UNIVERSITY FOR DEVELOPMENT STUDIES

THE EFFECT OF WOMEN ACCESS TO LAND AND CREDIT ON FOOD PRODUCTION IN SABOBA DISTRICT OF NORTHERN REGION

ZAKARIA KAMIL

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FACULTY OF AGRICULTURE, FOOD AND CONSUMER SCIENCES

DEPARTMENT OF AGRICULTURAL AND FOOD ECONOMICS

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(MSC AGRICULTURAL PROJECT MANAGEMENT)

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THESIS SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL AND FOOD ECONOMICS, FACULTY OF AGRICULTURE, FOOD AND CONSUMER SCIENCES, UNIVERSITY FOR DEVELOPMENT STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN AGRICULTURAL PROJECT MANAGEMENT

MARCH, 2025

DECLARATION

I, Zakaria Kamil hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere:

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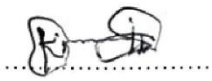
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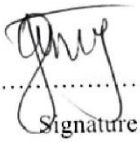
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ABSTRACT

This study examines the variables that influence women's access to land and credit, the influence of women access to credit and land on food production, and the issues women face in accessing credit and land in the Saboba District of the Northern Region. Ten communities were selected, ten households from each community, and one female farmer from each household. In all, 100 women were selected for this study. The study used a bivariate probit to analyse the determinant of access to land and credit. The study revealed that age, farm output, household income and secure land rights influence access to land. Also, educational level, access to extension services, and tribe are strong determinants of access to credit.

The study further revealed that the effects of women's access to land and credit are bad on food productivity with 93% (30% extremely bad, 23 bad, 20% somewhat bad and 20% very bad) indicating such. The study also shows that 65% of the women had challenges in accessing credit, while 35% said they didn't have challenges.

From the above findings, the study recommends some policy interventions: stakeholders in the agriculture sector, particularly in the district and region, should lobby for a formal agricultural credit organization to be established in districts or key communities in the district. Chiefs and farm landlords improve access to land for women farmers in the District. The propose policy intervention when implemented will help to improved women access to land and credit, and improve women contribution on food production.

ACKNOWLEDGEMENTS

The study was successful not just because of my effort but also because of the support and sacrifice of a few people. Let me use this opportunity to appreciate those few individuals.

My supervisor, Dr. Adinan B. Shafiwu his guidance that has helped me execute this study with a big success. He has been patient and supported me throughout this study, and this has helped brought the work to a success. My appreciation goes to Mr. Shirazu and Mrs. Frederica for their help in administering the question in the field. To Mr. Ismaila for all his encouragement and support.

I also want to say thank you to all workers at the Saboba MoFA district office for their support. Let me also thank all the women who made time to answer the questionnaire; without them, this would not have been a success.

DEDICATION

This study is dedicated to my lovely wife, Barikisu as well as my adorable children (Murtala and Nasara). A special dedication to my mother, Iddrisu Fati, for paving the way in my academic path.

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ACRONYMS

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FAO	Food and Agriculture Organization
IFAD	International Fund for Agricultural Development
UN	United Nations
AGRA	Alliance for a Green Revolution in Africa
ADB	Agricultural Development Bank
MASLOC	Microfinance and Small Loans Centre (Ghana)
CSOs	Civil Society Organizations
NGOs	Non-Governmental Organizations
MDGs	Millennium Development Goals
IMF	International Monetary Fund
MoFA	Ministry of Food and Agriculture
OECD	Organization for Economic Co-operation and Development
WHO	World Health Organization
GAAP	Generally Accepted Accounting Principles
IFPRI	International Food Policy Research Institute

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Recent studies have shown the challenges women face in the agricultural sector, especially with regard to access to credit and other modern farming inputs. A study conducted in the Ho municipality of Ghana on smallholder female farmers found that limited access to credit is still a significant barrier and continues to hinder female farmers' ability to purchase the necessary agricultural inputs and also adopt modern farming techniques (Doku, Obubuafo & Hagan 2020).

They play different roles that vary within and between regions where there is rapid economic and social transformation of the agricultural sector (World Bank 2017, SOFA Team and Cheryl Doss 2015). Additionally, nearly 50% of the labour force in Ghana are women smallholder farmers. This shows that women play a substantial role in Ghana's agricultural workforce (Panel M.M. 2023)

Women make significant daily contributions to their households as employed wage earners, as entrepreneurs, and caretakers to their families and elders. However, compared to their male counterparts, female farmers have a lower chance of success; this issue is frequently brought on by a variety of obstacles, such as unequal access to technology, seeds, loans, and extension services. Unfortunately, data indicate that only 20% of landowners worldwide are women, meaning they are also less likely to own land. Also, if they hope to inherit family property, the law may deprive them of an equal share, or social norms and traditions may simply favour their male relatives (UN Women, 2016).

The situation is even worse in the Northern part of Ghana, where customary laws and cultural practices restrict women's access to land (Customary Land Secretariat, 2016). As a result of this, food production is low, causing poverty and food insecurity to continue in the region (IFAD, 2017).

We have three land tenure systems in Ghana, which are traditional, legal and conventional but about 80% is controlled by customary authorities, making it the dominant force concerning land ownership and its use. The 1992 constitution made room to address several land-related issues. Article 20 of the constitution vests power on the government to acquire land for public use, and Articles 266 and 267 regulate land ownership by non-citizens and stool lands. Access to credit, poverty, high transaction costs and unclear property rights are obstacles faced by rural agricultural community women. Men face the same challenge, but they are more pronounced for women. In trying to solve this, microfinance programs in Ghana, such as MASLOC and Rural Banks, have been focusing on women. Yet still, the amount of credit women receive is usually small with unfavorable repayment terms, which makes it unattractive to most women.

Further research has shown that female farmers are more vulnerable to climate change due to limited access to agricultural extension services, access to farmland, and credit has further exacerbated their reliance on outdated farming techniques (Dibakoane, Siyongwana & Shabalala, 2022)

Research has shown that when women have access to credit and land, it can improve their food production and food security significantly (UN Women, 2015). Women's access to land has been linked to increased food production and improved nutrition, which could also lead to reduced poverty (AGRA, 2015). Also, women's access to credit has been

shown to improve their food production and empower them economically (World Bank, 2015).

