

Factors determining credit accessibility among women crop farmers in the Ogbomoso Agricultural Development Programme (ADP) Zone of Oyo State, Nigeria

Damilola Toluse Adeomi¹, Deborah Tosin Fajobi¹, Olasunbo Kafilat Jubree², Temitope Janet Ojedirin² & Gbohunmi Damisola Ajibesin²

¹ Department of Agricultural Economics, Ladoke Akintola University of Technology, Ogbomoso, 21021, Nigeria

² Department of Agricultural Extension and Rural Development, Ladoke Akintola University of Technology, Ogbomoso, 21021, Nigeria

Corresponding author: Damilola Toluse Adeomi, Department of Agricultural Economics, Ladoke Akintola University of Technology, Ogbomoso, 21021, Nigeria, Email: damilolaajibesin@gmail.com

Submitted: April 18, 2026

DOI: 10.14295/bjs.v5i8.899

Accepted: May 26, 2026

URL: <https://doi.org/10.14295/bjs.v5i8.899>

Published: June 17, 2026

Abstract

Agricultural credit is an important tool for agricultural transformation and growth in an economy. This study examined the factors determining credit accessibility among women crop farmers in the Ogbomoso Agricultural Development Programme zone of Oyo State, Nigeria. Women crop farmers were randomly selected for the study using a multistage sampling technique. The data obtained for the study were analyzed using descriptive statistics and a binary logistic regression model. The result indicated that 76.7% of the women crop farmers were married, with an average household size of 6 persons and an average farming experience of 17 years. The result revealed that women crop farmers in the study area sourced credit from cooperatives, community savings, and commercial banks, among others. The result further showed that age, being a member of a cooperative society, and number of times visited by the extension agent were significant factors determining credit accessibility among women crop farmers in the study area. The result indicated that distance to financial institutions, high interest rate charges, short loan repayment period, inadequate credit information and awareness, among others, were significant constraints to credit access among women crop farmers.

Keywords: credit, credit accessibility, women crop farmers.

Fatores determinantes da acessibilidade ao crédito entre mulheres agricultoras produtoras de culturas agrícolas na Zona do Programa de Desenvolvimento Agrícola (ADP) de Ogbomoso, Estado de Oyo, Nigéria

Resumo

O crédito agrícola é uma ferramenta importante para a transformação e o crescimento da agricultura em uma economia. Este estudo examinou os fatores determinantes da acessibilidade ao crédito entre mulheres agricultoras produtoras de culturas agrícolas na Zona do Programa de Desenvolvimento Agrícola (ADP) de Ogbomoso, no Estado de Oyo, Nigéria. As participantes foram selecionadas aleatoriamente por meio de uma técnica de amostragem em múltiplos estágios. Os dados obtidos foram analisados utilizando estatística descritiva e um modelo de regressão logística binária. Os resultados indicaram que 76,7% das agricultoras eram casadas, com tamanho médio do domicílio de 6 pessoas e experiência média de 17 anos na atividade agrícola. Verificou-se que as mulheres agricultoras da área de estudo obtinham crédito por meio de cooperativas, poupanças comunitárias e bancos comerciais, entre outras fontes. Além disso, os resultados mostraram que a idade, a participação em cooperativas e o número de visitas recebidas de agentes de extensão rural foram fatores significativos na determinação do acesso ao crédito entre as agricultoras da região. Os resultados também indicaram que a distância até as instituições financeiras, as elevadas taxas de juros, os curtos prazos de

reembolso dos empréstimos e a insuficiência de informações e conscientização sobre crédito, entre outros fatores, constituíram restrições significativas ao acesso ao crédito pelas mulheres agricultoras.

Palavras-chave: crédito, acesso ao crédito, mulheres agricultoras produtoras de culturas agrícolas.

1. Introduction

In Nigeria, the agricultural sector remains a major contributor to the economy, employing more than 60% of the rural population and accounting for approximately 25% of the Gross Domestic Product (World Bank, 2020). In the sector, one of the important factors in improving farm productivity, income, as well as the livelihood of rural farmers, especially women, is having access to credit. In developing countries like Nigeria, women make up a sizeable proportion of the workforce, particularly in crop production in the agricultural sector (FAO, 2011). Within this sector, the involvement of women in crop farming is increasing, but they continue to face disproportionate barriers in accessing credit due to factors such as lack of collateral, low literacy levels, institutional discrimination, and socio-cultural norms (Akinbami et al., 2019).

Despite their vital contribution to food security and rural development, women farmers have limited access to farm inputs, agricultural extension services, and credit, among others (Girma et al., 2026; Mkandawire; Miura, 2026; Odoemenen; Obinne, 2010; FAO, 2019) and are often faced with constraints in accessing resources for production, with credit being one of the most limited factors (Olawuyi; Adetunji, 2013). Limited availability of credit among farming households has affected the income activities of farmers as a result of lack of capital for investment, which has prevented farmers from adopting improved farming practices (Ajah et al., 2018; Kambali; Panakaje, 2022; Ping et al., 2022).

Credit is essential for acquiring farm inputs, hiring labor, expanding farm size, adopting improved technologies, and increasing income among rural farmers in Nigeria (Akpan et al., 2013a), yet most women depend on informal sources such as thrift groups, cooperative societies, or family loans, which are often insufficient. Credit can be obtained from both formal and informal sources (Olomola; Yaro, 2015; Nweze, 2011). Formal sources include credit institutions, commercial banks, microfinance banks, government and cooperative societies, while informal sources include friends, local money lenders, traders and merchants (Olaoye et al., 2012). In line with the sources, several credit schemes have been introduced by the government and financial institutions in Nigeria such as the Agricultural Credit Guarantee Scheme (ACGS), Commercial Agriculture Credit Scheme (CACS) and the Anchor Borrowers' Programme. Despite the introduction of the credit schemes, access to these services remains unequal and limited for women (John et al., 2024; Nwankwo et al., 2020).

