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Women Empowerment in Agriculture: A Key to Food Security and Rural Poverty Alleviation in Abuja Municipal Area Council of Nigeria

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Abstract:

The study was conducted to examine various strategies of alleviating rural poverty through women empowerment in agriculture in Abuja Municipal Area Council of Federal Capital Territory, Nigeria. A survey method was used for the study and primary data were collected using structured questionnaire. Random sampling technique was used in selecting a sample size of 120 respondents from the 12 Wards of Abuja Municipal Area Council. Descriptive statistics and logit regression model were used in analyzing the data. The results of the descriptive statistics showed that majority (30%) of the women sampled were within the productivity ages of 36-45 years, literate (70%) with one or more forms of educational attainment. Majority (41.7%) of the women farmers acquired their agricultural land through leasehold with farm size ranging between 0.5 hectares to 3.5 hectares. The household size ranges from 2-21 persons with a mean household size of 11 persons. Majority (33.3%) are full-time farmers with annual farm income ranging between ₦10000-₦250000. The study revealed that the various strategies women can be empowered in agriculture in the study area include provision of agro-inputs, Modern technology, access to resources, formation of rural co-operative group, provision of storage facilities and recruitment of more extension staff. The results of the logistic regression model showed that cost of food production (-1.528), modern technology (1.399), food storage facilities (1.211) and access to resources (1.574) were the major determinants constraints to women farmers' efforts in agriculture in the study area. The study concludes that women farmers in the study area are constrained since they lack access to potential services which could smooth their agricultural production activities and thus recommends that Government and developing practitioners should empower women through access to agricultural production resources such as land ownership rights and other strategies for active involvement in agriculture.

Keywords: Women empowerment, constraints, food security, poverty alleviation, strategies

1. Introduction

Poverty is a phenomenon of severe deprivation in well-being. The poverty level in Nigeria contradicts the immense wealth resources of the country. Although, Nigerian economy had experienced some changes since independence, but as of today, it is still characteristically dualistic and monolithic, depending on one primary product for over 90% of its export and government revenue. The productive base is still narrow and weak. Thus, the key to poverty reduction in Nigeria should refocus on empowering women who contribute more than 50% of rural labor force in agriculture so as to raise rural incomes. The Poverty alleviation Program (PAP) launched by the Federal government is laudable but did not emphasize alleviation of rural women or women empowerment through agriculture which has great potential in alleviation of rural poverty. Women's role in agricultural production activities all over the world particularly in the area of food crop farming, food processing and marketing has a symbolic relationship to national and international development. Onucheyo (1998) reported that women in Nigeria play crucial vital roles in agricultural production, food processing, household energy supply and child bearing.

Women empowerment in this context is simply regarded as the process whereby people are enabled to improve or gain control over their lives and circumstances to the extent where they can then contribute to the positive change in the instance of development. Women work hard and are major factor of production yet their earnings and benefits are not commensurate to their efforts. Obinne (1985), cited that in Africa and some parts of Nigeria women are the major food producers but government policies had benefited male farmers who grow cash crops. In many countries, increasing assets that women control has a positive impact on the next generation, particularly on education and health. In order to revive and promote agriculture to alleviate poverty, there is need to empower the women folks. This study therefore examines various strategies for empowering women such as strengthening their asset base as well as providing the legal and

institutional frame work to guarantee their command over resources to alleviate poverty in FCT and Nigeria at large. The specific objectives are to:

- Describes the socio-economic characteristics of women in the study area;
- Identify strategies through which women can be empowered in agriculture; and
- Determine the constraints of women farmers' efforts in agriculture in the study area.

2. Methodology

The study was conducted in Abuja Municipal Area Council of FCT, Nigeria. Abuja Municipal Area Council (AMAC) is located on the eastern wing of the Federal Capital Territory. It is bounded on the east by Nasarawa State, on the west by Kuje Area Council, on the North West by Gwagwalada and on the north by Bwari Area Council. It has a landmass of approximately 1200Km² and a population of 309,306 people (NBS, 2007). AMAC is located between latitudes 8.25N and 9.20N and longitudes 6.45E and 7.39E of the equator. It has six districts namely Gwarinpa, Maitama, Wuse Zone II, Wuse Zone V Zone VI and Garki districts. In all, the Area Council has twelve (12) political Wards.

AMAC experiences three weather conditions annually which includes rainy season, dry season and harmattan. The rainy season begins from April and ends in October with temperature of 28^o-30^oC and average annual rainfall of 1221.20mm. AMAC is a multi-cultural society with different indigenous cultures abound. Farming cuts across all the ethnic groups, Economic activities in the area include; farming, fishing and blacksmithing. The major crops grown include Yam Maize, Guinea corn Beans and other Nigeria Staples.