The Agricultural Development Bank's (ADB) credit program for women farmers is an initiative that has improved women's access to credit (Agricultural Development Bank, 2018). However, issues of gender disparities in land and credit access are still high and more needs to be done to address the issue (Ghana Government, 2017).

This study aims to assess the effect of women's access to land and credit on food production in the Saboba District of Northern Region Ghana. The study will inquire into the difficulties and potentials available for women farmers in the District and provide recommendations that will help to empower women's access to land and credit.

1.2 Problem Statement

Women are vital to the agricultural industry, but women have a difficult time getting access to resources like financing and land. In terms of land ownership, only 10% of women own land for agricultural purposes. This disparity is made worse by the traditional inheritance systems and socio-cultural norms that limit women's ability to access land (N-yanbini & Owusu-Ansah, 2024).

Particularly in Ghana's Northern Region, rural women are essential to agricultural output as a source of income. Even with their significant contribution, women still lack crucial agricultural input and the right to own land. This inconsistency is also apparent in the Saboba District of the Northern Region; women significantly add to food cultivation but still find it hard to secure land for agricultural activities and have no access to credit to improve their production and income level.

In Saboba, women are vital to food cultivation. Women make their income from food production but, women still lack knowledge on how to assess land and credit.

The aim of the study is to investigating the effect of women's access to land and credit on food production in the Saboba District of Northern Region. The aim is to provide policy recommendations to empower rural women through improved access to land and credit. The research will examine the following questions;

1. What are the factors influencing women access to land and credit?
2. What are the effects of women access to land and credit on food production?
3. What are the challenges women face in accessing land and credit in the Saboba district?

1.3 Objectives of the Study

The core aim of the study is to assess how women access to land and credit influence food production in the Saboba District, Northern Region.

The specific objectives are as follows;

1. Identify the main factors affecting women access to land and credit in the Saboba District
2. Estimate the effect of women access to land and credit on food production
3. Identify the obstacles women encounter in accessing land and credit in the Saboba District.

1.4 Relevance of the Study

Most women in many Sub-Sahara Africa countries, especially rural women in Ghana find it difficult to access land and credit. Their women rely heavily on land and credit for their livelihoods, yet can't have access to these resources. Women play a key role in the country's food production, which goes a long way to help the country achieve Millennium Development Goals (Nadasen, N. 2012).

This study provided enough information about the factors affecting women's access to land and credit on food production in the Saboba District and their contribution to the social and economic growth of the District. The study also unveiled the difficulties women encounter accessing land and credit in the District and also calls upon the appropriate agency to add their voices in order for women to receive equal rights to access land and credit.

The study helped women gain knowledge on access to land and credit in the Saboba District and the nation, even though the study is limited to the Saboba District.

Finally, the outcome of this study can be helpful to the Government, Policy makers, Donor Agencies, NGOs, and CSOs in their decision-making. It helps them to understand the challenges women face in accessing land and credit and its effect on food production in the Saboba District. This research may also interest other researchers and developmental partners to conduct an extensive investigation in the subject.

1.5 Delimitations

The research can't cover the whole of the Northern Region, so it is limited to the Saboba District, and this may not be a true representation of the whole Region.

The research is also restricted to a small number of women farmers in the Saboba District.

1.7 Organization of the Study

There are five chapters in the study. The study's background, issue description, research aims, relevance, and delimitations were all included in Chapter 1.

The second section, chapter two (2), includes a theoretical foundation on gender, agriculture, and food production as well as a summary of women's access to land and credit and the difficulties they face.

Research design and methodology, research area and population, sample size, data collection techniques, and data analysis and presentation are all covered in Chapter 3.

The results and a discussion of the key conclusions are presented in Chapter 4. The study's summary, conclusion, and recommendations are included in Chapter 5.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive examination of existing literature related to the research, focusing on women access to land and credit, and the implications for food production. Given the amount of research conducted on this subject, the review selectively examines key studies directly relevant to the research question, synthesizing findings on the current state of women access to land and credit and how it affects agricultural production.

2.2 Fundamentals concepts of the study

This study is grounded in the epistemological assumption that social phenomena, such as the relationship between women's access to land and credit and food production, cannot be fully understood through immediate conscious experience alone (Hesse-Biber, 2019). Therefore, it is essential to clarify the core principles that support the study. The following key principles are central to this study. Explaining these concepts helps the study to provide a better understanding of the interrelationships between women's access to land, credit, and its impact on food production in Saboba, Northern Region, Ghana, and contributes to the existing body of knowledge on gender, land rights, and food production (Agarwal, 2016; Doss et al., 2015; FAO, 2017).

2.2.1 Definition of a woman

The United Nations (UN), describe a woman as “an adult human being who identifies as a female, including individuals who are biologically female, as well as those who identify as female socially, culturally, or psychologically” (UN Women, 2020).

The World Health Organization (WHO) also defines a woman as "an adult human female, typically characterized by two X chromosomes, but also includes individuals who identify as female or have female reproductive organs" (WHO, 2019).

2.2.2 Definition of Land and Credit

According to the World Bank, land is defined as “a vital resource for livelihoods, including agricultural land, grazing land, and common property resources" in the context of rural development. (World Bank, 2020). Land is also, defined as "a physical asset that provides a basis for agricultural production, including arable land, pastureland, and forestland" (IFAD, 2019).

2.2.3 Definition of Food Production

In agricultural economics, food production is defined as "the output of agricultural activities, including crops, livestock, and other food products" (University of California, Davis, 2020). According to the World Bank, food production is "the quantity of food produced within a given area or country, typically measured in terms of calories, tons, or other units" (World Bank, 2020).

2.2.4 Description of Access to Land and Credit

Availability of land is "the ability of individuals or groups to use land for agricultural or other purposes, including ownership, rental, or other forms of tenure" (FAO, 2017). Access to credit is "the availability and affordability of credit for borrowers" (IMF, 2020)

2.3 Historical Context

Historically, women have been marginalized when it comes to land rights in Africa because ownership and access are typically held by lineages, clans, and families, and controlled by male leaders, who would grant usage rights to community or family members, a system that predates colonial rule, according to researchers at the International Food Policy Research Institute (IFPRI) in Washington, DC (Mary, 2008).

