



**INVESTIGATING THE BARRIERS TO WOMEN FARMERS' ACCESS TO AGRICULTURAL
EXTENSION SERVICES IN GHANA: A CASE OF GOMOA DUODUKWA IN THE GOMOA
EAST DISTRICT**

BY

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DECLARATION BY STUDENT

I hereby declare that this research is a result of my own original research and that, no part of it has been presented for another degree in this university or any other higher education institute. I further declare that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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CERTIFICATION BY SUPERVISOR

This Dissertation has been prepared and presented under my supervision according to the guidelines for supervision and formatting of Dissertation laid down by the University of Media, Arts and Communication, UniMAC.

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Date

DEDICATION

First, I dedicate this work to the Almighty God for the opportunity to pursue this course and for bringing me this far.

I also dedicate this work to the CEO of HF Golden Fingers Catering Services, Mrs Hagar Frimpomaa Asante and her husband for their invaluable advice and support throughout my life.

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ABSTRACT

This study investigates the barriers affecting women farmers' access to agricultural extension services in Gomoa Duodukwa, located in Ghana's Gomoa East District. Despite women's crucial role in agricultural production and rural livelihoods, their participation in extension programmes remains limited due to structural, institutional, and socio-cultural constraints. Guided by the Gender and Development (GAD) Theory and the Diffusion of Innovation (DOI) Theory, the study adopted a qualitative research design to explore the lived experiences of women farmers and extension officers. Data were gathered through semi-structured interviews and analysed thematically. Findings revealed that institutional weaknesses such as inadequate staffing, limited funding, and poor communication infrastructure significantly hinder women's engagement with extension services. Socio-cultural norms, including patriarchal decision-making structures, time poverty, and gendered household roles, further restrict women's participation and access to agricultural information. Additionally, women's lack of land ownership and limited access to credit constrain their eligibility for extension support and training. However, the study also identified locally driven strategies for improvement, including the recruitment of more female extension officers, gender-sensitive training schedules, and the use of local languages in communication. The study concludes that equitable and gender-responsive extension delivery requires both structural reform and community-level behavioural change. It recommends increased institutional support, enhanced gender training for officers, and stronger collaboration with women's groups and NGOs to ensure inclusive agricultural development.

Keywords: Women farmers, Agricultural extension services, Gender barriers, Socio-cultural norms, Institutional constraints, Gomoa Duodukwa, Ghana, Gender and Development Theory, Diffusion of Innovation Theory.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the study by setting the context for examining the barriers that women farmers face in accessing agricultural extension services in Ghana, with a particular focus on Gomoa Duodukwa in the Gomoa East District. It begins by discussing the background of the study, emphasising the essential role of agricultural extension services in enhancing productivity, sustainability, and rural development. The chapter highlights the persistent gender disparities that undermine women's access to these services, despite their significant contributions to agriculture. It then articulates the problem statement, identifying key structural, institutional, and socio-cultural factors that constrain women's effective participation in extension programmes. Furthermore, it outlines the broad and specific research objectives, presents the guiding research questions, and defines the scope and significance of the study. The chapter concludes with an overview of the structure of the dissertation, providing a roadmap for the chapters that follow.

1.2 Background

Agricultural extension services are globally recognised as a central mechanism for improving rural livelihoods, enhancing productivity, and promoting agricultural innovation (Anderson and Feder, 2004). These services act as the bridge between research institutions and farming communities, ensuring that new technologies and knowledge are effectively disseminated (Anderson & Feder, 2004). The World Bank, FAO, and IFAD (2009) emphasise that extension services are not only tools for increasing yields but are also essential for promoting sustainable agricultural practices, enhancing market access, and supporting equitable participation across gender and social divides. Similarly, Davis et al. (2020) highlight that effective extension systems contribute significantly to

food security, environmental sustainability, and rural poverty reduction, underscoring their indispensable role in agricultural transformation.

Despite these contributions, gender inequalities continue to shape the global landscape of agricultural extension delivery (Ragasa, 2014; Meinzen-Dick et al., 2014; World Bank, FAO, & IFAD, 2009). Ragasa (2014) observed that women, who make up nearly 43% of the agricultural labour force in developing economies, remain disproportionately excluded from extension programmes. The World Bank, FAO, and IFAD (2009) further reported that women farmers receive fewer extension visits and training opportunities compared to men, often due to institutional biases and the undervaluing of women's agricultural roles. Meinzen-Dick et al. (2014) attribute this disparity to deep-rooted structural inequalities and socio-cultural barriers that shape access to agricultural information, inputs, and credit. Consequently, extension systems often fail to meet the specific needs of women farmers, undermining broader efforts toward inclusive agricultural development.

Across sub-Saharan Africa, agriculture forms the backbone of national economies and sustains rural livelihoods (FAO, 2021). Women contribute up to 60% of the agricultural workforce and are vital in ensuring food production, processing, and household nutrition (Quisumbing et al., 2014). However, the persistent gender gap in access to extension services reflects systemic exclusion. Kristjanson et al. (2017) identify institutional biases, male-dominated staffing, and gender-insensitive extension content as key barriers to women's participation. Moreover, women's limited control over productive resources and time constraints resulting from domestic labour further exacerbate their exclusion from agricultural decision-making and training opportunities (Doss et al., 2018).

Empirical evidence from across Africa reinforces the persistence of these inequalities. Kristjanson et al. (2017) found that women farmers often receive less information on key agricultural innovations such as climate-resilient farming, pest control, and soil management. Meinzen-Dick et al. (2014) argue that the design and delivery of extension programmes often overlook women's literacy levels and daily time burdens, thereby reinforcing their marginalisation. Quisumbing et al. (2014) further observed that gender mainstreaming efforts within agricultural institutions remain largely rhetorical, constrained by weak implementation, limited accountability, and inadequate gender-disaggregated data for planning and monitoring. These structural shortcomings collectively sustain gender asymmetries in access to agricultural knowledge and innovation (Doss, 2001; Ragasa, 2014; Meinzen-Dick et al., 2019).

Within West Africa, gender disparities in agricultural extension delivery are particularly pronounced. Saito, Mekonnen, and Spurling (1994) identified Nigeria, Burkina Faso, and Ghana as countries where male dominance in staffing and farmer targeting has historically limited women's participation. Aker et al. (2016) found that extension systems in these countries often rely on communication channels and training methods that are inaccessible to women due to cultural and logistical constraints. In Ghana, women constitute approximately 70% of the agricultural workforce and play a dominant role in the cultivation of food crops such as cassava, maize, and vegetables (GSS, 2022; FAO, 2021). Despite their contribution, they remain underrepresented in extension programmes, with institutional and cultural barriers perpetuating exclusion.

Although Ghana's agricultural extension services have undergone several reforms, including decentralisation and the *Planting for Food and Jobs (PFJ)* initiative, gender disparities persist. Ragasa et al. (2020) note that rural women continue to experience limited engagement with

extension officers and low participation in training programmes. Manfre et al. (2013) argue that many extension policies in Ghana adopt gender-neutral approaches that inadvertently reinforce inequality by failing to address the unique constraints faced by women. Mbo'o-Tchouawou and Colverson (2014) add that the lack of female extension officers, limited gender sensitivity among staff, and socio-cultural restrictions such as women's time poverty and limited mobility further hinder their active participation in extension activities.

The Central Region of Ghana, particularly the Gomoa East District, epitomises these gendered challenges (FAO, 2018; Baah-Ennumh, Adom-Asamoah, & Afrane, 2018; Ragasa et al., 2020). Women farmers in the area are heavily involved in smallholder farming, particularly in staple crop production, yet they remain underrepresented in extension engagements (FAO, 2018). Preliminary field evidence suggests that logistical barriers, gender-insensitive programming, and male-dominated decision-making processes limit women's access to agricultural information and support (FAO, 2018). Given that inclusive extension services can significantly improve productivity and rural welfare (Anderson & Feder, 2004; Davis et al., 2020), understanding these barriers within the specific socio-cultural context of Gomoa Duodukwa is crucial. This study therefore seeks to explore the lived experiences of women farmers in navigating the agricultural extension system, uncovering the structural and cultural dynamics that shape their access and participation, and providing actionable insights for gender-responsive agricultural policy and practice in Ghana.

1.3 Problem Statement

Despite numerous agricultural reforms and gender mainstreaming efforts, women farmers in Ghana continue to face considerable barriers in accessing agricultural extension services. While national initiatives such as the Planting for Food and Jobs (PFJ) programme and decentralised

extension delivery have aimed to enhance inclusivity, existing studies (Ragasa, Alvarez-Mingote & McNamara, 2024; Manfre et al., 2013) indicate that these interventions have not effectively addressed the gender gap in extension participation. Most programmes remain male-focused, conducted in unfamiliar languages, and delivered at times inconvenient for women burdened with domestic responsibilities. As a result, women's engagement in extension activities remains limited, perpetuating gender disparities in productivity and agricultural innovation.

Previous research on gender and agricultural extension in Ghana has primarily concentrated on national and regional trends, overlooking local-level variations that influence women's access to services (Kristjanson et al., 2017; Doss et al., 2014). This creates a critical knowledge gap, particularly in rural communities like Gomoa Duodukwa, where structural, institutional, and socio-cultural factors intersect to shape women's participation. Preliminary observations and limited empirical studies (Baah-Ennumh et al., 2018; FAO, 2018) suggest that women in this area rarely interact with extension officers and often rely on informal knowledge networks due to language barriers, restrictive gender norms, and logistical challenges. However, these assumptions have not been systematically examined through empirical inquiry.

Consequently, the lack of context-specific research on women's access to agricultural extension services in Gomoa Duodukwa leaves a significant gap in understanding the localized barriers affecting their participation. Addressing this gap is vital, as women constitute a large proportion of the agricultural labour force and their exclusion from extension services undermines agricultural productivity and rural development. This study therefore seeks to explore and analyse the structural, institutional, and socio-cultural factors that constrain women farmers' access to extension services in Gomoa Duodukwa, providing evidence-based insights to inform gender-responsive and inclusive extension policy interventions in Ghana.

1.4 Research Objectives

These objectives establish a clear and coherent framework for investigating women's access to and participation in agricultural extension services, ensuring that the study remains systematically aligned with its problem statement and methodological approach.

This research is guided by two main objectives: broad and specific objectives. Broadly, it examines the barriers and enabling factors that influence women farmers' access to agricultural extension services in Gomoa Duodukwa. Specifically, it aims to:

1. To investigate the structural and institutional challenges that hinder women farmers' access to agricultural extension services in Gomoa Duodukwa.
2. To examine the influence of socio-cultural norms and gender roles on women's participation in extension activities.
3. To assess the effects of limited access to extension services on the productivity, innovation adoption, and decision-making autonomy of women farmers.
4. To evaluate current extension delivery mechanisms in the district and identify gaps in gender mainstreaming.
5. To recommend context-specific strategies for enhancing inclusive extension service delivery to rural women farmers.

1.5 Research Question

The research questions reflect the core objectives of the study, ensuring a coherent and systematic exploration of the issues surrounding women's access to agricultural extension services. They provide a logical pathway for data collection and analysis, guiding the investigation toward a deeper understanding of the factors influencing women's participation, challenges, and empowerment within the agricultural extension system in Gomoa Duodukwa.

1. What structural and institutional factors limit the access of women farmers to extension services in Gomoa Duodukwa?
2. How do socio-cultural norms and gender roles influence women's engagement with agricultural extension services?
3. What are the consequences of limited extension access on women's agricultural productivity and autonomy in decision-making?
4. In what ways are current extension delivery systems failing to address gender disparities in Gomoa Duodukwa?
5. What practical strategies can be adopted to promote inclusive and gender-responsive extension service delivery?

1.6 Scope of Study

This study is limited to women engaged in smallholder farming in Gomoa Duodukwa, a rural community in the Gomoa East District of Ghana's Central Region. It focuses on their experiences with accessing agricultural extension services, the nature of support received, and the challenges they encounter. The research covers women engaged in various forms of crop cultivation and examines services delivered by public and private extension providers.

1.7 Significance of Study

This research holds significance across academic, policy, and practical development dimensions. Academically, it contributes original, community-level empirical evidence to the growing literature on gender and agricultural extension in sub-Saharan Africa. While most existing studies focus on national or regional levels, this study provides a localised, context-specific analysis that fills a critical gap by highlighting the lived experiences of women farmers in Gomoa Duodukwa.

On the policy and practice front, the study offers valuable insights for the Ministry of Food and Agriculture (MoFA), District Agricultural Development Units, and gender advocacy institutions. It aligns with Ghana's Medium-Term Development Policy Framework and supports the achievement of Sustainable Development Goals (SDGs 1, 2, and 5). The findings will guide the design of equitable and responsive extension services, offering actionable recommendations for NGOs, donor agencies, and local extension officers on tailoring outreach and training to women's specific needs, literacy levels, time constraints, and cultural contexts.

1.7 Organisation of Study

This thesis will be structured into five main chapters. Chapter One provides the background, problem statement, objectives, research questions, scope, and significance. Chapter Two reviews relevant literature on gender and agricultural extension services. Chapter Three outlines the research methodology, including the approach, design, population, sampling, and data collection tools. Chapter Four presents the findings and discussion. Chapter Five concludes the study with a summary, recommendations, and areas for further research.

1.8 Chapter Summary

Chapter one investigates the key role of women in Ghana's agricultural sector and the continuous gender-based disparities in accessing agricultural extension services. It pinpoints structural, socio-cultural, and institutional barriers, with a focal point on the rural community Gomoa Duodukwa. This chapter also outlines the research problem, research objectives and questions to clearly define the reason for the study.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FOUNDATION

2.1 Introduction

Agricultural extension services are essential for improving productivity, knowledge dissemination, and rural livelihoods (Anderson & Feder, 2007). Yet, in many developing contexts, women farmers face systemic inequalities that restrict their access to such services, despite their major role in global food production (FAO, 2011; World Bank, FAO & IFAD, 2009). In Ghana, where women form about 52% of the agricultural labour force, their engagement with agricultural extension remains significantly limited (GSS, 2021; Ragasa et al., 2013). This limitation is influenced by structural, cultural, and institutional barriers embedded within agricultural systems. This chapter presents a comprehensive review of empirical literature that aligns with the present study's objectives. The section is organised under five themes: (1) structural and institutional barriers, (2) socio-cultural norms and gender roles, (3) access to resources and information, (4) effects of limited extension access, and (5) strategies for inclusive and gender-responsive extension delivery. Each theme reviews relevant global, African, and Ghanaian studies, focusing on their theoretical orientation, methodology, findings, similarities or contradictions, and relevance to the study in Gomoa Duodukwa.

