



ASSESSMENT OF WOMEN PARTICIPATION IN GROUNDNUT PRODUCTION IN HAWUL LOCAL GOVERNMENT AREA OF BORNO STATE, NIGERIA

¹Aliyu, Y. M., ²Mamza, N. J. and ³Shehu, H.

¹Department of Agricultural Extension Services, Faculty of Agriculture,
University of Maiduguri.

²Department of Agricultural Technology, Mohamet Lawan College Agriculture Maiduguri.

³Department of Agricultural Extension Services, Faculty of Agriculture,
University of Maiduguri.

Corresponding Author's E-mail: aliyumudi2@gmail.com **Tel.:** 08067941311

ABSTRACT

The study assessed women participation in groundnut production in Hawul local government area of Borno State, Nigeria. Multi-stage sampling procedure was used in drawing 100 respondents for this study. Information was collected using structured questioners. Both descriptive and inferential statistics were used to analyse the data, description statistics used include: frequencies, means and percentages, the inferential statistics used was multiple regression model. The farm size of women in groundnut production where that majority (54%) had less than 5ha, 23% had 9 to 12ha, 12% had 9 to 12ha and 9% had 13 to 16ha. The cultivated/ yield of groundnut produced by women where majority of 51% obtained 6 to 10 bags of unshelled groundnut, 37% gained 11 to 15 bags, 12% had 1 to 5 bags. Farming experience was found out to be 45% had 9 to 12 years, 25% had 4 to 8 and the least 7% had 17 years and above. It was discovered that 78% had no extension contact, 22% had no access. For access to credit, 69% had access to credit and 31 had no access. The participation of women in ground nut production were accessed and presented in percentages and also ranked. It was gathered that; seed sorting, storage of harvested groundnut, land clearing was having the highest participation (78, 76 and 74) (1st 2nd and 3rd). The least where marketing, oil extraction and value addition (48, 45 and 43) (10th, 11th and 12th). The most problem faced by women in groundnut production where; gender biasness in accessing loan, societal setbacks, restricting accessing to farm land (97, 96, and 95) (1st 2nd and 3rd). The least problem faced where; climate change, poor extension services and theft (96, 72 and 68) (8th 9th and 10th). All the socio-economic variable were positive and significant at $P \leq 0.01$ and $P \leq 0.05$. Young women constituted the majority of women in groundnut production. It was recommended that government should create an avenue where the groundnut farmers can receive financial support; Access to credit and access to extension where very poor; and policy makers should provide adequate credit facilities and access to extension.

Keywords: Groundnut, Participation, Women, Production, Socio-economics.

INTRODUCTION

The participation of women in agriculture especially in developing countries has been appreciated silently, without much recognition and documentation of their contribution. Millions of women work as farmers, farm workers and natural resources manager (Onyemobi, 2000). Women contribute to the nation agricultural output, the maintenance of the environment and family food security. Women are predominantly engaged in the production of groundnut in the different agro-ecological zones of Nigeria. The participation of women in agriculture especially in developing countries, has been appreciated silently, without much recognition and



documentation of their contribution. Millions of women work as farmers, farm workers and natural resources manager (Onyemobi, 2000). Women contribute to the nation agricultural output, the maintenance of the environment and family food security. In Nigeria, female farmers are often among the voiceless, particularly when it comes to influencing agricultural policies and projects, they have not been for active involvement in the development prove. Women have been largely ignored when research priorities are set and their needs are therefore not addressed. The altitude of ignoring such an essential resource limited the capacity of many women. (Mohammed *et al.* 2021)

