

SOCIO-ECONOMIC FACTORS AFFECTING WOMEN'S PARTICIPATION IN AGRICULTURAL COOPERATIVE IN KWARA-NORTH, KWARA STATE, NIGERIA

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ABSTRACT

This research was conducted to examine the socio-economic factors influencing women participation in agricultural cooperative societies in Kwara-North, Kwara State, Nigeria. A multi-stage sampling technique was employed to select a sample size of one hundred and twenty (120) respondents through the use of a well structured questionnaire. The data was analyzed utilizing descriptive and inferential statistics. Majority (83.3%) of the women farmers are in their economical, productive and active age, married and possessed formal education with an average household size of 5 persons. Majority of the farmers acquired their capital through personal savings. This study also showed that males involved are more than females in agriculture, the males involvement is higher in agriculture compared to women counterparts. The regressed significance variables includes age, education level, household size, farming experience, cooperatives' membership, access to credit, use of agro-chemicals, and labour were the factors influencing women participation in agriculture. Participation in agriculture by women cooperative farmers were delimited or constrained by cultural beliefs, limited capital, lack of extension services, high cost of inputs, Insecurity and banditry among others. This study recommended that governments and development partners should intensify efforts toward women empowerment programs that specifically target agriculture. Governments should encourage and assist women farmers by giving them special attention in terms of access to needed farm inputs and incentives. Governments should provide credit facilities either through various women groups or cooperative societies to enable them participate fully in agriculture. More female extension workers should be trained to assist women farmers.

Keywords: Women, Agriculture, Cooperatives, Participation, Farmers, socio-economic factors

INTRODUCTION

Agriculture is the main source of employment and income in developing countries, where majority of the world poor and hungry people live (FAO, 2023). It is an industry of major proportions and has always play important role in the economic history of any country. Its activities are often constituted and carried out in groups, like cooperatives. Agricultural

cooperatives are conceived to a group of farmers who pool their resources together for efficient facilitation of optimal production. This includes joint purchase of farm inputs like seedlings, farm machinery, aiding members morally and financially during cultivations seek marketing channels for farm products to ensure better and fair prices (Msimango & Oladele, 2023).

It could also mean a unit of business organizations charged with the responsibility of meeting welfare needs of members in particular and society in general. Agricultural cooperatives hold much potential to enable economically weak farmers to increase their collective bargaining power, enhance income, provides inputs and create market opportunities. Women are the backbone of the development of rural and national economies as they represent 43% of the global agricultural labor force and, 80% of agricultural production in Africa (Mucavele, 2019).

Women are at the centre stage of agricultural production in Sub-Saharan Africa, where they play key roles in household food security and rural poverty alleviation (World Bank 2019; Duflo 2017). Participation refers to the state of participating or sharing in common with others. It is also seen as the distribution or division into shares which could emanate through community, fellowship or association. It is important to point that primary aim of cooperative society is to meet the needs of its members through active participation. Participation is an ideologically contested concept which produces range of competing meanings and applications.

The result is a variety of views on how participation is defined, whom it's expected to involve and what it is expected to achieve and how it is to be brought about (Agarwal *et al.*, 2019). Most studies on farmers' participation in cooperatives have treated participation as a binary choice variable equating membership with participation. However, within collective action institutions the commitment of members is voluntary and can thus vary. Commitment generally captures the extent to which a member is likely to choose to maintain the membership (Jussila, Goel & Tuominen, 2021). Farmers' participation intensity has been measured in multiple ways in the cooperative literature. For instance, Fischer and Qaim (2024) analyzed smallholders' intensity of participation in a Kenyan banana cooperative using frequency of participation in group meetings and both the quantity and the share of marketable bananas sold through the cooperative. While they document that women's intensity of participation within banana groups is not significantly different from males, they did not study the factors that affected male and female participation separately. In addition, male inclusion is said to constrain women from speaking out at meetings (Meier zu Selhausen & Stam, 2024).

This is because in most cultures in Africa women are not expected to speak while the men are talking. Where they are to speak they are expected to get their male counterparts consent or permission. As a result of this bottleneck many women tends to avoid certain associations dominated by the men. Women make essential contributions to the agricultural and rural economies in all developing countries. Their roles vary considerably between and within regions and are changing rapidly in many parts of the world, where economic and social forces are transforming the agricultural sector. Women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. Many of these activities are not defined as "economically active employment" in national accounts but they are essential to the wellbeing of urban and or rural households (CTA, 2017). FAO, (2021) reported that one of the rationales for improving women participation in agriculture is that when a woman is educated, her

children tend to be better fed and healthier. As a woman earns income, she is more likely than the man to spend it on improving the well-being of the family.

