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Assessment of Women's Participation in Crop Production Activities in Nguru Local Government Area of Yobe State, Nigeria

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Abstract

The study assessed on the role of women's participation in agricultural production in Nguru local government of Yobe state, Nigeria. The study employed multi stage random sampling technique. The total sample of 100 respondents was selected and administered structured questionnaire and interview schedules. The findings of the study revealed that the most (45%) 0f the respondents were within the age bracket of 16-20 and 49% of hem acquired their farm land through inheritance. The study showed that women farmers were mostly engaged in activities such as land preparation (32%), weeding (28%) and planting (24%). Majority (56%) of the respondents had between 2-5 hectares of farm land for the cultivation of crops. The study revealed that most (59%) of the respondents obtained their credits from farmer's organization. The study also revealed that 50% of the respondents had difficulty in farm acquisition. The study recommended the involvement of women farmers in decision making programmes on agricultural development.

Keywords: Agricultural production, Cropping Systems, Participation, Women, Nigeria

1.0 Introduction

Women play essential roles in agriculture; providing inputs, managing production and generating off-farm income, but often benefit less than men (Ani, 2007). In many developing countries, women are responsible for improving food security for their families and therefore, play a significant role in agricultural production (Agbamu, 2006; Ahmed *et al.*, 2012). It is often stated that women are responsible for more than half of the world food production overall and produce 60% to 80% of food stuff in Africa (Damisa and Yahamma, 2007). Ogunbameru (2001) reported that women in Africa make up more than one third of the work force in agricultural activities. In Nigeria women produce 60-80% of the food consumed in the country (Ogunbameru and Pandey, 1992). According to Ironkwe and Ekwe (1998);

Ayferam and Fisha (2015a) more than 60% of the agricultural production is carried out by women in the traditional setting.

Mijindadi (1993) estimated that women are responsible for about 70% of actual farm and constituted up to 60% of the farming population in Nigeria. In Nigeria, women supply most of the needed labor in agricultural activities and this is one of the most important factors of production as it is needed at the stages of agricultural production. Jiggins *et al*. (1998) opined that the important role played by women in agricultural production is such that the wide spread failure so far to reach women farmers through formal extension services has major repercussion for national output and food security as well as social justice. Obinne 1991 and Sharon (2008); Ayferam and Fisha (2015b) viewed that both women and men play critical roles in agriculture throughout the world, producing, processing and providing the food to eat. However, they added that women make up half of the rural population and they constitute more than half of the agricultural labor force.

In Nigeria, especially, in the northern part, women are saddled with most of the tasks in agricultural production 'supposedly' meant for the men but the benefits gained by them are not commensurate to the man hours they spend on the task. Despite the dominant and important role women play in agricultural production, their participation in crop production in particular is not being studied in the study area. Therefore, the main objective of this study was to assess the participation of women in crop production in Nguru Local Government Area of Yobe State, Nigeria. The specific objectives were to:

(i) describe the socioeconomic characteristics of the respondents in the study area;
(ii) identify the cropping system practiced among the respondents;
(iii) identify the crops cultivated by the respondents;
(iv) examine the crop production activities engaged in by the respondents;
(v) determine the relationship between socio-economic characteristics of respondents and their participation in crop production; and
(vi) investigate the constraints of women's participation in crop production.

2.0 Methodology

2.1 Study Area

The study was carried out in Nguru Local Government Area, north western Yobe State in northern Nigeria. It is one of the largest local government areas in the state with an estimated population of 250,875 in 2014 at the growth rate of2.3% (NPC, 2006). Geographically, Nguru local government area is located between latitudes 12° 52" and longitudes 10°45" E (NPC, 2006). The local government has a total mass of about 916km2. It has an annual rainfall of about 663mm, concentrated in the rainy season's which lasts from June to September. March to June records the highest temperature of between 35- 37°c, while, January records the lowest temperature of 27-29^{0}c.

The main economic activity of Nguru is primarily on agriculture and fishing. The agricultural products in Nguru area can be categorized into cereal crops such as: sorghum, millet, rice and maize, corn, vegetable such as tomatoes, pepper, and onion are also produced in a relatively large quantity through irrigation. Livestock farming is another important agricultural activities practised by Nguru famrers and the livestock reared include cattle, sheep, goat and poultry.