Groundnut, also known as the peanut, or monkey nut, is a legume crop grown mainly for its edible seed. It is widely grown in the subtropics, being important to both small and large commercial producers. It is classified as both a grain legume and an oil crop, due to its high content of oil. World annual production of shelled peanuts was 44 million tones 2016, led by China with 38% of the world total. Nigeria is the largest groundnut producing country in West Africa, accounting for 51% of production in the region. The country contributes 10% of total global production and 39% that of Africa. Groundnut is usually grown as a smallholder crop in the semi-arid tropics under rain fed conditions. It is an important crop in many countries, where it is a good source of protein, cooking oil and vitamins. The haulms are a good source of feed for livestock, especially during the dry season when fresh green grasses are not available. This serves as an additional source of income for farmers in the dry season when the fodder is in high demand. Groundnut improves soil fertility through nitrogen fixation, thereby increasing the productivity of other crops when used in rotation or in a cereal cropping system. The poor productivity of groundnut cultivation in African countries may be attributed to a combination of factors such as unreliable rains, mostly non-irrigated nature of cultivation, traditional small-scale farming with little mechanization, outbreaks of pests and diseases, use of low-yielding varieties, increased and/or continued cultivation on marginal land, poor adoption of agronomic practices and limited extension services. Damisa and Yohanna (2007) state that the role of women farmers in agricultural production in Nigeria can never be underestimated. They perform crucial roles in the domestic and economic life of the society. Rural and national development can hardly be achieved with the neglect of this important and crucial factor. Nigerian Government more than ever, has been upon rural poverty alleviation as a way of improving the economy. As such, focus is on planned Nigeria, and desirable change s in rural societies in the form of agriculture development.

The success of groundnut production is however, hinged largely on the active participation of woman in agricultural production. Several studies had been conducted on some factors affecting crop production; Assessment of Effect of Boko-Haram insurgency on Crop production in Hawul local Government (Anjikwi *et al.*, 2021) and no emphasis was made to women participation in Groundnut production in Hawul local Government area, hence there is need to study the participation of Women in Groundnut production in Hawul local government area of Borno State. The main objective of this study was to assess the participation of women farmers in groundnut production in Hawul Local Government area of Borno State, Nigeria. The specific objectives were to:

- i. identify the socio-economic characteristics of women farmers in Hawul Local Government Area Borno State;
- ii. examine the participation of women farmers in groundnut production activities in Hawul Local Government Area Borno State;
- iii. identify the problems faced by women farmers in Hawul Local Government Area Borno State;



- iv. determine the influence of socio-economic characteristics on groundnut production in Hawul Local Government Area Borno State; and
- v. Assess the level of participation of women in groundnut production in Hawul Local Government area of Borno State.

MATERIALS AND METHODS

The Study Area

This study will be carried out in Hawul Local Government area of Borno state and it falls between the latitude 10° 15'N and 11° 0' N and longitude 12° 00'E and 12° 37'E (Google earth world map 2015). It's bounded to the north by Biu Local Government Area, Askira Uba Local Government Area to the east, Gombi (Adamawa State) to the south, in the west by Shani and Kwaya kusar Local Government Area. The total population of Hawul Local Government was 120,733 people with 59,611 male and 61,122 females based on 2006 population census (NPC 2006). It is expected that the population is based on an annual growth rate of (3.5%). The main annual rain fall of the area is between 650 mm- 1000 mm recorded in July and August. The dry season last for 7-8 months, (October to April). The average temperature of the area is about 37°C and it has a transitional vegetation type of Northern Guinea Savannah located in the northern Sudan Savannah areas of Nigeria. The average temperature is about 27°C. The soil of Hawul Local Government Area consists a widespread series of sand, clay, silt and sandy clay soil. Borno State Agricultural Development Programme (BOSADP) (1993)

The area has transitional vegetation type of Northern Guinea Savannah located in northern savannah of Nigeria. The area is predominantly inhabited by Bura people. Others include: Hausa and Fulani. The predominantly occupations are Agriculture. This can be divided into three (3) namely; arable crop farming, livestock farming and tree crop production. Arable crop farming is the main agricultural activities in the area. The crops grown are cowpea, Bambara groundnuts, Sorghum, Garden egg, Maize etc. are produce in the large quantity especially sorghum which is usually done through mixed farming (Bwala *et al.* 2021). The livestock rearing is important agricultural activities practice by farmers and the animal reared include cattle, goat sheep and poultry. Some of the inhabitants of the study area engage in livestock keeping in their home for their own subsistence consumption, some of the farmers are good hunters. The study area is dominated by basement complex rock and it falls in the tropical continental climate also known as Sudan climate. The wet seasons is short usually last for 5-6 months (May to October).