This scenario can build women self-esteem and lead to a more participatory role in both public and family decision making. Moreover (FAO, 2021) opined that the full use of productive potential of human resources (male and female) cannot be realized in developing nations if women do not have access to adequate resources, productivity enhancing inputs and services; and policies such as price incentives cannot be fully successful in stimulating agricultural production if the institutional arrangements prevent women producers from getting the benefits. More over the role of agriculture has to be re-appraised and re-valued on its contribution to industrialization and its importance for harmonious development, political, and economic stability with emphasis on women participation in agricultural activities. As agricultural resources have become increasingly responsive to market forces and increasingly integrated in the network of industrial interdependencies mainly shaped by technological advancement, vertical integration, and marketing and consumer preferences.

Independent Evaluation Group – IEG (2019), reported that the international development community has recognized that agriculture is an engine of growth and poverty reduction in countries where it is the main occupation of the poor. But the agricultural sector in many developing countries is underperforming, in part because women, who represent a crucial resource in agriculture and the rural economy through their roles as farmers, labourers and entrepreneurs, almost everywhere face more severe constraints than men in access to productive resources. Efforts by national governments and the international community to achieve their goals for agricultural development, economic growth and food security will be strengthened and accelerated if they build on the contributions that women make and take steps to alleviate these constraints.

In their separate researches on women participation in agricultural and rural development (Damisa and Yohanna, 2017) reported that although, rural out-migration has constituted one of the greatest challenges hindering agricultural development in developing countries but in general, women in Africa have a strong desire to participate in their community affairs and contribute to its development. According to (Soubh, 2016) women participation in agricultural production cut across various sub sectors: planting, weeding, harvesting, processing, and marketing as well as livestock keeping. (Common wealth, 2015) reported that Women play important roles in agriculture, undertaking a wide range of activities relating to food production, processing and marketing; and beyond farming, they are involved in land and water management: most often they are collectors of water, firewood and fodder. They have access to a store of local knowledge on the medicinal use of plants; they have been in the forefront of soil conservation programmes; and it is women who perform most of the household labour devoted to animals (Common wealth, 2015). According to (FAO, 2019b),

The International Development Community (IDC) have thus recognized agriculture as engine of growth and poverty reduction in countries where it is the main occupation of the larger proportion of the people. And as agriculture sector is becoming more technologically sophisticated, commercially oriented and globally integrated; the developing countries have to fully utilize their human resources in order to take advantage of the global opportunities for all agricultural producers, including improving women participation in agriculture.

According to African Development Fund – ADF (2019), if there is government effective and timely support/subsidization to agricultural sector; employment opportunities in the local area, including part-time jobs; the possibility of gaining work experience and vocational qualifications; local facilities for education and training; business services supportive to

women's projects and enterprises; public transport services compatible with working hours; local childcare facilities and social services for the elderly and the sick; and supportive public and professional organizations then participation will definitely increase. Women as farmers, workers and entrepreneurs face more constraints than men in accessing productive resources, markets and services – a “gender gap” – which hinder their effective participation in socio economic (including agriculture) and political activities thereby reducing their contributions to the attainment of broader societal goals (FAO, 2017). There are empirical evidences – that increased equality in access to economic assets has shown a significant raise in the productivity of female producers. This in turn helps improve household welfare through better bargaining power. These evidences concluded that increasing women's control over economic assets have strong and immediate effects on the welfare of the next generation and on the level and pace at which physical and human capital are accumulated.

The evidences also demonstrated that although there are forms of structural discrimination against women in relation to access to credit networks; women borrowers have lower risk of default as a result of lower prevalence of corruption and bribes among women groups leading to higher repayment rates (World Bank, 2019). In Nigeria, women are 184 saddled with most of the tasks in agricultural production but the benefit gained by them are not commensurate with their man-hours, they are hardly given attention in the area of training and visiting by extension agents with improved technologies. Banks hardly grant them loans and they are hardly reached with improved seeds, fertilizer and other inputs (Damisa, 2017).

