

# Impact of Gender Disparity on Women's Participation in Smallholder Agricultural Production and Household Income in Kaduna State, Nigeria

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**Abstract:-** Today's society requires that men and women be treated without biasness in all aspects of human endeavour be it agriculture, education, resources, legislation or policy formulations. This research study critically assessed the impact of gender disparity on women's participation in smallholder agricultural production and household income in Kaduna State, Nigeria. Six objectives, six research questions and four null hypotheses were raised for the study. Descriptive survey research design was adopted for the study. The total population for the study was one thousand four hundred (1,400) from which two hundred and ten (210) smallholder farmers representing fifteen percent (15%) of the population were randomly selected from the three senatorial districts of the state which served as sample size for the study. Data were collected and analysed based on the questionnaire developed by the researcher, validated by experts and correctly filled and returned by the two hundred and ten (210) respondents. Descriptive statistics (Frequency, percentage, mean and standard deviation) was adopted in addressing the six (6) research questions raised, while Person Product Moment Correlation (PPMC) was also used in testing the four (4) null hypotheses at 0.05 alpha level of significance. Findings from the study revealed persistent biasness, inaccessibility to farmlands, credit, inputs, trainings and modern technology as some of the challenges women are facing in their efforts to ensure food production and income generation for their households and the society at large. Based on the findings, recommendations given included closing the gender gap in land accessibility, promoting regular training and use of appropriate technology, provision of soft loan, inputs, and financial support to smallholder women farmers.

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## I. INTRODUCTION

Women are viewed and described variously as female gender, mothers, weaker vessels, home organizers, man's helper, confidant, soul mate, caretaker, better half, and wealth preserver (Anderson, Reynolds, Biscaye, Patwardhan, & Schmidt, 2021; Dunne, Sietou, & Wilson, 2021; Ball, 2020; Okereke, 2010; Tiruneh, Tesfaye, Mwangi, & Verkuil, 2001). Also, women are regarded as household developers performing daily tasks like cooking and cleaning, providing care for children and elders, ensuring family health through first aid and sanitation, and contributing to the household economy through income generation and resource management (Dunne et al., 2021; Ball, 2020). Additionally, women are considered as invaluable drivers of agriculture and household economy, carrying out tasks such as crop and animal production, processing, marketing, and general household management (Patil & Babus, 2018; Ogunlela &

Mukhtar, 2009). Women are making all these tireless efforts to help them overcome the past considerations, which tends to confine them permanently in the kitchen and bedroom (Tabat, 2019).

Notably, women are well known as active and valuable assets in the food production cycle and their fundamental role in assisting other people come out of poverty while enhancing nutrition and food security cannot be overemphasized (Ola, 2020; Firafis, 2016; Adekanye, Otitolaiye, & Opaluwa, 2009). No wonder, Joshua and Omahas (2023); Adebisi and Monisola (2012) asserted that, the Nigerian economy is rooted in agriculture and women are at the front burner when it comes to smallholder agriculture. Emphatically, smallholder agriculture is considered as the backbone of most developing countries, with women carrying out most of the farm activities. Many of these women farmers provide affordable, fresh, and nutritious food to their households and

sell the surplus to local communities to boost their household earnings (Malemba, 2023). This alone has impacted on the population's food security and general well-being (Dwomoh, Agyabeng, Tuffour, Tetteh, Godi, & Aryeetey, 2023).

Despite all the laudable efforts performed by women as drivers of smallholder agriculture, they are often challenged by lack of farm inputs, interest free or soft loans, modern technology, financial support, training, extension services, and persistent gender biasness in decision-making and ownership. Regrettably too, women have higher likelihood of not owning a land than men and where they do, such lands often tends to be small, of inferior quality and typically without secure tenure (Doss et al., 2015; AGRA, 2012; Action Aid, 2011). This could be because women are often considered as people who have less interest in farming than men (Save the Children Federation, 2024; Muzari, 2013; Doss, 1999). Undeniably, these issues usually result in lower productivity, reduced income, and limited opportunities for economic growth, hindering their contribution to improved nutrition, food security and sustainable development.