Sampling Procedure

The sampling for this study involves multiple stage sampling procedures. The first stage involves purposive selection of 4 wards out of 8 which are Kwajjafa, Shaffa, Kwayabura and Sakwa, that have high intensity of women participation in groundnut production. The second stage will involve random selection of three villages from the selected wards. The third stage involve proportionate selection of respondent from the selected district. A total of 100 women groundnut farmers was obtained.

Table 1: Sampling size selection plan

Name of District	Proportionate selection	Percentage (%)
Wajjafa	120	27%
Shafa	90	22%
Kwaya-Bura	122	28%
Sakwa	73	22%
		100%

Source: Field survey (2021)

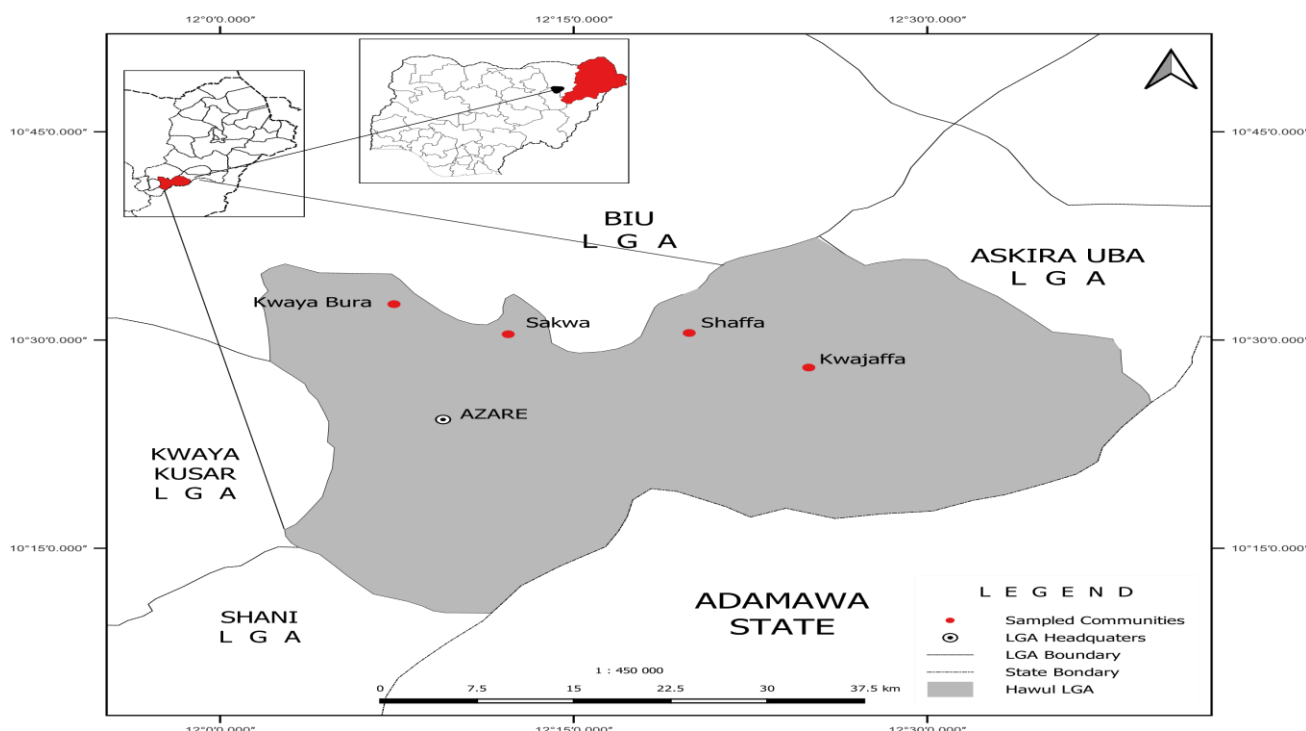


Figure 1: *Hawul Local Government Area showing Communities Sampled.*

Source: Department of Urban and Regional Planning, University of Maiduguri (2022).