Beyond access to credit, financial inclusion has become a key component of agricultural development strategies across Sub-Saharan Africa (Ndada; Njoda, 2026). Financial inclusion refers to the availability and use of affordable financial products and services, including savings accounts, credit facilities, insurance, and digital payment systems. Greater financial inclusion enables farmers to invest in productivity-enhancing technologies, manage production risks, and improve household welfare. However, despite recent improvements in financial service delivery, significant gender disparities remain in access to financial resources, particularly among rural women engaged in agricultural production (Demirgüç-Kunt et al., 2022; FAO, 2024a).

The challenges faced by women in accessing agricultural credit are not unique to Nigeria but are common across many African countries. Studies conducted in Ethiopia, Kenya, Ghana, and Tanzania have reported that women farmers frequently experience lower access to formal credit than men due to limited ownership of productive assets, lack of collateral, lower levels of education, and institutional barriers within financial systems (Abate et al., 2022; Asiseh et al., 2024; Gichuki; Kamau, 2021; Ogisi; Begho, 2023). In Kenya, farmer organizations and agricultural extension services have been identified as important mechanisms for improving women's participation in formal credit markets (Ingutia; Sumelius, 2024; Kiplimo et al., 2015). Similarly, evidence from Ethiopia suggests that cooperative membership substantially increases women's opportunities to obtain agricultural loans and financial services (Abate et al., 2022).

Furthermore, the rapid growth of digital financial services in Africa has created new opportunities to improve credit accessibility among smallholder farmers. Mobile banking, digital payment platforms, and mobile lending systems have reduced geographical barriers and transaction costs associated with traditional banking services. Nevertheless, women in rural areas continue to face challenges related to digital literacy, access to mobile technologies, and financial awareness, limiting the potential benefits of these innovations (Demirgüç-Kunt et al., 2022; FAO, 2024). Consequently, understanding the socio-economic and institutional factors that influence women's access to agricultural credit remains essential for achieving inclusive agricultural growth and reducing

gender inequalities in rural development.

Despite the growing body of literature on agricultural finance in Africa, empirical studies focusing specifically on women crop farmers within the Ogbomoso Agricultural Development Programme (ADP) Zone remain scarce. Most previous studies have examined credit accessibility among general farming populations without adequately addressing gender-specific constraints and opportunities. Moreover, limited information exists regarding how socio-economic characteristics, cooperative participation, extension services, and institutional factors interact to influence credit accessibility among women crop farmers in this particular region of Nigeria. This knowledge gap justifies the need for the present study and highlights its relevance for policymakers, financial institutions, and agricultural development agencies seeking to improve financial inclusion among rural women farmers.

On the issue of credit accessibility among farmers, studies (Adeomi et al., 2023; Ndzaruwa et al., 2022; Simonyan et al., 2019; Oboh; Ekpebu, 2011; Akpan et al., 2013a) have shown that rural farmers' access to credit is greatly influenced by factors such as age, educational level, farm size, household income, and membership in cooperative societies. However, there is a need to look at these findings based on specific gender categories. Despite the increasing recognition of women's role in agriculture, research focusing on credit accessibility among women crop farmers in Ogbomoso ADP zone is limited. There is also a lack of comprehensive understanding of how socio-economic and institutional variables interact to influence credit access in this context.

Therefore, this study specifically described the socio-economic characteristics of women crop farmers; assessed the major sources of credit among women crop farmers; assessed factors determining the credit access of women crop farmers; and identified the constraints to credit access by women crop farmers in the study area.

2. Materials and Methods

2.1 Study area

The study was carried out in the Ogbomoso agricultural zone of Oyo State, Nigeria. The agricultural zone comprises five (5) local government areas: Ogbomoso North, Ogbomoso South, Oriire, Surulere and Ogo-Oluwa. The rainy season in the zone usually begins in April and lasts until October, while the dry season commences in November and lasts until March. The majority of the population in the study area are farmers who are known mostly for planting tubers and cereal crops. Crops grown include yam, cassava, soybeans, groundnut, millet, maize, guinea-corn, cocoyam, vegetables, and fruits.

The Ogbomoso Agricultural Development Programme (ADP) Zone is located in Oyo State, Southwestern Nigeria, between latitudes 8°00' and 8°30' N and longitudes 4°00' and 4°30' E. The area is characterized by a tropical climate with an average annual rainfall ranging from 1,000 to 1,500 mm and average temperatures between 25 and 32 °C. Agriculture constitutes the major economic activity, with crop production being the predominant livelihood among rural households.

2.2 Sampling procedure

The respondents for the study were selected using a multistage sampling technique. Two (2) local governments were randomly selected from the five (5) agricultural zones in Ogbomoso at the first stage. Three (3) villages were randomly selected from the two (2) randomly picked LGAs, resulting in six (6) villages at the second stage. Lastly, fifteen women crop farmers were randomly selected from the six villages, which gives a total of ninety (90) women crop farmers as the sample size. A sampling frame consisting of registered women crop farmers was obtained from local agricultural extension offices and community farmer associations within the selected villages. Data collection was conducted between January and March 2026 through structured face-to-face interviews using a pre-tested questionnaire. The questionnaire consisted of four sections covering respondents' socio-economic characteristics, sources of credit, factors influencing credit accessibility, and constraints to credit access. Before data collection, the instrument was pre-tested with 10 women farmers outside the study area to ensure clarity and reliability.