Gender biasness with respect to women's participation in smallholder agriculture in Kaduna State is scarcely recognized and discussed. Its crucial relevance and economic importance to different households, the State and nation at large triggered this study.

#### ➤ *Problem Statement*

Gender disparity most especially on women is posing a great threat to agriculture, economic, political, security as well as the social well-being of the society. In Kaduna State, agriculture has remained the daily business of its larger population. In other words, it is the main source of employment and income for the rural poor. This notwithstanding, the level of food production in Kaduna State is yet to meet the dire demands of the teeming population majorly due to the low or non-participation of women in smallholder agricultural activities. The underperformance of the agricultural sector is linked to the failure to recognise and support the giant role of women in our communities. Additionally, the biasness against women smallholder farmers in the study area are numerous and this has constrained most women to put in their best in the agricultural activities that will impact positively on the economy of their households and the community at large.

It is no exaggeration that women are faced with serious challenges in contributing their quota to the development of the agricultural sector (Rahman, 2008) in Kaduna State and Nigeria as a nation. Pitifully, women are still looked down upon as they lack the educational, economic and political power necessary to fully realize their full potentials (Asaju, 2013). Also, women are stalled by cultural, social, and economic barriers, which hindered them to effectively participate and adequately contribute their quota to economic and national development (Tabat, 2020). This alone had led most women to have little or no access to land and where available, their plots tend to be less fertile. Besides, women have fewer and obsolete farm tools to work with, limited access to farm credit and insurance, improved seeds, reliable

water supplies, markets, training, breakthroughs in agriculture and generally suffer from unsupportive public policies than men (AGRA, 2012; Action Aid, 2011).

Regardless of all the neglects, women have taken a stand to participate in all areas of agriculture whether crop or animal production (Damisa et al., 2007), even though to a large extent, their participation in smallholder agriculture and its impact on the household income is unnoticed (Tabat, 2024). Recently, there is a clarion call for farmers to step up food production to meet up with the world's rising population and growing demands for food, especially in such countries where hunger, poverty, and malnutrition are prevalent (Burlingame & Termine, 2022). Interestingly, this research study aimed at providing suitable and effective ways on how this agricultural gender gap can be resolved as it will help increase chances for women to have direct impact on agricultural-led growth and household economy.

#### ➤ *Objectives*

The main objective of this study was to assess the Impact of Gender Disparity on Women's Participation in Smallholder Agricultural Production and Household Income in Kaduna State. Specific objectives of the study were to:

- Identify the different types of smallholder farming activities engaged by men and women in Kaduna State.
- Determine whether there is gender disparity among smallholder farmers in Kaduna State.
- Identify the causes of gender disparity among smallholder farmers in Kaduna State.
- Identify factors militating against women's participation in smallholder farming in Kaduna State.
- Assess the impact of women's participation in smallholder agricultural production on the households' income in Kaduna State
- Examine whether there is significant difference in the income of households who participates in smallholder agricultural production and those who do not.

#### ➤ *Research Questions*

The following research questions were raised and addressed in this study:

- What are the different types of smallholder agricultural practices engaged by men and women in Kaduna State?
- Is there any gender disparity among smallholder agricultural farmers in Kaduna State?
- What are the causes of gender disparity among smallholder farmers in Kaduna State?
- What are the factors militating against women participation in smallholder farming in Kaduna State?
- Does women's participation in smallholder agricultural production has any impact on families' income in Kaduna State?
- Is there any significant difference in the income of families who participates in smallholder agricultural production and those who do not?