Analytical Tools

The analytical tool that was employed for this study was descriptive statistics such as percentage counts, frequency, average and mean was used and also inferential statistics was used, i.e., objectives i, ii, and iii was analysed using percentage mean and frequency, objective iv was be analysed using a multiple regression analysis and objective 5 will be analysed using 5 Likert scale. The multiple regression analysis is as follows:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3, \dots \beta_{10} x_{10} + e \quad \dots(1)$$

Y = Participation of women in food crop production.

X = Independent variables

β_0 = Constant

β_{0-10} = Estimated (coefficient)

e = error

X₁ = Age

X₂ = Gender

X₃ = Farm size

X₃ = Production Income



- X₄ = Household Size
X₅ = Educational Status
X₆ = Marital status
X₇ = Poultry Production Experience
X₈ = Extension Services
X₉ = Access to credit

RESULTS AND DISCUSSION

Socio-economic Characteristic of the Respondents

The results on Table 2 revealed that majority (46%) of the women that participated in food crop production in the study area were of age's bracket of 21 to 30 years of age. The implication of this finding was that majority were youth; full of strength, zeal agility which could be translated in more labour and action in food crop production. Others were less than (18, 10%, 31 to 59, 32% and above 60, 12%). This study agrees with the findings of Mohammed (*et al.* 2021), who found that in Hawul local government area majority of the women farmers were in their youthful and active ages.

Marital status is a union between two individual who agree to come together as a family. The union of marriage comes with responsibility which makes the members work enthusiastically in order to support the family. In food crop production, such union assisted in having more hands in order to boost food crop production. The results in Table 2 indicated that (66%) of the women groundnut producers were married (19%) were single (6%) divorced and (9) widow. The implication of these findings was that there were ample hands to produce more ground and will worked enthusiastically. This study concurs with the findings of (Anarah *et al.* 2017)

Household size determines the number household that can provide labour in the farm. The results in the Table 2 indicated that majority of (41%) had 9 to 11, followed by (36%) had 5 to 8 members. The implication of these findings was that majority of the farming household had enough members to work in their groundnut farm.

Education in food crop production is a variable that enables the farm read instructions, communicate with technologies' sources, seek for credit which can be a reason for increased output. The results in Table 2 found that (21%) of the women groundnut farmers had no formal education, (24%) had primary school education, while majority (42%) of the women had secondary education, and (13%) had tertiary education. The implication of these findings was that women food crop farmers were literate that can basically read and write.

Farm size is an important variable that determines the output of a given farm. It is measured in hectares. The results in the Table 2 revealed that majority of (54%) had less than 5ha. Dedicated to groundnut production, (23%) had 5 to 8 ha. As a small-scale farmer, the sizes of the farm were satisfactory that can produce groundnut at subsistence level. This study is in accordance with the findings of Akowe and Okorji 2004 who reported that small holder farmers are those who produced at subsistence level.



Table 2: Socio-economic Characteristic of the Respondents

Characteristics	Frequency	Percentage
Age		
Less than 18	10	10
21-30	46	46
31-59	32	32
60 and above	12	12
Marital Status		
Married	66	66
Single	19	19
Divorced	6	6
Widow	9	9
Household size		
Less than 5	23	23
5-8	36	36
9 -12	41	41
Years spend in formal education		
None	21	21
1—6	24	24
7—12	42	42
13 and above	13	13
Farm size		
Less than 5	54	54
5—8	23	23
9—12	12	12
13-16	9	9
Above 17	2	2
Bags of unshelled ground yielded		
1 -5	12	12
6-10	51	51
11-15	37	37
Farming Experience		
Less than 4 years	7	7
4—8	25	25
9—12	45	45
13 and above	23	23
Access to extension		
Yes	78	78
No	22	22
Access to credit		
Yes	31	31
No	69	69

Source: Field Survey (2022).