2.2 Sources of Data

The data obtained for this study was through primary and secondary sources. The primary data for the study was sourced through the structured questionnaires and interview schedules administered to the respondents, while, the secondary information was obtained from books, journals, conference proceedings, internet etc.

2.3 Sampling Procedure and Analytical Techniques

The study employed multi-stage random sampling technique. Nguru local government area comprises of 10 towards. At the first stage, five wards were selected at random. At the second stage, four villages were selected from each of these wards. At the third stage, five women farmers were selected from each of the selected villages. The total sample size of 100 respondents was used for the study. The data were analyzed using descriptive statistics such as frequency distribution and percentage. Inferential statistics such as regression analysis was used for data analysis.

2.4 Analytical Techniques

Data were analyzed using descriptive and inferential statistics. Thus, percentages, frequencies and means were used as descriptive statistics, whereas the inferential statistical technique used was the multiple regression. The model of the regression is specified in its explicit form as follows:

$Y = F(X_1 X_2 X_2 X_3 X_4 X_5 X_6 X_7 e)$ ……..…(i)

Where:

Y= women's level of participation in crop production (dependent variable, measured by use of scores).

The explanatory variables considered in the study were:

X_1= Marital status (Married = 1, Single = 0)

X_2= Household size (number of persons in the household)

X_3= Level of education (number of years spent in school)

X_4 = Farm size (Ha.)

X_5 = Cropping system (Mixed cropping = 1; Sole cropping = 0)

e = Error term

3.0 Results and Discussion

3.1 Socio Economic Characteristics of Women Farmers

The variables considered under the socio economic characteristics of women farmers were age of the farmers, marital status, educational qualification, family size, land acquisition and farm size. These are presented in Table 1. The result showed that 48% of the women farmers were in their active age category of between 16 and 20 years, majority (58%) of the respondents were married, while only 6% were single. This implies that the respondents were faced with household challenges which engaged the respondents to participate in crop production, consequently, leading to improved productivity and living standards of the households concerned.

Majority (48%) of the respondents fell within the family size of 6 and above 15 years category and 50% of them acquired land through inheritance. With respect to the size of the farm, the results indicated that most (56%) of the respondents had 2-5 hectares while, 24% had between 6-9 hectares. This implies that respondents cultivated relatively large expense of land.

Table 1: Distribution of women farmers by socio economic characteristics (n=100)

Variable	Frequency	Percentage (%)
Age of farmers (years)		
Less than 15	5	5
15-20	45	45
21-25	20	20
26-30	16	6
Above 30	11	11
Marital status		
Married	58	58
Single	42	42

Educational Qualification		
Qur'anic education	31	31
School leaving certificate	30	30
S.S.C.E/NECO certificate	29	29
National Diploma	8	8
B.Sc. Degree	2	2
Family size (No.)		
1-5	37	37
6-10	48	48
11-15	6	6
Above 15	9	9
Land Acquisition		
Inheritance	50	50
Purchase	15	15
Rented	20	20
Gift	15	15
Farm Size (ha.)		
Less than 2	17	17
2-5	56	56
6-9	24	24
10 and above	3	3

Source; Field survey, 2016

3.2 Cropping System Practiced by Respondents

Table 2 showed the type of cropping systems being practiced among the respondents. The results showed that majority (64%) of the respondents practiced mixed cropping, while 25% practiced sole cropping. This could mean that the respondents practiced mixed cropping to cushion the effects of drought, poor rainfall and low soil quality.

Table 2: Distribution of respondents by cropping system practiced (n=100)

Type of Cropping System	Frequency	Percentage
Sole cropping	25	25
Mixed cropping	75	75

Sources: field survey, 2016

3.3 Crops cultivated by Respondents

Crops cultivated by the respondents are presented in Table 3. The crops identified by the respondents were groundnut, millet, maize and sorghum. The results revealed that about half (50%) of the respondents cultivated groundnut, while only 4% of the respondents cultivated sorghum. This implies that most of the respondents cultivated more of cash crops than food crops in the study area.

Table 3: Distribution of Respondents by Crops cultivated

Type of Crop Cultivated	Frequency	Percentage
Groundnut	50	50
Millet	21	21
Maize	25	25
Sorghum	4	4

Sources: field survey, 2016

3.4 Crop Production Activities Engaged in by the Respondents

The variables considered under crop production activities engaged were land preparation, planting, weeding, fertilizer application and harvesting. These are presented in Table 4.