The struggle for women's access to land and credit in Saboba, Northern Ghana, is deeply rooted in the region's history (Tsikata, 2003). Before colonial rule, land was held communally, with clan and family leaders controlling access (Agarwal, 1994). Women played vital roles in agriculture but had limited rights to land ownership (Doss, 2013). Market-oriented agriculture increased pressure on land, fragmenting holdings (World Bank, 1990). Women's access to land declined due to increased competition in land usage (IFPRI, 2019).

Grassroots organizations and development groups have been instrumental in empowering peasant economies by enhancing land tenure security and overall working conditions. These efforts have specifically targeted smallholder farmer's groups, agriculture labor unions, women groups, and local communities. These organizations have played a vital role in promoting the rights and interests of marginalized communities, improving their livelihoods, and fostering more equitable development (Ghimire, 2001).

During the Pre-colonial era, traditional credit systems relied on social relationships and trust before one could have access to credit (Aryeetey, 2008). The colonial powers introduced formal banking into the system, but credit access was limited to only European settlers and elites (Ghana Statistical Service, 2013). Exploitative lending practices, including high interest rates and debt traps, exploited local populations (Ghimire, 2001).

2.4 Women's access to land

There are differences in the definitions of ownership, access, and control of land (GAAP 2013). When comparing various outcomes on gender gaps in land ownership and access, establishing criteria and benchmarks helps attain a thorough grasp regarding the gender component of land tenure. The process of obtaining property rights by legally mandated or customary means is known as ownership of land. The ownership of the land might be individual, joint, or collective (Doss et al. 2013). When land is jointly or collectively owned, ownership may indicate limited individual control or decision-making power on utilizing and perhaps monetizing the land. In Africa, although a couple may own land jointly, both genders may have different use entitlements and levels of authority. In contrast to ownership, access to land denotes the ability to utilize it temporarily without having complete control over how it is used or disposed of (Duncan & Brants 2004). The unstable position of women's land rights once the marriage ends due to death or divorce is demonstrated in research from Ghana (Duncan & Brants 2004) and southern Africa (Mutangadura 2007). Widows sometimes need to depend on their sons' continuing access to land in order to maintain their land use rights after a divorce. The land of her late spouse is off-limits to widows who are childless. Women are not allowed to own property or enter some industries

because of cultural beliefs that they are only temporary members of the family. Men contend that if women are permitted to inherit, the land will belong to the husband's family once she marries to preserve their supremacy over the inheritance of productive resources (Bonye & Kpieta 2012). According to Bonye and Kpieta (2012), women in Northern Ghana are unable to make sacrifices for the land since it is a duty that is allocated for men as caretakers, which restricts their access to fields due to the spiritual importance associated with it. Women cannot own land if they are unable to make sacrifices. They are sometimes regarded as individuals who should not be trusted with the care of a valuable asset, such as land.

Women's access to land is improving in Ghana's Upper East Region as more males are prepared to provide it to them for farming since they understand how much women contribute to the family's income (Bonye & Kpieta 2012). The difficulties of women land access in agricultural production are important for meeting sustainable development, food security, and gender balance. Women have made tremendous contributions to agriculture, but they still face enormous obstacles when it comes to obtaining land—a vital resource for farming. Research has indicated that gender inequalities in land ownership and inheritance frequently restrict women's access to land (Agarwal, 1994; Doss et al., 2015). Moreover, women frequently have limited stable tenure and property rights, making their access to land uncertain (Deere & Leon, 2001; UN Women, 2019). Reduced productivity, less food security, and a decline in land investment may result from this (Kantor, 2003; World Bank, 2019). According to empirical data, women's access to land can significantly improve food security, agricultural productivity, and the fight against poverty (Agarwal, 1994; Doss et al., 2015). Increased land investment, higher productivity, and improved

livelihoods can result from women controlling and owning land (Kantor, 2003; World Bank, 2019). Furthermore, women's access to land can help promote improved socioeconomic outcomes, a fairer distribution of resources, and a decrease in gender-based violence (Razavi, 2003; UN Women, 2019).

Policymakers and practitioners must take a holistic approach that tackles legal, social, and economic barriers to overcome the difficulties women encounter while acquiring land (Deere & Leon, 2001; UN Women, 2019). This entails enhanced access to credit and financial services and legislative changes to eliminate gender disparities in land inheritance and ownership.

2.5 Women Contribution to Food Production

Worldwide, women are vital to food cultivation, particularly in developing nations. Women produce 60% to 80 % of food in developing countries and account for about 43% of the global agriculture labor force (FAO, 2017). Women manage about 30 to 40% of small-scale farms in developing countries (IFAD, 2019).

Women produce about 70 to 80% of food crops in Sub-Saharan Africa (Doss, 2013) and about 60% of the agricultural labor force is comprised of women (Africa Development Bank, 2019). In Ghana, Women produce more than half of our stable crops. According to MoFA, women produce 50 to 60% of the country's stable crops, and about 40% of the country's labor force are women (MoFA, 2019). Women contribute to the country's food production through crop cultivation and harvesting, livestock management, post-harvest processing and storage and marketing or sales.

2.6.1 Agriculture Policies in Developing Countries

The 1992 book Agricultural Policies in Developing Countries addresses household borrowing, saving, and investing behavior regardless the type of financial markets the households operates in. The majority of the time, farmers have no resources to save, and if they do, their ability to save is quite limited, claim Tornell and Westermann (2003). It is therefore difficult to obtain loans to make investments. To obtain credit for investments, a person must have money. This suggests a direct correlation between loans and investment. If the farmer receives credit, he or she can utilize it to further their agricultural endeavors. Furthermore, farmers can increase productivity and revenue levels by using the loan that is available to them. The farmer's standard of living will rise as a consequence. According to Ellis and Flannery (1992), the theory further suggests that a suitable and effective rural financial institution can convert rural resources into investable money by channeling savings.

In the sense that it is subtractable and excludable, credit may benefit private suppliers, yet these characteristics alone may not be enough, according to Garland et al. (2005). This is because risk and incomplete information are combined in the credit market.