Lawanson (2018) stated that Nigerian women have worked side by side with men in agricultural production with some marked division of labour between them. The men performed the tedious tasks of felling trees, gathering and burning of bush and making ridges while women are involved in planting of seeds particularly food crops, harvesting, transportation, processing and selling of farm products. Damisa (2017) pointed out that various researchers have conducted on the contribution of women to agricultural production in the country; he suggested that women's contribution to farm work is as high as between 60 and 90 percent of the totals farm task performed. Damisa and Yohanna (2017) stated that the effect of rural women in agricultural production in Nigeria can never be underestimated.

They perform crucial roles in the domestic and economic life of the society. In the recognition of the important role of women in nation building, the Nigerian government more than ever before is keen upon rural poverty alleviation as a way of improving the economy. Effiong (2019) concluded from his study that women were not given equal opportunities in any society. To truly realize women's full potential in agriculture and maximize their impact on rural development will require addressing constraints to women's productivity, including unequal access to credit resources and other virtual invisibility in policy making and programs for people world wide with statistics value of about (17.6%).

STATEMENT OF THE PROBLEM

The role of women in agriculture and rural life has been especially important and cannot be overemphasized. A report by the Africa Human Development (2016) indicates that gender inequality is costing Sub-Saharan African average of \$US95 billion a year, equivalent to 6% of the region's Gross Domestic Product (GDP). Equal participation in agricultural cooperatives women's right and important for sustainable of people centered development. If cooperatives are gender-responsive and inclusive, they can help women overcome gender constraints to improve their self-confidence, knowledge, leadership skills, income, access to agricultural inputs, social network and position in value-chains (FAO, 2023). When women are more economically and socially empowered, evidence shows that there are direct and positive

impacts on their household, community decision-making, access to lands control over productive assets.

These lead to improved household nutrition, food and income security, broader development outcomes, and a more integrated production of both food and cash crops (Qui-sumbing 2023; CSA & ICF International, 2017). Women participation in agriculture in Nigeria necessitates their integration into planning, policies, and programmes for effective and sustainable development of the nation. Hence, the role of women in agricultural production in the developing nations, including Nigeria, can never be overemphasized (FAO, 2019a). In spite of these, there appears to be some factors restricting women to fully participate in agricultural cooperative societies and agricultural prowess.

Culturally, participation and success in agriculture are often influenced by gender, especially in a patriarchal society. Kabane (2020) argues that “constraints faced by women farmers differ from country to country and culture to culture”. In Nigeria, Afghanistan and other patriarchal societies for instances, women lack independent rights to land. Land rights are only allocated through men who are either sons or husbands and heads of household. “Women in matrilineal societies on the other hand are allocated land in their own right, but the land is still commonly controlled by their husbands or male clan heads” (FAO, 2017). In Xhosa culture, a woman is not in a position, or entitled to own any kind of valuable property such as land. This has been the culture for many generations and, still exists in villages (Majali, 2022). Consequently, women in the villages do not see it as their right to own land personally, as their mothers did not do so.

This is not in small measure affecting the agricultural activities, and wellbeing of the women farmers in different places in Africa. Traditionally, women are regarded as homemakers, who oversee and coordinate the affairs and activities at home while their husband and children goes out to do farm work. But at home, however they are not idle as they engaged in manual processing of food crops, and other farm produce in addition to their house keeping (Lawanson, 2018). The contribution of the women ranges from such tasks as land cleaning, land tilling, planting, weeding, fertilizer/manure application to harvesting, food processing, threshing, winnowing, milling, transportation and marketing as well as the management of livestock. Sharon (2018) viewed that both women and men plays critical roles in agricultural production throughout the world, producing, processing and providing the food we eat.

Women make up half the rural population and they constitute more than half of the agricultural labour force. Rural women in particular are responsible for half of the world’s production and produce between 60 – 80 percent of the food in most developing countries. Yet, despite their contributions to global food security, women farmers are frequently underestimated and overlooked in developing strategies (World Bank 2018).

Research Questions

- (i) What are the socio-economic characteristics of selected respondents?
- (ii) What are the proportion of women's participation in agriculture compared to men?
- (iii) What are the identify various sources of financing by respondents?
- (iv) What are the socioeconomic characteristics influencing women participation in agricultural cooperatives and
- (v) What are the constraints affecting women participation in agricultural cooperatives in the study area.