2.3 Analytical techniques

The data collected were analysed using descriptive and inferential statistical techniques. Descriptive statistics were used to profile the socio-economic characteristics of women crop farmers, to profile sources of credit among women crop farmers, and to identify the constraints facing women crop farmers in accessing credit in the

study area. A binary logistic regression model was employed because the dependent variable (credit access) was dichotomous. The model estimates the probability that a woman crop farmer had access to credit as a function of selected socio-economic and institutional characteristics. Inferential statistics, which involved the use of logistic regression analysis to examine the factors determining credit accessibility among women crop farmers in the study area. The logistic regression model equation is expressed as;

$$P(Y = 1) = 1 / 1 + e^{-(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n)}$$

where:

P is the probability of the outcome (success or event occurring)

X₁, X₂, ..., X_n denote predictor variables

P(Y = 1) is called the logit function representing the log-odds of the outcome

β₀ intercept term indicating log-odds when all predictor variables are zero

β₁, β₂, ..., β_n are regression coefficients showing change in log-odds for one unit increase in corresponding predictor variable.

And the regression equation is given by:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e$$

Model Specification Table 1.

Table 1. Variables used in the study.

Variable	Description	Measurement
Age	Farmer age	Years
Marital status	Married = 1; Others = 0	Dummy
Education	Years of schooling	Years
Household membership	Family members	Number
Cooperative membership	Member = 1; Non-member = 0	Dummy
Extension visits	Number of visits	Frequency
Farm size	Farm area	Hectares

Source: Authors, 2026.

A respondent was considered to have access to credit if she had successfully obtained agricultural credit from either formal or informal financial sources during the previous farming season. The sample size was considered adequate for logistic regression analysis based on the minimum requirement of at least 10 observations per explanatory variable included in the model.

2.4 Statistical analysis

The explanatory variables included in the model were age, marital status, years of schooling, household size, cooperative membership, frequency of extension visits, and farm size. Statistical significance was evaluated at the 1%, 5%, and 10% probability levels. Before model estimation, the explanatory variables were examined for multicollinearity using the Variance Inflation Factor (VIF) to ensure the reliability of the estimated coefficients. Model adequacy was assessed using the likelihood ratio chi-square statistic and pseudo-R² values. Data analyses were performed using Stata version 17.0 (StataCorp LLC, College Station, Texas, USA).

2.5 Ethical considerations

Participation in this study was entirely voluntary. Before data collection, informed verbal consent was obtained from all respondents after explaining the objectives of the research. Participants were assured of the confidentiality and anonymity of the information provided, and no personally identifiable information was

collected. According to the institutional guidelines of Ladoke Akintola University of Technology (LAUTECH), formal ethical approval was not required because the study involved only non-sensitive socio-economic data and posed no risk to participants.

3. Results

3.1 Socio-economic characteristics of respondents

3.1.1 Age

Table 2 shows that the majority of the women crop farmers (38.9%) were between 41 and 50 years old, followed by those aged 51–60 years (31.1%). Only 8.9% of the respondents were older than 60 years. The age distribution indicates that most respondents were within their economically active and productive years, suggesting a greater potential for participation in agricultural production and credit-related activities. The predominance of middle-aged farmers may also influence investment decisions and willingness to utilize agricultural credit services.

3.1.2 Marital status

The marital status distribution revealed that 76.7% of the respondents were married, while 11.1% were widowed, 7.8% were single, 3.3% were separated, and 1.1% were divorced (Table 2). This finding demonstrates that farming activities in the study area are predominantly undertaken by married women, which may have implications for household decision-making, labor availability, and access to financial resources through family support systems.

3.1.3 Household size

Household size among the respondents was generally moderate, with 61.1% reporting between four and six household members. About 26.7% had between seven and nine members, while only 2.2% reported household sizes exceeding nine persons. The average household size suggests the availability of family labor, which can reduce production costs and potentially affect both the demand for and repayment capacity of agricultural credit (Table 2).

3.1.4 Educational level

The educational profile of the respondents showed that 43.3% had primary education, 40.0% had secondary education, 12.2% had no formal education, and only 4.4% attained tertiary education. Overall, more than 87% of the women farmers possessed at least basic formal education. This level of educational attainment may facilitate understanding of loan requirements, financial information, and participation in formal credit programs (Table 2).

3.1.5 Farming experience

The distribution of farming experience revealed that 34.4% of the respondents had less than 10 years of farming experience, while 33.3% and 25.6% had 11–20 years and 21–30 years of experience, respectively. Only 6.7% had more than 30 years of farming experience. The results indicate that most respondents possessed considerable farming experience, which could enhance their managerial skills and improve their credibility with lending institutions (Table 2).

Table 2. Socio-economic characteristics of women crop farmers.

