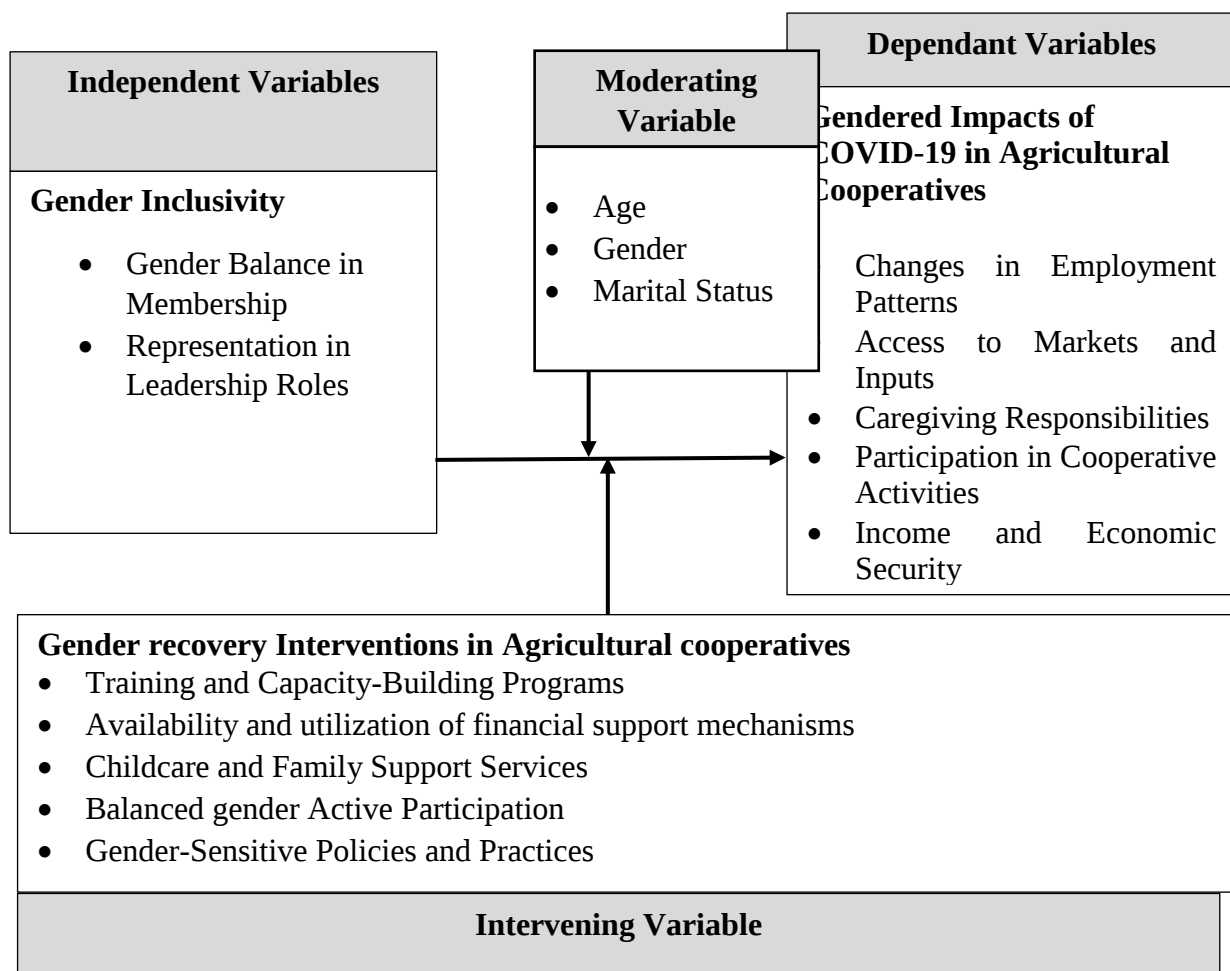


Figure 2. 1: Conceptual framework

In relation to the study on the impact of COVID-19 and the gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County, the variables can be defined as follows:

Independent Variable: In this study, gender inclusivity refers to the extent to which agricultural cooperatives in Kiambu County provide equal opportunities, representation, and support for individuals of all genders, particularly women, within their membership, leadership, and decision-making processes. It encompasses the efforts and initiatives undertaken by cooperatives to promote gender equality, address

gender disparities, and empower women farmers within their communities. Gender inclusivity was determined by analyzing proportion of men and women members within agricultural cooperatives, reflecting the cooperative's commitment to gender inclusivity and diversity; percentage of women holding leadership positions; equality in access to resources, active participation and engagement of women and men farmers in cooperative activities; and implementation of gender-sensitive policies and programs.

Dependent Variable includes the gendered impacts of COVID-19. This variable examines how the COVID-19 pandemic affects men and women differently within agricultural cooperatives in Kiambu County. For example, due to increased caregiving responsibilities during lockdowns, women may have experienced greater challenges in accessing markets or participating in cooperative activities compared to men. Conversely, men may have faced difficulties in securing off-farm employment opportunities.

The Intervening variable is the gender-responsive recovery interventions. This variable represents the strategies, programs, and policies implemented by agricultural cooperatives in response to the gendered impacts of COVID-19. These interventions aim to address gender disparities and promote equality within cooperatives. Examples include providing training and capacity-building programs specifically tailored to women farmers, establishing childcare facilities to support women's participation, and implementing gender-sensitive marketing strategies.

Through the analysis of these variables, the study provided a more nuanced understanding of the mechanisms through which the COVID-19 pandemic, gender dynamics, and recovery interventions interact to shape gender equality outcomes

within agricultural cooperatives. In addition, the analysis provides an understanding of how the COVID-19 pandemic influenced gender dynamics within agricultural cooperatives and how gender-responsive recovery interventions contributed to promoting gender equality and inclusivity in Kiambu County.

2.8 Summary of the Chapter

This chapter has reviewed existing literature on gender and pandemics, emphasizing the gendered impacts and frameworks of gender responsiveness. It has examined the effects of COVID-19 on the agricultural sector, particularly on cooperatives, and explored exposure factors and recovery strategies. The chapter also identified gaps in current research, highlighting the need for this study to address these gaps and contribute to more effective and inclusive interventions.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter details the methodologies used for collecting and analyzing data. It covers the research design, specifies the study area, describes the population and sampling methods, and provides information on the sample size. Additionally, it outlines the instruments used, the procedures followed for data collection, and the techniques employed for data analysis.

3.2 Research philosophy

The research philosophy adopted for this study is interpretivism, a paradigm emphasizing the understanding of social phenomena through the subjective interpretations of individuals involved (Bryman, 2016). Interpretivism is justified for this study as it focuses on grasping the experiences and perspectives of individuals in agricultural cooperatives in Kiambu County, particularly in relation to gender-responsive post-COVID-19 recovery strategies.

Interpretivism entails an iterative process of data collection and analysis, involving continuous reflection and interpretation (Mason, 2002). This approach facilitated the collection and analysis of qualitative data through methods such as interviews, focus group discussions, and in-depth interviews. It enabled a comprehensive exploration of the experiences and viewpoints of individuals engaged in agricultural cooperatives within the county, with a specific focus on gender-responsive strategies for post-COVID-19 recovery. Furthermore, interpretivism recognizes the importance of context in shaping the

meaning of social phenomena (Creswell, 2014). In this study, the context of agricultural cooperatives in Kiambu County was explored to understand how it influences the gender-responsiveness of post COVID-19 recovery strategies. This approach helped to generate insights into how gender inequalities are perpetuated or challenged in this specific context, which informed the development of effective or lack of gender-responsive policies and interventions.

3.3 Research design

A research design serves as the essential blueprint for gathering, assessing, and analyzing data (Fowler, 2013). In this study, a descriptive cross-sectional design was utilized, enabling the collection of both qualitative and quantitative data to address the research objectives comprehensively. A cross-sectional study is conducted at a specific point in time, allowing for the examination of multiple characteristics without affecting the study variables, and can suggest correlations between them (Babbie, 2016). Descriptive cross sectional survey research design was adopted since the study was investigating the impact of COVID-19 and the gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County. This design enabled the researcher to determine the gendered impacts of COVID-19 in an unaltered environment, allowing for a comprehensive examination of the intervention measures' gender-responsiveness within agricultural cooperatives. This approach ensured that behaviours and practices within the cooperatives remained unaffected by external influences, providing an accurate representation of the current situation. Descriptive cross sectional survey research design provided valuable insights into the gender-related aspects of recovery interventions in agricultural cooperatives affected by the COVID-19 pandemic. This method offered a

comprehensive understanding of the research problem and helped identify areas for improvement.

3.4 Empirical model

The study variables include: gender inclusivity (Independent Variable); the gendered impacts of COVID-19 (Dependent Variable); and the intervening variable (moderating) the gender-responsive recovery interventions in the agricultural cooperatives in Kiambu County. This is the empirical model that was employed in this study. The empirical model was expressed using regression analysis, where the gender-inclusivity in agricultural cooperatives is regressed on the gender-responsive recovery interventions, and control variables. The model took the following form:

$$\text{Gender-inclusivity in agricultural cooperatives} = \beta_0 + \beta_1(\text{COVID-19 gendered-impacts}) + \beta_2(\text{Gender-Responsive Interventions}) + \beta_3(\text{Control Variables}) + \varepsilon$$

In this model:

β_0 represents the intercept, capturing the baseline level of gender inclusivity in agricultural cooperatives in Kiambu County.

β_1 measures the gendered impacts of COVID-19 pandemic

β_2 measures the effect of gender-responsive recovery interventions on gender-inclusive recovery, controlling for other variables.

β_3 captures the combined effect of control variables on gender inclusivity in agricultural cooperatives.

ε represents the error term, accounting for unexplained variance by the linear influence of the variable predictors.

3.5 Operationalization and measurement of variables

Table 3. 1: Measurement of Variables

<i>Objective</i>	<i>Variable</i>	<i>Type</i>	<i>Operationalization</i>	<i>Operational definition of variable</i>	<i>Measurement</i>	<i>Hypothesized direction</i>
1	Gender inclusivity in agricultural cooperatives in Kiambu County	Independent variable	Analysing the existence or otherwise of aspects of gender inclusion in the operations of the cooperative	The extent to which agricultural cooperatives have implemented aspects of gender inclusion.	Qualitative data to indicate the implementation of aspects of gender inclusivity.	Varied levels of implementation.
2	Gendered Impacts of COVID-19 on Agricultural cooperatives	Dependent variable	Categorizing impacts of COVID-19 based on their gender-specific nature.	Effects of the pandemic on agricultural cooperatives, specifically considering	Quantitative indicators such as changes in production, market access, resource availability,	More negative than positive gender-specific impacts

				gender, in terms of productivity, functioning, and well- being	and income levels.	
3	Gender- responsiveness of the recovery interventions	Intervening variable	Evaluating the level of integration of gender- responsive policies, practices, and strategies in post COVID-19 recovery strategies	The extent to which recovery strategies implemented by agricultural cooperatives address gender- specific needs, promote gender equality, and empower women	Qualitative analysis of recovery interventions.	Low level of integration of gender- responsive approaches

3.6 Target population

The target population for this study comprised a total of 18,963 individuals associated with agricultural cooperatives in Kiambu County. Among them, 6,043 were members of dairy cooperatives and 12,920 were members of coffee cooperatives. These registered members, consisting of both men and women engaged in agricultural activities, voluntarily joined the cooperatives to benefit from collective action and shared resources. Additionally, the study involved 5 cooperative officers, each selected to represent the 5 sub-counties under study. These officers play a crucial role in ensuring effective governance, management, and success of the agricultural cooperatives at the county level. Furthermore, the study included 2 CEOs from dairy cooperatives and 2 from coffee cooperatives, along with 3 managers from dairy cooperatives and 4 from coffee cooperatives. These individuals are responsible for making key decisions within their respective cooperatives. Additionally, there were 5 Chairmen of Agricultural Cooperative Management Boards from dairy cooperatives and 6 from coffee cooperatives. These chairmen steer the cooperatives towards their objectives, ensure good governance, and foster member engagement.

The target population provided insights into the impacts of COVID-19 and the gender-responsiveness of recovery interventions within their respective cooperatives. The distribution of the target population was as shown in table 3.2 below.

Table 3. 2: Target population

Sub		Value		
SNo	county	Cooperative's name	Chain	Number of Members
1	Gatundu	Ndarugu Dairy Cooperative	Dairy	
	South	Society Limited		432
		Kimaratia Coffee Farmers'	Coffee	
		Cooperative Society		542
		Gititu Coffee Growers	Coffee	
		Cooperative Society		
		Limited		5000
		Cooperative Managers/	Dairy and	
		CEOs	Coffee	3
		Chairmen of Agricultural	Dairy and	
		Cooperative Management	Coffee	
		Board		3
2		County cooperative officers		1
		Muguga Dairy Farmers	Dairy	
		Cooperative Society		
	Kabete	Limited		650
		Kabete Dairy Farmers	Dairy	
		Cooperative Soviety		3706
		Cooperative Managers/	Dairy	
		CEOs		2

		Chairmen of Agricultural	Dairy	
		Cooperative Management		
		Board		2
		County cooperative officers		1
		Lari Dairy Farmers Co-	Dairy	
3	Lari	Operative Society Limited		789
		Multi Farm Dairy	Dairy	466
		Cooperative Managers/	Dairy	
		CEOs		2
		Chairmen of Agricultural	Dairy	
		Cooperative Management		
		Board		2
		County cooperative officers		1
	Gatundu	3 G's Coffee Growers Co-	Coffee	
4	North	Operative Society Limited		2600
		Buchana Coffee Growers	Coffee	
		Cooperative Society		
		Limited		1100
		Cooperative Managers/	Coffee	
		CEOs		2
		Chairmen of Agricultural	Coffee	
		Cooperative Management		
		Board		2

		County cooperative officers	1
		Gitwe Coffee Farmers	Coffee
5.	Kiambaa	Society	1050
		New Gatukuyu Coffee	Coffee
		Farmers' Cooperative	
		Society	2600
		Cooperative Managers/	Coffee
		CEOs	2
		County cooperative officers	1
		Chairmen of Agricultural	Coffee
		Cooperative Management	
		Board	2
		Total target population	18,963

Source: Kiambu County Government Annual report (2022)

3.7 Sampling design.

The study adopted stratified simple random sampling to sample the cooperatives members and purposive sampling to select the key informants and focus group discussion respondents. The Target population of study was 18,935 household's members registered in coffee and dairy agricultural cooperatives. The target sample size n was computed using a simplified formula proposed by Yamane, (1967) and Israel (1992). This formula assumes 95% confidence level and of 0.5 and thus the sample size n is given by:

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

Where: n = sample size, N = population size and e =precision rate.

Therefore, members of agricultural cooperatives drawn from households were the population size that were used to draw individuals that were considered for study. The study allowed a margin of error of 5% to compute the sample size as:

$$S = \frac{18935}{1 + 18935(0.05)^2}$$

S= 303 respondents.