Objectives of the study

The broad of the study is to examine socio-economic factors influencing women participation in agricultural cooperative societies in Ilorin North Kwara of Kwara-State, Nigeria. The specific objectives of the study are to;

- (i) describe the socio-economic characteristics of selected respondents;
- (ii) examine the proportion of women's participation in agriculture compared to men;
- (iii) identify various sources of financing by respondents;
- (iv) determine the socioeconomic characteristics influencing women participation in agricultural cooperatives and,
- (v) identify the constraints affecting women participation in agricultural cooperatives in the study area.

METHODOLOGY

Area of the Study

The study area is Edu and Moro Local Government Areas under Kwara-North in Kwara State, Nigeria. The two (2) Local Government Areas were Nupe speaking area in Nigeria. Edu comprises three main districts: consists of Lafiagi, Tsaragi and Tshonga Town. Edu Local Government Area is located in the northern region of Kwara State, Nigeria, with its administrative headquarters situated in Lafiagi. It is part of the Kwara North Senatorial District, bounded by the River Niger to the north, which forms a boundary with Niger State, and is known for agricultural activities and the Nupe, Hausa, and Yoruba cultures. It has an area of 2,542 km² and a population of 201,469 as of the 2006. Edu LGA (Local Government Area) is a significant agricultural and cultural region in Kwara State, Nigeria, known for its fertile land producing crops like rice, maize, cassava, and guinea corn, plus rich mineral deposits. Moro local government was created out of Ilorin Native Authority in 1976. It shares boundaries with Oyo and Niger State respectively. The headquarters is located at Bode-Saadu. The local government has 17 wards. It has an area of 3,272 km² and a population of 108,792 at the 2006 census. Its' major towns are Bode-Saadu, Ipaiye, Lanwa, Ejidongari, Olooru, Malete, Jebba, Arobadi, and Elemere. The predominant languages are Yoruba, Hausa and Fulani. Moro is famed for its Yam, Corn, Cassava, Groundnut and Rice farms.

Methods and Materials of Data Collection

The data for the research was gathered from both primary and secondary sources. Primary data were acquired through the administration of structured questionnaires and oral interviews were utilized to capture pertinent information from the sampled respondents in the study area. Secondary data were sourced from published journal materials, online sources, academic texts, and other relevant publications. Both descriptive and inferential statistics were employed to analyzed the data. The data obtained was analyzed using descriptive statistics such as frequency distribution tables, simple percentages, frequency counts to describe socio-economic characteristics, various sources of financing and identify the constraints affecting women participation in agricultural cooperatives in the study area. Inferential statistics such as was also utilized to determine the socio-economic characteristics influencing women participation in agricultural cooperatives in the study area. Multi-stage sampling technique was used to collect data for the study. In the first stage, purposive sampling was used to select Kwara-North, out of three (3) senatorial districts in Kwara-State, Nigeria.

The second stage involved a purposive selection of Edu and Moro Local Government Areas being major agricultural producing areas in Kwara-North Senatorial. The third stage involved

selection of three towns that women are prominently involving in farming activities each from the selected earlier two Local Government Areas namely: Lafiagi, Tsaragi and Tshonga, Bode-Saadu, Ejidongari and Olooru from Edu and Moro LGAs respectively. The last stage involved the random selection of fifteen (15) women farmers to give a total of 90 women farmers.

Analytical Technique

Method of Data Analysis

Data was analyzed using inferential statistical. Inferential statistics used was logistic regression.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + U_i$$

(i)

Where:

Y = Level of cooperative women participation in agriculture (1 = Yes, 0 = No)

X₁ = Age (years)

X₂ = Marital status (1 = Single, 2 = Married)

X₃ = Education level (years)

X₄ = Household size (number of persons)

X₅ = Farming experience (years)

X₆ = Membership of cooperative (1 = Yes, 0 = No)

X₇ = Labour (manday)

X₈ = Farm size (hectares)

X₉ = Access to credit (1 = Yes, 0 = No)

X₁₀ = Quantity of harvest (kg)

X₁₁ = Land acquisition (1 = Inherited, 2 = Other sources)

X₁₂ = Use of agro-chemicals (1 = Yes, 0 = No)