Characteristics	Category	Frequency (Percentage)
Age Group (years)	31 – 40	19 (21.1)
	41 – 50	35 (38.9)
	51 – 60	28(31.1)
	> 61	8 (8.9)

Marital status	Single	7 (7.8)
	Married	69 (76.7)
	Separated	3 (3.3)
	Divorced	1 (1.1)
	Widowed	10 (11.1)
Household size (persons)	≤ 3	9 (10.0)
	4 – 6	55 (61.1)
	7 – 9	24 (26.7)
	> 9	2 (2.2)
Education level	No formal education	11 (12.2)
	Primary education	39 (43.3)
	Secondary education	36 (40.0)
	Tertiary education	4 (4.4)
Farming experience (years)	≤ 10	31 (34.4)
	11 – 20	30 (33.3)
	21 – 30	23 (25.6)
	31 – 40	5 (5.6)
	> 40	1 (1.1)
Cooperative society	Yes	89 (98.9)
	No	1 (1.1)
Extension visit (%)	Yes	89 (98.9)
	No	1 (1.1)

Source: Authors, 2026.

3.2 Distribution of respondents by the sources of credit among women crop farmers

Table 3 presents the various sources of credit utilized by women crop farmers in the study area. Cooperative societies constituted the most important source of credit, utilized by 97.8% of the respondents. Community savings schemes were the second most common source (54.5%), followed by commercial banks (46.7%) and loans from relatives and friends (31.1%). Only 5.6% of the respondents obtained credit from money lenders.

The findings indicate a strong dependence on collective and informal financing mechanisms, particularly cooperative societies and community savings groups. Formal financial institutions such as commercial banks played a comparatively smaller role, suggesting the existence of barriers that may limit women's participation in formal credit markets.

Table 3. Sources of credit among women crop farmers.

Sources of Credit	Frequency	Percentage (%)
Commercial bank	42	46.7
Cooperatives	88	97.8
Money lender	5	5.6
Relatives & Friends	28	31.1

Community savings	49	54.5
Total	90	100.0

Source: Authors, 2026.

3.3 Factors determining credit accessibility among women crop farmers

The logistic regression results presented in Table 4 show that the overall model was statistically significant ($\chi^2 = 42.060$; $p < 0.001$), indicating that the explanatory variables jointly influenced credit accessibility among women crop farmers. The pseudo- R^2 value of 0.541 suggests that approximately 54.1% of the variation in credit access was explained by the variables included in the model.

Among the explanatory variables, age, cooperative membership, and extension visits significantly influenced credit accessibility. Age exhibited a negative coefficient ($\beta = 0.087$; $p < 0.10$), indicating that the probability of accessing credit decreased as respondents became older. Conversely, membership in cooperative societies showed a positive and highly significant effect ($\beta = 4.065$; $p < 0.01$), demonstrating that women belonging to cooperatives were substantially more likely to obtain credit than non-members.

Similarly, extension visits positively influenced access to credit ($\beta = 1.113$; $p < 0.10$), suggesting that regular interaction with extension agents facilitates awareness of available credit opportunities and enhances farmers' engagement with financial institutions. The remaining variables, namely marital status, educational attainment, household size, and farm size, were not statistically significant, indicating that their effects on credit accessibility were limited within the study area.

Table 4. Logistic regression estimate of factors determining credit accessibility.

Credit Accessibility	Coefficient	Standard Error	Z Value	P> z
Age	00.87	0.071	-1.72*	0.086
Marital status	6.638	07.71	1.63	0.103
Educational status	0.918	0.138	-0.57	0.571
Household size	1.898	0.814	1.50	0.135
Member of cooperative society	4.065	5.046	2.74***	0.006
Extension visits	1.113	0.071	1.68*	0.094
Farm size	2.169	1.554	1.08	0.280
Constant	0.037	00.17	-0.72	0.472
Prob > Chi = 0.0000	-	-	-	-
Chi-square = 42.060				
Pseudo $R^2 = 0.541$				

Note: *** significance at 1%; * significance at 10%. Source: Authors, 2026.

3.4 Constraints to credit access among women crop farmers

Table 5 summarizes the major constraints affecting women crop farmers' access to credit. Distance to financial institutions was identified as the most severe constraint, reported by 70.0% of the respondents. High-interest rates (68.9%) and short loan repayment periods (67.8%) were also frequently reported challenges.

Other important constraints included inadequate credit information and awareness (57.8%), poor credit advisory services (52.2%), complex loan application procedures (50.0%), and lack of collateral (50.0%). Furthermore, delays in loan approval and disbursement (48.9%), limited financial literacy (47.8%), and lack of guarantors (43.3%) were reported by a substantial proportion of respondents.

In contrast, lack of formal documentation (22.2%) and gender-based discrimination (13.3%) were among the least reported constraints. Overall, the results suggest that institutional and financial barriers remain the predominant factors limiting credit accessibility among women crop farmers in the study area.

Table 5. Distribution of respondents by constraints to credit access.

Constraints to Credit Access	Frequency	Percentage (%)
Lack of collateral	45	50.0
High-interest rate charges	62	68.9
Complex loan application procedures	45	50.0
Limited financial literacy	43	47.8
Discrimination based on gender	12	13.3
Poor credit advisory	47	52.2
Inadequate credit information and awareness	52	57.8
Short loan repayment period	61	67.8
Distance to financial institution	63	70.0
Lack of formal documentation	20	22.2
Delay in approval/disbursement	44	48.9
Lack of guarantor	39	43.3
Total	90	100.0

Source: Authors, 2026.

4. Discussion

4.1 Socio-economic characteristics of respondents

4.1.1 Age

The age distribution of the respondents in the study area implies that almost all the farmers are in their economically productive years, which could affect their ability to diversify into other off-farm activities that can boost income in the study area. This finding is consistent with (Agbo et al., 2015). Similar findings have been reported in several developing countries where middle-aged farmers tend to exhibit greater engagement in agricultural production and financial activities than older farmers. According to Asiseh et al. (2025), age significantly influences agricultural credit accessibility across Sub-Saharan Africa, with younger and economically active farmers generally showing a greater likelihood of participating in formal credit markets due to their higher investment capacity and longer planning horizons. Furthermore, access to financial services among older farmers is often constrained by risk perceptions from lending institutions and lower adoption of innovative financial products. These observations reinforce the importance of age structure in determining financial inclusion among rural women farmers.