Participants were selected using simple random sampling through a lottery method, from a list of registered members in dairy and coffee agricultural cooperatives which ensured equal opportunities and removed bias in selection. The dairy and coffee value chains formed the strata's. To ensure unbiased selection and equal chances for every member, the study followed a method described by Mutai (2000). The process involved listing the names of all active and registered members from the dairy and coffee value chains cooperatives in the study area on individual slips of paper. These slips were then placed into a container, thoroughly mixed, and drawn randomly one at a time without replacement. This technique ensured that each member had an equal opportunity to be selected throughout the sampling process, maintaining independence from human judgment and avoiding any selection bias. Participants focus group discussions were drawn from the management committees of coffee and dairy cooperatives who comprised 36 participants of which 12 participants in the men-only group, 12 in the women-only group, and 12 in the mixed group. Eleven (11) key informants who include cooperative

managers and CEOs were purposively selected. The key informants were included to verify the information gathered from the respondents. The total number of respondents were 350 members.

3.8 Data collection instruments

Data was collected using questionnaires, Focused Group Discussions (FGD) guide, key informant interview (KII) guide and In-Depth Interview (IDI) schedule to collect data from the sampled respondents. Household questionnaires and Focus Group Discussions (FDGs) were used to collect data from sampled cooperatives' registered members, both men and women. In-depth interview schedules for the managers and CEOs, and Chairs of Management Boards of selected cooperatives, Key Informant Interview (KII) for the Cooperative Officers from the respective sub-counties. The researcher meticulously designed all these tools, ensuring that each was aligned with the study's objectives. This approach was intended to ensure that the data collected was both relevant and comprehensive, providing a robust foundation for analysis and conclusions.

3.8.1 In-Depth Interview Schedule (IDIs)

The purpose of the in-depth interviews (IDIs) as illustrated in this study was to allow cooperative managers to provide detailed insights into the impacts of COVID-19 on agricultural cooperatives and to discuss the gender-responsive recovery strategies implemented by their cooperatives to assist their members. Through these interviews, the researcher aimed to gather nuanced perspectives and specific examples from cooperative managers regarding the challenges faced and the measures taken to address them during the pandemic, particularly focusing on gender-related issues within the cooperative

context. The IDIs provided an opportunity for cooperative managers to elaborate on key issues, experiences, and strategies, contributing valuable qualitative data to the study's overall analysis and findings. The IDIs had guiding questions as indicated on the Appendix 2 that solicited in-for depth quantitative data and qualitative information that was used for analysis. The Cooperative Managers and CEOs, and the Chairs of Cooperative Management Boards were deeply involved in communities, possessing a deep understanding of local dynamics which allows them to effectively serve the needs of community members and contribute to the overall development of the Kiambu County region. They majorly ensured that agricultural cooperatives were well equipped, provided guidance and directly implemented on-the-ground initiatives for prevention, response, and recovery from impacts of COVID-19. Thus, from their position as Cooperatives Managers and CEOs, they had vast experience and adequate information regarding gender inclusivity, gendered impacts of COVID-19 on agricultural cooperatives and the gender-responsiveness of the interventions put in place to enable agricultural cooperatives in Kiambu County to recover from impacts of COVID-19.

3.8.2 Questionnaire guided interviews

The study utilized questionnaires to collect data from 303 members of agricultural cooperatives who were selected randomly. Questionnaires were chosen for their effectiveness in gathering quantitative data and their advantages in ensuring high response rates while minimizing bias. According to Islamia (2016), questionnaires are self-report tools that are beneficial for obtaining essential information. They also help in maintaining a high response rate and reducing bias, thanks to their ability to provide necessary

explanations and benefit from personal contact, as noted by Mugenda & Mugenda (2017). Additionally, questionnaires are cost-effective in terms of data processing and analysis.

The questionnaire, detailed in Appendix 1, was developed by the researcher and featured both closed and open-ended questions. It was structured into four main sections: Section A focused on demographic information, Section B addressed gender inclusivity within agricultural cooperatives, Section C explored the gendered impacts of COVID-19 on these cooperatives, and Section D evaluated the gender responsiveness of the interventions implemented.

To distribute the questionnaires, the researcher, with the assistance of research assistants, used a drop-and-pick approach. This method ensured that the questionnaires were brief and straightforward to minimize the burden on participants and enhance response rates. By keeping the questionnaires clear and easy to complete, the study aimed to reduce the likelihood of incomplete or inaccurate responses. This approach enabled the effective gathering of data, simplifying the analysis and interpretation of the findings in a consistent and organized manner.

3.8.3 Focus Group Discussions (FDGs)

A structured Focus Group Discussion (FGD) Guide was utilized to collect qualitative data. FGDs were conducted with three gender-based groups from the sampled registered members of cooperatives: a men-only group, a women-only group, and a mixed group. This approach aimed to explore the participants' perspectives, experiences, and insights.

All respondents were of legal age and registered members of the agricultural cooperatives under study.

The selection of FGD participants was carried out to ensure diverse representation without any external influence. Each FGD consisted of 8-15 participants, in line with Mugenda and Mugenda's (2013) recommendations on optimal group size to balance the quality and depth of insights gained from FGDs. In total, there were 36 participants in the FGDs: 12 participants in the men-only group, 12 in the women-only group, and 12 in the mixed group.

Men-only, women-only, and mixed men and women FGDs were organized and facilitated separately to ensure full participation from all members, as each group had common experiences. The criteria for selecting FGD participants required that both men and women be registered members of agricultural cooperatives and active members for the last five years.

Interviewing men and women separately and in mixed groups allowed for the exploration of shared experiences and the emergence of diverse perspectives, enhancing the understanding of the complexities surrounding gender-responsive recovery strategies. The FGD guide included topics specifically designed to address the study's objectives, ensuring comprehensive coverage of relevant issues (See the FGD guide attached in Appendix IV). The researcher used a voice recorder, with the full consent of all participants, to ensure that all responses were accurately captured.

3.8.4 Key Informant Interview (KII)

Interview guide was used to conduct interviews with 6 key informants from the five sub-counties under the study to compliment data collected using the questionnaires as scheduled in Appendix III. The key informants were the Cooperative Officers working in the 6 sub counties. The cooperative officers served as a key informant due to their pivotal role in overseeing cooperative activities and policies implementation in Kiambu County. The use of KII is justified for several reasons. Firstly, the cooperative officer provided detailed and contextualized information, enriching the understanding of gender inclusivity within the specific cooperative context. Secondly, KII allowed for flexibility in exploring emerging themes, enabling the interviewer to delve deeper into areas of particular significance. Therefore, utilizing the KII approach, this study gained valuable insights from the experienced professional, enriching the findings and contributing to a comprehensive analysis of factors affecting gender inclusivity in agricultural cooperatives, Impacts of COVID-19 and recovery interventions. The study conducted the KIIs by scheduling physical meetings with the cooperative officers in their respective sub-county offices.

3.9 Pre-testing

Prior to the actual data collection, the researcher conducted a pre-test of the tools in agricultural cooperatives involved in dairy and coffee value chains that were excluded from the study. For this pre-test, 10 percent of the sampled population was utilized, which is the minimum number of cases recommended for statistical analysis according to Mugenda and Mugenda (2003). Approximately 30 respondents were selected from the agricultural cooperatives not participating in the study in Kiambu County. This sample

was not included in the final study population. To ensure equal representation, simple random sampling was employed to choose the participants. The primary objective of the pre-test was to assess the reliability of the research instruments.

3.9.1 Validity of the Instruments

Validity refers to the extent to which a research instrument accurately measures what it is intended to measure (Bryman, 2004). For this study, the focus was on face validity and content validity. According to Mugenda and Mugenda (2003), internal validity examines whether a study effectively establishes causality between variables and controls for extraneous factors. External validity pertains to the extent to which findings can be generalized to the broader population (Creswell et al., 2007).

Assessing validity involves subjective judgments by the researcher (Orodho, 2003). To ensure that the research instruments were appropriate and aligned with the research objectives, the items were carefully designed to cover all relevant aspects. Face and content validity were evaluated through expert reviews. The tools were reviewed by supervisors and three specialists from the Department of Cooperatives and Community Development at the Cooperative University of Kenya. Feedback from these experts led to revisions of ambiguous items and adjustments to enhance the instruments' validity. This thorough validation process was conducted to ensure the instruments effectively gathered relevant and accurate information in line with the research objectives.

3.9.2 Reliability of the Research Instruments

Reliability in research instruments pertains to the consistency and precision with which they measure a variable. As noted by Mugenda and Mugenda (2003), a reliable instrument produces consistent results across multiple trials. Orodho (2003) elaborates that reliability is attained when an instrument accurately and consistently measures a variable under the same conditions over time.

In measurement theory, each response to an item is expected to accurately represent the true score for the intended construct, with some level of random error (Kothari & Gaurav, 2014). A reliable instrument reduces measurement error, thus enhancing the correlation between the true score and the observed score.

Pre-testing was conducted to evaluate the clarity of the test items and to identify and modify any items that were inadequate or unclear, thereby enhancing the quality and reliability of the research instrument. Following the pre-test, reliability was assessed using Cronbach's Alpha, which resulted in a coefficient of 0.813. This value exceeds the recommended threshold of 0.7, indicating that the instruments are reliable. The consistency of the test items is reflected in this reliability coefficient, demonstrating the internal consistency of the instrument.

3.10 Data collection procedure

Prior to starting data collection, the researcher secured a research license from the National Commission for Science, Technology & Innovation (NACOSTI) after receiving approval from the Board of Postgraduate Studies at the Cooperative University. This permit

authorized the researcher to conduct the study in Kiambu County and ensured adherence to regulatory and ethical standards for research.

The researcher also obtained permission from the County Government office and met with cooperative officers, who facilitated introductions to the managers of the selected cooperatives. Visits were made to participants' homes, where meetings were arranged at their convenience. Prior to starting, the researcher and participants agreed on the data collection procedures, ensuring that all responses would be anonymous and confidentiality maintained throughout the study.

With the help of two research assistants, digital questionnaires and interview schedules were administered in person. The assistants were trained on the questionnaire to ensure they understood the tool before conducting the interviews. Specific time limits were set for data collection to ensure efficient management, and the collected data was subsequently organized and prepared for analysis.

3.11 Data analysis and presentation

Data cleaning was performed to rectify any errors that may have occurred during data collection, followed by coding of the data for analysis. Subsequently, the coded data was inputted into STATA software. Both qualitative and quantitative data were analyzed separately for this study. Quantitative data consisted of the data collected using questionnaires from the 303 respondents drawn from 11 agricultural cooperatives in Kiambu County. Quantitative data was analyzed using descriptive statistics, which allowed for the description and summary of the data. Descriptive statistics of mean, mode, and median were computed to facilitate interpretation of the information, enabling the

researcher to identify emerging patterns and summarize individual variables with absolute numbers. Frequencies and percentages were employed to illustrate the patterns and trends within the dataset.

Qualitative data, on the other hand, underwent thematic analysis where it was grouped into respective themes. Excerpts and quotes from the interviews were incorporated into the final report as needed. Conclusions drawn from the analyses were then used to formulate recommendations based on the study findings. Results for each specific objective was presented separately using figures, tables and charts.

3.12 Ethical Consideration

The researcher strictly adhered to research ethics in both planning and conducting the study. The research was approved by partner universities in Kenya, and permission was obtained from the National Commission for Science, Technology, and Innovation (NACOSTI) prior to the commencement of the study.

During data collection, the purpose of the study was clearly communicated to participants, who were given the option to participate voluntarily. All research instruments were administered privately, with confidentiality assured. Participants' anonymity was protected, and it was made clear that their responses would not be attributed to them personally. This approach fostered participant willingness and engagement. These measures were implemented to uphold academic integrity and ensure the research's accuracy.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the analysis and representation of data, addressing the study's three main research questions: Is there gender inclusivity in agricultural cooperatives in Kiambu County? What are the gendered impacts of COVID-19 on these cooperatives? Are the interventions put in place to enable agricultural cooperatives in Kiambu County to recover from COVID-19 impacts gender responsive? To address these questions, data was meticulously collected from participants drawn from agricultural cooperatives through questionnaires, focus group discussions (FGDs), and key informant interviews (KIIs). The data was analyzed using descriptive statistics, offering a comprehensive overview of gender inclusivity, the varying impacts of the pandemic, and the effectiveness of the gender-responsive recovery interventions in place. Therefore, this chapter gives a detailed analysis, and representation of the results aligned with the research objectives.

4.2 Descriptive Analysis

This section presents descriptive analysis of the collected data, highlighting key findings and interpretations aligned with each research question.

4.2.1 Demographic Characteristics

The study pursued information from participants regarding their demographics such as gender, age, marital status, sources of livelihood, principal income earner in the household and monthly household income, with the results presented below;

4.2.1.1 Gender of the respondents

The study assessed the gender distribution among participants. Respondents were asked to specify their gender, and the distribution is summarized in Figure 4.1.

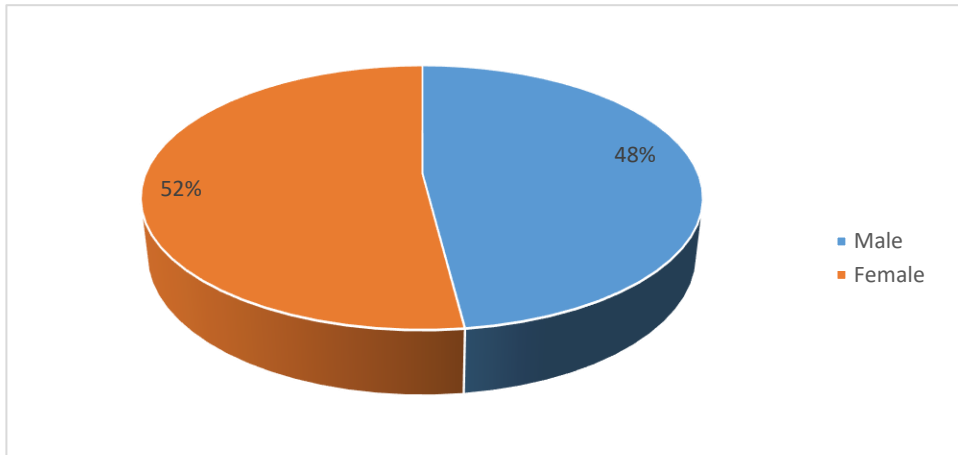


Figure 4. 1: Gender of the respondents

Results from Figure 4.1 indicate that, out of a total population of 300 participants, 52% were female and 48% were male. This means there were 156 female participants and 144 male participants. The majority of the respondents were women, likely because they were more accessible and available at home when the study was conducted.

4.2.1.2 Age of the respondents

In addition, this study sought information about the ages of the participants. Figure 4.2 shows the age distribution of the participants.