2.6.2 Government Subsidies to Small-Scale Farmers

There has been a contention that the government ought to help rural credit so as to facilitate finance access for farmers, and business owners in remote areas. Olomola and Yaro (2015), however, made the observation that subsidized loans frequently go into the hands of comparatively wealthy individuals with wider economic interests. According to two World Bank and OECD studies on Mexico, Pakistan, and the Philippines, just 25–50% of the bank

loans made in these nations are thought to have aided in the development of agriculture. The public sector should concentrate on lowering the risk that individual lenders confront rather than offering loans at subsidized rates and thereby decreasing the chances for the creation of a functional private credit system (Olomola & Yaro, 2015). Savings account revenue is seen as a crucial component of a self-sustaining credit institution. Strong savings are thought to lessen reliance on outside financing. Additionally, the same individuals are sought after by borrowers and savers in the community at various times, which lowers the information cost of transactions. Once more, it is believed that those who are affiliated with an institution for both borrowing and saving have a lower default rate (Awunyo-Vitor, 2012).

Smallholder farmers are multifaceted individuals who operate as dealers, investors, consumers, and entrepreneurs throughout the majority of the world (Kloeppinger-Todd et al., 2010). Smallholder agricultural producers in all these roles are always looking for ways to use credit tools available to increase their production as well as ensure that their families are getting the best investments and consumption alternatives. However, the range of financial services that small farmers in developing nations have access to is extremely limited, particularly for those who reside in isolated locations without access to the most basic market infrastructure (Kloeppinger-Todd et al., 2010). One of the most important components of a self-sustaining credit institution is the money that is generated by savers. Strong savings are thought to lessen reliance on outside financing. Additionally, the same individuals are pursued by borrowers and savers in the community at various times, which lowers the cost of acquiring transactional information. Again, it is believed that default is less likely to occur among those who have a relationship with an agency for both borrowing

and saving. Ellis, Frank (1992). The implication is that there is a lower chance of payment default because the organization created to mobilize savings is owned by the community's members. Yaron (1992) consequently gave an example of a successful credit system in Indonesia and Thailand, where lending has been financed mostly by voluntary rural savings over a very short period.

The aforementioned research leads to the conclusion that in order to produce a sustainable credit scheme for rural agricultural growth and to preserve a balance between urban and rural development, a self-sustaining credit scheme that promotes community-saving mobilization is required (World Bank Group, 2016).

2.7 Quality of land allocated to women

Parameters including soil fertility, soil depth, soil type, and vegetation cover can be used to evaluate land quality (Kassie 2014). In addition to these researcher-developed metrics, farmers' qualitative assessments are included. While researchers may be evaluating the nutrients in the soil to evaluate soil fertility, farmers may use the color of the soil and the degree of erosion to judge the condition of the land (Tesfahunegn et al. 2014). Studies have suggested that, in addition to the disparity in access to land between genders, women's land is of lower quality and yields less than that of men's land (Perez 2014). When analyzing gender disparities in farming, productivity is sometimes employed as a proxy for land quality (IFAD 2014). These reasons are debatable because other characteristics, such as location, distance, access to water, and exposure to catastrophes, may impact land quality, which is not always dictated by high production (Kassie et al. 2011).

2.8 Conclusion

This comprehensive literature review has synthesized existing knowledge on women access to land and credit and the implications on food production in Saboba, Northern Ghana. The review has highlighted the complex relationships between these variables, underscoring the vital contribution of women in food production. The study review shows that women don't have access to land ownership and control, which hinders their agricultural productivity. Women facing restricted access to credit and financial services have also exacerbated their vulnerability in the agricultural sector. Cultural and social barriers have also played a role in gender disparities in land and credit access. In addition, the research review shows that women are vital in agriculture and can improve their food productivity if women are empowered to get available lands and credit.

Theoretical and empirical evidence suggests that addressing these inequalities is crucial for attaining sustainable development, food security, and gender balance. Future research should focus on context-specific solutions, climate change impacts, and effective policies to promote gender equality in agriculture.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the various study methodologies. The research used qualitative and quantitative research techniques. This method allows for an extensive understanding of the research problem in this study and combines the benefits of both methodologies.

3.2 Research Design

In order to increase the validity and rigor of the results, this study employed a mixed-methods approach, combining the benefits of qualitative and quantitative methodologies. Cross-validation of the results and a more nuanced understanding of the research problem were made possible by triangulating the qualitative and quantitative data. The aim is to measure variables, test hypotheses, and predict outcomes. (Creswell, 2022). Qualitative research refers to the collection, and analysis of non-numerical data, like text, images, and observations, to gain more understanding of phenomena, and meanings (Denzin & Lincoln, 2021). The study will focus on the use of qualitative methods, even though both quantitative and qualitative approaches will be employed.

3.3 Sources of Data

The study used quantitative and qualitative data. The data was sourced primarily. Data was collected by employing various research instruments such as face-to-face interviews, observation, and household questionnaires. The study adopts several techniques for data collection to minimize the bias inherent in a single-method approach (Bryman, 2016).

3.4 Data Collection Methods

The study employed quantitative and qualitative methods to collect data. Face-to-face interviews and observation were used to get Data from respondents. Survey questionnaires were also used to get Data on demographic characteristics, land ownership and access, credit access and usage, farm inputs, household income, extension service, household expenditure, farm size, and household size to determine the correlations between women's access to land and credit and food production.

3.5 Sampling Size and Technique

Women farmers in the Saboba District were the target population of the research. The research used 100 farmers who cultivates various crops as the sample size. The formula below was used to estimate the needed sample size for the study.

$$n = (Z^2 * p * (1-p)) / E^2$$

Where n= The required sample size, z= the confidence level of 95% (Standard value of 1.96), p= estimated population percentage under study (10% or 0.1), E=margin of error at 5% (standard value of 0.05). Based on the above parameters, the sample size calculated was 100 respondents (Cochran, W.G. 1977).

The study used multiple methods to select women for the study. 10 communities were selected from the district using simple random from. Then, 10 households were selected from each of the 10 communities using the stratified sampling techniques. Lastly, one respondent was selected from each of the 10 households in the 10 communities in the District.