β₀ = Intercept

β₁-β₁₃ = Coefficients for the predictor variables

U_i = Error term

RESULTS AND DISCUSSIONS

Socio-economic Characteristics of Respondents

Results obtained on the respondents' age revealed that majority (83.3%) of them were at most 50 years old with an average of 35.5 years old. The implication of this is that the women farmers are in their active age. At this age, productivity is usually optimized and maximize as well. This justified the finding of Damisa (2017) who opined that the age bracket (30-55) is economically active age and they are expected to be very industrious and desirous for productivity-oriented opportunities. The result of the study showed that vast majority (77.8%) of the respondents were married while only 22.2% of them were single. This indicated that the majority approximately (78%) of the respondents were settled family people and have family responsibilities. This is also in support with Duflo (2020) who stated that the marital status (married people) of the farmers surveyed ranged between 75% to 90% of the respondents. The majority of the respondents (women) being married could influence their access to productive resources.

The evident on the Table 1 also shown 16.7% of the respondents joined cooperatives in less than 3 years, 27.8% of the respondents had being in cooperatives between 3 and 6 years, 33.3% of the cooperative women farmers had spent between 7 and 10 years in cooperative societies while 14.4% and 7.8% joined cooperatives between 11 and 14 years, and 15 years and above respectively. This revealed that majority (83.8%) of the women farmers joined cooperative

societies between 3 and 15 years or more. In term of household size, the findings revealed that the majority (50%) of the respondents had between 4 and 6 persons as household size, 16.7% of the respondents had 3 or less, 22.2% of the farmers also had between 7 and 9 members as household size while 11.1% had 10-12 individuals as family members with an average of 5 persons per household. This showed that the sampled respondents maintain moderate household size. This findings supported by Maleko and Msuya (2019) asserted that a moderate household size could maintains a balance between production and consumption providing a leverage for profitable farming enterprise.

The results on farming experience of the respondents revealed that only 27.8% of respondents had between 1-5 years of experience, 44.4% of the respondents had between 6 and 10 years farming experience, 16.7% of the farmers had 11-15 years farming experience and 7.8% of the sampled respondents had been in the farming operation for 16-20 years while 3.3% of the farmers had spent 20 years and above in their farming activities. This implying that 72.2% of the respondents had between 6 years and 20 years and above farming experience in agriculture with an average of 8 year experience.

This proved that majority of the farmers were said to be highly experienced despite the low level of women involvement in agriculture. This result was agreed with FAO (2017). who stated that farmers with long years in agriculture or farming operation will had enough experience that could make their farming operation profitable and productive. Evidence on the Table 1 revealed that 11.1% had no formal education, 30.0% had primary education, 50.0% had secondary education while 8.9% had tertiary education. This showed that majority 89.9% of the farmers possessed formal education. This implied that majority had capability to read and write. This findings is consistent with Adeniyi & Ogunsola (2024) who asserted that farmers with higher education levels had capability to increase their farming profitability effectively and efficiently.

Table 1: Distribution of Socio-economic Characteristics by Respondents

| Variable | Value | Frequency | Percentage | Cumulative frequency | Average |
|----------------------------|---------------------|-----------|------------|----------------------|------------|
| Age | ≤30 | 25 | 27.8 | 27.8 | 35.5 years |
| | 31-40 | 30 | 33.3 | 61.1 | |
| | 41-50 | 20 | 22.2 | 83.3 | |
| | 51-60 | 10 | 11.1 | 94.4 | |
| | Above 60 | 5 | 5.6 | 100.0 | |
| Marital status | Single | 20 | 22.2 | 22.2 | |
| | Married | 70 | 77.8 | 100.0 | |
| Cooperative membership | < 3 | 15 | 16.7 | 16.7 | 9 years |
| | 3-6 | 25 | 27.8 | 44.5 | |
| | 7-10 | 30 | 33.3 | 77.8 | |
| | 11-14 | 13 | 14.4 | 92.2 | |
| | 15 & above | 7 | 7.8 | 100.0 | |
| Household size | 1-3 | 15 | 16.7 | 16.7 | 5 persons |
| | 4-6 | 45 | 50.0 | 66.7 | |
| | 7-9 | 20 | 22.2 | 88.9 | |
| | 10-12 | 10 | 11.1 | 100.0 | |
| Farming experience (years) | ≤5 | 25 | 27.8 | 27.8 | 12 years |
| | 6-10 | 40 | 44.4 | 72.2 | |
| | 11-15 | 15 | 16.7 | 88.9 | |
| | 16-20 | 7 | 7.8 | 96.7 | |
| | >20 | 3 | 3.3 | 100.0 | |
| Educational level (years) | No formal education | 10 | 11.1 | 11.1 | |
| | Primary | 27 | 30.0 | 41.1 | |
| | Secondary | 45 | 50.0 | 91.1 | |
| | Tertiary | 8 | 8.9 | 100.0 | |
| Total | | 90 | 100 | | |