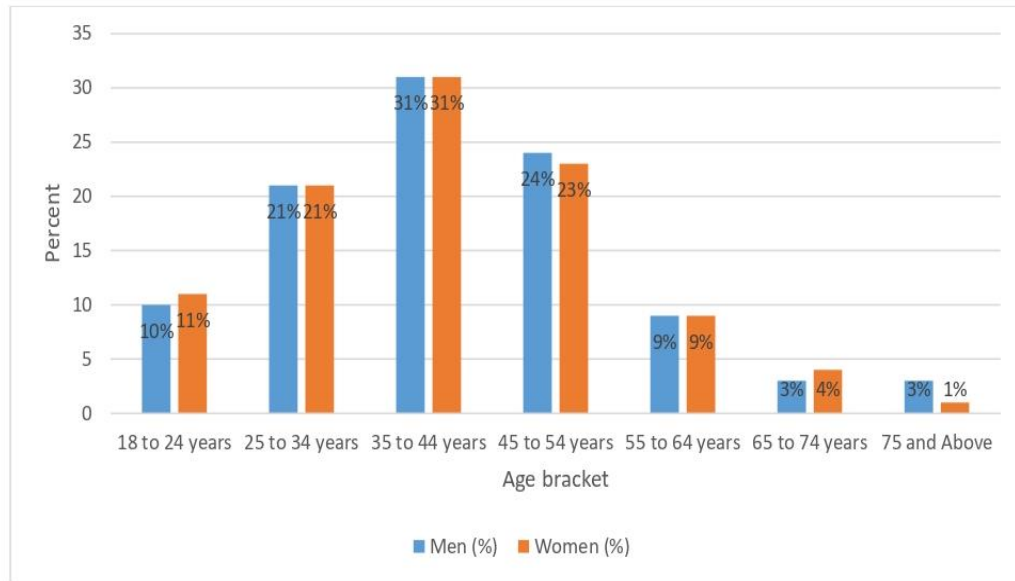


Figure 4. 2: Age of the respondents

Findings showed that a significant portion of participants were aged between 25 and 54 years, with 30 men (21%) and 32 women (21%) in the 25 to 34 years range, and 45 men (31%) and 49 women (31%) in the 35 to 44 years range. This indicates that this age group is more involved in agricultural activities, likely due to it being their main occupation and source of income. For the detailed distribution of other age brackets, please refer to Figure 4.2.

4.2.1.3 Marital status of the respondents

This study collected information on marital status of the men and women and a detailed breakdown was illustrated on Figure 4.3 below.

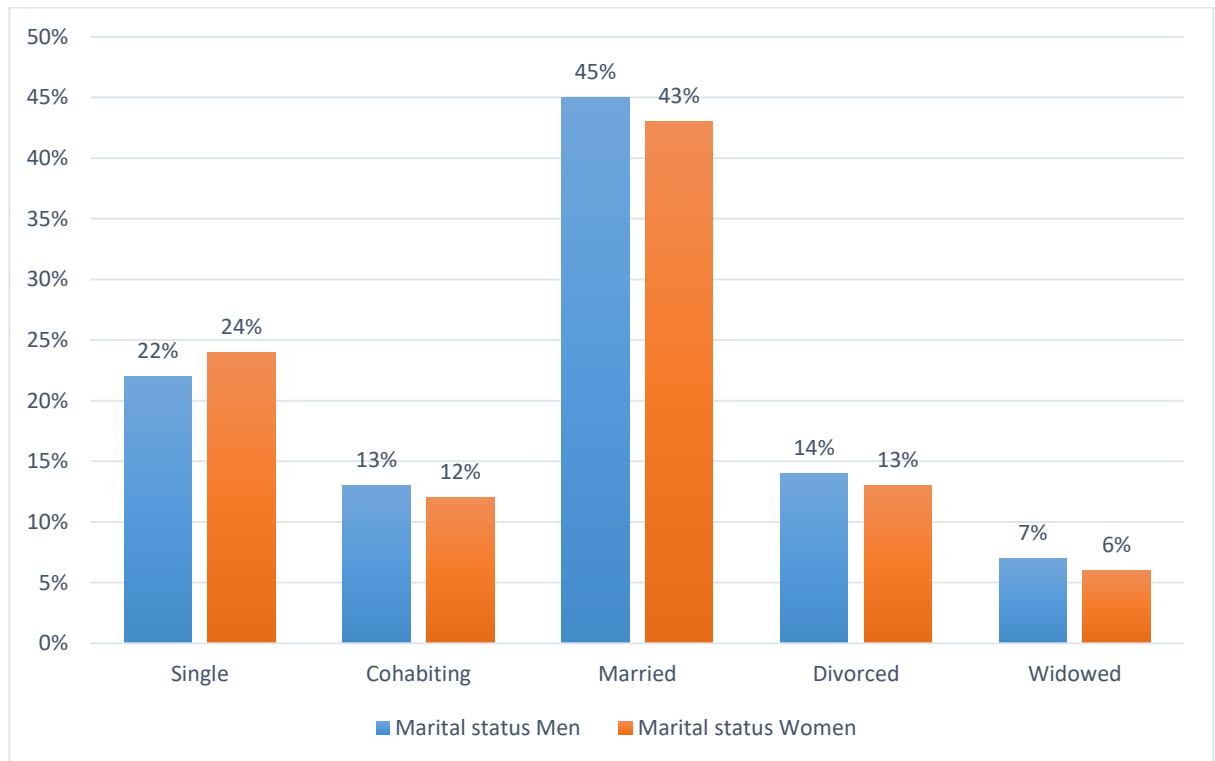


Figure 4. 3: Distribution of Marital Status

The results show that 45% of men were married, slightly higher than the 43% of women who reported being married. In contrast, 22% of men were single, while 24% of women were single. Cohabiting relationships were reported by 13% of men and 12% of women. Divorce rates were slightly higher among men, with 14%, compared to 13% among women. Lastly, the smallest proportion of participants indicated they were widowed that is, men (7%) while women were 6%. These findings underscore differences in marital status between men and women within the surveyed population.

4.2.1.4 Source of livelihood of the respondents

The study sought information on the main source of livelihood among the members of the members of agricultural cooperatives in the Kiambu County. Every society has its own set of activities essential to everyday life for subsistence and results were illustrated in figure 4.4.

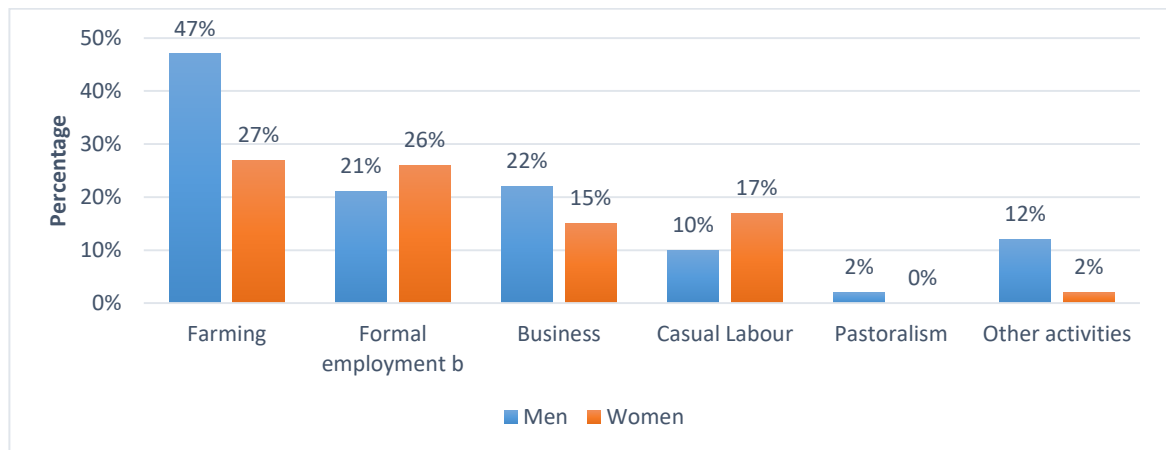


Figure 4. 4: Distribution of Source of livelihood

The study's findings reveal that farming and formal employment are the primary sources of livelihood among the surveyed population. Specifically, 58 (47%) of men and 52 (27%) of women relied on farming, while 30 (21%) of men and 45 (26%) of women cited formal employment. Additionally, 28 (22%) of men and 25 (15%) of women were engaged in business activities, while 13 (10%) of men and 27 (17%) of women worked as casual laborers. A small percentage, 3 (2%) of men, were involved in pastoralism, with no women reporting this occupation. Other activities supporting livelihoods, such as fishing, construction, and mining, were reported by 12 (12%) of men and 7 (2%) of women. Overall, the majority of respondents identified farming as their primary livelihood,

followed by formal employment and these details are illustrated in Figure 4.4 for a more comprehensive view.

4.2.1.5 The principal income earner in household

The researcher requested the respondents to identify the primary income earner in the household, with the results illustrated in Figure 4.5.

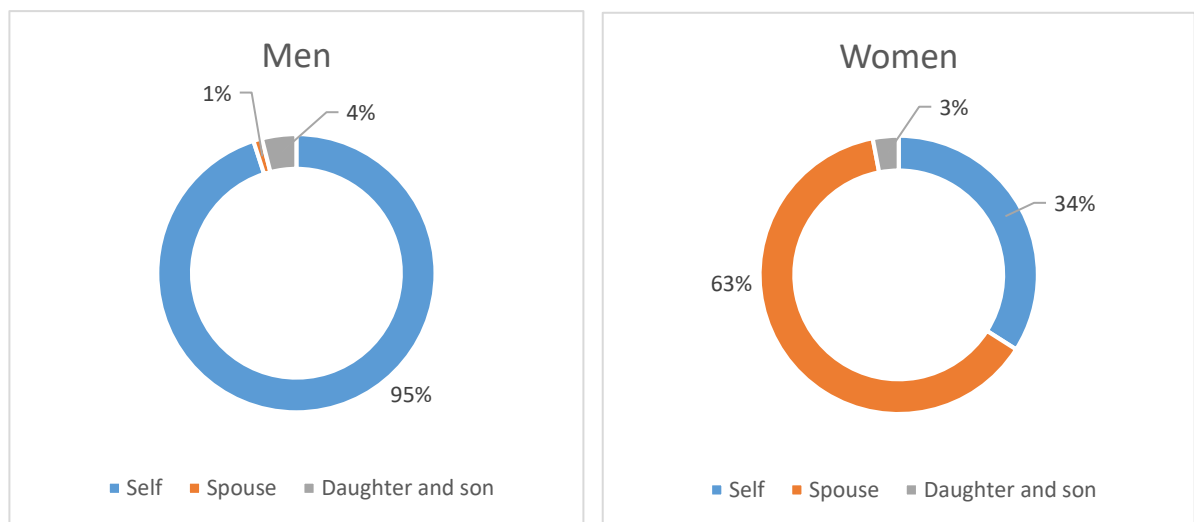


Figure 4. 5: The principal income earner in the household

According to these findings, it was evident that men predominated as the primary earners in households surveyed. Specifically, a significant majority of men, 137 (95%), reported themselves as the principal earners, while 98 (63%) women indicated their spouses held this role. A smaller percentage of respondents mentioned their daughters or sons as the primary earners, comprising 6 (4%) men and 5 (3%) women.

4.2.1.6 Monthly household income

Respondents were asked to indicate their monthly household income level, and their responses are shown in Figure 4.6 below.

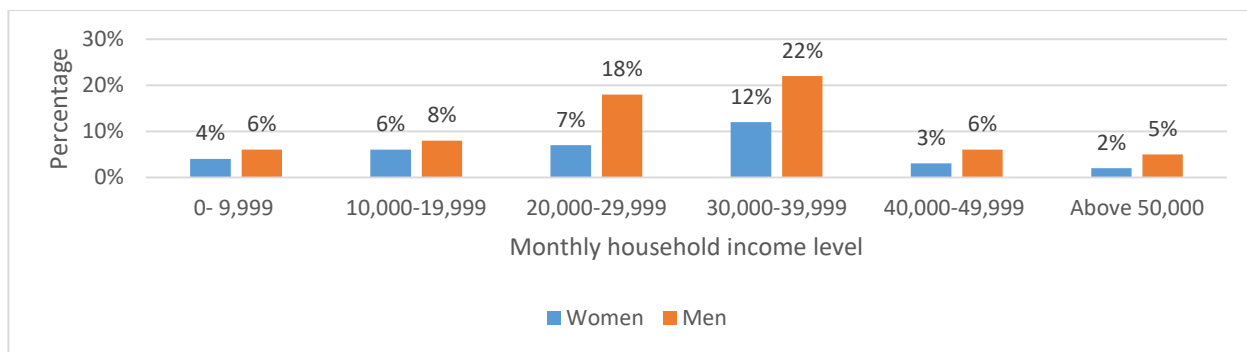


Figure 4. 6: Monthly Household income

The study found significant differences in monthly income distribution among participants. Notably, a majority reported incomes between Ksh. 20,000 and Ksh. 39,999. Women constituted 7% in the Ksh. 20,000-29,999 range, while men were notably higher at 18%. In the Ksh. 30,000-39,999 range, 12% of women and 22% of men fell within this bracket.

4.2.2 Gender inclusivity in agricultural cooperatives

The first objective of study was to assess the gender inclusivity in agricultural cooperatives in Kiambu County. The findings on this section are presented under five sub-themes, namely; majority in the cooperative organs, majority in attendance of cooperative activities, indicators of inclusion in cooperative activities, factors hindering women participation in leadership and lastly, measures that should be taken to promote women participation in leadership.

4.2.2.1 Gender representation in cooperative organs

In determining this, the respondents were asked to indicate the gender representation in cooperative leadership organs and a detailed breakdown of these results were illustrated on table 4.1;

Table 4. 1: Gender representation in cooperative organs

Cooperative Organs	Men (N)	Percent (%)	Women (N)	Percent (%)	Men equal Women (N)	Percent (%)	Don't know (N)	Percent (%)
Management board	147	49%	96	32%	51	17%	6	2%
Supervisory committee	126	42%	105	35%	63	21%	6	2%
Employees / staff	75	25%	189	63%	27	9%	9	3%
Cooperative delegates	102	34%	69	23%	99	33%	30	10%
Executive committee	135	45%	81	27%	72	24%	12	4%
General membership	120	40%	108	36%	60	20%	12	4%

The table 4.1 above illustrates distinct gender distribution patterns within dairy and coffee. According to the study findings, men predominantly held positions on the management board, with 49% of respondents indicating this trend. Women were reported as forming the majority of cooperative employees by 63% of respondents. The supervisory committee showed a more balanced representation, with 42% indicating men and 35% indicating women.

Responding to the question on which gender forms the majority of membership in the cooperatives, one of the KII respondent said:

According to my current cooperative registers, on average men formed a large percentage of members 59% while women formed the remaining 41% in the coffee value chain cooperatives while women (51%) forms the majority in the dairy value chain cooperatives compared to men (49%).

Furthermore, Table 4.2 below show a summary of gender composition in the cooperatives' decision making organs of cooperatives studies as obtained from IDIs by the respective managers with men dominating with a total of 212 (57%) and women representation stands at a total of 160 (43%). The cooperative organs comprised of Management board, Supervisory committee, Employees / staff, Cooperative delegates and Executive committee.