3.6 Data analysis and Presentations

A mixed-method approach was used to review the data collected. The study used quantitative and qualitative methods to review the data. Descriptive analysis, such as frequencies and percentages, were used to describe the demographic characteristics of respondents and their access to land and credit. Correlation analysis was used to establish the relationship between women access to land and credit and food production. The study used bivariate probit analyses to establish the factors that influence access to land and credit and the effects on food production in the Soboba District, Northern Region. The study analyses the relationship between women's access to land and credit and alternative variables such as level of education, farm inputs, extension service, household income, secure land rights, and age. The data collected was analyzed using STATA. The software was use to generate determinant variables, frequencies, tables, and charts.

3.7 Study Area

The study talks about the study area under this section. The geographical setting, population characteristics and the economic activities of the research area.

3.7.1 Location and Size

Saboba is located in West Africa, Northern Region, Ghana. Saboba is located approximately 150 kilometers Northeast of Tamale, the regional capital and 500 kilometers north of Accra, the national capital. The District shares borders with Gushegu, Zabzugu, Karaga and Yendi. The District covers a total land area of 2,461 square kilometers, which is 4.5% of the total land area of the Northern Region (Population and Housing Census, 2020).

3.7.2 Demographic Characteristics

Saboba district has a total population of 83,647, of which 41,441 (49.6%) represent males, and 42,206 (50.4%) represent females. About 34,111 (40.8%) are under 15, 44,511 (53.3%) are between 15-59, and 5,025 (6.0%) are 60 and above. The District has a total household of 14,311 with an average household size of 5.8. The district is dominated by Konkomba, Dagomba and Mossi. In terms of religion, 44.1% of the population are Christians, 31.4% are Muslims and 24.5% are Traditional believers. The District has a high literacy rate of 54.1%, 53.2% are Males and 45.5% are females (Population and Housing Census, 2020).

3.7.3 Economic Activities

Agriculture is the mainstay of the district local economy. Major crops cultivated are Soy-beans, maize, rice, groundnut, yam and vegetables such as okoro and pepper. Some of the inhabitants also rear livestock such as cattle, sheep, goats, and poultry. Some also use the white Volta River for fishing, which is the main source of protein for the inhabitants (Population and Housing Census, 2010). The inhabitants also venture into small-scale industries such as food processing, blacksmithing, carpentry, and craft production (Saboba District Assembly, 2019). The Saboba and Nambiri Market also provide trade opportunities for the inhabitants to trade in agricultural produce such as crops, livestock and handicrafts (Population and Housing Census, 2010). The Saboba Forest Reserve also provide teak and mahogany for timber production. The land is also used for sand and gold mining. Some of the challenges faced by the District are limited access to market and credit, poor road network, climate change and environmental degradation (Saboba District Assembly, 2014).

CHAPTER FOUR

DATA ANALYSIS AND RESULTS DISCUSSION

4.0 Introduction

This section of the study presents the data review and discusses the results of the research. The study concisely and vividly chapter presents the outcomes and examination on the preliminary evidence of the research, determinants of access to land and access to credit. It further discussed the effects of access to land and access to credit, and the challenges of access to credit.

4.1 Preliminary Results

This part of the research showcases the preliminary outcomes. It entails the population characteristics of the respondents and statistics summary of selected factors. The demographic characteristics (frequency and percentages) of respondents such as age, marital status, education, occupation, tribe and religion, whereas the summary statistics (frequency and percentages) of the selected variables are access to land, source of land, access to credit, source of credit, purpose of credit, changes in output and types of changes in farm output.

4.1.1 Population Characteristics of Respondents

The outcomes in Table 4.1 indicate that, out of 100 respondents surveyed, most of the participants (33%) were between the age range of 39-48 years; next by 29-38 years with 32%; ages ranging from 18-28 years were 18% while 49+ were 17%. On marital status of respondents, most of the participants representing 60% were married; 17% of the respondents were single; 12% of the respondents were divorced while 11% were widowed. With

education, the results show that 45% of the respondents were not educated; 16% of the respondents had Primary and JHS education;13% of the respondents had SHS education while only 10% of the participants had Tertiary education. Farming dominated the occupation of the respondents with 83%; 2% of them were traders while 15% were in other occupations. On Ethnicity, most of the women (76%) were Komkombas; 10% of them were Mossi, 2% of the women were Dagbombas and 12% were from other tribes. Finally, with religion 9% were Muslims, 73% were Christianity and 18% profess to be Traditionalist.

Table 4.1: Population Characteristics of Participants

Variable	Frequency	Percentage (%)
Age		
18-28	18	18
29-38	32	32
39-48	33	33
49+	17	17
Marital Status		
Single	17	17
Married	60	60
Divorce	12	12
Widowed	11	11
Education		
None	45	45
Primary	16	16
JHS	16	16
SHS	13	13
Tertiary	10	10
Occupation		
Farming	83	83
Trading	2	2
Others	15	15
Tribe		
Dagbomba	2	2
Komkomba	76	76
Mossi	10	10
Other	12	2
Religion		
Muslim	9	9
Christianity	73	73
Traditionalist	18	18

Note: JHS stands for Junior High School, and SHS stands for Senior High School.
Source: Field Survey, 2025.

4.1.2 Statistics Summary of Variables

In Table 4.2, the study shows statistics summary of variables. The results show that out of the 100 respondents; 84% of the women had access to land while 16 did not have access to land. On the source of land, the majority of the women (48%) indicated family as the source of the land; 6% indicated Chiefs as the source of the land; 25% stated inheritance as the

main source of land; 2% of the women indicated they purchase the land while indicated the land were leased to them.

Table 4.2: Summary Statistics of Variables

Variable	Frequency	Percentage (%)
Access to Land		
Yes	84	84
No	16	16
Source of Land		
None	16	16
Chief	6	6
Family	48	48
Inheritance	25	25
Lease	3	3
Purchase	2	2
Access to Credit		
Yes	55	55
No	45	45
Source of Credit		
Bank	9	16.36
Family	11	20.00
Friend	9	16.36
Microfinance/Cooperative	7	12.73
Susu	19	34.55
Purpose of Credit Access		
Farm Expansion	13	23.64
Inputs Purchase	42	76.36
Changes in Output		
Yes	75	75
No	23	23
Maybe	2	2
Type of Change in Output		
Positive	41	53.25
Negative	36	46.75

Source: Field Survey, 2025.

