

# Socio economic Factors Influencing Women Participation in Agricultural Production in Jos South Local Government Area of Plateau State, Nigeria

A. S. Kosshak<sup>1</sup>, M. K. Dughuryil<sup>2</sup>, N. H. Finangwai<sup>3</sup>, D. A. Ameh<sup>4</sup>

<sup>1,4</sup>*Department of Agricultural Technology, Federal College of Land Resources Technology, Kuru-Jos, Plateau State, Nigeria*

<sup>2</sup>*Department of Soil Science, Abubakar Tafawa Balewa University, Bauchi, Bauchi State, Nigeria*

<sup>3</sup>*Department of Biological Science Education, Federal College of Education, Pankshin, Plateau State, Nigeria*

**Abstract** - This study was undertaken to examine the socioeconomic factors influencing women participation in agricultural production in Jos South local government area of Plateau State, Nigeria. Multi-stage sampling technique was adopted to select one hundred and twenty (120) women farmers from the four districts of the local government. Primary data was generated using structured questionnaire. Descriptive and inferential statistics were used to analyze the primary data generated. These include frequency and percentage, and multiple regression analysis, respectively. The results show that most of the women (45.0%) were in the active age range, mostly married (65.0%) and had a family size of 6-10 persons (59.2%). The highest level of education attained by the women is secondary education (39.3%), with most having 16 – 20 years farming experience. In addition, most acquire land for farming through borrowing (60.0%) and involved in mixed farming (63.3%). The study further revealed that maize (76.5%) is the crop mostly grown and broiler (56.1%) is the animal mostly reared. Age of respondent, household size, level of education and method of farm acquisition significantly ( $p < 0.01$ ) influences the participation of urban women in agricultural production activities. Type of agricultural enterprise was however, negatively influence women's participation in agricultural production activities and was also significant ( $p < 0.01$ ). Land tenure, poor pricing of produce and access to extension services were the highest ranked constraints faced by the women. The study therefore, recommends that government should formulate policies to encourage women farmers to have easy access to land and extension services, in addition to ready market and profitable prices for farm outputs. Women should be encouraged to form cooperative to improve their agricultural productivity.

**Keywords:** Women, participation, production, agricultural, constraints, access

## I. INTRODUCTION

Males and females play different roles in the growth and development of the family. Studies in Africa, Asia and Latin America have shown that when it pertains to food, good nutrition, education and health care of children, they improved with increased income of the female gender [1], [2]. Despite this, the role of women in agricultural production has either been ignored or underestimated [3] as men have always been the target of the extension agents despite the indispensable labour provided by the womenfolk. There is no consensus on how to quantify the role that women play in agricultural

production, there is, however, clear indication that their contribution is quite significant [4], which can only be ignored to the peril of all efforts aimed at emancipation of the rural poor [5].

Agriculture has been the major backbone of the economy in Nigeria in providing raw materials, food, and employment for over 75% of the population which is dominated by small peasant farmers living in rural areas, with farm holdings of one to two hectares [6]. These peasant farmers are mostly women working in all aspects of cultivation including planting thinning, applying fertilizer and harvesting. They are actively involved in post-harvest activities and livestock production, particularly small animal and dairy production [7], [8].

With the emergence of COVID-19 in Nigeria, there has been a monumental reduction in food production, increased food insecurity and concomitant staggering increased in unemployment which has now placed a heavy burden on farmers and government. In addition to this, with an ever-increasing population where seventy percent of which live in rural areas and are responsible for about 75 percent of Nigerian's food production, there is the need to adequately garner all the human resources for increased agricultural production [9], [10]. The country risks a looming food crisis unless measures are taken to protect the most vulnerable ruralites, keep food supply chains alive and mitigate the pandemic's effects across the food system. Thus, the ability of rural farmers to increase food production is pertinent in this pandemic and beyond [11].