For the bags of unshelled groundnut, the results in the Table 2 found that majority of (51%) got between 6 to 10 bags of unshelled groundnut, followed by (37%) which got 11 to 15 bags of unshelled groundnut. The least was 1 to 5 got unshelled groundnut bags. The results revealed that the output from groundnut production was adequate that if sold can pay many bills for the women.



Farming experience is the years spent in food crop production that that can help farmers to determine the onset, offset, and the manifestation of insects. This knowledge is what is mean by farming experience. The results in the Table 2 found out that majority of (45%) had 9 to 12 years, 4 to 8 (25%), less than 4 had (7%) and (23%) had 13 and above. The implication of these findings where the years spend in farming were adequate to help them determines soil fertility, onset and offset of rainfall.

In access to extension, the results in the Table 2 found out that majority of (78%) had contact with extension services while (22%) had no contact. The implication of these findings was that majority of the women farmers could get technical assistance that can help their food crop production. Credit is a finance that can help farmers get inputs, hire land and other on farm activities. The results in the Table 2 revealed that majority of (69%) had no access to credit, (31%) had access. The implication of these findings was that availability of input and other on farm input may not be gotten and could affect their performance.

Participation of Women in Groundnut Production

The results in Table 3 above provide detail explanation on participation of women in groundnut production in Hawul LGA of Borno State, Nigeria. The result revealed that (sorting of seeds, storage of harvested ground nut, land clearing and preparation, sowing were having percentages and rank of (78, 76, 74, 71,) (1st 2nd 3rd and 4th) respectively. The implication of these findings was that the aforementioned agronomic practices were the most practiced groundnut production activities practiced by women in Hawul LGA of Borno State, Nigeria. It further explains that, these participations were the key variable to more groundnut production. The results further means that if intervention is given to women farmers in the aforementioned will surely boost groundnut production in the study area. Consequently, (first weeding, second weeding, third weeding, manure/ fertilizer application, harvesting, and drying and de husking) were having the following percentages and rank (72, 68. 67, 65, 65 and 56) (5th ,6th, 7th, 7th and 8th), respectively.

The implication of these findings was that weeding, first, second and third signifies their importance in groundnut production and that weed could be a serious setback in groundnut production. Others were, manure/ fertilizer application, harvesting and de husking (65, 65, and 56) (7th, 7th and 8th). The implication of these findings was that manure/ fertilizer application is ranked 7th which indicated that soil fertility problem was not an issue in groundnut production in the study area, harvesting and de husking was also not a serious problem or issue of concern in ground. Lastly, storage, marketing, oil extraction, value addition was (51, 48, 45, and 43) (9th, 10th 11th and 12th). The implication of these finding was that ground nut production in the study area had little storage problem, marketing was not notably practised. Oil extraction and value addition were the least participated ground nut production activities. In Ezeago local government area of Enugu state Nnaji *et al.* (2019) had the similar findings



Table 3: Participation of Women in Groundnut Production

Production activities	Frequencies	Percentages	Rank
Sorting of Seeds	78	78.0	1st
Storage of Harvested Ground nut	76	76.0	2nd
Land Clearing and Preparation	74	74.0	3rd
Sowing	71	71.0	4th
First Weeding	71	71.0	4th
Second Weeding	68	68.0	5th
Third Weeding	67	67.0	6th
Manure/ Fertilizer Application	65	65.0	7th
Harvesting	65	65.0	7th
Drying and De-husking	56	56.0	8th
Storage	51	51.0	9th
Marketing	48	48.0	10th
Oil Extraction	45	45.0	11th
Value Addition	43	43.0	12th

Source: Field Survey (2022).