2.2 Review of Related Studies

A review of related studies is a critical and systematic analysis of existing scholarly works that relate to the research topic, helping to establish the context, gaps, and theoretical grounding of the study (Hart, 2018). According to Creswell and Poth (2018), reviewing related literature allows the researcher to situate their study within the broader body of knowledge and to identify what has

already been investigated, what remains unresolved, and where the current research contributes new insights. It also aids in avoiding duplication while refining the conceptual and methodological focus of the study. As Machi and McEvoy (2016) note, an effective literature review synthesises, rather than merely summarises, existing works to develop a coherent understanding of the phenomenon under study. In qualitative research, it further provides a lens for interpreting participants' experiences within a theoretical and empirical framework (Merriam & Tisdell, 2016).

In this study, the review of related literature focuses on empirical and theoretical works concerning barriers to women farmers' access to agricultural extension services at the global, African, and Ghanaian levels. It examines prior research on structural and institutional barriers, socio-cultural influences, resource constraints, and gendered innovation adoption, integrating studies guided by frameworks such as the Gender and Development (GAD) and Diffusion of Innovations (DOI) theories. Reviewing these studies not only highlights patterns and contradictions across contexts but also helps identify methodological and contextual gaps that this research addresses. For example, while global studies such as FAO (2011) and Ragasa et al. (2013) provide quantitative evidence of women's underrepresentation in extension systems, few have explored the lived experiences of women in specific rural Ghanaian settings. Thus, this review informs the present study's qualitative, community-based approach, ensuring that the investigation of Gomoa Duodukwa's women farmers is grounded in both empirical scholarship and theoretical discourse (Patton, 2015).

2.2.1 Structural and Institutional Barriers to Women's Access to Extension Services

Globally, institutional structures within agricultural extension systems often reproduce gender inequalities. Quisumbing et al. (2014), employing a comparative mixed-method design across 15 developing countries, found that extension programmes disproportionately target men with land

titles or formal recognition as farmers. This structural bias is consistent with the Gender and Development (GAD) theory, which emphasises how social institutions perpetuate gendered exclusion (Kabeer, 1994). Similarly, Farnworth and Colverson (2015), through qualitative participatory research in East Africa, found that bureaucratic rigidity and male-centred policy frameworks excluded women from extension decision-making processes.

Empirical studies in sub-Saharan Africa confirm these institutional disparities. Meinzen-Dick et al. (2019) used a gendered institutional policy analysis to assess agricultural research and extension systems and reported that male-dominated staffing structures hinder women's access to services. In Ghana, Ragasa et al. (2013) applied a quantitative gender assessment based on a national agricultural survey, showing that only 12% of female farmers received visits from extension officers compared to 27% of men. These findings underscore institutional biases in programme targeting and implementation, consistent with Kabeer's (1999) assertion that gender disparities are structural, not individual.

Doss and Morris (2001), using a cross-sectional econometric model, revealed that institutional preferences for large-scale, male-owned farms perpetuate inequalities in Ghana's extension system. Their findings support Moser's (1993) argument that institutional mechanisms rather than individual choices constrain women's participation. However, Davis et al. (2012) demonstrated through a quasi-experimental mixed-method study that the Farmer Field School (FFS) approach increased women's participation in Kenya, though long-term sustainability depended on supportive institutional frameworks.

While participatory approaches like FFS show promise, Asare-Nuamah et al. (2025) argue that without structural reforms, such interventions remain short-lived. Their multi-country qualitative evaluation found that most extension projects lack gender accountability mechanisms. These

findings contrast with Davis et al. (2012), who emphasised local empowerment as key to institutional change. The divergence underscores the need for both top-down policy reforms and bottom-up participation strategies.

In the context of Ghana, these studies reveal a persistent structural imbalance that marginalises women farmers. The present research extends this discussion by exploring how these institutional barriers operate at the local level in Gomoa Duodukwa, where women's visibility in extension programming is low. Using a qualitative case study approach, it seeks to uncover how policy implementation and institutional practices translate into everyday exclusion, complementing the macro-level quantitative findings of prior research.

2.2.2 Socio-Cultural Norms and Gender Roles

Socio-cultural norms and gender roles remain deeply entrenched barriers to women's participation in agricultural extension. Adjei-Nsiah (2013), in a qualitative ethnographic study of Ghanaian farming households, found that women were perceived primarily as helpers rather than decision-makers. This aligns with Cornwall's (2003) assertion that gender is socially constructed through cultural expectations that privilege men's authority in agriculture. Farnworth and Colverson (2015) similarly found through focus group interviews in Uganda and Tanzania that cultural beliefs restrict women's public engagement and limit their mobility for training sessions.

In Nigeria, Odurukwe, Matthews-Njoku, and Ejiogu-Okereke (2006) used a descriptive survey of 200 women farmers and observed that male-dominated farmer cooperatives hindered women's participation in training programmes. Likewise, Ragasa et al. (2013) employed mixed-method field surveys in Ghana to demonstrate that women's cultural roles and domestic responsibilities reduced their attendance at extension meetings. The findings are consistent with the GAD

perspective, which posits that gender inequality is embedded in social norms and power relations rather than biological differences (Moser, 1993).

Davis et al. (2012) noted that participatory learning models could mitigate cultural restrictions when women are organised in gender-sensitive learning groups. Their quasi-experimental field study in East Africa found that women's participation increased by 20% under gender-adapted training schedules. This supports Kabeer's (1999) view that empowerment through participation is essential for challenging gendered norms. Conversely, Meinzen-Dick et al. (2019) found that without active community engagement, gender-focused interventions risk being perceived as socially disruptive.

While participatory approaches offer solutions, Asare-Nuamah et al. (2025) observed through qualitative interviews that such interventions often fail in highly patriarchal contexts where community leaders resist women's participation. Similarly, Adjei-Nsiah (2013) cautioned that male-dominated leadership structures often determine women's visibility in extension programmes. This contradiction reflects the tension between cultural respect and gender reform in rural Ghana.

This theme's findings directly inform the current study, as Gomoa Duodukwa's gender norms mirror those described in existing literature. The study's qualitative interpretive design will allow for a deeper understanding of how women navigate social expectations and domestic responsibilities while attempting to access extension services, offering locally grounded insights into the socio-cultural dynamics shaping agricultural participation.

2.2.3 Access to Resources and Information

Access to resources including land, credit, inputs, and information is critical for agricultural productivity and extension participation. Doss (2001), employing econometric analysis of household data in Ghana and Kenya, found that access to extension information was strongly correlated with land ownership. These findings resonate with Kabeer's (1994) framework, which links structural access to empowerment. Peterman, Behrman, and Quisumbing (2010), using a systematic literature review, confirmed that women globally face institutional barriers in resource access due to cultural and legal constraints.

Ragasa et al. (2013) used a quantitative gender analysis to show that Ghanaian women farmers had lower access to extension visits and information materials, largely due to literacy and mobility constraints. Similarly, Aker (2011), through a quasi-experimental study on ICT adoption in Niger and Ghana, found that while mobile phones increased access to market information, gendered literacy gaps and affordability issues restricted women's participation.

Asare-Nuamah et al. (2025) conducted a multiple case qualitative study in Ghana, Nigeria, and Tanzania and observed that participatory communication strategies improved women's access to extension information. In contrast, Dzanku, Jirström, and Marstorp (2015) used a mixed-method approach and reported that persistent gendered resource constraints continue to limit productivity despite increased information availability.

These findings align with the Diffusion of Innovations (DOI) theory, which argues that information accessibility determines adoption rates (Rogers, 2003). Women's limited access to reliable information channels places them in the "late majority" or "laggard" adoption categories (Akudugu et al., 2012). However, Doss (2001) critiques this, arguing that structural inequalities, not attitudes, drive slow adoption among women.

In the context of Gomoa Duodukwa, where literacy levels and income are relatively low, understanding how access to extension information is mediated by socio-economic status and gender is crucial. This study's manual thematic qualitative analysis will explore how women's access to resources affects their engagement with extension agents, building on prior quantitative insights through localised experiential evidence.

2.2.4 Effects of Limited Access to Extension Services

Globally, restricted access to extension services negatively impacts women's productivity and innovation adoption. The FAO (2011) used global statistical modelling to demonstrate that equalising women's access to agricultural resources could increase total output by up to 4%. Doss (2001), through an econometric cross-country comparison, confirmed that limited extension access results in gendered yield gaps.

In sub-Saharan Africa, Akudugu, Guo, and Dadzie (2012) conducted a cross-sectional survey among 300 Ghanaian farmers and found that women's limited access to extension visits led to slower adoption of improved seeds and fertilisers. Dzanku et al. (2015) employed panel data regression models and discovered that lack of extension information reduces women's farm income by nearly 25%.

From the DOI perspective, these disparities arise because innovations fail to diffuse effectively among marginalised groups (Rogers, 2003). Women farmers' late adoption is therefore not a behavioural choice but a result of systemic exclusion from information networks (Aker, 2011).

Contrary to these quantitative studies, Farnworth and Colverson (2015), using qualitative participatory fieldwork, found that targeted gender training enhances women's confidence and decision-making power. Similarly, Meinzen-Dick et al. (2019), through policy document analysis,

observed that empowering women in extension processes increases household food security and innovation adoption.

These findings justify this study's focus on examining how limited access impacts productivity and autonomy among women in Gomoa Duodukwa. Using qualitative narratives, the study will capture how exclusion is experienced subjectively, bridging the gap between statistical findings and lived experiences.

2.2.5 Strategies for Inclusive and Gender-Responsive Extension Delivery

Efforts to make extension services inclusive draw from the GAD framework, which emphasises empowerment and participation. FAO (2011), using a policy meta-analysis, proposed gender-transformative approaches that challenge discriminatory norms rather than simply include women. Farnworth and Colverson (2015), through qualitative participatory research, argued that recruiting female extension officers enhances accessibility.

In Kenya and Tanzania, Davis et al. (2012) applied a quasi-experimental design to evaluate Farmer Field Schools, revealing improved inclusion when training was community-based. Asare-Nuamah et al. (2025), using case study methodology, confirmed that participatory learning increases adoption and gender equity.

Ragasa et al. (2013) conducted a quantitative policy evaluation in Ghana and noted that lack of gender disaggregation in extension data hinders targeted intervention. Dittoh, Bon, and Akkermans (2025), through institutional qualitative analysis, found that integrating indigenous and modern knowledge enhances women's inclusion but requires policy reform.

While participatory models show promise, Meinzen-Dick et al. (2019) caution that without institutional backing, gender inclusion becomes tokenistic. Conversely, Doss (2001) and Kabeer

(1999) highlight that empowerment-based approaches yield more sustainable results than short-term inclusion strategies.

The current study builds on these insights by examining locally appropriate strategies such as flexible training schedules and women-only groups that may work best in Gomoa Duodukwa. Its qualitative exploratory approach will provide grounded recommendations for gender-responsive extension delivery within Ghana's decentralised agricultural framework.

2.3 Theoretical Framework

A theoretical framework provides the intellectual foundation that guides the direction, interpretation, and analysis of a research study. It serves as a lens through which the research problem is examined and understood, linking empirical observations to established theories (Creswell & Poth, 2018). According to Kombo and Tromp (2006), a theoretical framework helps situate a study within existing knowledge, thereby ensuring coherence between the research questions, methodology, and interpretation of findings. Maxwell (2013) adds that such a framework functions as a map that directs the researcher in identifying relevant variables, relationships, and causal mechanisms. In qualitative research, theoretical frameworks are not rigid models but interpretive guides that help in uncovering meaning and understanding social realities (Merriam & Tisdell, 2016). For this study, the theoretical framework serves to explain and interpret the barriers that hinder women farmers' access to agricultural extension services within broader socio-institutional and communication contexts.

This study is underpinned by two interrelated theories; the Gender and Development (GAD) theory and the Diffusion of Innovations (DOI) theory. The GAD theory, developed in the late 1980s by scholars such as Moser (1993) and Kabeer (1994), provides a structural perspective by examining how institutional and socio-cultural systems perpetuate gender inequalities. It emphasises

empowerment, participation, and gender mainstreaming as pathways to equity in development. Conversely, the DOI theory, proposed by Rogers (1962; revised 2003), explains how innovations and new ideas are communicated and adopted within a social system. It highlights the role of communication channels, time, and social structures in determining the rate of adoption. Together, these theories offer a complementary analytical framework — GAD explains why women face systemic exclusion in agricultural extension, while DOI elucidates how communication and information dissemination processes shape their adoption of agricultural innovations. They were selected for this study because they jointly capture both the structural and behavioural dimensions of women’s exclusion from extension services, providing a holistic basis for exploring and addressing the gendered barriers that persist in rural Ghana.

2.3.1 Gender and Development (GAD) Theory

The Gender and Development (GAD) theory emerged during the late 1980s as an evolution of earlier feminist development frameworks such as Women in Development (WID) and Women and Development (WAD) (Moser, 1993; Kabeer, 1994). Whereas WID primarily sought to integrate women into existing development processes and WAD focused on women’s collective roles in economic production, GAD shifted attention toward the structural and relational dimensions of gender inequality. The approach arose from critiques of the limited success of WID programmes that failed to challenge the underlying power relations shaping gender disparities (Razavi & Miller, 1995). GAD therefore represented a paradigm shift from focusing on “women as a problem” to analysing how gendered power relations within institutions, policies, and social norms perpetuate inequality (Cornwall, 2003).

The central assumption of GAD is that gender inequality stems not from women’s lack of participation but from the social and institutional structures that maintain male dominance (Moser,

1993). It posits that gender is a socially constructed relationship between men and women rather than a biological distinction (Kabeer, 1999). Consequently, addressing inequality requires transforming societal institutions, including the family, markets, and state apparatuses, that distribute power and resources unequally (Rathgeber, 1990). GAD also assumes that both men and women must be engaged in achieving equality, and it advocates participatory approaches to development that empower marginalised groups (Chant & Sweetman, 2012). Within agricultural contexts, this means re-evaluating extension systems, land tenure policies, and decision-making frameworks that marginalise women's productive roles.