Table 4. 2: Gender representation in the cooperatives' organs

Cooperative's name	Total members in the cooperative organs	Men	Percent (%)	Women	Percent (%)
Ndarugu Dairy Cooperative Society Limited	30	16	53	14	47
Muguga Dairy Farmers Cooperative Society Limited	34	15	44	19	56
Kabete Dairy Farmers Cooperative Society	42	23	55	19	45
Lari Dairy Farmers Co-Operative Society Limited	47	24	51	23	49
Multi Farm Dairy	28	12	43	16	57
Total gender representation in Dairy cooperatives					
	181	90	49	91	51
3 G's Coffee Growers Co-Operative Society Limited	25	17	68	8	32
Buchana Coffee Growers Cooperative Society Limited	30	19	63	11	37
New Gatukuyu Coffee Farmers' Cooperative Society	34	21	62	13	38
Kimaratia Coffee Farmers' Cooperative Society	24	14	58	10	42
Gititu Coffee Growers Cooperative Society Limited	38	25	66	13	34
Gitwe Coffee Farmers Society	40	26	65	14	35

Total gender representation in Coffee						
cooperatives	191	122	64	69	36	
Total	372	212	57	160	43	

Another IDI respondent who was a manager from Ndarugu Dairy Cooperative Society Limited noted:

In last 5 years we have witnessed more women become members of our cooperative and this is after a long chase to have women on board. We encouraged them form chamas and join cooperatives so that they can be empowered economically. Before this campaign, we had less than 20 women registered under this cooperative but right now the number has grown to over 70 women and this didn't affect men involvement in the cooperative.

A similar finding from the key informants was recorded where, the a KII who was cooperative officer from Gatundu North sub-county also reported:

In my area, both women and men are equally members of the agricultural cooperatives. We have held several forums with the community members that seek to empower both men and women to eradicate poverty and it seems the initiative has born fruits.

4.2.2.2 Gender participation in cooperative activities

The study aimed to identify whether men or women constituted the majority in attendance at cooperative activities, with the findings displayed in Table 4.3.

Table 4. 3: Gender representation cooperative activities

Cooperative Activities	Men (N)	Percent (%)	Women (N)	Percent (%)	Don't know (N)	Percent (%)
Annual general meetings	95	32%	65	22%	5	2%
Member Education Day	85	26%	73	25%	5	2%
Training to members	92	29%	67	22%	5	2%
Production of produce	95	32%	66	22%	5	2%
Delivery of farm produce	94	32%	68	23%	5	2%
Operating the account for receiving proceeds of sale	95	32%	69	23%	5	2%

Men were more involved in annual general meetings and operating the account for receiving proceeds of sale, with 95 men (32%) participating in each activity compared to 65 women (22%) and 69 women (23%), respectively. Additionally, men have a notable

presence in the production of produce, with 95 men (32%) involved compared to 66 women (22%). For detailed statistics, refer to Table 4.4 above.

Further, data from the KIIs and IDIs supported the household findings, showing that although men have a slightly higher membership percentage in the agricultural cooperatives, more women actively participate in activities such as delivery of produce and training sessions because they are often sent to represent their husbands. This highlights the patriarchal and hierarchical social structure of Kiambu County.

A male respondent from the men only FGDs reported:

In our cooperative activities, we don't face any restrictions on freedom of choice. However, around 60% of women, particularly those in male-headed households, do not have complete freedom of involvement. This is because many women here still face challenges in making decisions independently and must often seek permission from their husbands to participate in any agricultural cooperative activity.

However, findings from both the mixed FGD and the women-only FGD contradicted the previous statements. These FGDs established that women were encouraged and given opportunities to participate in leadership positions within their agricultural cooperatives of choice. One female participant in the mixed FGD noted,

Most of the time, the county officers meet with us during meetings and encourage us to participate in various cooperative activities, including choosing leaders. We try to engage, but you know, women have a lot of work.

This statement was echoed by a female IDI who stated:

Some representation of female leadership members in all cooperatives demonstrate a growing commitment to women's empowerment because 'few female leaders are treated equally like their male leadership members.

In addition, the respondents were asked whether they were offered equal rights to attend trainings and the results showed that majority of the respondents agreed and this was confirmed by the second KII who reported;

When we organise trainings in the sub-county, women form most of the attendees while only few men show as the latter claim to be busy fending for their families.

Further, data collected from the IDIs showed that 60% of managers of the cooperatives were women. A female respondent from the mixed FGD also noted:

Men like to attend annual general meeting because of politics associated with voting new leaders into the cooperatives as men want to be recognised in power positions and women remain under them.

4.2.2.3 Indicators of gender inclusion in cooperatives

The respondents were asked to present their opinions regarding the indicators of inclusion in cooperatives by indicating the level of agreement or disagreement with the statements on about their cooperatives arranged on a Likert scale of 5 items that is: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree; and 6 = not applicable. The responses were illustrated on Table 4.4 below;

Table 4. 4: Indicators of gender inclusion in cooperatives

Indicators of inclusion in cooperatives statements	1		2		3		4		5		6	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
The cooperative has articulated its commitment to gender inclusiveness to staff, members and community (via handbooks, policies, newsletters, etc.)	0.03	0.07%	0.02	0.08	1.01	1.29%	28.5	20.1%	20.7	20.1%	0.01	0.09%
	%		%		%		%		%		%	

The cooperative	0%	11.2%	0.1	0.12%	0.2	0.2%	30.4	20.4%	10.1	30.6%	0.2	0.2%
has designated			%		%		%		%		%	
one or more												
individuals who												
are responsible												
for questions or												
concerns about												
gender												
inclusiveness												
The cooperative	0%	0%	0.1	0.2%	0.1	0.24%	34.2	6.8%	38.1	22.3	1.1	4.8%
has organized			%		%		%		%		%	
and/or												
participated in												
staff training												
explicitly												
focused on												
gender												

expression and												
gender identity,												
and gender												
inclusive												
practices.												
The Cooperative	0.1	0.34%	0.1	4.6%	0.1	2.5%	18.4	20.4%	26.3	34.2%	0%	0%
has conducted	%		%		%		%		%			
members												
training												
explicitly												
focused on												
gender												
expression and												
gender identity.												
Our cooperative	0.03	0.07%	0.05	0.05%	0.06	0.004%	25.8	24.1%	21.5	29.4%	0.09	0.01%
has and makes	%		%		%		%		%		%	
available												

resources for												
members based												
on gender												
diversity.												
Our cooperative	0.1	0.23%	0.21	0.41%	0.41	1.7%	19.5	35.6%	20.6	30.5%	0.1	0.16%
does not	%		%		%		%		%		%	
conduct												
activities that												
are segregated												
by gender												
Members have	0.5	0.7%	0.2	11.3%	0.3	5.3%	26.1	24.2%	17.3	30.1%	2.0	0%
raised questions	%		%		%		%		%		%	
and engaged in												
discussions												
about gender												
diversity in my												
meetings												

Based on the data presented in the table for indicators of inclusion in cooperatives, one outstanding statistic is the high percentage of women (11.3%) who brought up questions and were involved in discussions about gender diversity in meetings (Statement 4, Women). This percentage significantly surpasses the corresponding percentage for men (0.5%) in the same category, highlighting a notable disparity in active engagement in discussions about gender diversity within cooperative meetings and for a comprehensive view, please refer to Table 4.4 for all statistics provided.

4.2.2.4 Hindrance of women inclusion in leadership and cooperatives activities

The respondents were asked to state factors that prevent women from participating fully or taking up leadership positions in cooperative activities and their responses were presented on Table 4.5 below;

Table 4. 5: Hindrance of women inclusion in leadership and cooperatives activities

Hindrance	Men (N)	Percent (%)	Women (N)	Percent (%)
Cultural norms and values restrictions	112	78%	137	88%
Stereotyping of leadership positions	45	31%	101	65%
Low levels of education	68	47%	90	57%
Gender load burden	40	28%	78	50%
Lack of courage to take up leadership	122	85%	66	42%

Inability to meet criteria for leadership	118	82%	80	51%
Other factors	91	63%	140	90%

The study established that cultural norms and values are perceived as obstacles to women's participation in leadership and cooperative activities. While 78% of men recognize these constraints, a striking 88% of women view them as major hindrances. The detailed analysis of each factor is depicted in Table 4.5, providing deeper understanding of the specific challenges women experienced while accessing leadership roles within cooperative settings. Other factors that hindered women inclusion in leadership and cooperative activities which were established from the qualitative data included;

Data collected from the IDI from Kabete Dairy Farmers Cooperative Society echoed these findings and said:

Sometimes when we have training activities most women members will show up and then leave midway because they have to rush home to prepare lunch for the children or to pick children from school and when schools are closed they have to come with the young ones or stay at home to take care of them. It is a big challenge.

4.2.2.5 Measures to promote greater participation of women in leadership and cooperatives activities

Lastly, under the first study objective, the researcher also engaged the respondents in suggesting what measures should be taken to enhance gender inclusivity in agricultural cooperatives and results were indicated in table 4.6 below.

Table 4. 6: Measures to promote greater participation of women in leadership and cooperatives activities

Measure	Men (N)	Percent (%)	Women (N)	Percent (%)
Implementing a one-third rule	44	7.30%	40	6.70%
Affirmative action (Setting aside certain positions)	52	8.70%	32	5.30%
Education and training on electoral process and rights	32	5.30%	32	5.30%
Equitable sharing of household gender roles	366	61%	432	72%
Awareness creation on the need for gender equity/equality	42	7%	42	7%
Creating an enabling environment for women in elections	18	3%	6	1%
Offering rotational leadership options for either gender	132	22%	54	9%

Policy and by-laws modification to accommodate women	48	8%	18	3%
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The table 4.6 illustrates disparities between men and women in their participation across various measures aimed at promoting gender equity within cooperative settings. Men contributed substantially to implementing a one-third rule (44 responses, 7.30%) and offering rotational leadership options (132 responses, 22%), whereas women's involvement was notably lower in these areas (40 responses, 6.70% and 54 responses, 9%, respectively). Conversely, women were more actively engaged in equitable sharing of household gender roles, representing 432 responses (72%) compared to men's 366 responses (61%). However, there remains a stark contrast in contributions to creating an enabling environment for women in elections, with men providing 18 responses (3%) versus women's 6 responses (1%). These findings underscore the need for targeted efforts to address gender disparities and enhance women's representation and influence in cooperative leadership roles.

Findings from both the focus group discussions (FGDs) shed crucial light on the shared priorities within the dairy and coffee value chains. One male respondent from the mixed FGD group reported:

In our recent general meeting, we all agreed that one of the key steps to promote women's participation in leadership within our cooperative is ensuring equal sharing of household responsibilities. We recognized that when women have more support at home, they can

dedicate more time and energy to their leadership roles within our cooperatives and organizations.

This sentiment was echoed by everyone in the group, highlighting a common understanding and commitment to fostering gender equity and empowering women in Kiambu County.

4.2.3 Impact of COVID-19 on Cooperative members' households

The second objective of the study sought to examine how COVID-19 affected men and women differently within the agricultural cooperatives by considering the economic, health and social impact. The findings under this objective were presented under sub-themes as follows: Personal economic activity or activities before the onset of Covid-19; Current economic activities; Changes in individual and household incomes; and Physical and mental health along with access to healthcare services.

4.2.3.1 Personal economic activity/ activities before the onset of Covid-19 and Current economic activities

To assess economic impact of COVID-19 on men and women within the agricultural cooperatives, participants were required to detail their personal economic activities

before the pandemic and their current economic activities and the responses are shown in Table 4.7.

Table 4. 7: Personal economic activity/ activities before the onset of Covid-19

Status of personal economic activity/activities	Men	Men	Women	Women
before the onset of Covid-19	(N)	(%)	(N)	(%)
You were employed	102	71%	135	87%
Owned a business	87	60%	80	51%
Farmer	100	69%	60	38%
Casual jobs	67	47%	56	35%
Worked (without pay) in a family business	29	20%	46	29%
Unemployed	24	17%	43	28%
Retired/pensioner	15	10%	19	12%
Studying full time	36	7%	18	12%
Status of current personal economic activity/activities	Men	Men	Women	Women
	(N)	(%)	(N)	(%)
You are employed	78	54%	62	40%
Own a business	52	36%	36	23%
I am a farmer	110	76%	67	43%
Casual jobs	70	49%	15	9%
Working (without pay) in a family business	34	24%	14	8%
Unemployed	65	45%	47	30%
Retired/pensioner	19	13%	21	13%

Studying full time	17	12%	14	8%
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The table 4.7 reveals great difference in the economic activities of men and women within the agricultural cooperatives. Before the onset of COVID-19, a striking 87% of women were employed, compared to 71% of men, indicating a higher rate of employment among women during that period. Moreover, 51% of women owned businesses, slightly lower than the 60% of men who did. However, men were more likely to be farmers, with 69% engaged in farming compared to 38% of women. In terms of current economic activities, 40% of women are currently employed, contrasting with 54% of men. The most noteworthy statistic is the substantial disparity in employment rates before COVID-19, underscoring active participation of women in the workforce within agricultural cooperatives despite challenges and traditional roles.

A KII based at Lari responded on how COVID-19 affected many both men and women and said:

In my position, it's evident that COVID-19 significantly disrupted household livelihoods for both women and men. The impact was relatively similar for both genders, with slight changes reported in economic activities post-pandemic. Recent county statistics, conducted two years after the outbreak, indicate that farming remains a predominant activity in our area despite the challenges posed by COVID-19. Interestingly, there's been a noticeable increase in women's engagement in farming, rising from 24% pre-pandemic to nearly 32% post-pandemic, while men saw a slight uptick from 18% to 21%. However,

sustaining other economic activities such as employment and businesses has proven to be more challenging.

4.2.3.2 Changes in individual and household incomes

In examining the impact of COVID-19, the researcher sought to know the changes that occurred in both individual and household incomes. Firstly, the respondents were asked whether their personal source of incomes was affected by COVID-19 and how their personal income was affected during COVID-19 and their responses were illustrated on the figure 4.6 below:

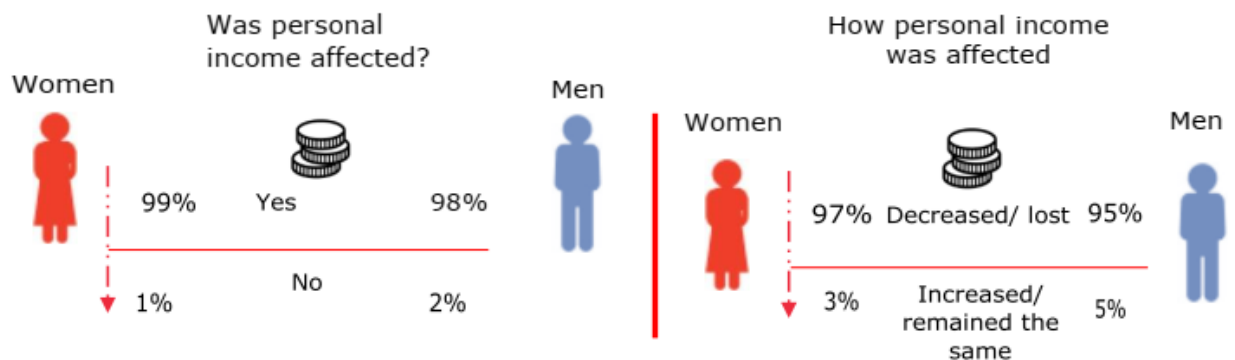


Figure 4. 7: Changes in individual incomes for both men and women

Results indicated that majority of women respondents (99%) admitted that it was true, 1% didn't agree while 98% of men also agreed and only 1% said no. Additionally, the results showed that majority of women (97%) and men (95%) experienced a decrease and lost all their source of incomes, only 3% of women and 5% of men experienced an increase and/or there was no change in income at all.