4.1.2 Marital status

The result indicates that the majority of women crop farmers are married, indicating a prevalence of family-based farming systems where marital status may influence farming roles and decisions, which implies that the high proportion of married respondents suggests that access to credit may be shaped by household dynamics, with married women potentially benefiting from spousal support or facing restrictions based on family priorities in the study area. This finding is in line with Okunlola (2019), who reported that more than half of the respondents were married, indicating that marriage confers emotional stability on the respondents.

Marital status may also influence women's access to productive resources and financial services through household decision-making structures. Studies conducted in Sub-Saharan Africa have shown that married

women often benefit from greater household labor availability and social networks that facilitate participation in savings groups and cooperative organizations. However, cultural norms may also limit women's independent financial decisions, particularly regarding credit applications and investment choices. Therefore, marital status remains an important socio-economic characteristic affecting agricultural development among women farmers (Asiseh et al., 2024).

4.1.3 Household size

The result indicates that most women crop farmers have moderately sized households, showing a significant family labor force. This implies that the household size may affect credit accessibility, as larger households could increase financial pressure, potentially motivating the need for credit while also influencing repayment capacity in the study area. Household size has frequently been associated with both labor availability and financial pressure in rural farming systems. Larger households may provide additional family labor, reducing production costs and increasing farm productivity. Conversely, larger family sizes may increase household expenditures, thereby creating a greater demand for agricultural credit. Similar observations were reported among smallholder farmers in Nepal, where household demographic characteristics significantly influenced credit utilization and repayment capacity (Mishra, 2021).

4.1.4 Educational level

The result indicates that most women crop farmers have basic education, with primary and secondary education levels being predominant among the respondents. This implies that the level of education among respondents may influence their ability to access and utilize credit effectively in the study area. Education plays a critical role in enhancing financial literacy, improving farmers' ability to understand lending procedures, evaluate financial products, and comply with institutional requirements. Recent studies across developing countries have demonstrated that educated farmers are more likely to access formal credit because they possess greater awareness of available financial opportunities and are better able to prepare the documentation required by lending institutions. Financial inclusion programs promoted by international organizations similarly emphasize education as a key mechanism for reducing gender disparities in agricultural finance (FAO, 2026; McInerney; Palmer, 2025).

4.1.5 Farming experience

The result indicates that most women crop farmers have moderate farming experience, indicating substantial knowledge and skills in farming practices. This implies that the level of farming experience may enhance credit accessibility, as more experienced farmers are likely to be seen as less risky by lenders due to their established farming expertise and income stability, in the study area. Farming experience is often regarded as an indicator of managerial competence and production stability (Kehinde; Ayanwale, 2026). Experienced farmers generally possess better knowledge of production cycles, risk management strategies, and market opportunities, which may increase lenders' confidence in their repayment capacity. Similar findings have been reported among smallholder farmers in Asia and Africa, where farming experience contributed positively to farmers' participation in formal agricultural credit programs and other financial services (Mishra, 2021).

4.2 Sources of credit among women crop farmers

The predominance of cooperative societies as the major source of credit among women crop farmers highlights the importance of collective organizations in overcoming barriers associated with formal lending institutions. Cooperative societies often provide more flexible lending conditions, lower collateral requirements, and stronger social support mechanisms than commercial banks. Similar results were reported in Kenya, Malawi, and Germany, where cooperative membership substantially increased women's probability of accessing agricultural credit and other financial services, and the impact of women on family farms and their impact on farm succession. The continued reliance on community savings groups and informal lending arrangements observed in this study further reflects persistent barriers within formal financial systems, including collateral requirements, high transaction costs, and limited financial inclusion among rural women (Ingutia; Sumelius, 2024; Mutsami et al., 2025; Wagner et al., 2026).

4.3 Factors determining credit accessibility

The positive effect of cooperative membership on credit accessibility observed in this study is consistent with growing international evidence highlighting the role of farmer organizations in facilitating access to agricultural finance. Cooperatives reduce information asymmetry between lenders and borrowers, improve collective bargaining power, and provide mechanisms for group guarantees that substitute for traditional collateral requirements. Studies conducted in Kenya and other developing economies have demonstrated that cooperative participation significantly increases women farmers' probability of obtaining agricultural loans (Ingutia; Sumelius, 2024).

Similarly, the positive influence of extension visits underscores the importance of agricultural advisory services in promoting financial inclusion. Extension agents often serve as intermediaries between farmers and financial institutions by disseminating information regarding available credit schemes, eligibility requirements, and loan management practices. Recent evidence from West Africa suggests that extension-mediated financial programs can substantially improve women's access to credit and strengthen their economic empowerment (Ouattara et al., 2024).

The negative association between age and credit accessibility further supports findings from broader studies in Sub-Saharan Africa indicating that older farmers frequently face greater difficulties in obtaining formal credit due to perceived repayment risks, reduced investment horizons, and lower participation in emerging financial technologies. These factors may contribute to the reduced probability of credit access observed among older respondents in the present study (Asiseh et al., 2024).