It has been reported that women make up some 60-80 percent of agricultural labour force in Nigeria, depending on the region and they produce two-thirds of the food crops [12]. Reference [13] agrees with the foregoing report when they painfully and regrettably opined that women have been found to contribute about 60% of the labour force; produce 80% of food and earn 10% of the money income, but own 1% of the farm assets. Yet, in spite of these, men make the key farm management decisions both at home and in the society in Nigeria, making women voiceless, especially with respect to influencing agricultural decisions and policies. Policies, aimed at increasing food security and food production, either

underestimate or totally ignore women's role in both production and the general decision-making process within the household [14], [15].

There is a growing recognition of the contribution of women to agricultural production today. Over the past decades, awareness of gender issues in development has steadily increased [16]. There is a large and growing literature concerned with gender-based agricultural productivity issues and the economic activities of women. A great deal of substantive work has been done concerning, for example, the relative effects of increases in men's and women's incomes on the health, nutrition, and education of children [17]; the access of women to credit markets [18]; the various roles played by women and men in a variety of farming systems [13]; determinants of women participation in livestock production [2], [19]; women in household decision-making [15]. There is, however, paucity of information on the socioeconomic factors influencing women participation in agricultural production in Jos south local government area of plateau state, Nigeria. This study is conducted (i) to describe the socioeconomic characteristics of women involved in agricultural production in Jos South (ii) to identify the types of agricultural activities undertaken by the female farmers (iii) to identify factors influencing women participation in agricultural production and (iv) to examine the constraints of female involved in agricultural production in Jos South Local Government area.

## II. METHODOLOGY

### A. Description of the study Area

Jos South is one of the seventeen local Government areas of Plateau State, Nigeria. It has an area of about 400 square kilometre (km<sup>2</sup>) and lies at the latitude of 80° 24N and Longitude 80° 32 and 100° .38 east. It shares boundary with Jos north local government in the north, Riyom Local Government to the east and Barkin Ladi to the west. The local government is divided into four districts namely Du, Gyel, Kuru and Vwang districts. Its headquarters is located in Bukuru. The Local Government lie on longitude 9°43'23.7623" and latitude N9°14.1049". The local Government occupies an Area of approximately 510km<sup>2</sup> and it is the second most populated Local Government Area in the State after Jos.

Plateau State has a higher altitude of 1,238 meter and has its coldest period between November and February with an average mean daily temperature between 18°C and 22°C while it gets warm between March and April which usually occur in dry season. The main annual rainfall varies between 1347mm and 1460mm per annum. The Local Government Area has a variety of climatic conditions which favours the growth of number of agricultural crops such as Irish potato, sweet potato, maize, millet, acha, cabbage, rice, and many other vegetables; providing both small and large industries with raw materials. People living in the area are predominantly Berom with other tribes which include Igbo, Yoruba, Hausa, Fulani, Mwaghavul and Tarok.

### B. Sampling and sample selection.

A total of one hundred and twenty (120) women farmers were selected for the research. Multi- stage sampling technique was adopted. In the first stage, three villages from each of the four districts was selected. The second stage involves purposive selection of 10 women farmers from each of the three selected villages to give a total sample size of one hundred and twenty (120) and this formed the sample for the research. Primary data was generated using structured questionnaire that was administered to the respondents and where necessary it was explained to them.

### C. Data Analysis.

Simple descriptive statistics and multiple regression analysis (ordinary least square) were employed and used in order to achieve the objectives. The model is specified as below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

Where:

Y = Participation Index of women farmers

X<sub>1</sub> = Age (years)

X<sub>2</sub> = Years of experience in agricultural production (years)