Furthermore, the researcher asked participants about any changes in the total income of all household members since the onset of COVID-19 and how this collective income had been impacted throughout the pandemic. The responses are depicted in Figure 4.10 below;

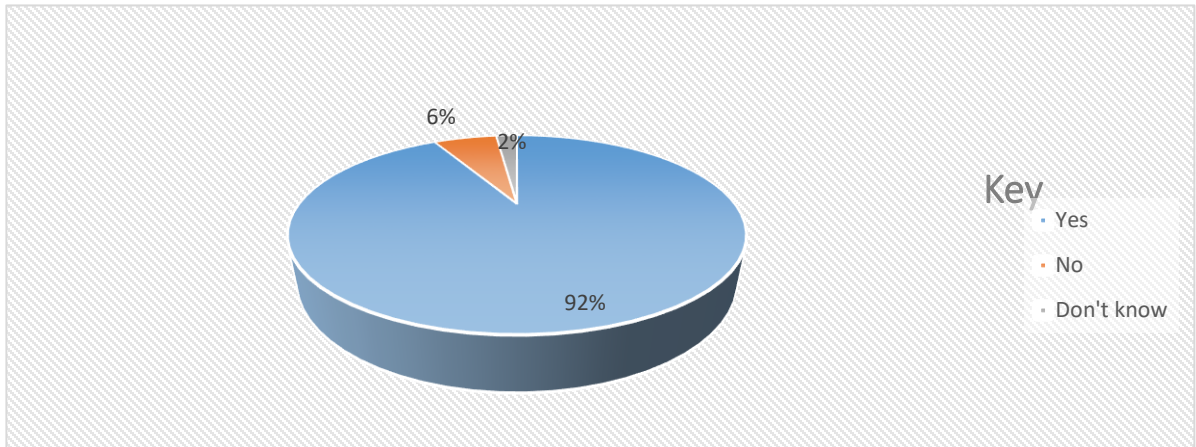


Figure 4. 8: Changes in individual incomes for both men and women

According to the study findings, majority (92%) admitted that it was true, 6% didn't agree while 2% said they didn't know about it. Based on the 92% who agreed, they were asked to indicate how the total income of all household members varied during the COVID-19 pandemic. and their responses were shown on the Figure 4.9 below:

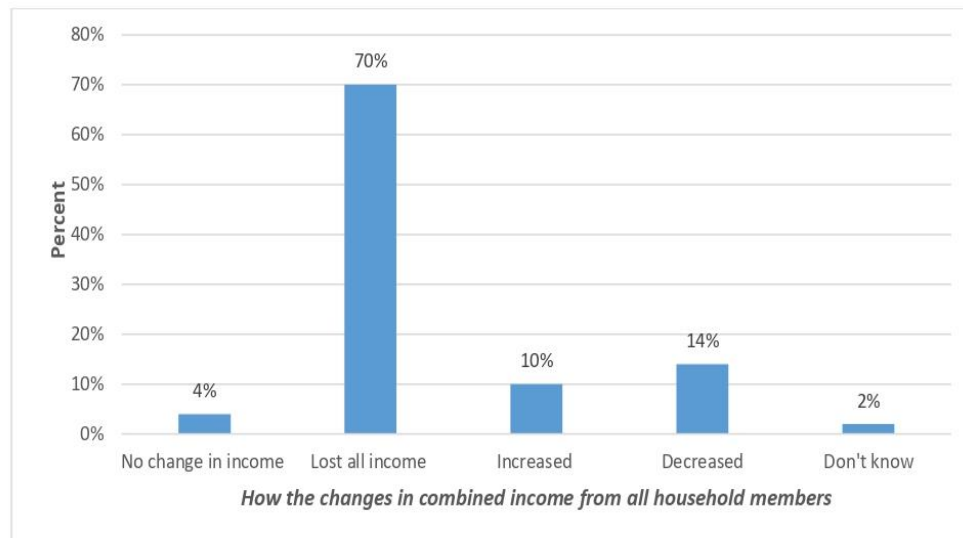


Figure 4. 9: Changes in the household incomes

As illustrated on figure 4.8 above, the results revealed that majority of men and women (70%) lost all their source of incomes, 14% indicated that combined income from all household members decreased, 10% had a positive impact of their income as they experienced an increase, 4% said there was no change in income and 2% didn't know at all.

Qualitative analysis from the mixed FGD confirmed that there were changes since the onset and during COVID-19 as this was reported;

Since the onset of the COVID-19 pandemic, there has been a notable decline in casual labor, farming activities, and employment opportunities, leading to income shocks and exacerbated food insecurity in more than two-thirds of households. The pandemic disproportionately affected economically disadvantaged households and those dependent on wage income, resulting in worsened food security outcomes. Many households experienced disruptions in regular income sources, such as delayed or reduced payments

of salaries, wages, or rental fees, which further exacerbated economic challenges during this period.

A male respondent from the mixed FGD buttressed the effect of the pandemic on their income-generating activities and remarked;

Since the outbreak of the pandemic, many individuals have relocated to rural areas seeking refuge, resulting in a decline in business activity as my customer base dwindled. The current situation is challenging, focusing solely on survival. The restrictions imposed during the pandemic, including curfews after 7 pm, significantly reduced business activity, leading to decreased income. Even three years later, life remains difficult, and I have yet to recover from the losses incurred during that time.

4.2.3.3 Physical and mental health and access to healthcare services

The study sought to evaluate the impact of COVID-19 on physical and mental health, as well as access to healthcare services, by comparing responses between dairy and coffee cooperatives, querying participants about personal and household illness occurrences during the pandemic and their experiences of anxiety, with the results shown in Table 4.8 below.

Table 4. 8: Physical and mental health and access to healthcare services

Fall ill or other household member(s) fall ill during COVID-19				
Response	Men (N)	Percent (%)	Women (N)	Percent (%)
Yes	74	51%	90	58%
No	56	39%	47	30%
Don't know	14	10%	19	12%
Total	144	100%	156	100%

Did you have anxiety during the COVID-19 pandemic?

Response	Men	Percent (%)	Women	Percent (%)
Yes	79	55%	90	58%
No	49	34%	63	40%
Don't know	16	11%	3	2%
Total	144	100%	156	100%

Did you experience a change of safety in your home during COVID-19?

Response	Men (N)	Percent (%)	Women (N)	Percent (%)
Yes	71	49%	95	61%

Response	Men (N)	Percent (%)	Women (N)	Percent (%)
No	71	49%	45	29%
Don't know	2	2%	16	10%
Total	144	100%	156	100%

Did you experience any of the following during COVID-19?

Response	Men	Percent (%)	Women	Percent (%)
Sexual harassment	62	43%	100	64%
I was physically hurt	58	40%	89	57%
Was made to have sex when I did not want	43	30%	95	61%
Denial of resources/money/water	60	42%	83	53%
Don't know	10	7%	16	10%
Total	144	100%	156	100%

Do you know of any person in your household who experienced any of the following during COVID-19?

Response	Men (N)	Percent (%)	Women (N)	Percent (%)
Sexual harassment	40	28%	72	46%
Was physically hurt	29	20%	64	41%
Members of household was physically hurt	19	13%	47	30%
Was made to have sex when I did not want	7	5%	61	39%
Denial of resources/money/water	2	2%	48	31%
Emotionally hurt by someone verbally	4	4%	45	29%
Denial to communicate with others	1	1%	78	19%
Child/Forced marriage	43	30%	47	50%
Don't know	81	56%	87	25%
Total	144	100%	156	100%

Do you know of any person in your neighborhood who experienced any of the following during COVID-19?

Response	Men (N)	Percent (%)	Women (N)	Percent (%)
Sexual harassment	30	21%	42	27%
Was physically hurt	16	11%	36	23%
Members of household was physically hurt	26	18%	44	18%
Was made to have sex when I did not want	33	23%	51	33%
Denial of resources/money/water	14	10%	28	18%
Emotionally hurt by someone verbally	16	11%	48	31%
Denial to communicate with others	20	14%	44	28%
Child/Forced marriage	29	20%	37	24%
Don't know	9	6%	34	22%
Total	144	100%	156	100%

Regarding illness during the COVID-19 pandemic among agricultural cooperatives, 58% of women reported falling ill or having a household member fall ill. In terms of anxiety levels, 58% of women also experienced anxiety during this period. For men in the agricultural cooperatives, 39% reported not falling ill, and 34% reported no anxiety. Additionally, 40% of women reported no anxiety, while 11% of men and 2% of women were uncertain about their anxiety levels. These findings underscore the varying experiences and impacts of the pandemic on health and mental well-being within agricultural cooperatives.

Changes in home safety were notable among agricultural cooperatives during the COVID-19 pandemic. 61% of women indicated that they experienced a change in home safety, compared to 49% of men. In total, 95 women and 71 men reported these changes. Meanwhile, 49% of men in the agricultural cooperatives did not experience any changes, while 29% of women did not. Additionally, 2% of men and 10% of women were unsure about changes in home safety.

Gender-based violence (GBV) during COVID-19 also was more prevalent within agricultural cooperatives. 64% of women reported experiencing sexual harassment, while 43% of men did. Physically hurt experiences were reported by 57% of women and 40% of men. Moreover, 61% of women were forced to have sex against their will, compared to 30% of men. In terms of denial of resources, 53% of women and 42% of men in the agricultural cooperatives faced this issue, while 10% of women and 7% of men were denied communication with others.

Regarding knowledge of GBV incidents within households, 46% of women and 28% of men knew someone who had experience of sexual harassment, and 41% of women and

20% of men knew someone physically hurt in the agricultural cooperatives. Additionally, 31% of women reported denial of resources, while 2% of men did, and 50% of women and 30% of men knew someone in a forced marriage.

In neighborhoods, 27% of women and 21% of men in agricultural cooperatives reported knowing someone who had been sexually harassed, while 23% of women and 11% of men said they knew of someone who had been physically harmed. Additionally, 31% of women and 11% of men reported awareness of emotional abuse, and 24% of women and 20% of men noted knowledge of forced marriages within the agricultural cooperatives.

These findings underscore that COVID-19 affected both physical and mental health, safety, and GBV within agricultural cooperatives, highlighting notable gender disparities. Women experienced higher levels of anxiety, illness, and GBV compared to men, emphasizing the urgent need for targeted interventions to support their well-being during crises.

Similarly, data from the KIIs, IDIs and FGDs revealed that the greatest burden caused by the pandemic was largely borne by women. A female respondent from the mixed FGD reported:

I lost a relative who died on her way to the hospital, since we didn't have a vehicle to help us get her to the hospital in time. This is because women's access to basic services, including sexual and reproductive health, family planning, maternal health, and treatment for various ailments, has been significantly affected during the pandemic.

Results from the qualitative data showed that majority of the participants lack of health care services as a major challenge during the period as many feared to contract COVID-19 from the medical facilities. An IDI, who was a cooperative manager of New Gatukuyu Coffee Farmers' Cooperative Society reported:

When I fell ill or anyone in our house we tried to treat ourselves from home because we were afraid of going to hospital. We believed that hospitals were full of COVI-19 patients and that we could easily catch the disease there.

4.2.4 Gender responsiveness of the interventions

The last objective of the study sought to analyze gender-responsiveness of the interventions put in place to enable agricultural cooperatives in Kiambu County to recover from impact of COVID-19. The findings under this objective were presented under sub-themes as follows.

4.2.4.1 Interventions put in place to help members of cooperatives recover from impacts of COVID-19

To determine the gender-responsiveness of the interventions put in place to enable agricultural cooperatives in Kiambu County, the respondents were asked whether there were any measures put in place to support households recover from COVID 19, with their responses displayed in Table 4.9 below.

Table 4. 9: Gender responsiveness of the interventions

Gender responsiveness of the interventions	Men	Percent	Women	Percent
	Frequency (N)	(%)	Frequency (N)	(%)
Yes	140	97%	146	96%
No	2	1%	5	3%
Don't know	2	1%	5	3%
Total	144	100%	156	100%

According to the table 4. 9 above, the analysis of the gender responsiveness of interventions within agricultural cooperatives revealed overwhelmingly positive perceptions among both men and women. A remarkable 97% of men and 96% of women believe that the interventions are gender responsive. Only 1% of men and 3% of women indicated that the interventions were not gender responsive, while a negligible 1% of men and 3% of women were unsure. These findings suggest a broad consensus on the effectiveness of gender-responsive measures in agricultural cooperatives, reflecting a significant commitment to addressing gender issues within these organizations.

Additionally, respondents who agreed were asked to specify the intervention measures and providers that assisted cooperative members in recovering from the impacts of COVID-19, with their responses presented in Table 4.10 below.

Table 4. 10: Intervention measures and providers

Intervention	Intervention	Men	Percent	Women	Percent
Measures	providers		(%)		(%)

Food supplies to household	NGOs	37	25%	60	24%
Subsidized Medical services	County Government	39	27%	40	20%
Supplies for prevention such as gloves masks sanitizer handwashing containers, soap	NGOs and Extended Family	33	23%	24	11%
Personal hygiene products (menstrual supplies, baby diapers, adult diapers)	Elected leaders and Business owners	25	17%	40	20%
Social protection grants and cash transfer	Central government	23	16%	34	17%
Change or adoption of new policies and bylaws	County Government and Central government	28	19%	60	24%
Working from home	Cooperatives	19	13%	41	20%
Shift working condition	Business owners	24	17%	56	24%
Lock down and quarantine	Central government	28	19%	90	38%
Psychosocial support	NGOs	25	17%	71	31%
Don't know	N/A	9	6%	3	2%

The analysis of intervention measures during the COVID-19 pandemic within agricultural cooperatives highlights varied support received by men and women. Notably, lockdown and quarantine measures enforced by the central government significantly impacted 38% of women, compared to 19% of men. This finding underscores the substantial effect of these measures on women's lives. Other interventions included food supplies, subsidized medical services, supplies for prevention, personal hygiene products, social protection grants, new policies, work-from-home arrangements, adjusted working conditions, and psychosocial support, each benefiting different proportions of men and women.

These results highlight the various intervention measures provided during the COVID-19 pandemic and their reception among members of both dairy and coffee cooperatives, with slight variations in the proportions of men and women benefiting from each measure.

An IDI who was a cooperative manager of Kimaratia Coffee Farmers' Cooperative Society added:

In fact, we forgot about gender issues. Everyone was just fighting to protect themselves first.

4.2.4.2 Likelihood of recovery Interventions contributing to progress towards gender equality/equity

Respondents were inquired if the measures/interventions implemented to help members of their cooperatives recover from impacts of COVID 19 contributed to progress towards gender equality/equity.