Constraints faced by Groundnut Women Farmers

The results in Table 4 above provided information on the various problems women face on groundnut production in Hawul LGA of Borno State, Nigeria. The problems were ranked and were; gender biasness in accessing loan, societal setbacks, restricting access to farm land, lack of technical knowhow (97, 96, 95, and 94) (1st, 2nd 3rd and 4th). The implications of these findings were that women were having problems in accessing loan that could be a good source of buying inputs and could support them in on farm and off farm activities. Secondly, society is preventing women from fully participating in groundnut production (domestic chores, taking care of children and sick). Culture is preventing women from inheriting farm land and renting land for groundnut production could be an additional cost of production which many could not afford. Lack of technical know-how on groundnut production affected women in groundnut production. Consequently, distance to market, excessive, domestic chores, insurgency, climate change, poor extension services and theft. (88, 87, 85, 76, 72, and 68) (5th, 6th, 7th, 8th and 9th). These results indicated that distance to market to buy inputs such as seeds, fertilizer, and hoe was a problem facing women in groundnut production. Distance to market could that some market holds fortnightly. Insurgency prevented women from accessing farm land. The onset and offset of rainfall couple with high temperature, humidity as a results of climate change also affected women in groundnut production. The least problem facing the women in groundnut production were poor extension services and theft. This study is in accordance with the findings of Mohammed *et al.* (2021) in a study of involvement of women in food crop production in Hawul local government area of Borno State.



Table 4: Constraints faced by Groundnut Women Farmers

Problems	Frequencies	Percentages	Rank
Gender Biasness in Accessing Loan	97	97.0	1st
Societal Setback	96	96.0	2nd
Restricting Access to Farm land	95	95.0	3rd
Lack of Technical Know-how on Groundnut Production	94	94.0	4th
Distance to Market	88	88.0	5th
Excessive Domestic Chores	87	87.0	6th
Insurgency	85	85.0	7th
Climate Change	76	76.0	8th
Poor Extension Services	72	72.0	9th
Theft	68	68.0	10th

Source: Field Survey (2022).

Factor Affecting Women Participation in Groundnut Production

Multiple regression analysis was used to determine the factors influencing groundnut production. The model exhibits an R^2 of 0.89, which mean about 89.0% of the variation in dependent variable were explained by the independent's variable. This means the model fitted very well. Table 5 socioeconomic characteristic factor affecting groundnut production. All the socioeconomic variables were positive and significant at (1% or 5%) which indicated that will all influence groundnut production. Age, marital status, years spend in formal education farm size and income were all positive and significant at 1%, additionally, household size, farming experience and access to credit were positive and significant at 5%. The implication of these were that any additional unit of the aforementioned variables will translate to more groundnut production. This finding is in agreement with the findings of (Shuaibu *et al.* 2018) in a study socio economic factors and profitability of groundnut processing by women in Kano State, Nigeria,

Table 5: Factor Affecting Women Participation in Groundnut Production

Variable	Coefficient	Std. Err.	t-value
Age	0.115062	0.021278	5.41***
Marital status	0.492922	0.16868	2.92***
Household size	0.198565	0.101994	1.95**
Years of in formal education	0.059742	0.01338	4.47***
Farm size	0.760443	0.240138	3.17***
Income	0.760443	0.240138	3.17***
Farm experience	0.210115	0.091089	2.31**
Access to credit	0.418212	0.19276	2.17**
_cons	9.286195	2.079732	4.47***
R^2	0.8968		

Note: **, ***, are significant at 5%, 1% and not significant, respectively.

Source: Field Survey, (2022).