### ➤ Research Hypotheses

The following hypotheses were postulated for this study:

- There is no gender disparity among smallholder farmers in Kaduna State.
- There is no factor militating against women's participation in smallholder farming in Kaduna State.
- Women's participation in smallholder agricultural production has no any impact on households' income in Kaduna State.
- There is no significant difference in the income of households who participates in smallholder agricultural production and those who do not.

## II. METHODOLOGY

Descriptive survey research design was adopted for the study. It is a design that accurately and systematically describe a population, situation or phenomenon using range of both qualitative research and quantitative data (McCombes, 2023). The total population for the study was one thousand four hundred (1,400) from which two hundred and ten (210) smallholder farmers representing fifteen percent (15%) of the population were randomly selected from the three senatorial districts of the state, which served as sample size for the study.

A structured questionnaire was developed by the researcher and validated by experts. The questionnaire was designed to elicit quantitative information that addressed the set research questions and the null hypotheses. Six trained research assistants were used for the smooth and successful

administration and collection of the instrument. The questionnaire contained information on different smallholder farming activities engaged by both men and women in the study area, occurrence of gender disparity among smallholder farmers, the causes of gender disparity among smallholder farmers, factors militating against women participation in smallholder farming in the study area, economic impact of women's participation in smallholder agricultural production on the household and significant difference in the income of households who participates in smallholder agricultural production and those who do not. The data collected were analysed based on two hundred and ten (210) copies of the questionnaire that were correctly filled and returned.

The questionnaire was also designed in a 4-point rating scale format with Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1. In the course of analysing the research data, "Strongly Agree" and "Agree" were classified as "Agree". Similarly, "Strongly Disagree" and "Disagree" were also classified as "Disagree". An index score of 2.5 and above was considered as Bench Mark for Agreed otherwise Disagree. However, Pearson Product Moment Correlation Coefficient (PPMCC) was used to test the null hypotheses at 0.05 level of significance and where P value is greater than 0.05, the null hypothesis was accepted ( $P > .05$  not significant/retained), but where P value is less than 0.05, the null hypotheses was rejected ( $P < .05$  significant).

## III. RESULTS

**Ho 1:** There is no gender disparity among smallholder agricultural farmers in Kaduna State.

Table 1: Analysis of Respondents on Gender Disparity Among Smallholder Agricultural Farmers in Kaduna State

Variable	N	Mean	Standard Deviation	Degrees of Freedom	R-Calculated	R-Critical	P Value
Agree	150	1.90	0.73	209	0.144	0.116	0.014
Disagree	60	0.83	0.32				

**r-critical = (.116)  $P \leq 0.05$**

Table 1 revealed a mean score of 1.90 with standard deviation of 0.73 for those who agreed that women do not inherit farmland from their parents, do not have free access to farmland, possess smaller and less fertile lands, have less access to productive resource and government support (Nwachukwu et al., 2021) and do not often access larger markets than their male counterparts in the study area. This is against a mean of 0.83 with standard deviation of 0.32 for those that disagreed. The calculated r value was greater than

the critical r value ( $0.144 > 0.116$ ) at 0.05 alpha level of significance. The result revealed a significant gender disparity among smallholder agriculture farmers in the study area. Based on the result, the null hypothesis which states that there is no gender disparity among smallholder agriculture farmers in Kaduna State was therefore rejected.

**Ho 2:** There is no factor militating against women's participation in smallholder farming in Kaduna State.

Table 2: Analysis of Respondents on Factors Militating Against Women's Participation in Smallholder Farming in Kaduna State.

Variable	N	Mean	Standard Deviation	Degrees of Freedom	R-Calculated	R-Critical	P Value
Agree	180	1.91	0.81	209	0.549	0.116	0.000
Disagree	30	0.74	0.31				

**r-critical = (.116)  $P \leq 0.05$**

Table 2 revealed a mean score of 1.91 with standard deviation of 0.81 for factors militating against women participation in smallholder farming in Kaduna State as against a mean of 0.74 with standard deviation of 0.31 for those who disagree. The calculated  $r$  value was greater than the critical  $r$  value ( $0.549 > 0.116$ ) at 0.05 alpha level of significance. The result revealed a significant difference for those who agreed and those who disagreed. Based on the

result, the null hypothesis which states that there is no factor militating against women participation in smallholder farming in Kaduna State is therefore rejected.