4.4 Constraints to credit access

The major constraints identified in this study, particularly distance to financial institutions, high-interest rates, and short loan repayment periods, are consistent with challenges reported across many developing countries. Rural women frequently experience limited physical access to banking infrastructure and face difficulties meeting the conditions imposed by formal financial institutions (Gangiah; Khan, 2026). According to recent FAO reports, geographical isolation, lack of collateral, insufficient financial literacy, and limited access to financial information remain among the most important barriers to rural women's financial inclusion worldwide (FAO, 2024b).

The high prevalence of inadequate credit information and poor credit advisory services reported by respondents further demonstrates the need for stronger financial education and extension support systems. International evidence indicates that financial literacy programs and digital financial services can improve awareness and utilization of credit products among women farmers. Nevertheless, despite advances in digital finance across Sub-Saharan Africa, substantial gender gaps in access to financial services continue to persist (Klapper, 2024).

5. Conclusions

Based on the results of the findings, the study concluded that women crop farmers are primarily in their late economically productive age and are married, with a significant proportion of them relying on cooperative societies for credit. The study also highlighted that factors such as age, being a member of a cooperative society, and the number of times visited by the extension agents significantly impact women crop farmers' credit accessibility. Despite these factors, women crop farmers are faced with various challenges that affect their accessibility to credit; these include distance to financial institutions, high-interest rates, and short loan repayment periods, which limit their access to financial resources in the study area.

6. Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance credit accessibility among women crop farmers:

Strengthening Cooperative Societies: Cooperative societies should be strengthened, and access to affordable credit facilities essential for better capital sourcing by the respondents should be expanded.

Provision of Educational Programs: Government or private sectors should provide targeted educational programs to enhance financial literacy, enabling better credit utilization of the women farmers in the study area.

Establishment of Closer Financial Institutions: There is a need for the establishment of financial institutions

closer to rural areas to reduce the distance barriers to credit access by the women farmers in the study area.

7. Authors' Contributions

Damilola Toluse Adeomi: conceptualization, designed the experiment, analyzed the data, contributed analytical tools, and corrected the draft. *Deborah Tosin Fajobi*: experimented and interpreted the data, and wrote the first draft. *Janet Temitope Ojedirin*: experimented and interpreted the data. *Olasunbo Kafilat Jubreel*: experimented and interpreted the data.

8. Conflicts of Interest

No conflicts of interest.

9. Ethics Approval

Not applicable. In accordance with the institutional guidelines of Ladoke Akintola University of Technology, formal ethical approval was not required for this study because it was limited to the collection of non-sensitive, socio-economic, and credit-accessibility data through voluntary interviews, posing no risk to participants.

10. References

- Abate, G. T., Bernard, T., de Brauw, A., & Minot, N. (2022). Agricultural cooperatives and rural financial inclusion in Ethiopia. *World Development*, 151, 105748. <https://www.sciencedirect.com/science/article/pii/S0305750X16000449>
- Adeomi, D.T., Jubreel, O.K., & Fadoju, D.T (2023) Analysis of Factors Influencing Credit Accessibility among Farmers in Ogbomoso Agricultural Zone, Oyo State Malaysian Animal Husbandry Journal 3(2):86-90 <https://doi.org/10.26480/mahj.02.2023.93.97>
- Adigun, G. T. (2022) Determinants of Credit Access among Smallholder Women Farmers in Kwara Nigerian. *Agricultural Journal*, 53(2), 121-128.
- Agbo, F.U., Iroh, I.I & Ihemezie, E.J (2015) Access to credit by vegetable farmers in Nigeria: A case study of Owerri Agricultural Zone of Imo State, Nigeria. *Asian Journal of Agricultural Research*, 9(4), 155-165.
- Ajah, E. A., Igiri, J. A., & Ekpenyong, H. B. (2018). Determinants of access to credit among rice farmers in biase local government area of cross River State, Nigeria. *Global Journal of Agricultural Sciences*, 16, 43-51. <https://doi.org/10.4314/gjass.v16i1.6>
- Akinbami, C. A. O., Oladele, O. I., & Fadeyi, O. (2019). Constraints to Women Farmers' Access to Agricultural Credit in Nigeria. *Journal of Agricultural Extension*, 23(2), 12-21.
- Akpan, S. B., Nkanta, V. S., & Essien, U. A. (2013a). A Double-Hurdle Model of Fertilizer Adoption and Optimum Use among Farmers in Southern Nigeria. *Tropicultura*, 31(4), 243-251.
- Akpan, S. B., Inimfon V. P., Samuel J. U., Edem A. O., & Uwemedimo E. O. (2013b). Determinants of Credit Access and Demand among Poultry Farmers in Akwa Ibom State, Nigeria. *American Journal of Experimental Agriculture*, 3(2): 293-307 <https://doi.org/10.9734/ajea/2013/2810>
- Asiseh, F., Ng'ombe, J., Quaicoe, O., Vorsah, R., & Prah, S. (2024). Are credit doors equally open? Gender perspectives on agricultural credit access in Sub-Saharan Africa. *Review of Development Economics*, 29(3), 1597-1612. <https://doi.org/10.1111/rode.13179>
- Bhushan, N. L., Madson, G., Kelly, N. K., Kahn, K., Gomez-Olive, F. X. (2025). The relationship between household economic shocks, depression, and elevated stress-responsive biomarkers among adolescent girls and young women in rural South Africa (HPTN 068). *Journal of Affective Disorders*, 391, 119924. <https://doi.org/10.1016/j.jad.2025.119924>
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). The global index database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank. Available at: <https://www.worldbank.org/en/publication/globalindex>. Accessed on: June 11, 2026.
- FAO. (2011). The State of Food and Agriculture 2010-2011: Women in Agriculture—Closing the Gender Gap for Development. Rome: Food and Agriculture Organization of the United Nations.