2.1. Sampling Procedure and Data Collection

Data collection was directed only on women farmers in AMAC as a case study. A random sampling approach was adopted to select 10 respondents from each of the 12 Council Wards of AMAC. The study utilized primary data generated through the use of well- structured questionnaire. Secondary sources of data were obtained from Journals, Bulletins, Magazines and other sources. The questionnaire sought information on socio-economic characteristics, major empowerment strategies, and constraints of the women farmers in agriculture. The research instrument was validated by pilot- testing and the reliability was achieved by test-retest method.

2.2. Method of Data Analysis

Data were analyzed using both descriptive and inferential statistics. Descriptive statistics was used to achieved specific objectives i and ii. The logistic regression model was employed to determine the constraints of women farmers in agricultural production.

2.3. Model Specification

The logistic Regression Model, as suggested by Heckman (1996) is expressed implicitly as:

$$\text{Ln} [\text{Pi}/1-\text{P}] = \beta_k X_k + \mu_i \dots \dots \dots (1)$$

Where:

P is the value of the dependent variables between 0 and 1

Pi/1-P is the empowerment strategies of the women farmers

X_k is a set of factors affecting women empowerment

β_k is parameters

μ is the random disturbance term

Following Maddala (1990) and Babcock et al. (1995), the model is explicitly specified as follows:

$$Y_{i(0,1)} = f(X_i) + \mu \dots \dots \dots (2)$$

The specific form of the model becomes:

$$Y = \alpha + \beta X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \mu \dots \dots \dots (3)$$

Where:

Y = Women empowerment index (0, 1)

X₁=Agro-inputs,

X₂=Modern technology,

X₃=Access to resources,

X₄=Rural co-operative group,

X₅=Food storage facilities,

X₆= Recruitment of women extension staff.

μ =error term

α =constant

β =regression coefficients

3. Results and Discussion

3.1. Socio-economic Characteristics of Respondents

The results showed that a larger proportion (68.3%) of the respondents are between the ages of 26-55 years with a mean age of 47 years. This implies that most of the respondents are in their economically active productive ages hence there is high prospect for increased agricultural productivity if they are well empowered /motivated. Majority (70%) of

the women farmers are literate with one form of education or the other. The high literacy level by implication means that the people would easily welcome and adopt new technology that can enhance their agricultural productivity and ensure food security in the area. The study also revealed a mean household size of 11 people which is a leeway to increased agricultural productivity through availability of family labor for farming activities. Although, increase in family size, decreases the probability of household being food secure, *ceterispari bus*. However, families with energetic and active members (excluding elders and children) would be advantageous as they can offer farm labor in the household and to other people to get income on a cash basis.

Majority (50%) of the women farmers in the study area access agricultural land through leasehold with a few,(15%) accessing family land. This has implication on rural poverty since women farmers are denied rights of land ownership by several cultures. The farm size of the respondents ranges between 0.5 hectares to 3.5 hectares with only about 7.5% of the women farmers having more than 3.5 hectares. The farm size holding is small, implying the need for women empowerment through land ownership rights/ land acquisition. The annual farm income ranges between ₦10000-₦200000 with an average of ₦80000 which is very meagre considering the large family size and other household expenditures. This calls for women empowerment through assistance and credit availability.

Variables	Frequency	Percentage
Age (Years)		
16-25	10	8.3
26-35	27	22.5
36-45	30	25.0
46-55	25	20.8
>55	29	24.2
Level of Education (years)		
Non formal education	36	30.0
Primary education	46	38.4
Secondary education	31	25.8
Tertiary education	7	5.80
Household Size (Number)		
2-5	35	29.20
6-10	44	36.70
11-15	19	15.60
16-20	11	9.20
>20	11	9.20
Farm Size (Hectares)		
0.5-1.0	49	40.80
2.0-2.5	41	2.0-2.5
3.0-3.5	21	3.0-3.5
>3.50	9	>3.50
Land Acquisition		
Family land	18	15.0
Community land	38	31.70
Leasehold	50	41.70
Purchased	14	11.60
Annual Income (₦)		
10000-50000	10	8.30
50001-100000	47	39.20
10001-150000	20	16.70
150001-200000	43	

Table: 1: Distribution of Respondents on the Ways to Empower Women in Agriculture (N=120)

Source: Survey Data, 2018

3.2. Strategies to Empower Women in Agriculture

The results in Table 1 revealed that majority (91.7%) of women respondents stated they should be empowered through access to resources particularly rights to land ownership, provision of capital for agricultural purposes so as to enhance productivity and ensure food security of the area. A large proportion (58.3%) advocated for more recruitment of women extension staff since women farmers tend to interact freely with female extension agents because of some traditions or cultures. Other ways women farmers felt been empowered include provision of agro- inputs (50%), and formation of Women Farmers Group (48.0%)

Empowerment Ways	Frequency	Percentage
Agro-inputs/Credit	160	50.00
Modern technology/Training	100	83.30
Access to Resources/Land	110	91.70
Rural Co-operative Group	58	48.00
Provision of Food Storage facilities	62	51.70
Recruitment of women Extension staff	70	58.30