**Ho 3:** Women's participation in smallholder agricultural production has no any impact on households' income in Kaduna State

Table 3: Analysis of Respondents on Impact of Women's Participation in Smallholder Agricultural Production on Households' Income

Variable	N	Mean	Standard Deviation	Degrees of Freedom	R-Calculated	R-Critical	P Value
Agree	173	1.90	0.74	209	0.144	0.116	0.014
Disagree	37	0.83	0.32				

$r\text{-critical} = (.116)$

$P \leq 0.05$

Table 3 revealed a mean score of 1.90 with standard deviation of 0.74 for those who agreed that women participation in smallholder agricultural production has significant impact on households' income as against a mean of 0.83 with standard deviation of 0.32 for those that disagreed. The calculated  $r$  value was greater than the critical  $r$  value ( $0.144 > 0.116$ ) at 0.05 alpha level of significance. In other words, the calculated  $p$  value (0.014) is less than 0.05

alpha level of significance. Based on the result, the null hypothesis which states that women's participation in smallholder agricultural production has no any impact on households' income in Kaduna State was therefore rejected.

**Ho 4:** There is no significant difference in the income of families who participates in smallholder agricultural production and those who do not.

Table 4: Analysis of Respondents on Differences in the Income of Families Who Participates in Smallholder Agricultural Production and those Who do not

Variable	N	Mean	Standard Deviation	Degrees of Freedom	R-Calculated	R-Critical	P Value
Income of families who participates in smallholder agricultural production	180	1.91	0.81	209	0.549	0.116	0.000
Income of families who do not participates in smallholder agricultural production	30	0.74	0.31				

$r\text{-critical} = (.116)$   $P \leq 0.05$

Table 4 revealed a mean score of 1.91 with standard deviation of 0.81 on the income of households who participates in smallholder agricultural production as against a mean of 0.74 with standard deviation of 0.31 for those who do not. The calculated  $r$  value was greater than the critical  $r$  value ( $0.549 > 0.116$ ) at 0.05 alpha level of significance. In other words, the calculated  $p$  value (0.000) is less than 0.05 alpha level of significance. The result revealed a significant difference in the income of households who participates in smallholder agricultural production than those who do not. Based on the result, the null hypothesis which states that there is no significant difference in the income of households who participates in smallholder agricultural production and those who do not is therefore rejected.

#### IV. DISCUSSIONS

The research study was to assess the impact of gender disparity on women's participation in smallholder agricultural production and household income in Kaduna State. In order to achieve the stated objectives of the study, four null hypotheses were postulated and tested. The

interpretations of the analyses were done, and detailed discussions of the findings were enunciated thus:

The findings in Table 1 revealed that women do not inherit farmland from their parents, they do not have free access to farmland, and they have smaller and less fertile lands, have less access to productive resources and government support and do not often access larger markets than their male counterparts in the study area. The Table also presented mean scores of 1.90 with standard deviation of 0.73 for those who agreed as against a mean score of 0.83 with standard deviation of 0.32 for those that disagreed. The finding of this study is in line with Save the Children Federation (2024) and United Nations (2013) who opined that gender disparity starts from childhood and this is disproportionately affecting girls. Also, Doss et al. (2015) noted that, women have higher likelihood of not owning a land than men and where they do, such lands often tends to be small, of inferior quality and typically without secure tenure. Also, Ngodoo and Idisi (2014) asserted that, in a society that determines lineage or ancestry according to male lines of relatives, women hardly own lands. They can only get one through male relatives.