Source: Field Survey, 2025

Examine the Proportion of Women's Participation in Agriculture Compared to Men

Table 2, showed the gender of the respondents, claiming that males took larger proportion or substantial percentage. Majority of males (77.8%) involving in agriculture while little of the respondents were females (22.2%). This showed that males involved more than females in agriculture, the males involvement is higher in agriculture compared to women counterparts. The proportion of women participation in agricultural cooperatives is very low, this actually call for critical consideration to cover the gap and it also important to be aware of the importance of women in agriculture. Women need to be encouraged and trained to participate more in agriculture.

Table 2: Distribution of the Proportion of Women Cooperators' Participation in Agriculture Compared to Men

| Gender | Frequency (F) | Percentage (%) | Cumulative frequency |
|--------------|---------------|----------------|----------------------|
| Male | 70 | 77.8 | 77.8 |
| Female | 20 | 22.2 | 100.0 |
| Total | 90 | 100 | |

Source: Field Survey, 2025

Source of Financing to Women Cooperative in the Study Area

Various ways by which individuals women armers financing their agricultural business were identified and collated. Table 2, showed that (61.1%) of the respondents sourced their finance from personal savings, (25.6%) of the respondents acquired their capital from cooperative societies, (2.2%) of the respondents sourced their capital from friends and relatives, while only (11.1%) of the respondents sourced their capital through combination of personal savings and cooperative societies. This findings revealed that majority of the farmers finance their businesses through personal savings which showed that the cooperative women farmers had ability to utilize their finances well, efficient and effectively and likewise credit given to them by other sources of finance apart from their personal savings were also utilized efficiently, therefore credit facilities should be made available to them because their enterprise requires large amounts of capital.

Table 3: Distribution Of the Respondents Based on Sources of Funds of Women Cooperative Farmers in the Study Area

| Source of funds | | | Cumulative frequency |
|--|------------|----------------|----------------------|
| | Frequency | Percentage (%) | |
| Personal Savings | 55 | 61.1 | 61.1 |
| Cooperative Societies | | | |
| Banks | 23 | 25.6 | 86.7 |
| Friends and Relatives | | | |
| Personal savings and Cooperative societies | 0 | 0.0 | 86.7 |
| | 2 | 2.2 | 88.9 |
| Total | 10 | | |
| | 120 | 11.1 | 100.0 |
| | | 100.0 | |

Source: Field Survey, 2025

Socio-economic Factors Influencing Women Cooperators' Participation in Agriculture

The binary logistic regression analysis was employed to evaluate how socio-economic variables influenced women participation in agriculture in Kwara-North of Kwara State. The model exhibited strong explanatory power, with a Nagelkerke R² value of 0.723, indicating that approximately 72.3% of the variability in participation could be explained by the set of independent variables used in the model. In addition, the model's classification accuracy of 82.5 % indicated a reliable prediction of participation behaviour among cooperative women. Age was negative (-0.523) and significant (P<0.05), showing that younger women were more

likely to participate in agriculture than older women. This finding support the study of Sharon (2018), who noted that as young females' age, their interest in agriculture may be shifted due to aspirations and exposure to alternative career ways.

Education level positively influenced participation ($P < 0.05$), revealed that higher education exposure do not prevent women from involving in agriculture but rather encourage and enhance their participation, especially when agricultural innovations and opportunities are known or understood. This contradicts the traditional view that education distances women from farming activities, this findings was in agreed with Kabane (2020), who claimed that tertiary-educated women were more likely to explore agri-business innovations. Household size ($p < 0.05$) and farming experience ($p < 0.010$) also significantly influenced participation positively.

A larger household provides potential family labour, while more farming experience likely builds confidence and skill in agricultural business. Crucially, membership in cooperatives had a highly significant and strong positive effect ($\beta = 1.055$, $p = 0.099$) indicated that social networks and cooperative participation play a major role in women's agricultural involvement. This supports the findings of Nnadi and Akwiwu (2021), who stressed the role of peer support and knowledge-sharing platforms in boosting agricultural activities involvements engagement. Similarly, labour ($\beta = 0.204$, $p = 0.110$) and access to credit ($\beta = 1.002$, $p = 1.020$) were both significant predictors of women participation. Labour indicating that access to labour whether internal or external is vital for both young and old women participation.