The study further revealed that most of the women (55%) had access to credit while 45% of the women did not have access to credit. Also, the study discovered that most of the women, representing 34.55% indicated Susu as the source of credit, implying that Susu is their main source of credit. This finding is in line with the study of Silong and Gadanakis

(2020), whose study found that the main source of credit to women is from informal sources. The results further show that 20% specified Family as the source of their credit; 16.63% stated Friends and Banks as their source of credit while 12.73% disclosed Micro-finance/Cooperatives as their source of credit. With the purpose of Credit Access, 76.36% of the women indicated farm inputs as the main reason for sourcing credit whereas 23.64 took credit for the expansion of their farms. This finding agrees with the findings of Saqib et al. (2018), whose study found that the majority of smallholder farmers source for credit to buy farm inputs. On changes in the output of the farm, 75% of the respondents indicated there was a change in out; 23% said there were no changes in farm output while 2% were doubtful about the change in output. As to whether the change was positive change or negative change; 53.25% indicated there was a positive change while 46.75% revealed there was a negative change in farm output.

4.2 Determinants of Access to Land and Access to Credit

The study presents the bivariate indicators of access to land and access to credit in Table 4.3. The outcome show that age has a negative significant relationship (-0.5109) at 10% significant level with women's access to land. The results indicated that if age increases by 1%, access to land is likely to decrease by -0.5109; implying that the younger a woman the less likelihood a woman will have access to land. Conversely, age has a positive insignificant relationship with women's access to credit. The results indicated that if age increases by 1%, access to credit is likely to increase by 0.3234. This implies that the more the age of the woman the more likelihood of the woman having access to credit. Furthermore, educational level shows a negative insignificant relationship with access to land by -0.0341 and positive significant relationship with access to credit at 5% significant level, indicating

that a 1% increase in educational level will result in 0.0341 decrease in the likelihood of access to land and a 0.3479 increase in the likelihood credit access at 5% significant level. This result suggests that the higher the education level more likely the access to credit and the lower the education level more likelihood of access to land.

Table 4.3: Biprobit on the Determinants of Access to Land and Access to Credit

Variable	Coefficient	Standard Error	Z-Value	95% Confidence Interval
Access to Land				
Age	-0.5109*	0.2824	-1.82	-1.0624
Marital Status	0.5447	0.4004	1.36	-0.2402
Educational Level	-0.0341	0.1711	-0.20	-0.3694
Household Income	-0.5854*	0.3334	-1.76	-1.2389
Extension Services	-0.3018	0.3959	-0.76	-1.0778
Secure Land Right	1.3496***	0.4557	2.96	0.4742
Farm Output	0.3149	0.1677	1.88	-0.0136
Tribe	0.2831*	0.2804	1.01	-0.2666
Constant	-0.5335	1.1946	-0.45	-2.875
Access to Credit				
Age	0.3234	0.2554	1.27	-0.8239
Marital Status	0.0349	0.2815	0.12	-0.5169
Educational Level	0.3479**	0.1569	2.22	0.0427
Household Income	-0.0354	0.2295	-0.15	-0.4852
Extension Services	2.1859***	0.4201	5.20	1.3623
Secure Land Right	0.2297	0.3977	0.58	-0.5497
Farm Output	0.08407	0.06141	1.37	0.2044
Tribe	0.8029***	0.27096	2.96	0.2719
Constant	-4.6896***	1.3288	-3.53	-7.2941
/athrho	0.1579	0.3000	0.53	-0.4302
Likelihood ratio test of ρ=0				
Observation	100			
Wald Chi^2 (28)	47.93			
Probit. > Chi^2	0.0000			

Legend: * Significant level at 10%, ** Significant level at 5% * Significant level at 1%**
Source: Field Survey, 2025.

Similarly, access to extension services has a negative insignificant relationship with access to land but a positive significant relationship at 1% with access to credit by -0.3017 and

2.1859 respectively. Contrariwise, household income has a negative significant relationship with access to land at 10% and an insignificant positive relationship with access to credit. Secure land right has a very strong positive relationship with access to land but an insignificant positive relationship with access to credit. That is a 1% increase in Secure land rights, which results in 1.3496 access to land at a 1% significant level, while it will result in 0.2298 access to credit. Inversely, tribe has a positive insignificant relationship with access to land while it shows a strong relationship with access to credit at 1%. That is 1% increase in tribe will result in a 0.2831 likelihood of access to land, while 1% increase in tribe will result in a 0.8029 chance of access to credit.

4.3 Challenges of Women Access to Credit

One of the objectives of this study is to find out the difficulties women encounter in accessing credit for agricultural purpose. The results in Table 4.4 and Figure 1 present the number of farmers who face access to credit challenges and the main challenges, respectively.

4.3.1 Access to Credit

Table 4.4 shows the descriptive statistics on the challenges in access to credit. The results indicate that 65% of the women revealed that they have challenges in accessing credit, while 35% of the women indicated they did not have access to credit.

Table 4.4: Descriptive Statistics on Challenges of Access to Credit

Credit Access	Frequency	Percentage (%)
Yes	65	65
No	35	35

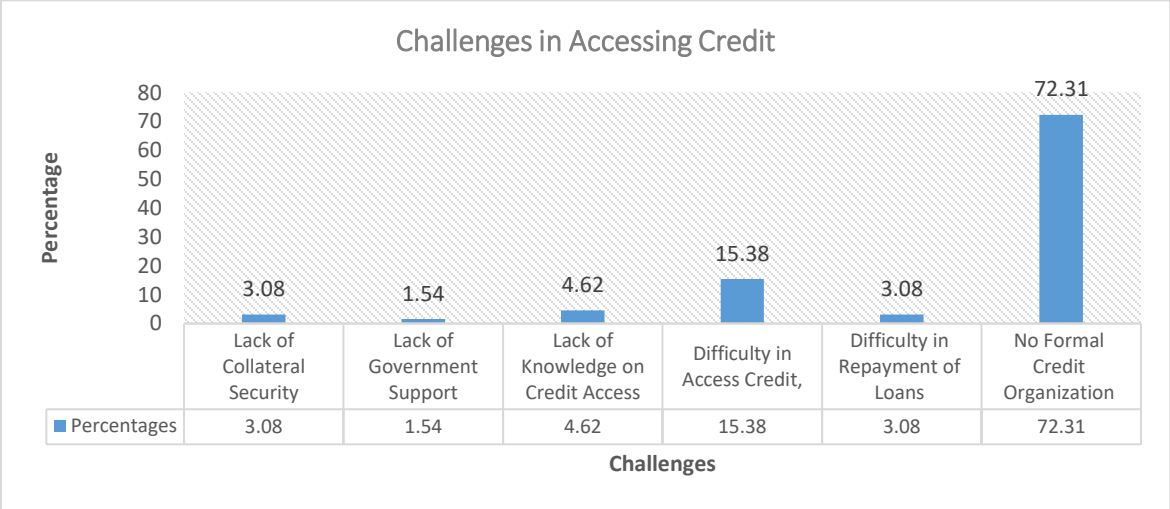
Total	**100**	**100**

Source: Field Survey, 2025.