A primary strength of the GAD framework lies in its structural and relational analysis of gender inequality (Razavi & Miller, 1995). It moves beyond viewing women as passive beneficiaries and instead conceptualises them as active agents capable of shaping development outcomes (Kabeer, 1994). Moreover, GAD's emphasis on gender mainstreaming and institutional reform makes it particularly relevant for policy-oriented research (Moser, 1993). Its intersectional lens recognising how gender interacts with class, ethnicity, and age provides nuanced insights into the complex realities faced by women farmers (Cornwall, 2003). This multi-dimensional approach makes GAD suitable for analysing systemic constraints within agricultural extension services, where gender, social status, and institutional bias intersect.

Despite its strengths, GAD has faced criticism for being conceptually broad and difficult to operationalise in empirical research (Rathgeber, 1990). Critics such as Parpart (1995) argue that its focus on structural power can overlook individual agency and cultural variations. Others have noted that the institutionalisation of GAD within development organisations has often led to depoliticisation, where gender mainstreaming becomes a bureaucratic exercise rather than a transformative process (Cornwall, 2003). Furthermore, Chant and Sweetman (2012) contend that

GAD's theoretical sophistication sometimes lacks practical guidance for local-level implementation, particularly in rural contexts where cultural traditions remain deeply embedded.

GAD has been applied extensively in gender and agricultural development research. Farnworth and Colverson (2015) used GAD in their qualitative study of East African extension systems, finding that integrating gender-responsive training and policy reforms improved women's participation in agricultural innovation. Similarly, Meinzen-Dick et al. (2019) applied the theory to examine how institutional norms in research and extension organisations limit women's decision-making power. In Ghana, Ragasa et al. (2013) and Dzanku, Jirström, and Marstorp (2015) used GAD principles to demonstrate how extension policies and service delivery mechanisms perpetuate gender inequalities. Their findings reinforce the GAD perspective that sustainable development requires the restructuring of institutional power dynamics rather than merely increasing women's inclusion in existing systems.

GAD is chosen for this study because it provides a comprehensive analytical framework for examining how structural, institutional, and cultural forces jointly constrain women's access to agricultural extension services. Unlike WID, which focuses on inclusion, or WAD, which centres on collective female roles, GAD directly interrogates the power relations within development processes that sustain gender inequality (Kabeer, 1999). Its applicability to both policy and social practice makes it ideal for understanding the systemic and cultural barriers experienced by women farmers in Gomoa Duodukwa. By focusing on empowerment, participation, and institutional reform, GAD aligns with the study's goal of promoting gender-responsive and inclusive extension models in Ghana's agricultural sector.

2.3.2 Relevance of Gender and Development (GAD) theory to the Current Study

The Gender and Development (GAD) theory is particularly relevant in Ghana, where institutional and policy structures continue to reflect patriarchal tendencies that marginalise women in agricultural decision-making (Dzanku, Jirström, & Marstorp, 2015). Extension services under the Ministry of Food and Agriculture (MoFA) often prioritise cash crops, such as cocoa and oil palm, predominantly cultivated by men, leaving subsistence crops managed by women underrepresented in extension support (Ragasa et al., 2013). This mirrors GAD's assertion that gender inequality is embedded in structural and institutional frameworks rather than arising from women's deficiencies (Moser, 1993). Therefore, applying GAD within Ghana's agricultural context helps expose how bureaucratic systems and policy priorities inadvertently reinforce male dominance and restrict women's economic empowerment.

GAD is also relevant for understanding how cultural and social norms shape women's limited participation in agricultural extension activities. In many Ghanaian communities, traditional gender roles assign domestic and reproductive responsibilities to women, constraining their time and mobility for training sessions or farmer group meetings (Adjei-Nsiah, 2013). Moreover, land tenure systems in southern Ghana, including Gomoa Duodukwa, often deny women formal ownership rights, undermining their access to credit and eligibility for extension programmes (Doss & Morris, 2001). By highlighting how social norms and economic structures intersect, GAD provides a comprehensive lens for understanding gendered access to agricultural resources.

The relevance of GAD in Ghana extends to its alignment with current policy reforms promoting gender mainstreaming and inclusivity. Initiatives such as the MoFA Gender Policy (2015) and the Women in Agriculture Development (WIAD) programme reflect efforts to operationalise GAD principles through participatory planning and gender-responsive budgeting. However,

implementation gaps persist due to weak institutional capacities and limited gender training among extension officers (Asare-Nuamah et al., 2025). Consequently, GAD serves as both an analytical and practical framework for identifying gaps between policy rhetoric and on-the-ground realities, particularly in rural areas such as Gomoa Duodukwa.

2.3.3 Application of Application of the Gender and Development (GAD) Theory to the Current Study.

In this study, the GAD theory is applied to examine how institutional structures and cultural norms interact to produce gender disparities in access to agricultural extension services in Gomoa Duodukwa. It enables the researcher to go beyond descriptive analysis and explore the power relations shaping women's marginalisation. This aligns with Kabeer's (1994) framework, which views empowerment as both a process and an outcome of dismantling structural barriers. The theory thus informs the investigation of how extension delivery systems, policies, and gender roles collectively limit women's participation.

Through a qualitative case study design, the GAD framework will guide data interpretation by linking individual experiences to institutional patterns. For example, interviews with women farmers and extension officers will be analysed to identify structural constraints, such as gender bias in training schedules, male-dominated staffing, and unequal resource allocation. This analytical use of GAD ensures that the study captures not only the manifestations of inequality but also their institutional origins, consistent with Moser's (1993) call for structural transformation.

Practically, applying GAD to this study will support the formulation of gender-responsive recommendations for agricultural extension reform in Gomoa Duodukwa. As Farnworth and Colverson (2015) emphasise, institutional restructuring, equitable resource allocation, and participatory governance are key to achieving gender parity in extension delivery. Thus, GAD

provides both a diagnostic and prescriptive framework for enhancing women's visibility, agency, and empowerment in Ghana's agricultural development discourse.

2.3.4 Diffusion of Innovations (DOI) Theory

The Diffusion of Innovations (DOI) theory was developed by Everett M. Rogers in 1962 and refined in subsequent editions, most notably in 2003. The theory emerged from sociological and communication studies to explain how innovations are communicated and adopted within a social system (Rogers, 2003). Initially applied in agricultural communication research in the 1950s, DOI has since evolved into a foundational model in development communication, health promotion, and technology adoption (Greenhalgh et al., 2004). Rogers' framework identifies five categories of adopters namely; innovators, early adopters, early majority, late majority, and laggards, and five innovation attributes: relative advantage, compatibility, complexity, trialability, and observability.

The theory assumes that the adoption of innovations occurs through a social process influenced by communication channels, time, and the structure of the social system (Rogers, 2003). Individuals make adoption decisions based on their perceptions of an innovation's attributes and its fit with their existing practices and cultural norms. According to Aker (2011), communication plays a critical role in this process, as awareness and persuasion determine whether individuals adopt or reject new technologies. The DOI framework also assumes that change agents such as agricultural extension officers act as intermediaries facilitating the flow of information between innovators and potential adopters (Akudugu, Guo, & Dadzie, 2012).

A major strength of DOI is its explanatory value in understanding how information and perception influence adoption behaviour (Mwangi, 2020). It provides a clear structure for analysing why some individuals adopt innovations earlier than others. Its emphasis on communication makes it

particularly applicable to agricultural extension, where the transfer of information is central (Aker, 2011). Furthermore, the theory's scalability allows for application across multiple contexts, from small-scale farming to national-level innovation programmes (Davis et al., 2012). DOI's focus on individual decision-making processes also complements qualitative research designs by highlighting the subjective dimensions of adoption and resistance.

Despite its utility, DOI has been criticised for its tendency to overlook socio-cultural and structural factors that influence adoption (Doss, 2001). The theory's assumption of rational decision-making does not always reflect realities in rural communities where adoption may be shaped by social hierarchies, gender roles, and access to resources (Kabeer, 1999). Parpart (1995) and Moser (1993) further critique DOI's individualistic orientation, arguing that it insufficiently addresses systemic inequalities that determine who can access innovations in the first place. In the context of gender, Rogers' model has been found to inadequately consider how cultural norms and institutional biases limit women's engagement in innovation processes (Aker, 2011).

The DOI framework has been extensively applied in agricultural and rural development research. Akudugu et al. (2012), in a quantitative study of 300 Ghanaian farmers, used DOI to explain differential adoption rates of improved seed varieties, concluding that women's slower adoption resulted from limited access to extension information. Similarly, Aker (2011) conducted a quasi-experimental study in Niger and Ghana to assess mobile-based extension systems and found that information dissemination significantly improved adoption rates among those with communication access. In Kenya, Davis et al. (2012) incorporated DOI principles in a mixed-method evaluation of Farmer Field Schools, showing that community-based training accelerates diffusion among women when information is delivered through peer networks.

The DOI theory is selected for this study because it complements GAD by providing a behavioural and communicative dimension to the analysis of barriers facing women farmers. While GAD focuses on the structural and institutional determinants of inequality, DOI explains how these inequalities affect the diffusion and adoption of agricultural innovations. Its relevance lies in its ability to contextualise how extension information is communicated, perceived, and adopted among women farmers in rural Ghana. Given that extension services are the main vehicles of innovation diffusion, DOI offers valuable insights into how gendered access to communication and information shapes adoption outcomes (Rogers, 2003; Akudugu et al., 2012). Thus, its integration into this study provides a balanced framework for understanding both the institutional and behavioural factors influencing women's engagement with agricultural extension services in Gomoa Duodukwa.

2.3.5 Relevance of the Diffusion of Innovations (DOI) Theory within the Ghanaian Context

The Diffusion of Innovations (DOI) theory holds strong relevance in Ghana, where extension services serve as the primary conduit for communicating agricultural technologies and practices. Rogers' (2003) emphasis on communication channels and adoption stages aligns with Ghana's decentralised extension system, which relies on interpersonal interaction between agents and farmers. Studies such as Akudugu, Guo, and Dadzie (2012) demonstrate that limited communication and information access hinder women's technology adoption, particularly in rural communities where literacy levels are low. Thus, DOI provides a relevant framework for understanding how gendered communication dynamics affect the spread of agricultural innovations.

Within the Ghanaian socio-cultural context, DOI is useful in explaining how traditional gender roles influence adoption behaviours. As Doss (2001) notes, women's adoption of new technologies

is shaped by their access to information, control over resources, and social positioning within households. Ragasa et al. (2013) found that women farmers in Ghana are often late adopters, not due to unwillingness, but because extension communication channels favour men. Applying DOI in such a setting helps reveal how innovation diffusion is constrained by socio-cultural barriers, making it relevant for analysing communication inequalities.

DOI's relevance is further evident in Ghana's ongoing efforts to modernise agricultural extension through ICT and participatory platforms. Initiatives such as e-Extension and radio-based farmer education programmes demonstrate the importance of communication in driving innovation adoption (Aker, 2011). However, as Dzanku et al. (2015) observe, gendered digital divides persist, excluding many rural women. The DOI framework thus contextualises how extension messages must be tailored to different social groups to achieve equitable adoption outcomes.

2.3.6 Application of the Diffusion of Innovations (DOI) Theory to the Current Study

Within this study, the DOI theory is applied to analyse how information dissemination, communication strategies, and innovation perception influence women farmers' engagement with extension services in Gomoa Duodukwa. It provides a behavioural and communicative dimension to understanding gendered exclusion, complementing GAD's structural focus. Specifically, DOI helps identify how factors such as relative advantage, compatibility, and trialability of innovations affect women's adoption decisions (Rogers, 2003).

Empirically, the DOI framework will guide the analysis of how extension officers communicate agricultural innovations and how women perceive and interpret these messages. It will help explore whether communication barriers such as limited literacy, male-dominated training environments, or inappropriate timing of meetings hinder women's participation. Following the

approach of Davis et al. (2012), this study uses DOI to map women's progression through the adoption stages, from awareness to implementation, in relation to structural and social barriers.

Practically, the DOI theory offers insights for designing inclusive communication models in agricultural extension. The study applies DOI principles to recommend gender-sensitive communication channels, such as peer-to-peer learning, women-only farmer groups, and the use of local radio in native languages. These strategies reflect Aker's (2011) and Akudugu et al.'s (2012) findings that innovations diffuse more effectively when they are accessible, relatable, and socially embedded. Hence, the DOI framework enhances this study's capacity to propose communication-based interventions that promote inclusive and effective extension service delivery in Gomoa Duodukwa.

2.3.7 Synthesis of Theories

The Gender and Development (GAD) and Diffusion of Innovations (DOI) theories complement each other in addressing both the structural and behavioural dimensions of women's access to agricultural extension services. GAD provides a macro-structural lens, focusing on how institutional and socio-cultural systems perpetuate gender inequality (Moser, 1993; Kabeer, 1999), while DOI operates at the micro-communication level, explaining how innovations are disseminated and adopted within a social system (Rogers, 2003). Their integration allows for a holistic understanding of both the systemic and interpersonal factors influencing women's participation in agricultural extension. As Doss (2001) and Farnworth and Colverson (2015) observe, sustainable gender equity in agriculture requires addressing institutional barriers while simultaneously enhancing communication and adoption dynamics, a synthesis that these two theories effectively achieve.

The convergence of GAD and DOI theories bridges the gap between structural inequality and individual agency. While GAD highlights the institutional constraints that limit women's access to resources, DOI explains how these constraints manifest in the communication and adoption of innovations. For example, when extension programmes are male-dominated, as Ragasa et al. (2013) report in Ghana, women's exclusion from information networks not only reflects structural discrimination but also slows innovation diffusion. Integrating GAD and DOI thus reveals how systemic biases at the organisational level translate into behavioural outcomes at the community level. This synthesis allows for a deeper exploration of how structural reforms and effective communication strategies can jointly improve women's access to agricultural innovations.

Together, the two theories form a synergistic framework that captures the multi-dimensional nature of women's agricultural marginalisation. The GAD framework underlines the need for institutional reform, gender-responsive policy design, and participatory development (Cornwall, 2003; Kabeer, 1994), whereas DOI offers practical tools for enhancing communication efficacy and innovation adoption (Aker, 2011; Davis et al., 2012). Their synthesis enables researchers to link macro-level gender policy issues with micro-level diffusion processes, producing a comprehensive analytical model. Practically, this synergy encourages extension systems to combine gender mainstreaming with improved information dissemination mechanisms for example, through the recruitment of female extension officers and gender-sensitive communication channels (Farnworth & Colverson, 2015).

Integrating GAD and DOI also helps to address the limitations inherent in each framework. GAD's abstract focus on structural transformation has been criticised for lacking specificity in addressing communication and behavioural aspects of development (Parpart, 1995), while DOI has been critiqued for neglecting socio-cultural and power-related barriers (Doss, 2001). Their integration

mitigates these weaknesses: GAD contextualises DOI within gendered social structures, and DOI operationalises GAD by illustrating how communication and perception influence behavioural change. This combination produces a more grounded analytical framework capable of explaining both why women are excluded from extension systems and how they respond to innovations when inclusion occurs.