Table 4. 11: Recovery interventions contributing to progress towards gender equality/equity

Do you think the measures/intervention put in place help members of your cooperative recover from impacts of COVID 19 can contribute to progress towards gender equality/equity	Men	Percent (%)	Women	Percent (%)
Yes	101	70	145	93
No	40	28	7	4
I Don't know	3	2	4	2

According to the study results on the respondents' opinions on whether the measures/interventions put in place to help members of their cooperatives recover from impacts of COVID 19 contributed to progress towards gender equality/equity showed that 70% of men and 93% of women agreed, 28% of men and 4% of women disagreed and 4% of men and 2% of women didn't know. Contradicting results were obtained from the qualitative data collected using the IDIs, KIIs and FGDs which indicated that the focus during the pandemic was purely on interventions to control the spread of COVID 19 without regards to gender consideration. The fifth KII reported that:

When the pandemic started, everyone was focused on reducing the spread. It was not about women and men. It was just about everyone because the disease was affecting everybody.

A male respondent from men only FGD said:

None of the cooperatives considered gender as a cross-cutting issue during the pandemic, with some viewing it as a secondary concern. Our efforts as an organization to mainstream gender were hindered by a lack of full commitment from stakeholders.

4.2.4.3 Likelihood of Recovery Interventions contributing to changes in cultural values /norms that negatively impact on women

Respondents were required to mention whether the measures and interventions implemented to assist cooperative members in recovering from the impacts of COVID-19 contributed to changes in cultural values and norms that negatively affect women, with the results illustrated in Table 4.12 below.

Table 4. 12: Recovery Interventions contributing to changes in cultural values /norms that negatively impact on women

Do you think the measures/intervention undertaken to help members of your cooperative recover from impacts of COVID 19 contribute to	Men	Percent	Women	Percent
		(%)		(%)

changes to cultural values /norms that negatively impact on women?				
Yes	138	96	130	83
No	4	3	21	13
I Don't know	2	1	5	3

Results on changes to cultural values /norms that negatively impact on women showed that 96% of men and 83% of women 80% admitted, 3% of men and 13% of women didn't admit and 1% of men and 3% of women didn't know; A female respondent from women only FGD explained:

During the pandemic women and girls were given sanitary pads by NGOs such as KIPWEA, Dream girl foundation and Kiambu County girls and women organization. Sometimes our husbands could not collect them for us if we were not there. They do not like carrying them. They don't want to be seen carrying women things.

4.2.4.4 Likelihood of Recovery Interventions contributing to changes in power relations between men and women

Respondents were asked to provide their opinions on whether the measures and interventions implemented to help members of the cooperatives recover from the impacts of COVID-19 contributed to changes in power relations between men and women and their responses outlined on Table 4.13 below;

Table 4. 13: Recovery Interventions contributing to changes in power relations between men and women

Do you think the measures/intervention undertaken to help members of your cooperative recover from impacts of COVID 19 contribute to changes in power relations between men and women?	Men	Percent (%)	Women	Percent (%)
Yes	109	76	125	80
No	30	21	20	13
I don't know	5	3	8	5

The findings regarding changes in the power dynamics between men and women indicated that 76% of men and 80% of women were in agreement, while 21% of men and 13% of women expressed disagreement, and 3% of men and 5% of women were didn't know.

4.2.4.5 Recovery Interventions entailing participation and representation of women and men in all their diversity

Respondents were asked to give their thoughts on whether the measures and interventions implemented to help their cooperatives recover from the impacts of COVID-19 contributed to advancing participation and representation of both women and men in all their diversity. Results were as shown on table 4.14 below;

Table 4. 14: Recovery Interventions entailing participation and representation of women and men in all their diversity

Do you think the measures/interventions undertaken to help members of your cooperative recover from impacts of COVID 19 entails participation and representation of women and men in all their diversity?	Men	Percent (%)	Women	Percent (%)
Yes	106	74	128	89
No	25	17	20	14
I don't know	13	9	8	6

Results on entailed participation and representation of women and men in all their diversity indicated that 74% of men and 89% of women said yes, 17% of men and 14% of women said no, and 9% of men and 6% of women didn't know.

4.2.4.6 Recovery Intervention Contribution in enhancing access and control over opportunities and resources for women

Respondents were asked to share their opinions on whether the measures and interventions implemented to help cooperative members in recovering from COVID-19 improved women's access to and control over opportunities and resources with the results presented in Table 4.15 below.

Table 4. 15: Recovery Intervention Contribution in enhancing access and control over opportunities and resources for women

Do you think the measures/interventions undertaken to help members of your cooperative recover from impacts of COVID 19 enhance access and control over opportunities and resources for women?	Men	Percent (%)	Women	Percent (%)
Yes	140	97	154	98
No	3	2	1	1
I don't know	1	0.7	1	1

Findings on enhanced access and control over opportunities and resources for women showed that 97 % of men and 98% of women agreed, 2% of men and 1% of women disagreed and 0.7% of men and 1% of women didn't know. Another male respondent from the mixed FGD argued that:

The interventions put in place were not clear whether they targeted specific gender thus, we assumed everything done was important to everyone. This is because there were no pointers to indicate that there was intentional gender exclusion or inclusion in either design or implementation of the interventions.

A similar statement was made by a KII on why interventions which were put in place to help members of the cooperatives recover from impacts of COVID-19 didn't consider the gender aspect:

When they developed COVID-19 interventions, they did not take into consideration gender needs especially those concerning women. It was more like a rapid intervention which only focused on the general impacts of COVID-19 and incorporated them into the guidelines..

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the key discussions of the study, gives an overview of the major findings, draws conclusions, and provides recommendations. The summary is based on the objectives of the study and includes an analysis of both qualitative and quantitative data, as guided by the research questions.

5.2 Discussions of findings

This section outlines a discussion of the findings in relation to the study objectives. The first objective of the study sought to assess the gender inclusivity in agricultural cooperatives in Kiambu County. From the demographic data, it is evident that women constituted 52% of the cooperative's membership. This finding aligns with the fact that a significant portion of agricultural work in Kiambu is performed by women, who also register as members since they provide the produce to the agricultural cooperatives. These results contrast with studies by Asongu and Odhiambo (2020), which indicate that women typically have lower representation in cooperatives due to fewer assets, such as land and livestock, as well as challenges in accessing resources like insurance, training, and essential agricultural inputs. Consequently, female farmers often achieve lower agricultural yields and earn less income compared to their male counterparts.

Approximately 44% of respondents were married, and the study's findings suggested that involvement in agricultural cooperatives was unrelated to marital status. This contradicts research by Doss (2018), which shows that married households contribute the most to

agricultural production and have higher enrollment rates in agricultural cooperatives, whereas single households contribute the least.

Most participants (31% of both men and women) were in the 35–44 age range, while only a small percentage were aged 75 years or older (3% of men and 1% of women). This suggests that the majority of respondents were middle-aged. This observation aligns with FAO (2020) findings, which indicate that older individuals often lose interest in agricultural activities, impacting cooperative membership.

Majority of respondents (27% of women and 47% of men) made their living through farming, indicating that farming is the most common source of income. This aligns with research by Mahamud and Aligula (2019) but not with Mekonnen, Gerber, and Matz (2017).

In assessing the gender inclusivity in agricultural cooperatives, the study looked at the majority in the cooperative organs, the data from the cooperatives shows varying gender distributions across different roles.

Overall, the results show a pattern of persistent male dominance in key decision-making positions, highlighting the necessity of advancing gender parity and diversity at these levels. This emphasizes how important it is to include more women as members of cooperatives, as well as in governance structures and initiatives, in order to achieve gender-balanced leadership. For this reason, addressing the larger socioeconomic issues of access to financial resources, education and training, and promoting an environment that encourages women's participation to promote gender equality and empower women in collaboration and relationships would be of great importance. At the cooperative level, the qualifications for participation in agricultural cooperatives were a major factor that

either encouraged or discouraged women from joining (Kabeer, 2019). Our survey showed a glaring gender discrepancy, with men routinely outnumbering women in a variety of cooperative leadership positions. This implies a persistent gender gap in decision-making positions, highlighting the need for targeted measures to boost women's participation in managerial roles.

Kamau and Ndung'u (2018) shown that historical and cultural elements have strengthened the male predominance in leadership roles, posing a significant obstacle for women. This state of affairs has endured in spite of the growth of agricultural cooperatives, wherein the duties and obligations of various leaders regardless of gender have greatly increased, culminating in gender disparities instead of inclusivity.

The first objective sought to assess gender inclusivity in agricultural cooperatives in Kiambu County. The study found that men dominated decision-making organs: 49% in the management board, 42% in the supervisory committee, and 25% among employees. Women, on the other hand, had higher representation in cooperative activities but participated more in activities of lesser significance in decision-making. This gender-differentiated participation concurs with findings by Brown & Garcia (2021), who outlined the positive impact of capacity-building programs on participation of women in cooperative activities. Analysis from the FGDs, KIIs and IDIs yielded similar results as follows; firstly, responding on which gender formed the majority in the cooperative organs, the study established that both women and men were equally members of the agricultural cooperatives.

Secondly, on which gender formed the majority in attendance of cooperative activities, results revealed that there were several cooperative activities where both men and women were involved. Men were more involved in annual general meetings (99%) and operating the account for receiving proceeds of sale (98.3%), while women were involved in more activities than men which were member education day, training to members and delivery of farm produce. Men and women participate equally in production of produce. These results indicated that while the participation gives an impression of equal representation, women participated more in activities of lesser significance in decision making while men dominated decision making activities and organs.

Thirdly, on the indicators of inclusion in cooperatives, results indicated that respondents revealed there were similar indicators of measuring gender inclusion in their respective cooperatives. Fourthly, on the factors hampering women inclusion in leadership and cooperatives activities, results revealed that cultural norms and values restrictions was the major (54%) factor that hindered women inclusion in leadership and cooperative activities while the least consider factor was inability to meet the criteria to be eligible for leadership (9%). Further, these findings are consistent with Asongu and Odhiambo (2020) who researched on the effect of gender inclusion on inequality in sustainable development. Though the study didn't look at indicators but it established thresholds worthwhile for sustainable development that complemented the gender inclusion to reduce income, education and information inequalities.

Lastly, under this objective, the study assessed measures that were considered to promote greater women participation in leadership and results revealed that most of respondents selected equitable sharing of household gender roles by both men and women as the most

preferred measure to promote greater participation of women in leadership, followed by those offering rotational leadership option for either gender ranking at 39%. These findings implied that all respondents both men and women supported women participation in leadership. These findings disapprove a report done by FAO (2019), that women face so many difficulties in accessing land and resources, limiting their economic empowerment in the agricultural sector. This is because in the last decade women empowerment has been accelerated and this has resulted to near equal representation of both genders in several sectors and agricultural sector is not an exception. These findings are also based in the social ecological model (CDC, 2018) that emphasizes the importance of addressing critical needs and challenges faced by most women in agriculture, including access to credit, resources, and training, so that both men and women are represented in mainstream cooperative organizations.

Overall, these findings support those of Kaaria, Osorio, and Gallina (2016), who examined rural participation of women in producer organizations. Their study identified several significant barriers to women's involvement, including socio-cultural norms, the multiple roles and responsibilities of women, their status, age, organizational membership, access to assets and resources, educational attainment, entry requirements of organizations, and legal and policy frameworks. These findings are contrary to social ecological model which states that social norms, values, and expectations played a key role in shaping gender roles and responsibilities in agriculture cooperatives. Mölders, Spörrle, and Welpé (2018) argued that women are often perceived as assertive, active, and strong leaders. Men generally supported gender quotas for women in leadership positions within male-

dominated sectors and at higher organizational levels, fostering a trend of acceptance among both genders.

The second objective of the study sought to examine how COVID-19 affected men and women differently within the Agricultural cooperatives in Kiambu County. In determining the economic impact of Covid-19 on men and women within the agricultural cooperatives, the study assessed their personal economic activities before the onset of Covid-19 and current economic activities. The research indicated that both men and women engaged in various personal economic activities before COVID-19, with more men (26%) employed compared to women (20%). Post-COVID-19, both genders shifted to farming and business ownership. This disagrees with United Nations Women (2020), which showed that economic crises hit women harder due to lower earnings and savings. However, the study found that both men and women experienced significant income losses during the pandemic, consistent with findings by the International Labour Organization (ILO, 2020), Vos et al. (2020), and the World Bank (2020).

The pandemic also profoundly affected both physical and mental health. Women (58%) and men (51%) reported illness within their households, and instances of Gender-Based Violence (GBV) increased. These findings align with García-Moreno et al. (2020), who reported a surge in domestic violence during lockdowns. Also, Rajkumar (2020) emphasized the long-term mental health effects of COVID-19, highlighting increased anxiety, depression, and stress.

Similar findings were obtained from the qualitative analysis that both men and women were found affected negatively in relatively similar proportions. These findings disagree

with some analysis of global economic trends in response to COVID-19 done by United Nations Women (2020) which showed that economic crises disproportionately affect women more than men as women typically earn less and possess fewer savings, while their male counterparts would easily adapt to the changed work environment during a crisis.

The results revealed significant changes in personal and household income, with the majority of women (97%) and men (95%) experiencing a decrease or a supplement in their income. Only a small group (3% of women and 5% of men) saw an increase or no change in income. The research also noted that total income of each household member had changed significantly since the outbreak of COVID-19 pandemic, as both men and women experienced loss in household income due to the pandemic. These findings concur with reports from the International Labour Organization (ILO, 2020), Vos et al. (2020), and the World Bank (2020), which also highlight the effects of COVID-19 on gainful employment; that the impact of COVID-19 pandemic has led to massive unemployment among small and medium-sized businesses in Kenya, causing 34% of stores to close and 54% of individuals to lose their income. These findings confirmed the conclusion of Wang et al. (2020), who established that there were similar negative impacts of the COVID-19 pandemic in China, including reduced pork consumption rates, which caused economic losses for pig farmers and weakened cooperative societies. Kenya reportedly faces similar economic challenges, with poor cooperation models, disrupted value chains and the long-term sustainability of many countries being threatened. Gathura (2022) similarly found that COVID-19 negatively impacted on small farmers, and this led to reduced farm income since there were scarcity and low prices of agricultural products. Additionally, non-farm

income is affected due to limited employment and transportation restrictions, preventing farmers from accessing employment and cheap products.

Finally, this objective explored the gendered impact of COVID-19 on physical and mental health, as well as access to healthcare. The results indicated that 58% of women and 51% of men either had the illness or had a family member affected by it. Additionally, the results revealed that both men and women experienced gender-based violence (GBV), including harassment and physical abuse, during the pandemic. These observations aligned with the findings of García-Moreno et al. (2020), who established that lockdowns during COVID-19 pandemic resulted to rise in the rate of domestic violence worldwide, suggesting a correlation between the pandemic and gender-based violence.

Data from the KIIs, IDIs and FGDs revealed that the greatest burden caused by the pandemic was largely borne by women. These finding is supported by Gathura (2022) who established that Covid-19 resulted to lack of transport opportunities to access essential services facilities especially in the rural and lack of money to pay for the services. Travel restrictions made it challenging for women and children to reach health centers. Rajkumar (2020) reported that many people were adversely affected mentally by COVID-19 pandemic, many people were anxious, depressed and stressed up. Rajkumar (2020) also emphasized that the enduring mental health effects of COVID-19 could take weeks or months to fully apparent, highlighting the need for extensive efforts beyond psychiatry to address these impacts within the healthcare system as a whole.