4.3.2 Main Challenges in Accessing Credit

The main challenges affecting women's access to credit identified by this study were Lack of Collateral Security, Lack of Government Support, Lack of Knowledge on Credit Access, Difficulty in Access Credit, Difficulty in Repayment of Loans and No Formal Credit Organization.

Figure 1: Main Challenges in Accessing Credit



Source: Field Survey, 2025

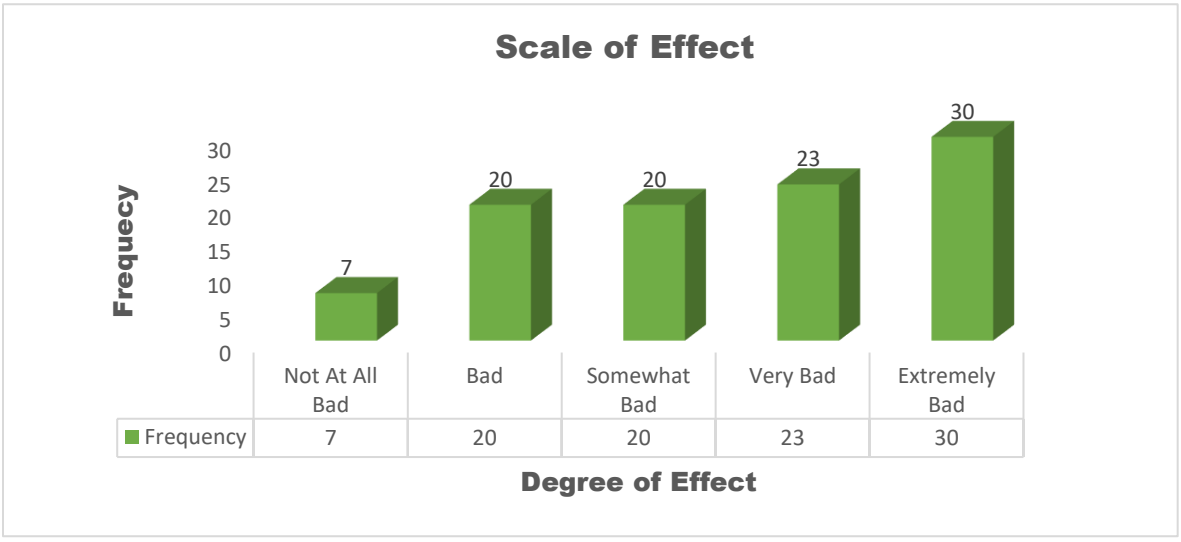
Figure 1 presents the difficulties women encounter in accessing credit for agriculture activities. The results disclosed that the majority of the women (72.31) indicated No Formal Credit Organization as the main challenge in affecting credit access. Difficulty in Accessing Credit was the second major challenge affecting women's access to credit with 15.38%; women with a Lack of Knowledge in Access Credit were 4.62%; Lack of collateral security

was 3.08%. This finding portrays a lack of collateral security as a key factor in accessing credit, which is in line with the findings of Chandio et al. (2021). Similarly, the Difficulty in repayments of loans was 3.08% while 1.54% of the women indicated the Lack of Government Support as the main challenge to accessing credit.

4.4 Effects of Access to Land and Access to Credit on Food Productivity

In Figure 2, the study presents women's rating of the effect of access to land and credit on their productivity. The results indicated that out of the 100 women, 7 of the women believed that access to credit and land did not negatively affect their productivity or was Not at All Bad; 20 of them were of the view that the effect of access to land and credit is Bad on their productivity. Equally, 20 of the women believed the effect of access to land and credit is Somewhat Bad; 23 of the women believed that the effect of access to land and credit is Very Bad while 30 of the women believed the effect of access to land and credit is Extremely Bad.

Figure 2: Effects of Access to Land and Credit



Source: Field Survey, 2025

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section of the research shows the summary of findings, conclusion and recommendations on the determinants of women's access to credit to land and access to credit, the effects of inadequate access to land and credit and challenges in accessing land and credit. The chapter deliberates and summarizes the findings of the study, draws appropriate conclusions and makes insightful recommendations to guide stakeholders.

5.1 Summary of Findings

This research investigates the factors affecting women access to land and credit on food productivity in the Saboba District, Northern Region of Ghana, using field survey data collected in 2025. The research adds to existing literature on the determinants, effects and challenges of access to land and credit in rural northern Ghana. This section particularly presents the summary findings of the study based on the objectives of the study. That is, it distinctively summarises the findings of the study into sub-headings to ensure vivid presentation and understanding.

5.1.1 Determinants of Women Access to Land and Credit

The study employed a bivariate probit model to analyse the determinants of access to land and credit in the Saboba District of Northern Ghana. The biprobit results indicated age has a negative significant relationship with women's access to land at 10% significant level. Conversely, age has a positive insignificant relation with women's access to credit. Also, educational level shows a negative insignificant relation with access to land by -0.0341 and

positive significant relationship with access to credit (0.3479) at 5% significant level. The results further showed revealed that access to extension services has a negative insignificant relationship with access to land but a positive significant relationship at 1% significant level with access to credit. Farm output has a strong significant relationship with access to land at 10% and an insignificant negative relationship with access to credit. Inversely, household income has a negative significant relationship with access to land at 10% and insignificant positive relationship with access to credit. Secure land right has a very strong positive relationship with access to land but an insignificant positive relationship with access to credit. Finally, the tribe had a positive insignificant relationship with access to land while it shows a strong relationship with access to credit at 1%.