Access to finance suggests the importance of institutional support in form of financial services in empowering women in agricultural sector. This result was in accordance with Soetan (2020), who explained that access to credit enhances adoption of improved farming practices. utilization of agro-chemicals ($\beta = 0.672$, $p = 0.018$) also significantly influenced participation, indicating that available resource and inputs improve the viability and attractiveness of agriculture to women. Land acquisition ($\beta = 0.528$, $p = 0.109$), although it was not statistically significant, showed a negative relationship, hinted that those who inherited land might be less inclined to participate compared to those who actively acquired it, due to a lack of ownership motivation factor. This observation corresponds with research Adebayo and Olagunju (2019), who stated that secure land access remains a fixed major problem encountered by women in agriculture observed by Adebayo and Olagunju (2019), who stated that secure land access remains a major constraint for youth women in agriculture.

In summary, the regression analysis underscored that women participation in agriculture in Kwara-North, Kwara State is significantly influenced by a combination of personal attributes or profiles age, education, household characteristics (household size, experience), institutional factors like (credit), and farming conditions (utilization of agro-chemicals and labour). Therefore, effective policy interventions that can enhance education, access to credit and farm inputs are as critical measures to boost women involvement in agriculture should be provided or introduced in the study area.

Table 4: Distribution of Socio-economic Factors Influencing Women Participation in Agriculture

| Variables | Coefficient | Standard Error | P-value | Wald Sig. | Exp (β) Old Ratio |
|----------------------------|-------------|----------------|----------|-----------|-------------------|
| Constant (β ₀) | 0.022 | 1.206 | 0.167 | 5.876 | 0.001 |
| Age | -0.178 | -0.523 | 0.059 ** | 3.617 | 0.055 |
| Marital status | 0.327 | 0.043 | 0.444 | 2.113 | 0.052 |
| Education attainment | 0.425 | 0.612 | 0.312** | 3.904 | 0.405 |
| Household size | 0.621 | 0.215 | 0.622** | 3.893 | 0.673 |
| Farming Experience | 1.501 | 0.444 | 1.421*** | 6.421 | 0.012 |
| Membership Cooperative | 1.055 | 0.503 | 0.099*** | 4.664 | 2.611 |
| Labour | 0.204 | 0.077 | 0.110*** | 5.002 | 2.115 |
| Farm size | 0.051 | 0.007 | 0.066 | 2.697 | 1.202 |
| Credit | 1.002 | 0.100 | 1.020*** | 5.557 | 1.111 |
| Accessibility | | | | | |
| Quantity of harvest | 0.323 | 0.227 | 0.331 | 2.662 | 1.020 |
| Land acquisition | 0.528 | 1.522 | 0.109 | 2.165 | 1.058 |
| Use of agro-chemicals | 1.057 | 1.055 | 1.555** | 3.645 | 2.001 |

Source: Field Survey, 2025

Model Summary:

* -2 Log Likelihood: 198.55

* Nagelkerke R²: 0.723

* Overall Prediction Accuracy: 82.51%

Note: *Significant P < 1%, P < 5% & P < 10% respectively

Constraints Militating Against Women Cooperative Participation in Agriculture

Results derived from the assessment of constraints impeding cooperative women participation in agriculture the study area are shown in Table 4 below. An analysis of these constraints uncovered that cultural beliefs (100%) was ranked 1st. Culture factors such as traditions, beliefs, individuals perceptions practices that distinguish members from one culture from others and customs were the main barrier women faced in the participation in agricultural cooperative activities which actually restricted women from conducting certain agricultural businesses independently without their husband's consent and also block their active participation in many activities resulted to low participation of women in agriculture and discourage the bulk of the womenfolk from venturing deeper in the pursuit of their own passion. The implication of the negative cultural interpretation or restriction of women has made many to abandon their traditional occupation of farming into other enterprising. (Soetan, 2020). Insufficient funds (98.1%) was ranked 2nd ranked, lack of extension services (88.9%) was ranked 3rd, high cost of farm inputs (80.0%) was positioned 4th, and lack of Insecurities and Banditries (77.8%) was ranked 5th.