CONCLUSION AND RECOMMENDATIONS

The study analysis of women participation in groundnut production concludes that majority of the women in ground nut production were youth full of strength. Majority of the



women in groundnut production where married. Majority of the household size were 9 to 12. The highest farm size 54% had 5ha. The highest yield recorded was 6 to 10 bags. 78% had no access to extension services and 69% no access to credit. The most participated activities during ground nut production where; sorting of seeds, storage, of harvested groundnut and land clearing. The most problem faced by women in ground nut production where; gender biasness in getting loans, societal setback, and restricting of women in accessing farm land. All the socioeconomic variables where positive and significant and can influence the outcome of groundnut production. The study recommended as follows:

1. Yong women constituted the majority of women in groundnut production; it is therefore recommended that government should create an avenue where the groundnut farmers can receive financial support.
2. Access to credit and access to extension where very poor; it is therefore recommended that government, policy makers should provide adequate credit facilities and access to extension.
3. Government should enact a law giving gender equality in all spheres of life. This will make women have access to land and other aspect of social life.

REFERENCES

- Adebayo and Amao (2003) *Journal of Agriculture, Food, Environment and Extension* Volume 6, Number 2 June 2007 pp. 73 - 78.
- Anarah, S. E., Ezeano, C.I., Okonkwo, E. K. and Anunobi, C.P. (2017). Analysis of Women Participation in Arable Crop Production in Nteje, Oyi LGA of Anambra State, Nigeria. *Proceedings of the 31st Annual Conference of Farm Management Association on Nigeria (FAMAN) Bauchi* 2017.
- Anjikwi, Y. Bashir, B.A, Thlawur P. and Gadzama, A.A (2021). Assesment of the Effect of Insurgency on Food Crop Production in Hawul Local Government Area of Borno State. *Journal of Agripreneurship and Sustainable Development*. Vol. 7. Number 1. Pp 266 – 277.
- Awoke, M.U. and Okorji, E.C. (2004). *The Determination and Analysis of Constraints in Resource Use Efficiency in Multiple Cropping Systems by Small-holder Farmers in Ebonyi State, Nigeria*. Africa Development Vol. XXIX, No. 3 Pp 58-69
- Borno State Agricultural Development Programme (BOSADP) Revised Edition of Agricultural Potentials of Southern Borno State (1993).
- Bwala, Y. I, Aliyu Y. M. Rabiou M. M. and Nande, Y. A. (2021). *Journal of Agripreneurship and Sustainable Development*. Vol. 4. Number 1.
- Damisa, Maiyaki and Yohanna, Margaretha. (2007). Role of Rural Women in Farm Management Decision Making Process: Ordered Probit Analysis. *Trends in Applied Sciences Research*, 2. 10.3923/tasr.2007.241.245.
- Mohammed F. A. Aliyu, Y. M and Dodo, K.M (2021). Analysis of Involvement of Women in Food Crop Production in Hawul Local Government Area of Borno State. *Journal of Agripreneurship and Sustainable Development*. Vol. 4. Number 2. Pp43 – 51.
- Nnaji, J. O., Ofordile, K. C., Al-Mustapha, A., Eze, P. U. and Abubakar A. S (2019). Gender Role in the Production of Groundnut (*Arachis Hypogaea*) In Ezeagu Local Government Area of Enugu State, Nigeria. *OSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, Vol. 12, Number 1.
- NPC (2006). *Census Provisional Figure, Nigeria*.



Nigerian Journal of Agriculture and Agricultural Technology (NJAAT)
Volume 2, Number 2, December, 2022
ISSN (Print): 2811-1885; ISSN (Online): 2811-1893



- Onyemobi, F. I. (2000). *Towards agricultural revolution and rural development*. In: Onyemobi, F. I. (editor) *Women in Agriculture and Rural Development towards Agricultural Revolution in Nigeria*. Enugu Nigeria, Falude publishers.
- Shuaibu, H. Akinola, M. O., Akpoko, J. K., Damisa, M. A., Yakubu D. H. (2019). Socio-economic Factors and Profitability of Groundnut Processing by Women in Kano State, Nigeria. *Journal of Agricultural Extension*, Vol. 22 number 2.