The synthesis of GAD and DOI provides the theoretical backbone for this study on women farmers' access to agricultural extension services in Gomoa Duodukwa. By combining insights from both theories, the study can analyse the interplay between institutional structures and communication dynamics that shape women's engagement with agricultural innovations. GAD allows the researcher to interrogate systemic inequalities embedded in extension delivery, while DOI enables an understanding of how information flows, perceptions, and adoption behaviours are gendered. This integrated approach ensures a nuanced exploration of barriers and facilitates the development of gender-responsive strategies for inclusive extension service delivery in Ghana. Ultimately, the synthesis aligns with Creswell and Poth's (2018) view that theoretical pluralism enhances depth and contextual validity in qualitative research, providing a solid conceptual foundation for subsequent data collection and analysis.

2.4 Chapter Summary

This chapter has reviewed relevant theoretical and empirical literature on the barriers to women farmers' access to agricultural extension services, with a particular focus on how these challenges manifest within the Ghanaian context. The review revealed that, globally and nationally, women's exclusion from extension services is shaped by a complex interplay of structural, institutional, and socio-cultural factors. Studies such as those by Quisumbing et al. (2014), Ragasa et al. (2013), and Farnworth and Colverson (2015) consistently demonstrated that institutional bias, male-dominated

staffing, limited resource access, and restrictive gender norms undermine women's participation in agricultural development initiatives. Although participatory and digital approaches have shown promise, they remain constrained by weak institutional capacity and persistent patriarchal systems, particularly in rural areas such as Gomoa Duodukwa.

The chapter also examined two guiding theories, the Gender and Development (GAD) theory and the Diffusion of Innovations (DOI) theory which jointly underpin the conceptual orientation of this study. The GAD framework was discussed as a lens for understanding how institutional structures, social norms, and power relations sustain gender inequality in agricultural extension. In contrast, the DOI theory was presented as a behavioural and communicative model that explains how information and innovation spread within social systems and how gendered communication barriers influence adoption. The synthesis of these two theories provided an integrated analytical framework capable of addressing both the structural and communicative dimensions of women's exclusion from agricultural services.

Through the critical review of related studies and theoretical perspectives, this chapter established that existing research has largely been quantitative or policy-focused, leaving a gap in the understanding of women's lived experiences in localised Ghanaian contexts. The current study addresses this gap by adopting a qualitative case study approach to explore how institutional arrangements, gender norms, and communication dynamics interact to shape women farmers' access to agricultural extension in Gomoa Duodukwa. The insights gained from this review therefore provide the conceptual and empirical foundation for the methodological approach presented in the next chapter.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the methodological framework adopted to investigate the barriers to women farmers' access to agricultural extension services in Gomoa Duodukwa, Ghana. It discusses the research approach, design, population, sampling techniques, data collection, and data analysis methods. It also addresses validity, reliability, and ethical considerations that ensured the integrity of the study. According to Creswell and Poth (2018), methodology provides the blueprint that links research questions to empirical data through appropriate philosophical and procedural choices. Hence, this chapter explains how the qualitative methodology was applied to explore the lived experiences, perceptions, and institutional structures that influence women farmers' access to agricultural extension services in the study area.

3.2 Research Approach

A research approach refers to the overarching plan and logic through which a researcher collects, analyses, and interprets data (Creswell & Plano Clark, 2017). It determines whether the study adopts a qualitative, quantitative, or mixed-method strategy. In qualitative research, the focus is on understanding human experiences and social phenomena through rich, descriptive, and interpretive data (Merriam & Tisdell, 2016). This contrasts with quantitative approaches that rely on numerical data and statistical analysis.

In this study, a qualitative research approach was employed because it allows an in-depth exploration of participants' subjective experiences and contextual realities (Patton, 2015). Qualitative research enables the researcher to gain insights into participants' attitudes, perceptions, and the meanings they attach to these experiences (Denzin & Lincoln, 2018).

Furthermore, qualitative inquiry is grounded in the interpretivist paradigm, which assumes that reality is socially constructed and best understood through the participants' perspectives (Cohen, Manion, & Morrison, 2018). This aligns with the study's aim of exploring how gender roles, institutional structures, and cultural norms shape women farmers' engagement with extension services in Gomoa Duodukwa.

3.3 Research Design

A research design is the systematic plan that guides how a study is conducted to ensure that the evidence gathered adequately addresses the research problem (Yin, 2018). It outlines how data are collected, who provides it, and how it will be analysed. Qualitative research designs commonly include phenomenology, ethnography, grounded theory, case study, and narrative inquiry (Creswell & Poth, 2018).

This study adopted a case study design, which allows for an in-depth examination of a specific context or phenomenon (Yin, 2018). The case study method is particularly suitable for exploring complex social processes and contextual issues within real-life settings, as it facilitates a holistic understanding of the phenomenon being investigated (Creswell & Poth, 2018). In this research, Gomoa Duodukwa was selected as a single case to explore barriers to women farmers' access to agricultural extension services in a rural Ghanaian context, as single-case designs enable detailed analysis of unique or representative instances (Stake, 1995). By focusing on this community, the study seeks to understand how socio-cultural and institutional factors interact locally to shape women's access to information and support, consistent with the view that case studies capture the interplay of contextual factors influencing social behaviour (Merriam & Tisdell, 2016).

The use of a case study design also allows for triangulation of data sources, such as interviews, focus group discussions, and document reviews, to enhance depth and validity (Stake, 1995).

According to Baxter and Jack (2008), this design is ideal for qualitative studies that seek to interpret meaning within a bounded system. Therefore, this design enabled the researcher to capture participants' experiences, perceptions, and institutional practices in their natural settings.

3.4 Population

Population refers to the entire group of individuals, events, or objects that share common characteristics relevant to a particular study (Creswell & Plano Clark, 2017). It forms the basis from which the sample is drawn. In qualitative studies, populations are often defined by the specific context or experience under investigation rather than by statistical representativeness (Merriam & Tisdell, 2016).

The target population for this study comprised women farmers in Gomoa Duodukwa who are engaged in agricultural activities and have varying degrees of interaction with extension services. This includes women cultivating food and cash crops, members of farmer groups, and those operating independently. Extension officers working in the Gomoa East District were also considered part of the population, as their insights provide a complementary perspective on service delivery.

This population was selected because it embodies the experiences and social realities that align with the study's focus. According to Patton (2015), qualitative research prioritises participants who can provide information-rich cases that illuminate the central phenomenon. Therefore, selecting women farmers and extension officers allowed for a comprehensive understanding of both user and provider perspectives regarding barriers to extension access.

3.5 Sample and Sampling Technique

Sampling refers to the process of selecting a subset of the population for study in a way that enables the researcher to gather in-depth insights (Etikan, Musa, & Alkassim, 2016). Qualitative research typically employs non-probability sampling techniques, where participants are deliberately chosen for their knowledge, experience, or relevance to the research problem (Cohen et al., 2018).

For this study, purposive sampling was adopted. Purposive sampling allows researchers to intentionally select participants who possess the most relevant characteristics and can provide detailed information about the phenomenon being studied (Palinkas et al., 2015). The sample included approximately 20 participants: 15 women farmers and 5 extension officers. This number aligns with Creswell and Poth's (2018) recommendation that qualitative case studies typically involve 15–30 participants to ensure depth and diversity without compromising manageability.

The inclusion criteria required that participants be actively involved in farming activities and reside in Gomoa Duodukwa for at least three years. Extension officers were included if they had worked in the Gomoa East District for more than one year. Establishing clear inclusion criteria is essential in qualitative research, as it ensures that participants possess relevant experience and knowledge related to the phenomenon under study (Creswell & Poth, 2018). This criterion ensured that participants had adequate exposure to local agricultural dynamics and extension service systems, thereby providing reliable and contextually grounded insights (Patton, 2015).

3.6 Data Collection

Data collection refers to the systematic process of gathering information relevant to the research questions (Creswell & Plano Clark, 2017). In qualitative studies, common data collection tools include interviews, focus groups, participant observation, and document analysis (Denzin & Lincoln, 2018).

This study primarily used semi-structured interviews as the main data collection instrument. According to Bryman (2016), semi-structured interviews allow for flexibility, enabling the researcher to probe participants' experiences while maintaining focus on the research objectives. FGDs encourage interaction among participants and provide a platform for exploring shared and divergent perspectives (Krueger & Casey, 2015).

Data collection took place in Gomoa Duodukwa, where participants were engaged in their local language (Fante) to ensure comfort and clarity. Each interview lasted approximately 45–60 minutes. With participants' consent, sessions were audio-recorded and later transcribed verbatim. Field notes were also kept to capture contextual observations. These methods facilitated rich, descriptive data collection consistent with qualitative research principles (Patton, 2015).

3.7 Data Analysis

Data analysis in qualitative research involves systematically organising, interpreting, and deriving meaning from textual or narrative data to identify emerging patterns and themes (Creswell & Poth, 2018). It is not a linear process but an iterative and reflective one that begins during data collection and continues through transcription, coding, and thematic interpretation (Merriam & Tisdell, 2016). The aim of qualitative data analysis is to move beyond mere description to generate insights that explain participants' lived experiences and the social processes shaping them (Braun & Clarke, 2019).

Data analysis was carried out manually using thematic analysis, as outlined by Braun and Clarke (2019). After all interviews and focus group discussions are transcribed verbatim, the researcher will carefully read through the transcripts multiple times to gain familiarity with the data. Initial codes will then be manually generated and written in the margins to capture significant ideas, patterns, and recurring expressions. These codes will be collated into broader categories that reflect

the main issues emerging from participants' narratives, such as cultural barriers, institutional challenges, and socio-economic constraints affecting women's access to agricultural extension services in Gomoa Duodukwa.

Patton (2015) asserted that manual analysis is particularly suitable for qualitative case studies where the dataset is manageable and where the researcher seeks to maintain close engagement with the data. It allows for a more nuanced and interpretive understanding of participants' meanings and contexts, ensuring that the analysis remains grounded in their lived experiences. As suggested by Nowell, Norris, White, and Moules (2017), thematic analysis conducted manually promotes reflexivity and deep immersion in the data, which enhances the credibility and authenticity of findings. Emerging themes will be continuously compared and refined until a coherent thematic structure is established to address the study's research objectives.

3.8 Validity and Reliability

In qualitative research, validity refers to the credibility and trustworthiness of findings, while reliability relates to the consistency and dependability of the research process (Lincoln & Guba, 1985). Unlike quantitative studies that rely on statistical validity, qualitative research ensures validity through authenticity, reflexivity, and triangulation (Merriam & Tisdell, 2016).

To enhance credibility, the study employed triangulation by comparing data from multiple sources (farmers and extension officers) and methods (interviews and FGDs). Member checking was also conducted, allowing participants to verify the accuracy of transcriptions and interpretations. Dependability was ensured by maintaining detailed field notes, audio recordings, and a clear audit trail, consistent with Lincoln and Guba's (1985) criteria for trustworthy research.

3.9 Ethical Considerations

Ethical considerations are fundamental to protecting participants' rights, dignity, and well-being during research (Orb, Eisenhauer, & Wynaden, 2001). Ethics in qualitative research involve obtaining informed consent, ensuring confidentiality, and preventing harm.

Prior to data collection, ethical clearance was obtained from the university. Participants were informed about the study's purpose, their voluntary participation, and their right to withdraw at any point without penalty. Consent was obtained verbally and in writing, consistent with ethical standards that emphasize respect for autonomy and informed decision-making (Orb, Eisenhauer, & Wynaden, 2001). Pseudonyms were used to maintain confidentiality, and all recordings were stored securely and deleted after analysis, aligning with recommendations by Creswell and Poth (2018) that researchers protect participant privacy and manage data responsibly to prevent harm or misuse.

3.10 Chapter Summary

This chapter presented the research methodology employed in the study. A qualitative approach using a case study design was adopted to explore barriers to women farmers' access to agricultural extension services in Gomoa Duodukwa. The chapter explained the population, sampling, data collection, and analysis procedures, and outlined measures taken to ensure validity, reliability, and ethical integrity. The next chapter presents the results and analysis of data gathered from participants in the study area.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION OF FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents, analyses, and interprets the qualitative data collected to explore the gender-based barriers that hinder women farmers' access to agricultural extension services in Gomoa Duodukwa in the Central Region of Ghana. The analysis is structured around the study's five research objectives and research questions, focusing on the structural and institutional challenges, socio-cultural norms, resource and information constraints, the effects of limited access on productivity and decision-making, and strategies for inclusive and gender-responsive extension delivery. Drawing on in-depth interviews conducted with both women farmers and agricultural extension officers, the chapter provides a nuanced understanding of how gender dynamics operate within the extension system at the community level.

The findings are organised thematically to reflect recurrent patterns and divergent perspectives that emerged from the participants' narratives. Each theme integrates direct quotations from the respondents to illustrate lived experiences and perceptions, thereby giving voice to the realities of women farmers in Gomoa Duodukwa. The analysis is also informed by insights from the Gender and Development (GAD) and Diffusion of Innovations (DOI) theories, which provide interpretive lenses for understanding how institutional structures, social norms, and communication processes shape women's participation in agricultural extension services. Through this analytical process, the chapter seeks to explain how existing extension delivery systems perpetuate gendered inequalities, while also highlighting locally grounded strategies for improving inclusivity and participation among rural women farmers.

4.2 Presentation of Findings on Women

Presentation of Findings refers to the systematic reporting of data gathered during a research study. It involves organising and describing the results in a clear, logical, and objective manner, often using themes, tables, or narratives, to show patterns, relationships, and insights that directly address the study's research objectives and questions.

In this section, readers should expect a clear and organised account of the study's key findings as derived from participants' responses. It highlights the main themes that emerged from the data, supported by direct quotations, showing how women farmers and extension officers experience, understand, and respond to gender-related barriers in agricultural extension services.

4.3 RQ1: What structural and institutional factors limit the access of women farmers to extension services in Gomoa Duodukwa?

This research question explored the structural and institutional barriers affecting women farmers' access to agricultural extension services. It aimed to understand how administrative arrangements, resource constraints, and communication systems shape women's opportunities for participation and learning within extension delivery frameworks, highlighting the institutional dimensions of gender inequality in agricultural support systems.