Table 2: Distribution of Respondents on Ways to Empower Women in Agriculture (N=120)

Source: Survey Data, 2018

*>100% Due To Multiple Responses

3.3. Constraints to Women Farmers' Efforts in Agricultural Production

The results of the logistic regression model in Table 3 showed access to resources (land and capital agro-inputs), access to modern technology, extension education/Training and cost of food production were significant, indicating the constraints towards rural women's effort in agriculture in the study area. The results showed that access to resources such as land and capital was positive and statistically significant at the 5% level ($p < 0.05$). This implies that a percentage increase in access to resources such as land and capital increases the chance of female farmers' agricultural productivity/output ceteris paribus. This indicates that the inability to access resources constrains rural women's effort toward increasing productivity and ensuring food security at households. The study revealed that discrimination in land rights based on sex is common and this limits agricultural productivity among women farmers. Most respondents stated they could not apply for loans (capital) from banks or other financial institutions because of number of obstacles including high interest rate, collaterals barrier and short period of repayment of loans. This is consistent with Eriksen (2008) who reported that demand for collaterals and/or guarantors, high interest rate, tightness of the deadlines for repaying the loans, as well as restrictions on the amount of loan allowed hinder rural women farmers' access to loans.

The coefficients of agro-inputs is also positive and significant at the 5% level ($p < 0.05$) which indicates that a percentage increase in access to agro-inputs increases productivity of the rural women farmers. Ndiyo and Urassa (2001) observed that women smallholder farmers' access to agricultural inputs and technologies is constrained by their lack of access to credit and membership in rural organizations, gender-blind development programmes and lack of attention to the needs of women in research. The results showed a positive and significant coefficient at the 5% level ($p < 0.05$) of access to modern technology and agricultural extension education/ training of women farmers in the study area. Mechanized farming as a result of technology enables efficient utilization of various inputs. Inadequate training or partial participation in training on agricultural technologies constrains women farmers' ability to improve yield, earnings and efficiency in agriculture. Table 3 also showed that cost of food production was significant at the 5% level ($p < 0.05$) with a negative coefficient (-1.528). This implies that increase in the cost of production decreases the probability of women farmers' productivity. Women farmers are more affected with the high cost of production due to the fact that they rarely access credit.

Food storage facilities has a positive coefficient and is statistically significant at the 10% level ($p < 0.1$) implying that the use of poor storage facilities affect agricultural productivity. This is consonance with Imonikebe (2010) who pointed out that the provision of processing and storage facilities by the government could minimize post-harvest losses and promote food security. Annual farm income of the respondents has a positive coefficient but was not significant. The result was against the expectation. This may be due to the fact that most of the women farmers in the study area grow their crops in less than 2 hectares of land and they still practice a rudimentary farming approach which is time consuming and can lead to food losses. More so, they lack diversification alternatives or innovations so as to maximize their income through farming and non-farm activities. The coefficient of rural Co-operative group was positive but was not significant. This could be due to the fact that there are few co-operative groups in the area, and they lack proper information about the importance and benefits they can get from their participation in rural co-operative groups.

Variables	Coefficient	Wald	Sig.	Exp(B)
Constant	-7.016	6.574	0.019	0.000
Agro-Inputs	1.689	5.644	0.155	4.774
Annual Farm Income	1.442	2.664	0.106	3.778
Modern Technology	1.399	3.887	0.455**	3.884
Food Storage Facilities	1.211	3.152	0.061*	3.482
Access To Resources	1.574	5.499	0.010**	4.689
Cost Of Food Production	-1.528	5.620	0.018**	0.200
Rural Co-Operative Group	0.616	0.619	0.477	1.658

Table 3: Estimates of Logistic Regression of Determinants Constraints to Women Farmers in Agriculture (N=120)

Source: Survey Data, 2018

** $P < 0.05$ and * $P < 0.01$

4. Conclusion and Recommendations

The study showed that even though women play vital role in agriculture, their labor is not recognized as they hardly benefited from government agricultural programmes in Nigeria. Rural women farmers lack access to potential services which could smooth their agricultural production activities. Policies targeted towards women and strategies for empowering women to ensure their active involvement in agriculture have not been fully put in place since lesser proportion of women have declares being empowered in the study area. Most empowerment programmes are planned by men or did not get to the women who are actively involved in agriculture. This implies that as far as future prospects in agriculture is concern, it seems fairly obvious that in a long time to come the focus of agricultural development will continue to be on small-scale female farmers. More success in agriculture will be made if more attention is focused on women farmers who need to be empowered for optimum productivity. The following recommendations are pertinent:

- There is need for enactment of laws and acts to protect women from deprivation and oppression. Customary laws should give equal chance to both men and women in case of property inheritance particularly land ownership rights
- Women farmers should be empowered so as to increase their chances to access resources and various services for agricultural production.
- Consideration of women farmers in various Programmes established should be taken seriously.

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