X<sub>3</sub> = Level of education

X<sub>4</sub> = Marital status

X<sub>5</sub> = Household size

X<sub>6</sub> = Type of agricultural enterprise

b<sub>1</sub> – b<sub>6</sub> = Regression coefficients

a = Constant term

e = error term

## III. RESULTS AND DISCUSSION

### A. Socioeconomic characteristics of women farmers

The result of the socioeconomic characteristics of the respondents is depicted on Table 1. It reveals that majority of the respondents (56.7%) are within the age bracket of 20- 49 years. This implies that most are still within the active productive and reproductive age. They are well fitted to providing the labour needed for farm work. This result is in agreement with those of previous authors who reported that most of the female farmers are within the ages of 20 – 50 years and this age bracket facilitates the labour supply in agricultural production [13], [14], [20]. Based on the result of their marital status, majority (65.0%) of them are married. This could be attributable to the fact that early marriages are encouraged in the study area. This also agrees with [19], [21]. Furthermore, majority of the farmers (59.2%) have household sizes of 6 – 10 persons. This is a positive contribution to providing family labour for farm functions. This is higher than that reported by [19] but within the range reported by [22], [23].

With respect to the educational level of the women farmers, most of them have attained one level of education with majority of them (39.3%) having secondary education. This could be due to the numerous educational institutions in the study area and puts them in vantage position to learn new aspects of agricultural production.

Table I : Socioeconomic characteristics of women farmers

Variable	Frequency	Percentage
<b>Age of respondent</b>		
< 20 years	10	8.3
20 - 34 years	14	11.7
35 - 49 years	54	45.0
50 - 64 years	30	25.0
> 65 years	12	10.0
<b>Marital status</b>		
Single	23	19.2
Married	78	65.0
Widow	11	9.2
Divorced	8	6.6
<b>Household size</b>		
1 - 5	38	31.7
6 - 10	71	59.2
11 - 15	6	5.0
16 - 20	5	4.1
<b>Level of education</b>		
No formal education	10	8.3
Adult education	16	13.3
Primary education	30	25.0
Secondary education	47	39.3
Tertiary education	17	14.1
<b>Years of farming</b>		
1- 5 years	12	10.0
6 - 10 years	18	15.0
11 - 15 years	37	30.8
16 - 20 years	48	40.0
21 and above	5	4.2
<b>Method of farm acquisition</b>		
Inheritance	14	11.7
Purchase	7	5.8
Gift	12	10.0
Leasehold	15	12.5
Borrowed	72	60.0
<b>Type of agricultural enterprise</b>		
Crops only	18	15.0
Livestock only	6	5.0
Crops and livestock	76	63.3
Marketing	14	11.7
Processing	6	5.0

Source: Field Survey, 2020

Over 70% of them have farming experiences of 11 – 20 years. The many years of farming experience among respondents could have a positive impact on the production techniques of these farmers [22]. Majority of the land on which the women farmers carry out their activities are borrowed (60.0%). This is due largely to the patriarchal nature of the study area where only males have right to land inheritance which is also in agreement with [8]. In addition, most of the farmers practiced mixed farming (63.3%) while 15.0% and 5.0% practiced either crop or livestock farming, respectively. This lends credence to the reports of [13], [14].

*B. Type of agricultural enterprise carried out by women farmers*

Table 2 displays the various crops and livestock cultivated or raised by the farmers. It reveals that maize (76.5%) is the predominant crop grown by the farmers; which agrees with [24]; and followed by acha (54.1%). Irish potatoes, guinea corn and finger millet are also cultivated in substantial quantity as shown by the results of 34.7%, 34.7% and 31.6%, respectively. The Table similarly shows that the women raise broilers (56.1%), local fowls (34.7%) and pigs (32.7%) as the major livestock. Sheep and quails are also raised but in much smaller quantity. The integration of crop and livestock farming by the women ensures there is a continuous circulation of feed from farm wastes for the animals and manure to fertilize the farm eventually. Reference [21] reported that studies have established that women are involved in various agricultural activities alongside domestic work [25]. However, their roles vary between and within regions, and are changing rapidly in many parts of the world, where economic and social forces are transforming the agricultural sector [26].