This Insecurities and Banditries is very serious in Nigeria where many farmers are afraid of going to farms, this issue really concern every individuals. Labour-intensive nature of

agriculture (75.6 %) was positioned 6th. Other significant hurdles encompassed, gender inequality (72.2%), poor road network (66.7%), limited access to land (65.6%), unfavourable government policies (61.1%) and high cost of transportation (60.0%) were all ranked 7th, 8th, 9th 10th and 11th. It is necessity for establishing a specialized credit scheme tailored to encourage women to participate in agriculture as one of the way to mitigate these issue of low participation of cooperative women in agriculture.

Through adequate financial support to farmers to procure superior and adequate farm inputs can enhancing overall of agricultural business and increase its profitability. This findings corroborated with Maleko & Msuya (2015), who emphasized the financial support is very mandatory on agricultural enterprise in order to increase farm products or outputs. The data indicated that the high insufficient or limited access to funds of production emerged as the most pressing issue faced by producers, can be attributed to the low income of the women farmers. In addition, it is imperative to provide credit facilities by the government or access to farm subsidy which invariably affects the agricultral outputs of women in the study area to encourage them and improve their agricultural production cycle. Poor road network is another prominent challenge usually encountered by women farmers, as a result of excess rainfall, the roads that leads to their respective farms have been destroyed, thereby posing great challenges on transporting their products from their respective farms to their various abode, therefore invariably increasing transportation cost. Another constraints faced includes inadequate access to land, gender inequality among others. Inadequate access to land posed serious problem to women farmers, and even prevent them from gaining interest in agriculture because without land agriculture practice is fruitless. Likewise, gender inequality posed great challenge and also discourage many women from participating in agricultural activities in the study area.

Table 5: Distribution of Constraints Limitation Women Cooperative Participation in Agriculture in the Study Area.

| Constraints to Women Cooperative Participation in Farming Operation | Yes | | No | | Rank |
|---|------------|----------------|------------|----------------|------------------|
| | Frequenc y | Percentage (%) | Frequenc y | Percentage (%) | |
| Unfavourable government policy | 55 | 61.1 | 35 | 38.9 | 10 th |
| High transportation cost | 54 | 60.0 | 36 | 40.0 | 11 th |
| High cost of farm inputs | 72 | 80.0 | 18 | 20.0 | 4 th |
| Insufficient finance | 89 | 98.9 | 1 | 1.1 | 2 nd |
| Inadequate access to land | 59 | 65.6 | 31 | 34.4 | 9 th |
| Poor roads network | 60 | 66.7 | 30 | 33.3 | 8 th |
| Gender inequality | 65 | 72.2 | 25 | 27.8 | 7 th |
| Insecurities / Banditry | 70 | 77.8 | 20 | 22.2 | 5 th |
| Cultural factors and customs | 90 | 100.0 | 0 | 0.0 | 1 st |
| Lack of extension services | 80 | 88.9 | 10 | 11.1 | 3 rd |
| Labour-intensive nature of agriculture | 68 | 75.6 | 22 | 24.4 | 6 th |

Source: Field Survey, 2025

CONCLUSION

In conclusion, the majority (83.3%) of the women farmers are in their economical, productive and active age, married and also possessed formal education with an average household size of 5 persons as family members. Majority of the farmers acquired their capital through personal saving which showed that the cooperative women farmers had ability to utilize their finances well, efficient and effectively. This study also showed that males involved are more than

females in agriculture, the males involvement is higher in agriculture compared to women counterparts. Women participation in agriculture in the study area was significantly influenced by combination of personal profiles age, education, household characteristics (household size, experience), institutional factors like (credit), and farming conditions (utilization of agro-chemicals and labour). Therefore, effective policy interventions that can enhance education, access to credit and farm inputs are as critical measures to boost women involvement in agriculture should be provided or introduced. Also participation in agriculture by women cooperative farmers was delimited or constrained by cultural beliefs, limited finance, lack of extension services, limited access to credit, high cost of inputs, Insecurity and banditry among others.

RECOMMENDATIONS

The study therefore recommended, that there is a need for government and development partners to intensify efforts towards women empowerment programs that specifically target agriculture. Governments should encourage and assist women farmers by giving them special attention in terms of access to needed farm inputs and incentives. Credit facilities should be provided by the government either through various women group and cooperative societies so as to enable them participate fully in agriculture. More female extension workers should be trained and sent to assist female or women farmers.

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