The last objective of the study sought to analyze gender-responsiveness of the interventions put in place to enable Agricultural Cooperatives in Kiambu County to recover from impact of COVID-19. Firstly, the study confirmed that 97% of men and 96% of women acknowledged measures to support households' recovery from COVID-19. This suggested a widespread understanding and implementation of support measures within these cooperatives during the pandemic recovery period. Further exploration into the specific intervention measures and providers that facilitated the recovery process for cooperative members would offer valuable insights into the effectiveness of these support systems.

Contradicting results were obtained from the qualitative data collected using the IDIs, KIIs and FGDs which indicated that the focus during the pandemic was purely on interventions to control spreading of COVID 19 without regards to gender consideration. Many argued that interventions which were put in place to help members of the cooperatives recover from impacts of COVID-19 didn't consider the gender aspect at all. These findings clearly revealed that most agricultural cooperatives in Kiambu County did not consider gender aspect in designing interventions to recover from COVID-19 impact. This was found against the WHO (2019) guideline that gender analysis was important in understanding and addressing the social determinants of health and promoting gender equality in healthcare settings ensuring both men and women were involved. The study findings established that gender aspect was hardly considered in developing measures that help Kiambu County recover from COVID-19 impact, therefore, as recommended by the Feminist Political Ecology (FPE) (Rocheleau et al., 1996) that gender-responsive post-COVID-19 recovery strategies should be implemented in agriculture cooperatives to

challenge the patriarchal norms and structures that limit decision-making power of women and hinder their access to resources.

In addition, data from all FGDs indicated that there existed substantial gaps in data and challenges related to gathering and reporting information about the gender-specific aspects of COVID-19, and they included; absence of data that differentiates between sexes in tracking and reporting, policies and strategies that account for gender disparities, and the rapidly changing information. Findings from the qualitative data confirmed that it was inevitable because the provision of menstrual supplies was essential and only used by women. In addition, it was found that NGOs and the county government played a bigger role in establishing gender responsive measures to recover COVID-19 impacts in Kiambu County.

These findings are supported by Kabeer (2016), who emphasized the importance of transformative approaches that challenge and alter the underlying power relations and structures that perpetuate gender inequalities. Kabeer advocated for gender-responsive interventions that address both practical and strategic gender needs to achieve lasting change. Furthermore, Doss et al. (2017) and Quisumbing et al. (2018) in their studies emphasized on the beneficial effects of gender-responsive agricultural initiatives, pointing out advancements in agricultural output, improved food security, and better livelihoods for female farmers.

5.3 Conclusions

This study's conclusions were drawn in alignment with research objectives as follows:

Under the first study objective, the research established that both men and women within agricultural cooperatives demonstrated the capacity to engage in various activities and assume leadership or decision-making roles. This indicates gender-differentiated participation, where individuals, regardless of gender, dominate different activities within their cooperatives. The study concluded that gender-neutral opportunities for involvement exist within agricultural cooperatives, showcasing a parallel trend across the sector.

Under the second study objective, the findings revealed how COVID-19 disrupted livelihoods for both men and women across agricultural cooperatives. While both genders reported changes in their economic activities post-pandemic, access to essential services, particularly healthcare, posed challenges, especially for women. Women expressed fears of accessing health services due to concerns about their health and that of their families. Consequently, the study concluded that COVID-19 impacted both genders negatively in comparable proportions within agricultural cooperatives.

On the third study objective, it was found that agricultural cooperatives lacked a clearly defined recovery intervention strategy. However, they implemented need-based interventions in collaboration with other stakeholders, aligning with national guidelines to curb the spread of COVID-19. These interventions were primarily gender-blind, encompassing food supplies, medical services, preventive supplies, social protection grants, remote working arrangements, lockdown measures, quarantine support, and psychosocial assistance. Notably, only the provision of personal hygiene supplies demonstrated gender consideration, acknowledging the essential needs of women.

Consequently, the study concluded that recovery interventions should prioritize a gender-sensitive approach to benefit both men and women effectively within agricultural cooperatives.

Overall, the results established significant gender-related differences within agricultural cooperatives, suggesting the need for tailored approaches to tackle gender inclusivity, the impacts of COVID-19, and responsiveness of interventions in these cooperatives.

5.4 Recommendations of the Study

In accordance with the study objectives, the following recommendations were established:

Firstly, it is recommended that cooperatives prioritize equitable representation in leadership roles. Providing more opportunities for women to take on leadership positions ensures balanced decision-making processes and allows gender-specific concerns to be addressed effectively. The continuous collection and analysis of gender-segregated data are essential for identifying disparities and monitoring progress in gender inclusivity. Additionally, adopting participatory planning approaches that guarantee equal representation of men and women in cooperative planning processes can ensure interventions benefit all members equitably, fostering sustainable and inclusive systems.

Secondly, integrating gender-inclusive disaster and pandemic response committees into cooperative structures is essential. These committees can develop and implement interventions tailored to the specific needs of men and women during crises. Expanding affirmative action funds with a gender lens is also critical, recognizing that women have disproportionately experienced income declines due to the pandemic. Providing targeted financial support to women through economic stimulus packages can alleviate the

economic burdens faced by women in the agricultural sector, contributing to their recovery and promoting equity.

Thirdly, interventions aimed at enabling cooperatives to recover from the impacts of COVID-19 must be evaluated and improved for their gender-responsiveness. This includes adopting customized approaches to account for the varying needs of men and women in different types of cooperatives, such as dairy and coffee cooperatives, where significant gender-related differences were observed. Ensuring that recovery interventions are designed and implemented with a gender perspective can enhance their effectiveness and equity. By involving both men and women equally in the planning and implementation of these interventions, cooperatives can build more resilient systems and ensure the equitable distribution of recovery resources.

5.5 Suggestions for future research

This study primarily centred on impacts of COVID-19 and gender-responsiveness of recovery interventions in agricultural cooperatives in Kiambu County. In this study, domestic gender roles alongside sociocultural restrictions emerged as a major hindrance to women's participation in Agricultural cooperative activities which intern mutes their voices and leads to gender blind decision making by different organs. Therefore, suggestions for future research should delve deeper into the interplay between domestic gender roles and women's participation in agricultural cooperatives, as these roles emerged as significant barriers to their engagement and voice in decision-making. Specifically, future studies could examine how traditional household responsibilities and societal expectations limit women's involvement, decision-making authority, and overall

contribution to cooperative activities. Additionally, research could explore the impact of integrating gender-inclusive practices on cooperative dynamics and community development, focusing on how such practices can address marginalization, enhance resilience against crises, and promote women's empowerment and participation in recovery efforts.

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APPENDICES

Appendix I: Questionnaire for cooperative members

HOUSEHOLD QUESTIONNAIRE FOR AGRICULTURAL COOPERATIVE MEMBERS

PRELIMINARY INFORMATION

Date of Interview: _____ **Start time:** _____ **End time:** _____

PARTICIPANT INFORMATION

Researcher's Information: The research is being conducted by **Francis Luyayi Ajega** in partial fulfilment of Master's degree at the Cooperative University of Kenya.

Purpose of this study: The study aims to investigate the impact of COVID-19, Analyze the impacts of COVID-19 on agricultural cooperatives, evaluate the impacts of COVID-19 on participation of women in agricultural cooperatives and to assess gender-responsiveness of post COVID-19 recovery intervention in agricultural cooperatives in Kiambu County. Thus, I would like to ask you about how COVID-19 affected you, your household and your participation in the cooperative activities. The interview should last no more than 45 minutes.

Potential harms, risks or discomforts to participants: I do not anticipate any risks for you in participating in this study. Participation in any research study will, however, take some of your time, in this case, estimated at 45 minutes. If you feel distressed during the interview, the research activity will end, and you will be connected to a community leader for support.

Benefits of participating in the study: There is no direct and immediate benefit for participating as a respondent. However, some of the expected outputs will include recommendations that will help in quick recovery from the impacts of COVID-19 and increased participation of women in Agricultural Cooperatives

Confidentiality: Personal identifying information (such as names or addresses) will remain confidential and will not be shared with anyone outside of this research study. Before any data is shared with other researchers or made public, all personal details that could identify individuals will be either removed or altered. Your identity will not be disclosed in any publications or outcomes resulting from this study, ensuring your privacy and confidentiality throughout the research process.

RESPONDENT'S SURVEY INFORMED CONSENT FORM

I acknowledge that I have carefully reviewed and understood the purpose and details of this study.

- I have thoroughly read and comprehended the information sheet and consent form provided.
- I had the opportunity to ask any questions I had about my participation, and I understand that my involvement in the study is entirely voluntary.
- I am aware that I have the right to withdraw from the study at any time without having to provide a justification.
- I understand that all information I provide will be kept confidential, with the exception of cases where confidentiality must be breached for safety reasons.
- I am familiar with the procedure for raising concerns or making complaints during the study.
- I hereby voluntarily agree to participate in this study.

I understand that this study has been approved by Cooperative University and the researcher has a study permit from National Commission for Science, Technology & Innovation (NACOSTI)

Name: _____ Signed: _____ Date: _____

Study Participant

Name: _____ Signed: _____ Date: _____

Researcher

SECTION A: Demographic Information (This section covers the demographic information of the respondent. The interviewer reads the question but does not read the options to the respondents but he/she can elaborate or give examples where the respondent does not understand the question or the information required)

Label	Question (Select only one)
1.	What is your gender? 1) Male 2) Female 3) Inter sexual (specify)
2.	What is your age in years? ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65-74 ☐ 74 +
3.	What is your marital status? 1) Married 2) Living with partner/Cohabiting 3) Married but separated 4) Widowed 3) Divorced 4) Single [never married] 5) Don't know 6) I can answer
4.	What is your main source of income? 1) Farming 2) Business other than farming 3) Formal employment 4) Casual labourer 5) Other (specify)
5.	Who is the principal income earner in your household? 1) Self

	2) Spouse 3) Others (specify)
6.	What is the monthly household income in Kshs. (<i>approx.</i>)? 0 - 9,999 10,000 - 19,999 20,000 - 29,999 30,000 – 39,999 40,000 – 49,999 Above 50,000 I don't know

SECTION B: Gender inclusivity in agricultural cooperatives in Kiambu County

1. Who are the majority in the following cooperative organs (Tick one)

Cooperative Activities (Read these to the respondents)	Men	Women	Men equal women	Don't know	Not applicable
Management board					
Supervisory committee					
Employees / staff					
Cooperative delegates					
Executive committee					
General membership					

2. Who are the majority in attendance of the following cooperative activities: (Tick one)

Cooperative Activities (Read these to the respondents)	Men	Women	Men equal women	Don't know	Not applicable
Annual general meetings					

Member Education Day					
Training to members					
Production of produce					
Delivery of farm produce					
Operating the account for receiving proceeds of sale					

1. To what extent do you agree with the following statements about your cooperative, whereby, 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree; 5 = Don't Know; and 6 = Not applicable.

Indicators of inclusion in cooperatives (Read these to the respondents)	1	2	3	4	5	6
The cooperative has articulated its commitment to gender inclusiveness to staff, members and community (via handbooks, policies, newsletters, etc.)						
The cooperative has designated one or more individuals who are responsible for questions or concerns about gender inclusiveness						
The cooperative has organized and/or participated in staff training explicitly focused on gender expression and gender identity, and gender inclusive practices						
The Cooperative has conducted members training explicitly focused on gender expression and gender identity						
Our cooperative has and makes available resources for members based on gender diversity						
Our cooperative does not conduct activities that are segregated by gender						
Members have raised questions and engaged in discussions about gender diversity in my meetings						

2. What factors hamper women inclusion in leadership and cooperatives activities? Tick the factor mentioned by respondent. Do not read out the options

Factors (Do not read this to the respondents)	
1.Cultural norms and values restrictions	
2.Stereotyping of leadership position	
3.Low levels of education	
4.Gender load burden	
5.lack of courage to take up leadership positions	
6.In ability to meet the criteria to be eligible for leadership	
7 Other (specify) _____	

3. What measures should be taken to promote greater participation of women in leadership and cooperatives activities? (Tick the options mentioned by a respondent. Do not read out options)

Strategy	Tick all that apply
1) Implement a one-third rule	
2) Affirmative action (Setting a side certain positions	
3) Education and training on electoral process and rights	
4) Equitable sharing of household gender roles	
5) Awareness creation on need for gender equity and equality	
6) Creating enabling environment for women to participate in peaceful elections	
7) Offering rotational leadership option for either gender	
8) Policy and by-laws modification to accommodate women	
9) Other (Specify) _____	

SECTION C: Gendered impact of COVID-19

Impact of COVID-19	
1.	How would you describe your personal economic activity or activities before the onset of Covid-19 [as of February 2020]? (Do not read this to the respondents and select the number (s) that represent a category that apply. Accept more than one 1) You were employed 2) Owned a business 3) Farmer 4) Casual jobs 5) Worked [without pay] in a family business 6) Unemployed [you were not looking for a job and you were not available to work] 7) Retired/pensioner 8) Studying full time 9) Don't know 10) Refused
2.	How would you describe your CURRENT economic activities? (Do not read this to the respondents and select the number (s) that represent a category that apply. Accept more than one 1) Employed 2) Own a business 3) I am a farmer 4) Casual jobs 5) Working [without pay] in a family business 6) Unemployed 7) Retired/pensioner 8) Studying full time 9) Don't know 10) Refused
3.	Was your personal source of income affected by COVID-19? (Select one) 1) Yes 2) No 3) Don't know 4) I cannot answer

4.	How did your personal source of income affected during COVID-19? (Select one) 1) No change in income 2) Lost all income 3) Increased 4) Decreased 5) Don't know 6) I cannot answer
5.	Have there been any changes in the combined income from all household members since the onset of COVID-19? (Select one) 1) Yes 2) No 3) Don't know 4) I cannot answer
6.	How was the combined income from all household members changed during COVID-19? (Select one) 1) No change in income 2) Increased income 3) Decreased income 4) Don't know 5) I cannot answer
7.	Did you fall ill during COVID-19? (Select one) 1) Yes 2) No 3) Don't know 4) I cannot answer
8.	Did any other household member(s) fall ill during COVID-19? (Select one) 1) Yes 2) No 3) Don't know 4) I cannot answer

9.	Did you have anxiety during the COVID-19 pandemic? (Select one) 1) Yes 2) No 3) Don't know 4) I Cannot answer
10.	Did you experience a change of safety in your home during COVID-19? (Select one) 1) Yes 2) No 3) Don't know 1) I Cannot answer
11.	Did you experience any of the following during COVID-19? (read this to the respondents and select the number (s) that represent all that apply) 1) Sexual harassment 2) I was physically hurt 3) Was made to have sex when I did not want 4) Denial of resources/money/water 5) Emotionally hurt by someone through verbal abuse etc. 6) Denial to communicate with other people 7) Don't know 8) I cannot answer
12.	Do you know of any person in your household who experienced any of the following during COVID-19? (read this to the respondents and select the number (s) that represent all that apply) 1) Sexual harassment 2) Was physically hurt 3) Members of household was physically hurt 4) Was made to have sex when I did not want 5) Denial of resources/money/water 6) Emotionally hurt by someone through verbal abuse etc. 7) Denial to communicate with other people 8) Child/Forced marriage 9) Don't know 10) I cannot answer