4.3.1 Logistical and Staffing Constraints

A major structural barrier identified across both women and extension officers was the persistent shortage of logistical support and staff. Most women reported irregular visits, poor transport availability, and the long distance between their communities and extension offices. P1 (woman) expressed frustration, stating, *“Lack of transport makes it difficult to attend their office at Potsin; poor communication makes it difficult to know when and where trainings are taking place.”* This

challenge was echoed by others who described that even when training sessions were organised, information often came late, making attendance difficult. These constraints underline the logistical weakness of the extension system and the uneven distribution of officers across rural areas, leaving remote female farmers underserved.

Extension officers confirmed these logistical inadequacies from an institutional perspective, describing a high farmer-to-officer ratio and inadequate mobility. P4 (officer) noted, *“Transportation and mobility challenges make it difficult to visit all farmers. There are insufficient tools to train women, and few female officers in the service.”* Similarly, P5 (officer) added that *“insufficient staffing means less support will be given to women farmers.”* Such resource constraints are structural rather than operational arising from chronic underfunding and the centralised allocation of resources that neglect rural and gender-based needs. The uneven geographical coverage of extension officers results in inconsistent support, with female farmers in remote or less productive areas often receiving fewer visits.

These logistical limitations not only hinder information flow but also create psychological barriers to women’s participation. Many women view the distance to extension centres and the irregularity of visits as signs of institutional neglect. As P3 (woman) stated, *“Sometimes programmes are organised during the peak farming season and it is difficult to attend; they attend to farmers with large acres first before those of us with smaller farms.”* This perception discourages women from engaging fully with extension systems, as they feel deprioritised and marginalised. The scarcity of resources, therefore, not only limits access but also diminishes trust and motivation among women farmers, undermining their inclusion in agricultural innovation processes.

4.3.2 Institutional Bias and Prioritisation

A second sub-theme that emerged was the institutional bias in favour of large-scale and male farmers. Participants indicated that extension officers often focus on men because they are perceived as “serious” farmers who own more land. P2 (woman) explained, “*They focus on those with large acres of land and on men who are seen as the main farmers in the community.*” This prioritisation, while administratively convenient, systematically disadvantages women who are primarily smallholders or engage in mixed farming. The practice perpetuates gendered stereotypes about productivity, positioning men as legitimate clients of extension services while rendering women’s contributions secondary.

Extension officers corroborated this pattern, though they framed it as an unintended consequence of limited resources. P3 (officer) noted, “*We face inadequate funding and working resources during field visits and demonstrations. The ratio of farmers to officers is very high.*” In practice, this means officers must choose which farmers to visit, often selecting those who can produce measurable results, usually men with larger farms. Although not explicitly discriminatory, this approach sustains institutional biases that prevent equitable service delivery. The structural organisation of extension services thus reinforces inequalities that mirror broader societal gender hierarchies.

This institutional bias also affects the kinds of training content offered. Many women stated that the training sessions prioritise topics such as cash-crop cultivation and mechanised farming, which are less relevant to smallholders engaged in subsistence or processing activities. P4 (woman) expressed that “*sometimes the training is not about what we do; they talk about things that require big land and equipment that we don’t have.*” Consequently, even when women attend sessions, they gain little practical benefit. This bias in programming and content design reflects a structural

failure to mainstream gender in policy formulation and extension delivery, resulting in the continuous marginalisation of women's agricultural interests.

4.3.3 Land Ownership and Credit Access

Access to productive resources such as land and credit emerged as a central institutional constraint affecting women's eligibility for extension support. Most women reported that the absence of land titles limited their participation in training and access to subsidies. P6 (woman) explained, "*Since the land belongs to my husband, they mostly speak with him because he is seen as the land owner.*" Similarly, P4 (woman) stated, "*Without formal land titles or being in a group, we miss out on training and support.*" In a context where access to credit and agricultural inputs is tied to ownership documentation, women are structurally excluded from both resources and information.

The extension officers acknowledged that the criteria for programme inclusion such as registration or proof of ownership indirectly exclude women. P5 (officer) remarked, "*Most supports are linked to those with good credit histories and registered farms.*" This reinforces a gendered hierarchy, as most women farm on family or borrowed land, leaving them outside formal institutional databases. Moreover, access to credit facilities was another layer of exclusion. P7 (woman) explained, "*Getting access to credit from cooperatives is hard because I don't have collateral.*" These responses demonstrate how institutional procedures though seemingly neutral are structured in ways that privilege men and formal landowners.

The combined effects of limited land ownership and poor credit access have far-reaching implications for women's economic empowerment. Women who lack access to these resources are less likely to invest in productivity-enhancing technologies or seek out training opportunities. As P2 (woman) noted, "*Sometimes these supports require farmers to be registered in groups, and if you are not included, you miss out on training and support.*" Thus, the institutional system, by

linking eligibility to formal ownership and registration, systematically sidelines women. This exclusion perpetuates the cycle of poverty and reinforces their dependence on male household heads for financial and agricultural decisions.

4.3.4 Communication and Information Gaps

A pervasive issue identified by participants was the breakdown in communication between extension officers and women farmers. The women emphasised that they often receive training notices late or not at all due to poor information flow. P3 (woman) explained, *“Language and literacy barriers, short notice training, and long distances make it hard to participate.”* This problem was compounded by technological barriers such as poor mobile network coverage and the inability to afford airtime. P2 (woman) mentioned, *“Poor network and lack of airtime make it difficult to communicate with officers.”* As a result, women frequently miss out on critical extension opportunities and updates.

Extension officers confirmed that weak communication infrastructure in the district limits outreach, especially among digitally marginalised populations. P1 (officer) stated, *“Poor communication infrastructure makes it difficult to reach women, especially those who cannot afford smartphones.”* The officers also noted that the use of formal language in printed materials alienates low-literacy farmers, particularly women. This issue illustrates the gendered dimensions of information inequality women are less likely to own mobile phones, have literacy skills, or be part of farmer-based WhatsApp or SMS platforms used for agricultural messaging.

The lack of effective communication channels also undermines trust and participation. Women often perceive the absence of clear information as institutional neglect. P5 (woman) remarked, *“Sometimes the training materials are not in our local language, and most of the announcements come late, so we miss the meetings.”* Without accessible communication tools and inclusive

language, women are systematically left out of extension activities. This information gap widens the gender divide in agricultural knowledge and technology adoption, weakening women's capacity to engage meaningfully in modern farming.

4.4 RQ 2: How do socio-cultural norms and gender roles influence women's engagement with agricultural extension services?

This question explored how traditional gender norms, household responsibilities, and community expectations shape women's participation in agricultural extension services in Gomoa Duodukwa. It examined how cultural attitudes toward women's roles, decision-making hierarchies, and gender relations affect women's freedom to attend training, interact with officers, and apply new agricultural knowledge.

4.4.1 Gendered Perceptions of Farming

A strong theme that emerged from both women and extension officers was that farming is widely perceived as a male-dominated occupation, while women's agricultural work is undervalued or considered secondary. Many women expressed frustration that they are rarely recognised as "real farmers." P1 (woman) explained, "*Men are regarded as the main farmers due to the number of acres they farm; sometimes family restrictions discourage us from freely interacting with male officers.*" Similarly, P5 (officer) observed, "*Men are considered the 'real farmers,' while women are seen as helpers.*" These perceptions reduce women's visibility in agricultural support systems, as they are often viewed through the lens of household support rather than as independent producers.

This gendered perception directly affects women's access to training and resources. Because agricultural programmes often target those seen as "active" or "serious" farmers, women especially

those working on smaller plots or engaged in processing are excluded from formal training opportunities. P4 (woman) noted, *“They attend to farmers with large acres first before those of us with smaller farms.”* Such institutional practices, rooted in cultural assumptions about men’s economic roles, reinforce a cycle of marginalisation in which women’s contributions remain invisible. As a result, even though women perform significant agricultural labour, they remain outside the primary structures of agricultural development.

The undervaluation of women’s agricultural roles also shapes community attitudes toward their participation in extension programmes. Several women explained that when they attend training sessions, community members sometimes view it as inappropriate or unnecessary. P3 (woman) stated, *“Some people in the community believe women should stay home and focus on household duties instead of attending training.”* This reveals how social expectations limit women’s agency by discouraging them from engaging in activities perceived as beyond their traditional domestic sphere. Consequently, women’s potential as innovators, entrepreneurs, and decision-makers in agriculture is constrained by cultural beliefs that define farming as a masculine domain.

4.4.2 Domestic Responsibilities and Time Constraints

A recurring barrier reported by participants was the heavy domestic workload borne by women, which restricts their availability for agricultural activities and training. Nearly all women participants mentioned that childcare, cooking, and household chores limit their ability to attend sessions. P2 (woman) stated, *“We do heavy house duties which limit our time to attend or participate in extension activities.”* Similarly, P6 (woman) explained, *“Household duties assigned to women make it difficult for them to leave home for meetings or trainings.”* These accounts illustrate the “time poverty” that results from women’s dual roles in both domestic and productive

spheres, a pattern consistent with Gender and Development (GAD) theory's emphasis on gendered divisions of labour.

Extension officers confirmed this constraint from their professional observations. P3 (officer) remarked, *"Most of the time, women have a lot of chores, so they are limited, especially when training starts late or is held far away."* Another officer, P1, added, *"Since women combine multiple responsibilities like cooking, fetching, childcare, and household chores, extension schedules don't align with their daily routines."* These remarks show that even when women are willing to participate, the timing and format of training often do not accommodate their domestic workloads. Without deliberate scheduling adjustments, women continue to be excluded, not by disinterest, but by structural incompatibility between domestic obligations and institutional timetables.

The cumulative effect of time constraints is a pattern of inconsistent attendance and limited engagement. Some women reported that they attend only portions of training sessions or miss them entirely. P4 (woman) noted, *"Sometimes programmes are organised during the peak farming season and it is difficult to attend."* These overlapping demands reflect what feminist scholars describe as the "double burden" where women balance unpaid household labour with income-generating activities. Unless agricultural institutions actively integrate flexible and gender-sensitive training schedules, women's participation will remain irregular, undermining their capacity to benefit from extension services fully.

4.4.3 Male Authority and Decision Control

Another significant finding was the role of male authority and household power dynamics in shaping women's access to agricultural information. Many women stated that they must seek

permission from their husbands before attending training or interacting with officers. P3 (woman) shared, *“They decide on the kind of information we need to know and hear; they control the resources and our movements.”* Similarly, P7 (woman) added, *“Husbands may choose how women can have access to information and decide when we can go out for meetings.”* These accounts demonstrate that patriarchal decision-making systems determine not only women’s mobility but also their exposure to agricultural innovation and opportunities.

Extension officers also acknowledged that male dominance in household decision-making limits women’s participation. P2 (officer) observed, *“Most married men don’t allow their wives to participate when the programme is held outside town. Some prefer to attend themselves.”* This reinforces the perception that men are the rightful representatives of households in agricultural affairs. In many cases, the information and training intended for women are filtered through male intermediaries, which can distort or limit their impact. Such practices reduce women’s autonomy and reinforce dependency, perpetuating gender inequality in knowledge dissemination.

This form of male gatekeeping also extends beyond the household to the community level. Some women mentioned that community leaders who are mostly male control who is invited to training sessions. P6 (woman) explained, *“Some community leaders choose the kind of information that women must hear and know.”* The intersection of patriarchal household control and male-dominated community leadership means that women’s participation is largely mediated by men’s approval. Consequently, even gender-inclusive programmes risk becoming exclusionary when power structures remain unchallenged. These findings underscore the need for participatory approaches that engage men as allies in supporting women’s empowerment rather than as gatekeepers.

4.4.4 Cultural Taboos and Social Expectations

Cultural taboos and expectations around women's behaviour further limit their engagement with extension officers. Several women noted that it is considered inappropriate for married women to interact freely with male officers, especially in private or distant settings. P6 (woman) stated, *"Some husbands don't feel comfortable when their wives interact freely with male officers, especially when the officer visits the farm alone."* These attitudes reflect broader social anxieties about gender relations, where women's interactions with men outside their households are closely monitored. Such restrictions inhibit learning and collaboration, especially in agricultural systems where most officers are male.

These cultural restrictions are often reinforced by gossip, community judgement, and informal social sanctions. P1 (woman) shared, *"People in the community sometimes believe women should stay home and focus on household duties instead of attending training."* Others added that even when they wish to attend training sessions, fear of gossip or misunderstanding discourages them. This social pressure acts as an invisible barrier, maintaining women's exclusion not through law but through moral surveillance. As a result, women internalise these norms and often self-exclude to avoid criticism or conflict.

Extension officers also recognised these cultural challenges as obstacles to gender inclusion. P4 (officer) commented, *"Household heads rarely support women with housework, and this restricts them from participating."* The officers observed that without deliberate community sensitisation, cultural beliefs about women's roles will continue to undermine participation. The persistence of these taboos reflects what Kabeer (1999) describes as "institutionalised gender subordination," where informal social rules sustain structural inequalities. Addressing these issues requires not

only gender-sensitive training but also community education that normalises women's visibility and leadership in agricultural spaces.

4.5 RQ 3: What are the consequences of limited extension access on women's agricultural productivity and autonomy in decision-making?

This question explored how women's restricted access to agricultural extension services impacts their productivity, income, and capacity to make independent or joint decisions. It sought to uncover the economic and social consequences of inadequate agricultural support, focusing on knowledge gaps, technological adoption, and empowerment among women in Gomoa Duodukwa.

4.5.1 Decline in Productivity and Income Levels

A dominant consequence reported by women participants was a decline in farm productivity due to insufficient access to agricultural advice and demonstrations. Many women admitted that they rely on outdated techniques or informal advice from neighbours. P1 (woman) stated, *"It has affected us because we often use old farming methods or what we hear from friends; our yields are lower and we earn less money."* Similarly, P2 (woman) added, *"It leads to high cost of production because you buy fertiliser you might not need and may over apply it."* The lack of consistent technical support translates directly into reduced yields and inefficient resource use, diminishing farm profitability.

Extension officers corroborated these observations, confirming that women's irregular participation and limited contact contribute to lower productivity. P4 (officer) noted, *"Women's productivity is lower because they receive fewer visits and limited technical guidance."* This aligns with existing research that links frequent extension interaction to higher agricultural performance. Without access to expert supervision, women often depend on trial-and-error methods, resulting

in wasted inputs and labour. Over time, these inefficiencies accumulate, widening the productivity gap between male and female farmers, reinforcing economic inequality at both household and community levels.