Table II: Classification of crops and livestock types raised by farmers

Crops	Frequency	Percentage*
Maize	75	76.5%
Guinea corn	34	34.7%
Irish potatoes	34	34.7%
Sweet potatoes	31	31.6%
Acha (Fonio)	53	54.1%
Groundnut	23	23.5%
Millet	23	23.5%
Finger millet	31	31.6%
Cocoyam	16	16.3%
<b>Livestock</b>		
Broilers	55	56.1%
Layers	17	17.3%
Local fowls	34	34.7%
Pigs	32	32.7%
Rabbit	9	9.2%
Goat	16	16.3%
Sheep	4	4.1%
Quails	3	3.1%

\*Multiple responses Source: Field Survey, 2020

The result of multiple regression analysis used to identify the variables influencing women participation in agriculture is as shown in table 3. It revealed that five of the variables were significantly related to level of participation of women farmers in agricultural production. The variables are age, household size, level of education, method of land acquisition and type of agricultural enterprise. It was found that age, level of education and method of land acquisition were significantly related to level of participation at 1% level of significance. This means that the age of the women, the educational level they have attained and how land is acquired in their locality will significantly influence the extent to which they participate in agriculture. Reference [14] and [22] obtained similar result albeit at 5% level of significance. This is probably due to the fact that age and education combine to give the women a level of independence in their activity with increased income. Also, the household size and type of agricultural enterprise that the women are involved in is significant at 5%. On the other hand, marital status does not influence the women participation in agriculture. This is in disagreement with previous studies where they were reported to be significant [22], [27], [28].

Table III: Factors influencing women participation in agricultural production

	Regression Coefficients	Std. Error	T-value
Age of respondent	0.429	2.171	5.534***
Marital status	0.076	3.791	0.742
Household size	0.188	2.225	3.478**
Level of education	0.496	2.312	5.413***
Method of farm acquisition	0.403	2.523	5.365***
Type of agricultural enterprise	-0.280	3.117	-2.651**
Constant	-34.018	2.568	-13.248
	R = 0.966	R <sup>2</sup> = 0.932	Adjusted R = 0.928

Source: Field Survey, 2020. \*\*\* Significant 1%. \*\* Significant 5%.

The constraints identified by the participating women farmers are presented in Table 4. The results showed that land tenure (84.2%) is the most limiting factor to participation of women in agricultural production. This is followed by poor pricing (50.8%) of agricultural produce and access to extension services (45.0%). Other constraints include high cost of farm inputs (38.3%), poor transportation network (36.7%) and access to credit and late delivery of farm inputs (35.0%), respectively.

#### IV. CONCLUSION AND RECOMMENDATIONS

The results obtained in this study shows that women farmers in Jos South local government area of Plateau State are involved in crop and livestock production with maize and broilers being the most crop and animal grown, respectively.

The women are in their productive ages with most of them married. In addition, most of the land that the women use for production is borrowed. This could suggest that with adequate farmland and production inputs, they have the potential to increase their present level of output and even diversify into permanent crops. The participation of women in agricultural production in the study area is associated with many constraints which includes land tenure, poor pricing of produce, access to extension, high cost of farm inputs, poor transportation network and access to credit.

Based on the findings of this study, the following recommendations are suggested. More female extension workers should be trained and empowered to help female farmers. Land tenure system should be reviewed and changed to favour women farmers to have easy access to land. This will increase their productivity beyond just annual crops. Access to credit was not a major constraint to women farmer in this area; however, with increased access to credit, there will certainly be a significant increase in their output. Hence, women should be encouraged to form cooperative groups to take advantage of financing available to cooperative groups. In addition, female graduates should be encouraged to participate more as they have more skills and knowledge for modern agriculture.

Table IV: Constraints faced by women farmers

Variable	Frequency	Percentage	Rank
Land tenure	101	84.2	1st
Access to extension	54	45.0	3rd
Inadequate farm inputs	38	31.7	9th
Access to credit	42	35.0	6th
High cost of farm inputs	46	38.3	4th
Late delivery of farm inputs	42	35.0	6th
Poor pricing of produce	61	50.8	2nd
Inadequate labour	37	30.3	10th
Pests and diseases	40	33.3	8th
Poor transportation network	41	36.7	5th

Source: Field Survey, 2020

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