Table 4: Distribution of respondents by crop production activities engaged in (n=100)

Variable	Frequency	Percentage (%)
Agricultural production Activities Engaged in		
Land preparation	32	32
Planting	24	24
Weeding	28	28
Fertilizer application	6	6
Harvesting	10	10

Sources: field survey, 2016

Table 4 showed crop production activities engaged in by respondents. The results indicated that 32% of the women farmers were engaged in land preparation, 28% of them were engaged in weeding, while, 24% of them engaged in planting. The major cropping activity engaged in by the respondents was land preparation. This showed that women were actively engaged in labour productive activities in the study area.

3.5 Influence of Socio-economic Characteristics of Respondents on their Participation in Crop production

The independent variables considered under the regression analysis to test against the dependent variable (womens' level of participation in crop production) were family size, educational level, farm size, cropping system and marital status. The results are presented in Table 5.

Table 5: Regression Estimate of the Influence of Socio-economic Characteristics of Respondents on their Level of Participation in Crop production

Variables	Regression coefficient	Std error	t. value	Sig. level
Constant	-1.434	.213	-6.745	.000
Family size	1167e-03	.001	2.150	.034**
Educational level	5.456E-03	.001	6.558	.000*
Farm size	0.305	.026	11.872	.000*
Cropping system	6.776E-03	.005	1.472	.144
Marital status	-4.200E-02	.068	.068	.537
R^2 value = 0.826 Adjusted R^2 = 0.810				

Source: computed from field survey Data, 2016
***= significant at 10%**
****= significant 5%**

The relationship between level of participation of women in crop production (dependent variable) and the socio economic characteristics (independent variables) could be determined by the magnitude of the coefficient of the given regression model. The results showed R^2 of 0.826. This implies that above 80% of the variation in the dependent variables is explained by the independent variables in the model. Out of the various regression models; double log, semi log, linear and exponential, the linear was chosen as the lead equation, because of the strength of R^2 and the significance of the variables. Table

5 showed that out of the five variables regressed; three were positive and statistically significant at 1% and 5% level. The coefficient of farm size was positive and significant at 5% level. This means that the size of the farm contributed greatly towards women farmer's level of participation in crop production. The education level had positive coefficient and significant at 1% which means that educational level of the women farmers had influenced with the level of their participation in crop production. Also the coefficient of family size was positive and significant at 1% level to influence their level of participation in crop production. That is the larger the size of the farmer's family the higher their level of participation in crop production.

3.6 Constraints of women's participation in crop production

The variables considered on constraints faced by the women farmer's participation in crop production include difficulty in land acquisition, poor access to agricultural loan, poor farm produce price, poor storage facilities and poor access to improved farm inputs e.g improved seeds, provision of extension services (Table 6). The result showed that 50% of the respondents had difficulty in land acquisition, 20% indicated poor access to agricultural loan, 3% indicated poor farm produce price, 10% indicated poor storage faculties and 17% indicated poor access to improved farm inputs. The result implies that women farmers had constraints on farmland acquisition in the study area. Consequently, this might have a negative effect o the respondents' participation in crop production in the study area.

Table 6: Distribution of respondents by major constraints to participate in crop production (n = 100)

Constraint Variable	Frequency	Percentage (%)
Difficulty in land acquisition	50	50
Poor access to agricultural loan	20	20
Poor farm produce price	3	3
Poor storage facilities	10	10
Poor access to improved farm inputs	17	17

Source: field survey, 2016

4.0 Conclusion and Recommendations

The participation of women in crop production, if properly harnessed would go a long way in empowering them economically, especially that most of them were engaged in cash crop oriented production. However, the study revealed that women farmers were constraint by poor access to farmland. Based on the findings of the study, the following recommendations were made:

i. It is important to involve women farmers in decision making programmes designed for them on cro production. This could be done through farmers clubs or farmer's organisations. This enhances their level of participation in crop production activities in the study area.

ii. The policy makers should find ways of changing the way lands are been allocated in such a way that the women farmers could benefit, with a view to increasing crop productivity among them.

iii. The extension organisations should be encouraged to employ and train female extension workers in the study area, so that more women farmers could benefit through the extension services.

iv. Women farmer's access to agricultural credit should be improved. This could improve their access to improved farm inputs and consequently their level of crop productivity in the study area.

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