5.1.2 Challenges Affecting Women's Access to Credit

This study used descriptive statistics and charts to present the challenges affecting women's access to credit. The study found that 72.31% of the women indicated No Formal Credit Organization in the district as the main challenge affecting women's access to credit. Also, Difficulty in Accessing Credit was identified as a major challenge affecting women's access to credit with 15.38%. Lack of Knowledge in Access Credit and Lack of collateral security were 4.62% and 3.08% respectively as the main challenges to accessing credit. Additionally, the difficulty in repayments of loans as a main challenge to accessing credit was 3.08%. In fact, 1.54% of the women indicated Lack of Government Support as the main challenge to accessing credit.

5.1.3 Effects of Access to Land and Access to Credit on Food Productivity

The study used a scale of effects (1-Not at All Bad, 2-Bad, 3-Somewhat Bad, 4-Very Bad and 5-Extremely Bad) to analyze the results on the factors affectin access to land and credit on food productivity and present the results using a Chart. The results indicated that out of the 100 women, 30 of the women believed the effect of access to land and credit on food productivity is Extremely Bad whereas 23 of the women believed that the effect of access to land and credit on productivity is Very Bad. Again, 20 of them were of the view that the effect of access to land and credit is Bad and equally, 20 of the women believed the effect of access to land and credit is Somewhat Bad.

5.2 Conclusion

The study aimed to examine the effects of women's access to land and credit on food productivity in the Saboba district of the northern region of Ghana. The study found that the age, farm output, household income and secure land right are significant determinants of access to land. However, these variables (age, farm output, household income and secure land right) are not strong determinants of access to land. Conversely, educational level of women, access to agriculture extension services and tribe are strong determinants of access to credit. The study further revealed that the effects of women's access to land and credit are bad on food productivity with 93% (30% extremely bad, 23 bad, 20% somewhat bad and 20% very bad) indicating such. It was further disclosed that the core challenge affecting women's access to credit was lack of formal credit organization in the district with over 72% indicating this challenge. In all, access to agriculture land is a challenge to women in Saboba district of northern Ghana. Even so, access to credit is worse in the district and has

severe impacts on food cultivation and consequently, food security and income of women farmers in the district

5.3 Research Recommendations

Taking into consideration the study findings, the research recommends that stakeholders in the agriculture sector, particularly in the district and region, should lobby for a formal agricultural credit organization to be established in the districts or key communities in the district. Also, the government should provide agriculture credit schemes such as inputs credits to farmers in the Saboba district, since most farmers seek for credit to buy inputs. Finally, chiefs and farm landlords should make land available for women farmers for cultivation in the district.

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APPENDICES

Appendix 1: Descriptive Statistics of Variables

Variables	Observation	Mean	Standard Dev.	Min.	Max.
Age	100	2.49	0.979	1	4
Marital Status	100	2.17	0.842	1	4
Household Size	100	23.17	12.964	6	64
Educational Level	100	2.27	1.406	1	5
Years of Farm Experience	100	2.58	0.606	1	3
Occupation	100	1.32	0.723	1	3
Farm Size	100	2.67	1.832	1	10
Extension Services	100	0.36	0.4824	0	1
Farm Output	100	7.19	4.505	2	25
Household Income	100	2.27	1.196	1	4
Household Expenditure	100	2.64	1.915	1	6
Secure Land Right	100	0.57	0.497	0	1
Tribe	100	2.32	0.709	1	4
Religion	100	2.09	0.514	1	3

Appendix 2: Questionnaire

Introduction and Consent

The research is conducted by a graduate student of the University for Development Studies for the award of Master of Science degree in Agricultural Project Management. The aim of the study is to assess the effect of women's access to land and credit on food production in the Saboba District of Northern Region.

Be rest assured that the information provided will not be shared and will be used only for academic work. You may choose to participate or not, but we would appreciate it if you could make time to respond to the following questions. Your honest feedback will be needed to get a true reflection in your community.

A: Demographic Information

1. Select your age range (18-28, 29-38, 39-48, Above 49)
2. Sex (Male/Female)
3. Marital Status (Single, Married, Divorce, Widowed)
4. Education Level (Primary, JHS, SHS, Tertiary, Other/No)
5. Religion: (Muslim, Christianity and Traditionalist)
6. Ethnicity/Tribe (Komkomba, Dagomba, Mossi, Other)
7. Main Occupation (Farming, Trading, Other)

Section B: Land Ownership and Access

1. Do you own land? (Yes/No)
2. If yes, how much land do you own? (Acres)
3. Method of land acquisition? (Inheritance/Purchase/Lease/Chief)
4. Do you have secure rights to the land? (Yes/No)

Section C: Credit Access and Usage

1. Have you ever accessed credit? (Yes/No)
2. If yes, from which source(s)? (Bank/Microfinance/Cooperative/Family/Friends)
3. How much credit have you accessed? (Amount)
4. What was the credit used for? (Input purchase/Equipment/Farm expansion)
5. Have you had challenges in accessing credit? (Yes/No)
6. If yes what are the challenges?

Section D: Food Production

1. What crops do you produce? (List)
2. How many lands do have for farming? (Acres)
3. What is your average annual production? (Quantity)

4. Have you experienced any changes in food production levels? (Yes/No)

5. If yes, positive/negative

Section E: Impact of Land and Credit Access on Food Production

1. How has access to land affected your food production? (Scale: 1-5)

2. How has access to credit affected your food production? (Scale: 1-5)

3. Have you experienced any challenges in accessing land or credit? (Yes/No)

4. If yes, what are the challenges? (List)

5. How do you think land and credit access could be improved? (Suggestions)

Section F: Household information

1. Household size: _____
2. Household income? (100-500, 500-1000, 1000-1500, Above 1500)
3. Household expenditure (100-300, 301-550, 551-750, 751-950, 951-1150, Above 1150)
4. Does your household have access to Agric extension officers? (Yes/No)
5. Years of experience as a farmer? _____
6. Is there any additional information you would like to share about your experiences with land and credit access and food production?

We appreciate you taking time to participate in this study. Your answer will help us better understand the effect of women's access to land and loans on food production in Saboba District of Northern Region, Ghana.

Thank you!!!