13.	Do you know of any person in your neighborhood who experienced any of the following during COVID-19? (read this to the respondents and select the number (s) that represent all that apply) 1) Sexual harassment 2) Was physically hurt 3) Members of household was physically hurt 4) Was made to have sex when I did not want 5) Denial of resources/money/water 6) Emotionally hurt by someone through verbal abuse etc. 7) Denial to communicate with other people 8) Child/Forced marriage 9) Don't know 10) I cannot answer
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SECTION D: Gender-responsiveness of the interventions put in place to enable members of agricultural cooperatives in Kiambu County recover from COVID-19 impacts

1. Has there been any measures put in place to support households recover from COVID 19? **(Select one)**
 - 1) Yes
 - 2) No
 - 3) Don't know
 - 4) I cannot answer

2. What Interventions were put in place to help members of your cooperative recover from impacts of COVID 19?

Intervention Measures (Select all that apply)	Intervention providers (Tick all that apply)					
	County Government	Elected leaders	Coops	NGOs	Business owners	Other
1) Food supplies to household						
2) Subsidized Medical services						
3) Supplies for prevention [gloves masks sanitizer handwashing containers, soap, etc.]						
4) Personal hygiene supplies [menstrual supplies baby diapers adult diapers etc.]						
5) Social protection grants and cash transfer						
6) Change or adoption of new policies and bylaws						
7) Working from home						

8) Shift working condition						
9) Lock down and quarantine						
10) Psychosocial support						
11) Other.....						
12) Don't know						

3. In your opinion, do you think the measures/intervention put in place help members of your cooperative recover from impacts of COVID 19 can contribute to progress towards gender equality/equity? **(Select one)**

- 1) Yes
- 2) No
- 3) I Don't know

4. Do you think the measures/intervention undertaken to help members of your cooperative recover from impacts of COVID 19 contribute to changes to cultural values /norms that negatively impact on women? **(Select one)**

- 1) Yes
- 2) No
- 3) I Don't Know

5. Do you think the measures/intervention undertaken to help members of your cooperative recover from impacts of COVID 19 contribute to changes in power relations between men and women? **(Select one)**

- 1) Yes
- 2) No
- 3) I Don't Know

6. Do you think the measures/interventions undertaken to help members of your cooperative recover from impacts of COVID 19 entails participation and representation of women and men in all their diversity? **(Select one)**

- 1) Yes
- 2) No
- 3) I Don't know

7. Do you think the measures/interventions undertaken to help members of your cooperative recover from impacts of COVID 19 enhance access and control over opportunities and resources for women? **(Select one)**

- 1) Yes
- 2) No
- 3) I Don't know

Appendix II: IDI guide for Managers of Agricultural cooperatives

IDI GUIDE MANAGERS OF AGRICULTURAL COOPERATIVES

PARTICIPANT INFORMATION

Researcher's Information: The research is being conducted by **Francis Luyayi Ajega** in partial fulfilment of Master's degree at the Cooperative University of Kenya.

Purpose of this study: The study aims to investigate the impact of COVID-19, Analyze the impacts of COVID-19 on agricultural cooperatives, evaluate the impacts of COVID-19 on participation of women in agricultural cooperatives and to assess gender-responsiveness of post COVID-19 recovery intervention in agricultural cooperatives in Kiambu County. Thus, I would like to ask you about how COVID-19 affected you, your household and your participation in the cooperative activities. The interview should last no more than 45 minutes.

Potential harms, risks or discomforts to participants: I do not anticipate any risks for you in participating in this study. Participation in any research study will, however, take some of your time, in this case, estimated at 45 minutes. If you feel distressed during the interview, the research activity will end, and you will be connected to a community leader for support.

Benefits of participating in the study: There is no direct and immediate benefit for participating as a respondent. However, some of the expected outputs will include recommendations that will help in quick recovery from the impacts of COVID-19 and increased participation of women in Agricultural Cooperatives

Confidentiality: Your personal information, including names and addresses, will not be shared with anyone outside of this research study. Any identifying details will be removed or altered before sharing files with other researchers or publishing results. Your identity will not be revealed in any publications, products, or services related to this study. Your privacy and confidentiality are of utmost importance and will be strictly protected.

RESPONDENT'S SURVEY INFORMED CONSENT FORM

I acknowledge that I have carefully reviewed and understood the purpose and details of this study.

- I have thoroughly read and comprehended the information sheet and consent form provided.
- I had the opportunity to ask any questions I had about my participation, and I understand that my involvement in the study is entirely voluntary.
- I am aware that I have the right to withdraw from the study at any time without having to provide a justification.
- I understand that all information I provide will be kept confidential, with the exception of cases where confidentiality must be breached for safety reasons.
- I am familiar with the procedure for raising concerns or making complaints during the study.
- I hereby voluntarily agree to participate in this study.

I understand that this study has been approved by Cooperative University and the researcher has a study permit from National Commission for Science, Technology & Innovation (NACOSTI)

Name: _____ Signed: _____ Date: _____

Study Participant

Name: _____ Signed: _____ Date: _____

Researcher

INTRODUCTORY SECTION	
Name of Cooperative	Date:
Respondent Name:	Respondent Official Position:
Description of the Respondent's Role in Organisation's COVID-19 initiatives:	
Contact Information email/phone	Cooperative Address/Location
Respondent Gender	Interviewer Name
In-Depth Interview Guidance for Cooperative CEOs and Managers Cooperatives are deeply involved in communities, possessing a deep understanding of local dynamics. This makes Agricultural cooperatives well equipped to provide guidance and directly implement on-the-ground initiatives for prevention, response, and recovery. From impacts of COVID-19.	
Main questions	1. Which gender forms the majority of membership your cooperative?
	2. Who are the majority in attendance of the activities and events organized by your cooperative?
	3. To what extent is your cooperatives gender inclusive?
	4. What measures have been put in place by your cooperative to ensure gender inclusiveness?
	5. What factors impede the realization of gender inclusivity in your cooperatives?
	6. What can be done to enhance gender inclusiveness your cooperative
	7. What were the impacts of COVID 19 in your cooperative
	8. How did this impact members of different gender in your cooperative and why?
	9. What interventions were put in place by to aid members of your cooperative recover from the impact of the pandemic?
	10. Who were the main providers of the recovery interventions
	11. In your opinion were these interventions gender responsive
	12. What other interventions would have been put in place to enhance recovery
Wrap up	Request any reference document (e.g. recovery strategies, registers, initiative reports, strategic plans etc.)

Appendix III: Key Informant Guideline Questions

KEY INFORMANT INTERVIEW GUIDING QUESTIONS

PARTICIPANT INFORMATION

Researcher's Information: The research is being conducted by **Francis Luyayi Ajega** in partial fulfilment of Master's degree at the Cooperative University of Kenya.

Purpose of this study: The study aims to investigate the impact of COVID-19, Analyze the impacts of COVID-19 on agricultural cooperatives, evaluate the impacts of COVID-19 on participation of women in agricultural cooperatives and to assess gender-responsiveness of post COVID-19 recovery intervention in agricultural cooperatives in Kiambu County. Thus, I would like to ask you about how COVID-19 affected you, your household and your participation in the cooperative activities. The interview should last no more than 45 minutes.

Potential harms, risks or discomforts to participants: I do not anticipate any risks for you in participating in this study. Participation in any research study will, however, take some of your time, in this case, estimated at 45 minutes. If you feel distressed during the interview, the research activity will end, and you will be connected to a community leader for support.

Benefits of participating in the study: There is no direct and immediate benefit for participating as a respondent. However, some of the expected outputs will include recommendations that will help in quick recovery from the impacts of COVID-19 and increased participation of women in Agricultural Cooperatives

Confidentiality: Your personal information, including names and addresses, will not be shared with anyone outside of this research study. Any identifying details will be removed or altered before sharing files with other researchers or publishing results. Your identity will not be revealed in any publications, products, or services related to this study. Your privacy and confidentiality are of utmost importance and will be strictly protected.

RESPONDENT'S SURVEY INFORMED CONSENT FORM

I acknowledge that I have carefully reviewed and understood the purpose and details of this study.

- I have thoroughly read and comprehended the information sheet and consent form provided.
- I had the opportunity to ask any questions I had about my participation, and I understand that my involvement in the study is entirely voluntary.
- I am aware that I have the right to withdraw from the study at any time without having to provide a justification.
- I understand that all information I provide will be kept confidential, with the exception of cases where confidentiality must be breached for safety reasons.
- I am aware of the procedure for raising concerns or making complaints during the study.
- I hereby voluntarily agree to participate in this study.

I understand that this study has been approved by Cooperative University and the researcher has a study permit from National Commission for Science, Technology & Innovation (NACOSTI)

Name: _____ Signed: _____ Date: _____

Study Participant

Name: _____ Signed: _____ Date: _____

Researcher

INTRODUCTORY SECTION	
Government Department/Office/Agency:	Date:
Respondent Name:	Respondent Official Position:
Description of the Respondent's Role in Organisation's COVID-19 initiatives:	
Contact Information email/phone	Office Address/Location
Respondent Gender	Interviewer Name
Key Informant Interview Guidance for Cooperative officers In the cooperative sector, the government has various crucial roles in managing the pandemic, such as creating policies, offering financial aid, supporting infrastructure, and communicating with the public. It's important to grasp both the sector's goals and the interviewee's role to get a clear perspective.	
Main questions	1. Which gender forms the majority of membership in Agricultural cooperatives in your area of jurisdiction
	2. Who are the majority in attendance of the cooperative activities and events in the county
	3. To what extent are cooperatives in Kiambu county gender inclusive
	4. What measures have been put in place by cooperative to ensure gender inclusiveness?
	5. What factors impede the realization of gender inclusivity in cooperatives?
	6. What can be done to enhance gender inclusiveness in the cooperative sector
	7. What were the impacts of COVID 19 in the cooperative sector
	8. How did this impact members of different gender within the sector and why?
	9. What interventions were put in place to aid in recovery from the impact of the pandemic within cooperative sector
	10. Who were the main providers of the recovery interventions
	11. In your opinion were these interventions gender responsive
	12. What other interventions would have been put in place to enhance recovery
Wrap up	Request any reference document (e.g. recovery strategies, policy papers, initiative reports, etc.)

Appendix IV: FGD Guide

FGD SCHEDULE FOR WOMEN, MEN AND MIXED GROUPS OF AGRICULTURAL COOPERATIVE MEMBERS.

PARTICIPANT INFORMATION

Researcher's Information: The research is being conducted by **Francis Luyayi Ajega** in partial fulfilment of Master's degree at the Cooperative University of Kenya.

Purpose of this study: The study aims to investigate the impact of COVID-19, Analyze the impacts of COVID-19 on agricultural cooperatives, evaluate the impacts of COVID-19 on participation of women in agricultural cooperatives and to assess gender-responsiveness of post COVID-19 recovery intervention in agricultural cooperatives in Kiambu County. Thus, I would like to ask you about how COVID-19 affected you, your household and your participation in the cooperative activities. The interview should last no more than 45 minutes.

Potential harms, risks or discomforts to participants: I do not anticipate any risks for you in participating in this study. Participation in any research study will, however, take some of your time, in this case, estimated at 45 minutes. If you feel distressed during the interview, the research activity will end, and you will be connected to a community leader for support.

Benefits of participating in the study: There is no direct and immediate benefit for participating as a respondent. However, some of the expected outputs will include recommendations that will help in quick recovery from the impacts of COVID-19 and increased participation of women in Agricultural Cooperatives

Confidentiality: Your personal information, including names and addresses, will not be shared with anyone outside of this research study. Any identifying details will be removed or altered before sharing files with other researchers or publishing results. Your identity will not be revealed in any publications, products, or services related to this study. Your privacy and confidentiality are of utmost importance and will be strictly protected.

RESPONDENT'S SURVEY INFORMED CONSENT FORM

I acknowledge that I have carefully reviewed and understood the purpose and details of this study.

- I have thoroughly read and comprehended the information sheet and consent form provided.
- I had the opportunity to ask any questions I had about my participation, and I understand that my involvement in the study is entirely voluntary.
- I am aware that I have the right to withdraw from the study at any time without having to provide a justification.
- I understand that all information I provide will be kept confidential, with the exception of cases where confidentiality must be breached for safety reasons.
- I am aware of the procedure for raising concerns or making complaints during the study.
- I hereby voluntarily agree to participate in this study.

I understand that this study has been approved by Cooperative University and the researcher has a study permit from National Commission for Science, Technology & Innovation (NACOSTI)

Name: _____ Signed: _____ Date: _____
Study Participant

Name: _____ Signed: _____ Date: _____
Researcher

INTRODUCTORY SECTION	
Location	Date:
Number of participants	Facilitator:
Contact Information email/phone	Cooperative Address/Location
FDG group	☐ Men only ☐ Female only ☐ Mixed Gender
Focus Group Discussion (FGD) Objective: The goal of the FGD is to gain insights into the gendered impacts and interventions cooperative members received in response to COVID-19 from their respective cooperatives Participants: The FGD will involve 3 groups each comprising of women only, men only, men, and women respectively with similar backgrounds who can discuss their experiences from a shared perspective of households, or individuals. Ensure that the discussion is balanced and that no one dominates. Time Management: The FGD should last 60-90 minutes. It is important to hear from various participants, but not every question needs to be answered by each participant. If 90 minutes isn't possible, adjust the time for each section accordingly. Some groups may be more talkative, while others may need encouragement. FGD Format: This format involves facilitated discussion to delve into the research questions. The study aim to understand the issues, reach consensus, and identify any outliers. It will also allow flexibility to explore relevant points that may not be covered by the questions. The questions provided in each section are not rigid; they serve as prompts to guide the discussion. Be an attentive listener, maintain a friendly demeanour, avoid intimidation, and do not push too hard on difficult questions.	
1	Which gender forms the majority of membership your cooperatives?
2	Who are the majority in attendance of the activities and events organized by your cooperatives?
3	To what extent is your cooperatives gender inclusive?

4	What measures have been put in place by your cooperative to ensure gender inclusiveness?
5	What factors impede the realization of gender inclusivity in your cooperatives?
6	What can be done to enhance gender inclusiveness your cooperatives?
7	What were the impacts of COVID 19 in your cooperative?
8	How did this impact members of different gender in your cooperative and why?
9	What interventions were put in place by to aid members of your cooperatives recover from the impact of the pandemic?
10	Who were the main providers of the recovery interventions?
11	In your opinion were these interventions gender responsive?
12	What other interventions would have been put in place to enhance recovery?
Closing Remarks: Any final questions or comments? We sincerely appreciate your valuable contributions to this discussion.	

Appendix V: Research permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.
Ref No: 936434	Date of Issue: 23/August/2023
RESEARCH LICENSE	
	
This is to Certify that Mr.. Francis Ajega Luyayi of The Cooperative University of Kenya, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kiambu on the topic: Impacts of COVID-19 and Gender-Responsiveness of Recovery Interventions in Agricultural Cooperatives in Kiambu County, Kenya for the period ending : 23/August/2024.	
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