The decline in productivity also has broader implications for household welfare. P3 (woman) expressed, *“It has increased my cost of production and reduced my income.”* For many participants, low productivity reduces food availability and limits income diversification opportunities such as processing or livestock rearing. The resulting economic vulnerability affects children’s education, health, and nutrition, especially in female-headed households. These findings reflect what Kabeer (1999) describes as “structural disempowerment,” where exclusion from institutional support undermines both economic outcomes and social resilience.

4.5.2 Reduced Innovation Adoption and Knowledge Application

Another key theme was the slow adoption of improved agricultural technologies among women due to limited extension contact. Several participants revealed that they rarely receive information about modern practices or technologies. P6 (woman) stated, *“We continue to do ‘try your luck’ farming and depend on what others say. Sometimes we even use chemicals wrongly.”* Similarly, P4 (woman) admitted, *“We sometimes get inappropriate or incorrect advice from our fellow farmers.”* The lack of exposure to demonstrations or follow-up training limits experimentation and learning, keeping women dependent on traditional, less efficient practices.

Extension officers recognised that inadequate follow-up and poor communication infrastructure exacerbate this problem. P3 (officer) explained, *“The main challenge is attendance; many arrive late or fail to come when they have other commitments.”* As a result, women often miss the critical parts of training sessions, particularly those focused on practical demonstrations of new technologies. P1 (officer) further noted, *“Poor communication infrastructure makes it difficult to*

reach women, especially those who cannot afford smartphones.” The weak diffusion of information leaves women at the margins of innovation cycles, reinforcing their late adoption of improved seeds, fertilisers, and pest control methods.

The limited adoption of innovations reflects not only structural exclusion but also a loss of confidence among women farmers. As P2 (woman) described, *“Lack of extension support slows and reduces our ability to improve our farms and increase productivity because we are afraid to take risks.”* Without regular access to guidance or feedback, women become risk-averse, preferring traditional methods they perceive as safer. This dynamic aligns with the Diffusion of Innovations Theory (Rogers, 2003), which posits that adoption depends on exposure, communication, and trialability. Women’s restricted access to extension thus positions them as “late adopters,” limiting their potential to transform farming practices and improve livelihoods.

4.5.3 Limited Decision-Making Autonomy and Empowerment

Limited access to extension information also weakens women’s decision-making power within both the household and the farming enterprise. Several women explained that men dominate decision-making because they are more informed. P6 (woman) shared, *“We may not know the best time to plant, which seed to use, or how to control pests; our voices in farming decisions are very limited without extension information.”* Similarly, P5 (woman) said, *“Without information, we cannot make good decisions. Sometimes our husbands decide everything because they attend meetings and get all the updates.”* These accounts reveal how access to information is directly linked to authority in decision-making.

Extension officers supported this observation, noting that when men are the primary participants in training, they often monopolise decision-making power. P2 (officer) commented, *“Most men attend training sessions and become more confident in deciding what to plant and how to manage*

farms. Women often follow their lead.” This dynamic reinforces dependency and undermines women’s sense of ownership over production. The Gender and Development (GAD) framework helps explain this as an institutional extension of patriarchy, where exclusion from knowledge and resources translates into social and economic subordination.

Beyond farming, women reported that limited decision-making power affects their overall empowerment and participation in community life. P3 (woman) explained, “*Women lose a lot because they may not be able to make the right decisions in their farming careers.*” In the absence of technical knowledge, women’s opinions are often dismissed during household or community discussions about resource use and agricultural investment. This not only marginalises them economically but also weakens their social confidence. Empowerment theory (Zimmerman, 2000) emphasises that participation in knowledge-sharing networks fosters self-efficacy and agency elements that remain largely inaccessible to women farmers in Gomoa Duodukwa due to their restricted extension access.

4.6 RQ 4: In what ways are current extension delivery systems failing to address gender disparities in Gomoa Duodukwa?

This question examined the weaknesses within existing agricultural extension delivery systems that perpetuate gender disparities in Gomoa Duodukwa. It explored whether current programmes, institutional structures, and communication methods adequately cater to women’s specific needs, and sought to uncover systemic inefficiencies that reinforce unequal access and participation in agricultural development.

4.6.1 Inadequate Gender Mainstreaming and Female Representation

A recurring issue identified by both women farmers and extension officers was the limited integration of gender considerations in extension planning and delivery. Women felt that most

programmes were not designed with their realities in mind. P1 (woman) remarked, *“Most of the programmes do not meet the needs of women farmers; the time for programmes does not favour women.”* Similarly, P2 (woman) stated, *“There is no gender balance among extension staff and this makes it difficult for women farmers.”* These statements reveal that women’s specific needs such as timing, location, and relevance of content are rarely prioritised, resulting in persistent exclusion from training and support activities.

Extension officers acknowledged these shortcomings, admitting that institutional capacity for gender mainstreaming remains weak. P1 (officer) confessed, *“Most policies are gender-responsive in design, but there are too few female extension officers, limited budgets for gender activities, and not enough data on women farmers.”* Likewise, P2 (officer) explained, *“Inadequate budgeting for gender activities and low female staff numbers make gender mainstreaming difficult.”* These accounts indicate a disconnect between policy rhetoric and implementation realities, where gender equity goals are undermined by underfunding and limited institutional support. The absence of female officers also creates barriers to communication and trust, particularly in communities where cultural norms restrict women’s interaction with men.

This gender imbalance in staffing and programme design has serious implications for inclusivity. Women participants reported that they often feel uncomfortable engaging with male officers, while the absence of female counterparts reduces their willingness to attend training sessions. P3 (woman) expressed, *“Most of the officers are males, so the women find it difficult to relate with them.”* The lack of gender-sensitive representation within the extension workforce perpetuates male dominance and reinforces gender gaps in information access. Without a deliberate effort to recruit, train, and empower female extension officers, the system will continue to reproduce structural inequalities that marginalise women farmers.

4.6.2 Poor Institutional Coordination and Policy Implementation

The second major weakness identified was poor coordination between agricultural institutions and ineffective implementation of gender-related policies. Although Ghana's agricultural framework includes gender equality provisions, participants suggested that such policies are not operationalised at the local level. P4 (officer) admitted, *"There is poor coordination among institutions and NGOs, and data on gender activities is weak. We also lack funds to run gender-based training."* This lack of institutional synergy results in fragmented interventions that fail to sustain long-term impact. As a result, many gender initiatives remain short-lived or donor-driven rather than being integrated into the core functions of extension services.

Women farmers also observed inconsistencies in programme delivery and coverage. P2 (woman) explained, *"No, the officers are under-staffed and sometimes when they come around we also don't get time to participate in the programmes."* Another participant, P6 (woman), added, *"They mostly attend to large-scale farmers and not small-scale; smallholder farmers like us cannot access credit because we don't own the lands."* These inconsistencies suggest a lack of systematic planning and resource allocation at the district level. Institutional fragmentation leads to uneven access, where only certain groups benefit regularly while others, especially women, are overlooked.

The officers further noted that limited administrative data collection contributes to ineffective policy implementation. P5 (officer) stated, *"We lack gender-disaggregated data, so we cannot plan properly."* The absence of data-driven planning perpetuates invisibility as women's contributions and challenges are not captured in official statistics, making it difficult to design evidence-based interventions. This oversight aligns with broader critiques of agricultural policy implementation in sub-Saharan Africa, where poor monitoring systems obscure gender

inequalities. Thus, despite policy commitments to inclusivity, institutional weaknesses in coordination, funding, and data management hinder progress toward equitable extension delivery.

4.6.3 Limited Accessibility and Communication Effectiveness

The third major failure identified in current extension systems relates to limited accessibility and poor communication mechanisms. Many women participants indicated that they receive little or no information about training schedules or new agricultural initiatives. P4 (woman) stated, *“Training materials are not in local languages, and most of the announcements come late, so we miss the meetings.”* Similarly, P2 (woman) mentioned, *“Poor network and lack of airtime make it difficult to communicate with officers.”* These experiences highlight the exclusionary effects of language barriers, poor infrastructure, and inadequate information dissemination in rural extension systems.

Extension officers acknowledged that communication gaps are a recurring challenge, particularly among low-literacy women farmers. P1 (officer) admitted, *“Poor communication infrastructure makes it difficult to reach women, especially those who cannot afford smartphones.”* Another officer, P3, added, *“Attendance can be low if the women have other schedules; they don’t come early.”* The communication process often assumes digital literacy and access to modern devices, neglecting traditional channels such as community radio or local assemblies that could more effectively reach rural women. Consequently, the digital and linguistic divide perpetuates information asymmetry, where only a few farmers often men receive timely updates.

Beyond logistics, these communication barriers also erode trust and reduce women’s motivation to engage with extension officers. Several women said they feel excluded or uninformed about new technologies. P1 (woman) shared, *“Sometimes we are not informed about training, and when we hear it, it is already over.”* This sense of exclusion fosters apathy and weakens the perceived

relevance of extension services among women. To address this, communication strategies must be localised, multilingual, and participatory. Extension officers need to adopt culturally appropriate methods such as using local radio, visual materials, and community-based facilitators to enhance engagement and ensure women's full inclusion in agricultural learning processes.

4.7 RQ 5: What practical strategies can be adopted to promote inclusive and gender-responsive extension service delivery?

This question sought to identify actionable and locally relevant strategies for improving women's access to agricultural extension services in Gomoa Duodukwa. It aimed to gather participants' recommendations on how institutions, officers, and communities could address gender disparities through training, staffing, communication, and policy reform to create a more inclusive extension system.

4.7.1 Recruitment and Empowerment of Female Extension Officers

A major strategy highlighted by both women farmers and extension officers was the need to recruit and train more female extension officers to improve accessibility, comfort, and communication among women. Many participants felt that the presence of female officers would break cultural barriers and encourage women to engage more openly. P1 (woman) asserted, "*We need more NGOs on board and more female extension officers; training times must be discussed with us before scheduling.*" Similarly, P5 (officer) stated, "*Policy, funding, and training are needed to employ more female extension officers.*" This reflects the understanding that women's participation increases when they see themselves represented within service structures.

The rationale behind this recommendation extends beyond comfort as it is rooted in gender-sensitive communication. Several women noted that they feel uncomfortable discussing farm or household issues with male officers due to social norms and gossip concerns. P3 (woman)

explained, *“Some husbands don’t feel comfortable when their wives interact freely with male officers, especially when the officer visits the farm alone.”* Recruiting more female officers would reduce these barriers and create an enabling environment for women to learn freely. The Gender and Development (GAD) framework supports this by emphasising that institutional transformation through representation and sensitivity is essential for achieving gender equity.

Extension officers themselves recognised that their service delivery would improve with a balanced workforce. P4 (officer) remarked, *“More training and funding are needed to organise women-focused programmes.”* Increasing female staff would not only make services more inclusive but also ensure that gender perspectives are integrated into programme design and implementation. In communities where patriarchal norms restrict women’s interaction with men, female officers could play a transformative role as mediators between institutions and local women’s groups, promoting trust and consistent engagement.

Ultimately, this approach aligns with broader findings from Farnworth and Colverson (2015), who noted that female-led extension increases women’s participation and innovation adoption. Female officers often use participatory, empathic communication styles that resonate with women’s lived experiences. Therefore, institutionalising gender parity in recruitment and providing gender training for all staff are not merely symbolic gestures but they are foundational steps toward dismantling gendered access barriers and ensuring equitable knowledge dissemination within Ghana’s agricultural extension system.

4.7.2 Gender-Sensitive Training and Inclusive Communication Approaches

Participants consistently emphasised the importance of gender-sensitive training schedules, content, and communication methods to enhance women’s participation. Many women explained that rigid scheduling and inaccessible training materials limit attendance. P3 (woman) suggested,

“Training should be organised at convenient times and in nearby communities.” Similarly, P2 (officer) added, *“Women’s participation can improve if local leaders are engaged, training is flexible, and childcare support is provided.”* These statements highlight that timing, proximity, and domestic considerations are not peripheral issues but they determine whether women can participate at all.

Participants also called for more visual and language-friendly training materials that could accommodate low literacy levels among rural women. P5 (officer) described: *“We use local languages during training, and materials are mostly visual because many participants cannot read English.”* P4 (woman) reinforced this, stating, *“Training materials are sometimes not in our local language, and most of the announcements come late.”* Using pictures, demonstrations, and local dialects ensures that information reaches all farmers equitably. This approach aligns with the Diffusion of Innovations (DOI) theory, which posits that innovations are more easily adopted when information is communicated in familiar, culturally relevant forms.

In addition, both groups proposed the use of community-based communication channels, such as local radio and information centres, to spread agricultural messages. P2 (officer) recommended, *“Strengthen and encourage community-based radio programs led by women and female officers.”* P6 (woman) added, *“We need local radio and visuals to learn better.”* These grassroots approaches help overcome digital barriers while empowering local women as knowledge transmitters. The involvement of women as radio hosts or facilitators not only amplifies their voices but also makes agricultural learning more relatable and sustainable at the community level.

Finally, participants underscored the need for participatory and practical training methods, such as on-farm demonstrations and women-only farmer field schools. P4 (officer) proposed, *“Establish men-only and women-only farmer field schools to get their full participation.”* These approaches

allow women to learn by doing, build confidence, and apply knowledge directly to their farms. This aligns with Empowerment Theory, which emphasises experiential learning and collective participation as pathways to agency. Therefore, gender-responsive training and inclusive communication strategies are vital not only for knowledge transfer but also for transforming gender relations within rural extension systems.

4.7.3 Policy, Institutional, and Community Collaboration for Gender Equity

Both women and officers emphasised that achieving sustainable gender inclusion in agricultural extension requires strong institutional and policy-level support. Several participants argued that without dedicated funding and gender-sensitive policies, change will remain superficial. P1 (officer) observed, *“Most policies are gender-responsive in design, but there are too few female officers and limited budgets for gender activities.”* P2 (officer) echoed this, stating, *“Inadequate budgeting for gender activities and low female staff numbers make gender mainstreaming difficult.”* These concerns reveal that effective gender inclusion depends on institutional will and consistent financial commitment.

Participants also stressed that collaboration with NGOs and local women’s groups could enhance capacity-building and outreach. P5 (woman) suggested, *“Collaborate with gender-based NGOs to educate husbands and community leaders so that they will allow women to participate freely.”* Similarly, P3 (officer) stated, *“Community heads should ensure that information reaches all households so women can participate.”* Partnerships with civil society actors can help address entrenched socio-cultural barriers and complement government-led initiatives through advocacy, training, and awareness creation.