- FAO. (2019). Women's access to rural finance: challenges and opportunities. Rome, License: CC BY-NC-SA 3.0 IGO
- FAO. (2024a). The status of women in agrifood systems. Food and Agriculture Organization of the United Nations. Available at: <https://www.fao.org/documents/card/en/c/cc5343en>. Accessed on: June 16, 2026.
- FAO. (2024b). Family farming knowledge platform. Food and Agriculture Organization of the United Nations. Available at: https://www.fao.org/family-farming/detail/en/c/1680604/?utm_source=chatgpt.com. Accessed on: June 17, 2026.
- FAO. (2026). Gender. And rural financial services. Food and Agriculture Organization of the United Nations. Available at: https://www.fao.org/gender/learning-center/thematic-areas/gender-and-rural-financial-services/en?utm_source=chatgpt.com. Accessed on: June 17, 2026.
- Gangiah, S., & Khan, R. (2026). Cooking against the odds: Challenges in food preparation and access in rural and low-income urban African homes. *Encyclopedia of Agriculture and Food Systems*, 5, 545-567. <https://doi.org/10.1016/B978-0-443-15976-3.00123-9>
- Gichuki, C. N., & Kamau, C. W. (2021). Financing agribusiness: Potential determinants of financial inclusion for smallholder rural farming communities in Kenya. *International Journal of Rural Management*, 18(3). <https://doi.org/10.1177/09730052211034350>
- Girma, M., Tuluka, T., Fikreyohannes, H. , & Kediro, K. (2026). Impact of multipurpose cooperatives on rural women households' food security and maize productivity: Evidence from East Hararghe, Ethiopia. *Scientific African*, 31, e03164. <https://doi.org/10.1016/j.sciaf.2025.e03164>
- John, O., N., Wisdom, O., & Ogochukwu, O. B. (2024). Agricultural credit guarantee scheme fund and real output growth: The Nigeria's gree sector. *African Journal of Sustainable Agricultural Development*, 5(2), 83-100. DOI: 10.5281/zenodo.11374531
- Ingutia, R., & Sumelius, J. (2024). Does cooperative membership facilitate access to credit for women farmers in rural Kenya? *Journal of Agriculture and Food Research*, 18, 101425. <https://doi.org/10.1016/j.jafr.2024.101425>
- Kambali, U., & Panakaje, N. (2022). A review on access to agriculture finance by farmers and its impact on their income. *International Journal of Case Studies in Business, IT, and Education*, 6(1), 302-327. <https://ssrn.com/abstract=4104741>
- Kehinde, A. D., & Ayanwale, A. (2026). Leveraging information and communication technologies to enhance food security and asset accumulation among farming households in Nigeria. *Food and Humanity*, 6, 101080. <https://doi.org/10.1016/j.foohum.2026.101080>
- Kiplimo, J. C., Ngenoh, E., Koech, W., & Bett, J. K. (2015). Determinants of access to credit financial services by smallholder farmers in Kenya. *Journal of Development and Agricultural Economics*, 7(9), 303-3013. DOI: 10.5897/JDAE2014.0591
- Klapper, L. (2024). Digital finance boosting women's financial inclusion in sub-Saharan Africa: Emerging evidence. Available on: https://www.brookings.edu/articles/digital-finance-boosting-womens-financial-inclusion-in-sub-saharan-africa-emerging-evidence/?utm_source=chatgpt.com. Accessed on: June 17, 2026.
- McInnerney, M., & Palmer, J. (2025). Agrarian pragmatics: How women on family farms in Queensland, Australia negotiate competing discourses to enact their agrarian ideals. *Journal of Rural Studies*, 120. <https://doi.org/10.1016/j.jrurstud.2025.103878>
- Mishra, B. P. (2021). Factors affecting use of formal agricultural credit among smallholder farmers in Western Nepal. *International Journal of Social Sciences and Management*, 8(4), 457-462. <https://doi.org/10.3126/ijssm.v8i4.40497>
- Mkandawire, B. L., & Miura, K. (2026). Intraseasonal variations in time use, food security, and health outcomes among women in rural Malawi. *Food Policy*, 138, 103011. <https://doi.org/10.1016/j.foodpol.2025.103011>
- Mutsami, C., Maina, K. W., & Khonje, M. G. (2025). Women's off-farm employment improves household nutrition in Malawi. *Food Policy*, 136, 102969. <https://doi.org/10.1016/j.foodpol.2025.102969>
- Ndada, A. K., & Njoda, M. T. (2026). Agricultural trade: Solution or threat to the diversification of diet in sub-Saharan African countries? *Food and Humanity*, 7, 101282.