The findings in Table 2 results revealed that factors militating against women participation in smallholder farming in the study area includes lack of government support, credit facilities, high cost of labour, ineffective and inadequate knowledge transfer, lack and high cost of farm inputs, insecure land tenure, lack of family/spouse's support and illiteracy. The finding of this study is in line with Mgbenka and Mbah (2016) who noted that, majority of the Local Government Councils (LGCs) in Nigeria do not provide the services stipulated in 2001 Nigerian Agricultural Policy, and as such, agricultural sector is faced with poor funding, low staff strength, poor attitude of workers and embezzlement by LG officials. Udemezue (2021); Okojie, Monye-Emina, Eghafona, Osaghae, and Ehiakhamen (2010) also opined that local smallholder farmers can hardly afford imported technologies and lack maintenance capacity. Odoemenem and Obinne (2010) acknowledged that, smallholder farmers' successes are hindered by limited access to credit facilities as well as other financial supports and services.

The findings in Table 3 results revealed positive economic impact of women's participation in smallholder agricultural production. The finding of this study is in line with Udemezue (2021); Mgbako and Nwamba (2013) who both noted that, women's role in crop production, processing and marketing are vital. Udemezue and Odia (2021) reported that women are responsible for most of the farming activities like ridging, planting, weeding, harvesting, transporting, sorting, processing, marketing and domestic chores, which enhance their ability to contribute to household food security. Rahman (2008) also acknowledged that women contribute a significant quota to the overall agricultural labour. The findings in Table 4 revealed a difference in the income of households who participated in smallholder agricultural production and those who do not. Table 4 also revealed a mean score of 1.91 with standard deviation of 0.81 in the income of households who participates in smallholder agricultural production as against a mean of 0.74 with standard deviation of 0.31 for those who do not. The finding of this study is in line with Ola (2020); Firafis (2016); Adekanye, Otitolaiye, and Opaluwa (2009) who also noted that, for quite sometimes, agriculture has played a fundamental role in helping people come out of poverty while enhancing their nutrition and food security. Besides, it is also tagged as the backbone of most developing countries, with a very high impact on the population earnings and its livelihood from various agricultural activities. Dwomoh et al. (2023) and Tiruneh et al. (2001) concurred that, in sub-Saharan Africa, agriculture has remained the mainstay of the rural economy.

## V. CONCLUSION

Based on the findings of the study it can be concluded that there is gender disparity in the study area, which is guided by deep-rooted social and cultural norms. This is evident as women are often overlooked in decision-making beside lacking secure tenure over land and having limited access to farm inputs, credit, extension services, training, financial support, and modern agricultural technology. Addressing these gender gaps by improving women's access to resources

and promoting gender-transformative policies is crucial for boosting smallholder agricultural productivity, improving nutrition and food security, and fostering economic growth.

## RECOMMENDATIONS

The following recommendations were made based on the results obtained from the study area:

- The government should start recognizing women farmers and their multiple roles, and ensure adequate funding and management programmes are targeted to women farmers.
- The government should provide effective and seamless mechanisms through which efficiencies of smallholder farmers can be improved. This could be having unrestricted access to inputs, credit, training and technology transfer, market linkages, and infrastructural development.
- Financial support and free education should be provided by the government to such household members that promotes effective gender equality. Doing so will draw the attention of non-compliant households thus curbing the problems that aggravate gender disparity in the study area.
- Gender disparity education should be given top priority by marriage counsellors, gender specialists, Pastors, Imams, parents and community leaders as it will help bridge the gender gap in smallholder agriculture and ensure that food systems transformation benefit all.
- Regular training in modern agricultural practices, effective dissemination of relevant information and promoting the use of appropriate technologies should be tailored towards women.
- Non-Governmental Organizations can help close the gender gap in farm productivity by creating awareness on gender equality and initiate support programmes in the area of agricultural inputs supply to women farmers.
- Government and Community Heads should work out modalities that will provide farmlands for women as this will encourage their participation in agricultural activities.

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