Community-level engagement emerged as a particularly powerful strategy. Many participants believed that involving local leaders and household heads could foster shared ownership of gender equality goals. P4 (officer) proposed, “*Engage both men and women together in training and schedule sessions at times when participants are mostly available.*” Women participants such as P7 also saw value in sensitising men, saying, “*Husbands must allow their women to attend and participate in agricultural extension activities.*” Such family-inclusive and couple-based training models encourage mutual respect and joint decision-making, reducing male resistance to women’s participation.

Finally, institutionalising accountability mechanisms within agricultural policies was seen as essential for ensuring lasting impact. Collecting gender-disaggregated data, tracking participation rates, and reporting gender outcomes would help measure progress toward inclusivity. P5 (officer) explained, “*We lack gender-disaggregated data, so we cannot plan properly.*” Without monitoring and evaluation frameworks, gender mainstreaming remains rhetorical rather than transformative. Aligning these institutional reforms with community-driven participation through NGO partnerships, policy enforcement, and male engagement would create a robust ecosystem where women’s empowerment becomes integral to agricultural development rather than an afterthought.

4.8 Discussion of Findings

This discusses the findings of the study in relation to the research objectives, the reviewed literature, and the theoretical frameworks guiding the study the Gender and Development (GAD) and Diffusion of Innovations (DOI) theories. The discussion draws on the perspectives of both women farmers and agricultural extension officers in Gomoa Duodukwa to establish how gender-based barriers shape women’s access to agricultural extension services.

The analysis is organised around the study's five specific questions:

1. What structural and institutional factors limit the access of women farmers to extension services in Gomoa Duodukwa?
2. How do socio-cultural norms and gender roles influence women's engagement with agricultural extension services?
3. What are the consequences of limited extension access on women's agricultural productivity and autonomy in decision-making?
4. In what ways are current extension delivery systems failing to address gender disparities in Gomoa Duodukwa?
5. What practical strategies can be adopted to promote inclusive and gender-responsive extension service delivery?

4.8.1 What structural and institutional factors limit the access of women farmers to extension services in Gomoa Duodukwa?

Findings from both women farmers and extension officers revealed that institutional and logistical barriers significantly restrict women's access to agricultural extension services in Gomoa Duodukwa. Participants cited limited staffing, inadequate funding, poor transport, and weak communication infrastructure as major challenges. P1 explained, "*Lack of transport makes it difficult to attend their office at Potsin; poor communication makes it difficult to know when and where trainings are taking place*". P6 added, "*Since they are not enough in the area, it becomes difficult to get them; sometimes calling becomes a problem due to poor network, and other times I don't have money to buy airtime*".

These findings mirror the national pattern observed by Ragasa et al. (2013), who found that only 12% of Ghanaian women farmers received extension visits compared to 27% of men, largely due to institutional under-resourcing and logistical constraints.

Extension officers validated these challenges. P3 explained, “*We face inadequate funding and working resources during field visits and demonstrations. The ratio of farmers to officers is very high, and poor communication infrastructure makes it difficult to reach women, especially those who cannot afford smartphones*”. P4 stated, “*Transportation and mobility challenges make it difficult to visit all farmers. There are insufficient tools to train women, and few female officers in the service*”.

The officers’ admissions of underfunding and understaffing reflect systemic institutional weaknesses, which, according to Meinzen-Dick et al. (2019), are common across sub-Saharan Africa where extension systems are male-dominated and poorly resourced.

From the GAD perspective, these structural inequalities reflect institutionalised gender bias rather than individual limitations (Moser, 1993). Policies and programmes often prioritise large-scale, male-owned farms as P2 noted, “*They focus on those with large acres of land and on men who are seen as the main farmers in the community*”.

This confirms Doss and Morris (2001), who found that institutional preference for large holdings perpetuates women’s marginalisation in Ghana’s agricultural policy space. The DOI theory complements this by explaining how limited institutional contact slows information diffusion, leaving women in the “late majority” category of adopters (Rogers, 2003). Overall, both sets of

participants' accounts suggest that systemic institutional deficiencies rather than women's disinterest are the main reasons for gender disparities in extension access.

4.8.2 How do socio-cultural norms and gender roles influence women's engagement with agricultural extension services?

Findings indicated that deeply rooted socio-cultural norms and traditional gender roles strongly influence women's participation in extension activities. Most women reported that their farming contributions are undervalued due to prevailing gender perceptions. As P5 said, "*Men are regarded as the main farmers due to the number of acres they farm; sometimes family restrictions discourage us from freely interacting with male officers*". Another, P2 explained, "*Men are seen as decision-makers; even in meetings, women's views are not always taken seriously*".

These statements reflect Adjei-Nsiah's (2013) observation that women in Ghanaian farming households are often perceived as helpers rather than key producers. Similarly, Cornwall (2003) argues that African rural norms privilege men's voices in agricultural decision-making, restricting women's agency.

Extension officers confirmed that cultural expectations and domestic responsibilities prevent women from attending training sessions. P9 observed, "*Most women are not able to attend due to time constraints; they do not attend when it is organised outside the town, and some married men don't allow them to participate*". P11 added, "*Since women combine multiple responsibilities like cooking, fetching, childcare, and household chores, extension schedules don't align with their daily routines. Men are considered the 'real farmers,' while women are seen as helpers*".

This aligns with Ragasa et al. (2013) and Farnworth and Colverson (2015), who found that domestic and cultural responsibilities limit women's ability to attend trainings in East and West Africa.

The GAD framework explains this as the result of power structures that institutionalise gender inequality. Cultural restrictions on women's mobility and interaction with men reinforce social control and male dominance (Kabeer, 1999). As P1 shared, "*Some husbands don't feel comfortable when their wives interact freely with male officers, especially when the officer visits the farm alone*".

The DOI theory also illuminates this issue, as limited participation in information-sharing networks constrains innovation diffusion among women (Rogers, 2003). Women's restricted interaction with male officers prevents them from moving through the awareness trial adoption stages of innovation.

Overall, these findings confirm that socio-cultural expectations, rather than lack of interest, largely dictate women's limited engagement. Without transforming these norms, extension policies cannot achieve meaningful inclusivity.

4.8.3 What are the consequences of limited extension access on women's agricultural productivity and autonomy in decision-making?

The study revealed that women's lack of access to land, credit, and information undermines their productivity and innovation adoption. P1 stated, "*Many women don't own land, so officers focus on men who are recognised as land owners*". P4 explained, "*Without formal land titles or being*

in a group, we miss out on training and support; those with land and registration are the ones who benefit”.

These findings confirm Doss (2001) and Peterman et al. (2010), who found that women’s insecure tenure and lack of collateral hinder access to extension and inputs. Extension officers, P5 also observed that *“Most women do not own land in the community; most of the household heads are men and control affairs in the house”.*

Access to information was another key challenge. Women repeatedly complained of poor network connectivity and language barriers, saying, *“Poor network and lack of airtime make it difficult to communicate with officers”* P2 said, and *“Sometimes training materials are not in our local language, and most of the announcements come late, so we miss the meetings”* P5 added.

This mirrors Aker’s (2011) findings that gendered gaps in ICT access and literacy constrain rural women’s ability to benefit from extension services. Officers agreed that *“poor communication infrastructure makes it difficult to reach women, especially those who cannot afford smartphones”* P9 stated.

From the DOI perspective, these limitations reduce women’s position within the innovation adoption cycle placing them in the “late majority” (Rogers, 2003). The GAD theory further explains how institutional power dynamics deny women access to productive resources, reinforcing dependence on men for land and information (Moser, 1993).

The compounded effect of limited resources and information is evident in women’s restricted productivity and innovation adoption. These barriers not only reduce individual yields but also perpetuate community-wide economic inequality.

4.8.4 In what ways are current extension delivery systems failing to address gender disparities in Gomoa Duodukwa?

The findings indicated that limited extension access has direct negative effects on women's productivity, technology adoption, and autonomy. All participants reported lower yields and income as a result of minimal interaction with extension officers. P1 said, *"It has affected us because we often use old farming methods or what we hear from friends; our yields are lower and we earn less money"*. P4 added, *"Lack of extension support slows our ability to improve our farms and increase productivity because we are afraid to take risks"*.

These findings confirm Akudugu et al. (2012), who found that women farmers in Ghana recorded slower adoption of improved seeds and fertilisers due to limited extension exposure.

Participants also associated limited access with poor decision-making capacity. As P6 explained, *"We may not know the best time to plant, which seed to use, or how to control pests; our voices in farming decisions are very limited without extension information."*

This reflects Kabeer's (1999) conceptualisation of empowerment as the ability to make informed choices and act upon them.

Extension officers corroborated these effects, stating that *"Only about 30–37% of participants in training are women, P4"* and that inconsistent attendance limits their learning. This communication gap is precisely what Rogers (2003) describes as a bottleneck in the diffusion process, where disadvantaged groups remain peripheral to innovation flow.

The productivity loss from these gaps is well-documented. FAO (2011) estimates that equalising women's access to agricultural services could increase total output by up to 4%. However, as P7

lamented, *“Without information, we cannot make good decisions; sometimes our husbands decide everything because they attend meetings and get all the updates.”*

In line with Farnworth and Colverson (2015), the study demonstrates that access to extension services enhances not only technical capacity but also social empowerment. Limited extension access in Gomoa Duodukwa thus represents both an economic and an empowerment deficit.

4.8.5 What practical strategies can be adopted to promote inclusive and gender-responsive extension service delivery?

Despite the challenges, both women and officers proposed practical solutions for improving gender inclusivity. Women consistently called for more female extension officers, believing they would foster comfort and participation. As P1 stated, *“We need more NGOs on board and more female extension officers; training times must be discussed with us before scheduling.”* Officers agreed, recommending *“the recruitment of more female officers and gender training for staff”* P2 added. These findings align with Farnworth and Colverson (2015), who noted that gender-balanced staffing enhances participation.

Women also emphasised flexible training times and community-based training. *“Training should be organised in a way that considers our household duties; we can attend more if the timing suits us,”* P11 explained. Officer P5 echoed this: *“Engage both men and women together in training and schedule sessions at times when participants are mostly available”*.

Participants further proposed greater use of local radio, visuals, and community information centres. officer P3 said, *“Use local languages and visual materials for low-literacy farmers. Local information centres and community radio should organise programmes led by women”*.

This aligns with Aker's (2011) argument that communication technologies and visual aids bridge literacy and access gaps.

Several participants called for financial empowerment, noting that *"We need soft loans and fertilisers at lower prices; without these, we can't follow what they teach"* P6. Officers also stressed the importance of policy and funding support, stating that *"More training and funding are needed to organise women-focused programmes"* P10.

These suggestions correspond to GAD's advocacy for institutional restructuring, resource redistribution, and participatory policy-making (Moser, 1993; Kabeer, 1994). The DOI framework complements this by encouraging the use of tailored communication channels to ensure equitable diffusion of innovations (Rogers, 2003).

4.9 Chapter Summary

This chapter presented and analysed the findings from interviews with women farmers and agricultural extension officers in Gomoa Duodukwa. The results revealed multiple, interrelated barriers that hinder women's access to agricultural extension services. Structural and institutional challenges such as limited staff, poor transportation, and inadequate communication infrastructure restricted the frequency and reach of extension activities. Socio-cultural norms and gender roles further constrained women's participation, as traditional beliefs, household responsibilities, and male dominance in decision-making limited their engagement in training and extension programmes.

The findings also showed that women's lack of access to productive resources such as land, credit, and agricultural information significantly reduced their productivity, innovation adoption, and confidence in farm-related decision-making. Both women and extension officers acknowledged

that current extension delivery systems are insufficiently gender-responsive, with limited female representation among officers and inadequate gender mainstreaming in policies and programmes.

However, participants proposed practical strategies to improve inclusivity, including recruiting more female extension officers, scheduling training sessions at convenient times, using local languages and visual materials, and strengthening collaborations with gender-focused NGOs.

Overall, the findings underscore the need for institutional reforms, gender-sensitive communication, and participatory approaches to make agricultural extension services more accessible and equitable for women in Gomoa Duodukwa.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This final chapter draws together the key outcomes of the study. It provides an overall summary of the findings, presents conclusions derived from the analysis, and offers practical recommendations for improving women's inclusion in agricultural extension systems. The chapter revisits the main objectives of the research, reflecting on how issues such as institutional limitations, socio-cultural norms, and restricted access to resources affect women's participation in agricultural development. It also integrates insights from the Gender and Development (GAD) and Diffusion of Innovations (DOI) theories to interpret the study's results within a broader developmental and communicative context. Ultimately, this chapter aims to consolidate the study's contributions to knowledge, outline its policy relevance, and suggest actionable steps for fostering a more inclusive and gender-sensitive agricultural extension framework in Ghana.

5.2 Summary of Findings

This section presents a concise overview of the key findings derived from the study in relation to its specific objectives. It summarises the major themes that emerged from the data, highlighting the structural, socio-cultural, and institutional factors influencing women's access to agricultural extension services in Gomoa Duodukwa, as well as proposed improvement strategies.

The first research question examined the structural and institutional factors limiting women's access to agricultural extension services in Gomoa Duodukwa, revealing how logistical inefficiencies and institutional constraints shape participation. The findings showed that inadequate staffing, poor transport, weak communication infrastructure, and limited training resources continue to hinder effective service delivery to women farmers. This situation mirrors

Ragasa et al. (2013) and Doss and Morris (2001), who identified similar institutional barriers that perpetuate gender disparities in agricultural support systems. Within the context of the present study, these findings demonstrate that women's limited engagement is not a result of apathy but rather of systemic institutional neglect that privileges male farmers. This aligns with the Gender and Development (GAD) framework, which posits that structural inequalities are embedded within institutional practices, thereby reaffirming the study's central argument that sustainable gender equity in extension delivery demands deliberate institutional reform and targeted resource allocation.

The second research question examined how socio-cultural norms and gender expectations shape women's participation in agricultural extension activities in Gomoa Duodukwa. The findings revealed that entrenched patriarchal values and traditional gender roles continue to limit women's engagement by positioning them primarily as homemakers rather than productive farmers. Many participants indicated that domestic duties, family restrictions, and societal expectations prevented them from attending training sessions or interacting freely with male extension officers. For instance, women reported needing permission from husbands to participate in programmes, while men were often regarded as the "real farmers." Within the context of this study, such cultural dynamics illustrate how gendered power relations structure access to information and opportunities, constraining women's agency in agricultural decision-making. These findings reinforce the Gender and Development (GAD) perspective that inequality is socially and institutionally constructed, not based on women's ability or willingness. The study therefore situates these socio-cultural barriers as central to understanding women's exclusion and highlights the need for transformative gender sensitisation and community engagement to challenge deep-seated norms that undermine women's participation in agricultural extension services.