<https://doi.org/10.1016/j.foohum.2026.101282>

- Ndzaruwa, J. V, Shuaibu, I. M, Amurtiya, M., & Bitrus, H. W. (2022). Analysis of women crop farmers' access and utilization of agricultural credit in Yola South Local Government Area of Adamawa State, Nigeria. *Journal of Agriculture and Applied Biotechnology*, 1(1), 1-6. <https://doi.org/10.52493/j.jaab.2022.1.21>
- Nwankwo, O., Ezech, C. I., & Nwankwo, C. (2020). Accessibility of rural women farmers to agricultural credit in Nigeria. *Journal of Economics and Sustainable Development*, 11(1), 45-52.
- Nweze, N. J. (2011). The role of women's traditional savings and credit cooperative in small farm development. *Winrock International Institute for Agricultural Development*, 234-253.
- Oboh, V. U., & Ekpebu, I. D. (2011). Determinants of formal agricultural credit allocation to the farm sector by arable crop farmers in Benue State, Nigeria. *African Journal of Agricultural Research*, 6(1), 181-185.
- Odoemenen, I. U., & Obinne, C. P. O. (2010). Assessing the factors influencing the utilization of improved cereal crop production technologies by small scale farmers in Nigeria. *Indian Journal of Science and Technology*, 3(1), 180-183. <https://doi.org/10.17485/ijst/2010/v3i2.23>
- Ogisi, O. D., & Begho, T. (2023). Adoption of climate-smart agricultural practices in sub-Saharan Africa: A review of the progress, barriers, gender differences and recommendations. *Farming System*, 1(2), 100019. <https://doi.org/10.1016/j.farsys.2023.100019>
- Okunola, S. O. (2019). Determinants of Access to Credit by Farming Households in Rural and Peri-Urban of Akinyele Local Government Area, Oyo State. *International Journal of Research and Scientific Innovation*, 5(9), 217-220
- Olaoye, O., Ashaolu, O., Idowu, A., Akintayo, I., & Talabi, J. (2012). Determinants of demand for Ogun State Agricultural and Multipurpose Credit Agency (OSAMCA) loans among fish farmers in Ogun State, Nigeria. *Journal of Sustainable Development in Africa*, 13(4), 15-25.
- Olawuyi, S. O., & Adetunji, M. O. (2013). Assessment of rural women's access to agricultural credit in Oyo State, Nigeria. *International Journal of Agricultural Economics and Rural Development*, 6(1), 14-20.
- Olomola, A. S., & Yaro, M. (2015). Commercial banks' response to government's financial stimulus for improved agricultural financing in Nigeria. NSSP Working Paper 28. Washington, DC: International Food Policy Research Institute. Pp1-24
- Ouattara, A. F., Yeo, B. D., & Kone, M. D. (2024). Extension-mediated access to agricultural credit and its empowerment effects on women farmers. *International Journal of Agriculture Extension and Social Development*, 7(10). <https://www.doi.org/10.33545/26180723.2024.v7.i10c.3067>
- Ping, L., Xiaosong, S., & Jinzhao, L. (2022). Research on farmers' households credit behavior and social capital acquisition. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.961862>
- Simonyan, J. B., Akpan, A. J., & Amusa, T. A (2019). Factors Influencing Access to Credit among Smallholder Farmers of Selected Agricultural Commodities in Akwa Ibom State, Nigeria. *Journal of Agriculture and Food Environment*, 6(4), 61-75.
- Wagner, C., Köksal, S., & Bitsch, V. (2026). Married to the farm: scripts for women on family farms and their impact on farm succession in Germany. *Journal of Family Business Management*, 16(3), 806-829. <https://doi.org/10.1108/JFBM-08-2025-0229>
- World Bank. (2020). Nigeria Economic Update: Resilience through Reforms. World Bank Group.

Funding

Not applicable

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable. Informed consent was obtained verbally from all individual participants included in the study

prior to the interviews. Participants were informed about the research purpose, and confidentiality was assured.

IRB/Ethics Committee Exemption Statement or Waiver

Ladoke Akintola University of Technology (LAUTECH), Date: June 16, 2026. To: The Editorial Board, Brazilian Journal of Science. Subject: Institutional Ethics Review Exemption for Manuscript. Title: "Factors determining credit accessibility among women crop farmers in the Ogbomoso Agricultural Development Programme (ADP) Zone of Oyo State, Nigeria".

Dear Editor-in-Chief, I am writing to formally clarify the institutional ethical review status of the study conducted by Damilola Toluse Adeomi, Deborah Tosin Fajobi, Olasunbo Kafilat Jubreel, Temitope Janet Ojediran and Gbohunmi Damisola Ajibesin, titled above. In accordance with the institutional guidelines of the Ladoke Akintola University of Technology (LAUTECH) and local ethical regulations governing academic research in Nigeria, this specific study was determined to be exempt from formal Institutional Review Board (IRB)/Ethics Committee review.

Our institutional regulations stipulate that formal ethical clearance numbers are not issued for research designs that meet all of the following criteria: The study is strictly non-interventional and observational. The data collection is limited to socio-economic characteristics and public opinion surveys (in this case, credit accessibility among women crop farmers).

The research does not involve medical procedures, biological sampling, or the collection of sensitive personal health information. Participation was entirely voluntary, anonymous, and conducted with informed verbal consent prior to interviews, ensuring zero risk to the participants. Therefore, while no formal protocol or exemption number is generated for this category of research under our local framework, the study fully complies with our institution's ethical standards for social and agricultural economics research. Should you require any further clarification, please do not hesitate to contact us.

Authors' Declaration and Signatures:

We, the undersigned authors (in a document maintained by BJS), declare that the data for this study were collected through voluntary interviews with informed verbal consent, guaranteeing complete confidentiality to the participants, in accordance with local institutional guidelines

Damilola Toluse Adeomi

Date: 26/05/2026

Deborah Tosin Fajobi

Date: 26/05/2026

Olasunbo Kafilat Jubreel

Date: 26/05/2026

Temitope Janet Ojediran

Date: 26/05/2026

Gbohunmi Damisola Ajibesin

Date: 26/05/2026

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).