The third research question explored how limited access to agricultural extension services affects women's productivity, innovation adoption, and decision-making autonomy in Gomoa Duodukwa. The findings revealed that inadequate engagement with extension officers significantly reduces women's ability to improve farming techniques, manage resources effectively, and make independent agricultural decisions. Participants reported relying on outdated methods and informal advice from peers, which often led to poor yields and low income. Several women described engaging in what they termed "try your luck" farming due to limited technical guidance and timely information. Within the context of this study, such experiences highlight how restricted access to agricultural knowledge perpetuates dependency on traditional practices and undermines women's confidence in making farming-related decisions. This situation demonstrates that exclusion from extension services not only widens gendered productivity gaps but also reinforces structural disempowerment, as women remain dependent on male counterparts for information and decision-making. The findings thus situate women's limited access to extension support as both an economic and empowerment challenge, emphasising the need for equitable access to information and resources as prerequisites for improving productivity and fostering autonomy among women farmers in Gomoa Duodukwa.

The fourth research question examined how existing agricultural extension delivery systems fall short in addressing gender disparities within Gomoa Duodukwa. The findings revealed that although national agricultural policies advocate for gender equality, the implementation of these commitments at the district level remains inadequate. Participants identified persistent institutional weaknesses such as low representation of female extension officers, limited funding for gender-focused activities, and a lack of gender-disaggregated data to inform planning and evaluation. These gaps demonstrate that while gender policies exist in theory, they are seldom translated into

practice, leaving women's specific needs underprioritised in extension programming. Within the context of the current study, this failure reflects the broader institutional inertia that undermines genuine inclusion and accountability in agricultural systems. The findings situate gender mainstreaming in Gomoa Duodukwa as largely rhetorical rather than transformative, constrained by inadequate institutional commitment and resources. This underscores the need for stronger policy enforcement, gender-responsive budgeting, and systematic monitoring to ensure that extension delivery genuinely addresses the unique barriers faced by women farmers and promotes equitable participation across all levels of the agricultural sector.

The fifth research question sought to identify practical strategies for making agricultural extension services more inclusive and responsive to the needs of women farmers in Gomoa Duodukwa. The findings highlighted participants' strong desire for structural reforms and community-driven interventions that prioritise gender sensitivity. Key strategies proposed included recruiting more female extension officers to improve communication and comfort levels, organising training sessions at convenient times and nearby locations, and incorporating local languages and visual aids to accommodate low literacy levels. Participants also emphasised the need to collaborate with gender-focused NGOs and community leaders to promote awareness and acceptance of women's participation in agricultural activities. Within the context of this study, these strategies underscore that gender inclusivity requires more than equal access — it demands a restructuring of institutional practices and community attitudes. The findings situate these proposed interventions as both practical and transformative, aligning with the Gender and Development (GAD) framework's emphasis on empowerment through participatory inclusion and the Diffusion of Innovations (DOI) theory's focus on accessible, culturally relevant communication. Together, they

suggest that sustainable gender equity in agricultural extension depends on systemic collaboration between institutions, communities, and women farmers themselves.

5.3 Conclusions

The study concludes that women farmers in Gomoa Duodukwa continue to face substantial barriers that limit their access to agricultural extension services, stemming from intertwined institutional, socio-cultural, and informational challenges. Inadequate logistics, limited staff, and weak communication systems restrict service delivery, while entrenched gender norms, domestic responsibilities, and male-dominated decision-making structures further reduce women's participation in extension activities. Many women lack access to land, credit, and timely agricultural information, which diminishes their productivity and decision-making autonomy. Nonetheless, both women farmers and extension officers expressed a strong commitment to promoting inclusivity through strategies such as recruiting more female officers, improving funding and transport resources, adopting gender-sensitive training schedules, and strengthening collaboration with NGOs. Overall, the study concludes that achieving equitable agricultural development in Gomoa Duodukwa requires a holistic approach that combines institutional reform, gender-responsive communication, and socio-cultural change to empower women as active participants and innovators in Ghana's agricultural transformation.

5.4 Recommendations

Based on the findings of this study, several recommendations are proposed to address the institutional, socio-cultural, and resource-based barriers that limit women farmers' access to agricultural extension services in Gomoa Duodukwa. Firstly, there is a pressing need to strengthen institutional capacity and resource allocation within the Ministry of Food and Agriculture (MoFA). Extension officers reported significant challenges such as inadequate transportation, limited

funding, and poor communication infrastructure, which restricted their ability to reach women in remote areas. Therefore, MoFA should prioritise the provision of sufficient logistics, including motorcycles, fuel, training materials, and digital tools, to ensure regular field visits and effective information dissemination. Strengthening institutional resources would improve the frequency and quality of extension services and ensure equitable access for all farmers, especially women.

Secondly, the recruitment and training of more female extension officers should be a central policy priority. The study found that women farmers were more comfortable engaging with female officers, as cultural norms and gender dynamics often limited their interaction with male agents. Increasing female representation in the extension workforce would enhance communication, trust, and inclusivity, while serving as a source of empowerment for women farmers. Alongside recruitment, existing officers both male and female should be trained in gender-sensitive communication and participatory facilitation to ensure that their service delivery is equitable and responsive to women's unique needs.

Thirdly, agricultural extension programmes should adopt gender-sensitive training schedules and approaches. The findings indicated that women often missed training sessions due to household and childcare responsibilities, as well as inconvenient timing and distant venues. Therefore, training activities should be planned at times that align with women's daily routines and conducted in accessible community spaces. Additionally, training materials should be translated into local languages and designed using visuals and demonstrations to accommodate low literacy levels among rural women. Such inclusive practices will promote higher attendance, better comprehension, and active participation among women farmers.

Furthermore, there is a need for community and household sensitisation to address the socio-cultural barriers that restrict women's participation. Traditional norms that view men as "real

farmers” and women as helpers continue to limit women’s engagement in agricultural decision-making. Sensitisation programmes targeting men, household heads, and community leaders can help shift these perceptions. Couple-based and family-inclusive training models can also foster shared decision-making, encourage joint farm management, and reduce domestic resistance to women’s participation in agricultural activities.

Another key recommendation is to improve women’s access to productive resources such as land, credit, and agricultural inputs. Many women in the study lacked ownership of farmland and collateral for loans, which limited their eligibility for extension support and innovation adoption. The government and development partners should develop inclusive financing schemes, such as group-based microcredit and subsidised input programmes, specifically targeting women farmers. Strengthening women’s cooperatives and farmer-based organisations (FBOs) can also facilitate collective resource access, advocacy, and capacity-building.

Additionally, gender mainstreaming must be fully integrated into agricultural policies and programmes. Policymakers should ensure that gender considerations are reflected in every stage of planning, implementation, and monitoring. This includes earmarking specific budgets for gender-related initiatives, collecting gender-disaggregated data to inform decision-making, and establishing institutional accountability mechanisms to track women’s participation in extension services. Training policymakers and extension managers in gender analysis would also help bridge the gap between policy intent and practice.

Finally, stronger collaboration between MoFA, non-governmental organisations (NGOs), and local media is essential. Gender-focused NGOs and community-based organisations can provide critical support in capacity-building, advocacy, and outreach. Local information centres and community radio programmes led by women can serve as effective channels for disseminating

agricultural information and encouraging women's participation. Participatory extension models such as Farmer Field Schools (FFS) and women-only training groups should be institutionalised to enhance peer learning, confidence, and leadership among women farmers.

In conclusion, promoting gender-equitable agricultural extension in Gomoa Duodukwa requires a holistic and collaborative approach that combines institutional reform, gender-sensitive communication, and socio-cultural transformation. By implementing these recommendations, extension services can become more inclusive and responsive, thereby empowering women farmers, enhancing innovation adoption, and contributing to sustainable agricultural development in Ghana.

5.5 Limitations of the Study

While this study provides valuable insights into the barriers affecting women farmers' access to agricultural extension services in Gomoa Duodukwa, certain limitations must be acknowledged.

Firstly, the research adopted a qualitative design involving a relatively small number of participants, which, although sufficient for in-depth understanding, limits the generalisability of the findings to other regions of Ghana.

Secondly, the study relied on self-reported data from interviews, which may have been influenced by personal biases, selective memory, or the desire to provide socially acceptable responses.

Thirdly, the absence of quantitative data restricts the ability to measure the statistical significance or magnitude of the challenges identified, making the conclusions more interpretive than generalisable. Additionally, logistical and time constraints limited the researcher's ability to include more communities within the Gomoa East District, thereby narrowing the geographic scope of the investigation.

Finally, given that cultural and institutional dynamics vary across Ghana, the findings may not fully capture the diversity of experiences of women farmers in other regions. Despite these limitations, the study's rigorous qualitative approach, triangulation of data from both women farmers and extension officers, and alignment with theoretical frameworks ensure the credibility and contextual relevance of its findings.

5.6 Chapter Summary

This chapter presented the summary of findings, conclusions, and recommendations drawn from the study on barriers to women farmers' access to agricultural extension services in Gomoa Duodukwa, Ghana. The study revealed that women farmers face multiple intersecting challenges that limit their participation in extension programmes, including institutional weaknesses, inadequate logistics, socio-cultural restrictions, and unequal access to resources such as land, credit, and information. The findings also indicated that cultural norms and gender roles continue to position men as primary decision-makers, thereby limiting women's engagement and visibility within agricultural systems. Despite these barriers, both women farmers and extension officers expressed optimism that inclusive policies, participatory training, and institutional reforms could help bridge the gender gap in extension delivery.

The chapter concluded that addressing women's limited access to extension services requires a multifaceted approach that integrates structural, institutional, and socio-cultural interventions. It recommended strengthening institutional capacity and resource allocation, recruiting and training more female extension officers, promoting gender-sensitive training schedules, and sensitising communities to challenge restrictive gender norms. Additionally, the study emphasised the need for gender mainstreaming in agricultural policy, enhanced collaboration with NGOs and local media, and improved access to financial and productive resources for women. Collectively, these

measures would foster a more equitable and inclusive extension system that empowers women farmers, enhances agricultural productivity, and contributes to Ghana's broader goals of gender equality and sustainable rural development.

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APPENDICES
Interview Guide for Extension Officers

Good morning/afternoon. My name is Samuel Amoh Osei with Index number MADDC24036, and I am conducting a study as part of my master's dissertation at the University of Media, Arts and Communication (UNIMAC-IJ). The purpose of this interview is to understand your perspectives as an extension officer on the challenges women farmers face in accessing agricultural extension services in Gomoa Duodukwa. Your responses will remain confidential and used only for academic purposes. Participation is voluntary, and you may choose not to answer any question or withdraw at any time.

Do I have your permission to proceed with the interview?

Yes

No

Section A: Background Information

1. Can you tell me about your professional background i.e. how long you have worked as an extension officer and your area of responsibility in the Gomoa East District?
2. What types of agricultural extension programmes or services are currently implemented in Gomoa Duodukwa?

Section B: Institutional and Structural Barriers

3. What institutional or logistical challenges do you face in delivering extension services to farmers, especially women?

4. In your experience, are there specific administrative or policy barriers that limit women farmers' access to your services?
5. How does the availability of resources such as transport, staffing, or funding affect your ability to reach women farmers?

Section C: Gender and Socio-Cultural Influences

6. How do cultural norms or gender roles within communities influence women's participation in extension programmes?
7. Do you observe differences in how men and women farmers respond to or benefit from extension activities?
8. What are your observations about the role of household heads or community leaders in facilitating or restricting women's participation in extension?

Section D: Service Effectiveness and Participation

9. What proportion of your extension clients are women, and how consistent is their participation?
10. How do you ensure that information and training materials are accessible and relevant to both male and female farmers?
11. What challenges have you encountered when organising training sessions for women farmers (e.g., time constraints, attendance, communication barriers)?

Section E: Evaluation and Improvement of Extension Delivery

12. How effective do you think current extension delivery mechanisms are in addressing the specific needs of women farmers in this district?

13. What are the major gaps in gender mainstreaming within agricultural extension policies or programmes from your perspective?
14. What support (policy, funding, training) do you think extension officers need to better reach and serve women farmers?
15. What practical strategies would you recommend to make extension services more gender-responsive and inclusive in rural areas like Gomoa Duodukwa?

Interview Guide for Women

Good morning/afternoon. My name is Samuel Amoh Osei with index number MADDC24036, and I am conducting this interview as part of my master's dissertation at the University of Media, Arts and Communication (UNIMAC-IJ). The study seeks to understand the challenges women farmers face in accessing agricultural extension services in Gomoa Duodukwa. Your views will remain confidential and will be used solely for academic purposes. Participation is voluntary, and you may withdraw at any time.

Do I have your permission to proceed with the interview?

Yes

No

Section A: Background Information

1. Could you please tell me about yourself and your farming activities (type of crops, years of experience, and household role)?
2. How often do you interact with agricultural extension officers or participate in extension-related activities?

Section B: Structural and Institutional Barriers

3. What are some of the main challenges you face when trying to access agricultural extension services?
4. How do institutional factors such as land ownership, access to credit, or registration affect your ability to receive extension support?

5. Do you think extension officers and programmes adequately reach women farmers in this community? Why or why not?

Section C: Socio-Cultural Norms and Gender Roles

6. How do traditional beliefs or gender roles in your community influence women's participation in extension activities?
7. What role do husbands, family members, or community leaders play in women's access to agricultural information?
8. Are there situations where cultural or social norms discourage women from attending training or interacting with extension officers?

Section D: Effects of Limited Extension Access

9. How has limited access to extension services affected your productivity or income from farming?
10. What impact does lack of extension support have on your ability to adopt new technologies or improved practices?
11. How does the absence of extension information affect women's decision-making power in farming or household matters?

Section E: Evaluation of Current Extension Systems

12. How would you describe the current agricultural extension delivery system in your area?
13. In your view, what aspects of the current extension system work well, and which parts need improvement?

Section F: Strategies for Gender-Inclusive Extension

14. What changes or strategies would you recommend to make extension services more accessible and inclusive for women farmers?
15. How can agricultural officers, policymakers, or local leaders better support women's participation in agricultural extension activities?

Thank you very much for sharing your experiences and insights. Your responses are extremely valuable and will contribute to developing recommendations for more inclusive and gender-responsive agricultural extension services in Gomoa Duodukwa.