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Analysis of Women Farmers' Participation in Youth Team in Action Supporting Community Initiated Development (YOTASCID) Microcredit Programme, Kaduna State, Nigeria

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Abstract
Agriculture plays a fundamental role in economic growth and development. Over 80% of women in various farming communities in Nigeria depend on agriculture as the main source of livelihood, with majority living below the poverty line. Moreover, problems of accessing credit and farm inputs continue to worsen their welfare. In the face of these challenges, financing women farmers has been one of the major concerns of agricultural development efforts in the country. In an effort to cushion the effects of these challenges, the youth team in action supporting community initiated development (YOTASCID); a non-governmental organization (NGO) has evolved over the years with the sole objective of enhancing women farmers' welfare. However, despite the availability of microcredit, limited empirical information exists on the factors influencing women farmers' participation in the (YOTASCID) microcredit programme. Primary data were collected using a semi-structured questionnaire among 210 respondents, and employed a logit model in the analysis. The core findings of the study were that accessibility to credit, education, household size, occupation, farming experience, farm size, years of cooperative involvement as well as extension contact were the main factors influencing women participation. The study gives policy insights on the key areas of intervention in ensuring that the (YOTASCID) microcredit programme and other related NGO programmes are given capacity to serve the needs and constraints facing women farmers in Kaduna State.

Keywords: Women farmers, YOTASCID Microcredit, Participation, Logit, Kaduna State

Introduction

Franklin (2007) indicated women's low participation in national and regional policy-making and in extension services. The study also indicated that these issues of most concern to women have been neglected in the design and implementation of development policies and programmes. According to Auta (2004), women in Nigeria produce, process and market about 80% of food, manage 70% of all small scale enterprise and sustain about 33% of all small households. Their role in agriculture has important implications for development, because women constitute a very important segment of the labour needed in production. Donye *et al*. (2011) and Adamu *et al*. (2018) argued that women farmers are constrained by lack of finance and technological backup to undertake agricultural activities. Youth Team in Action Supporting Community Initiated Development (YOTASCID) is a rural based development non-governmental organization, which is involved in rural development programmes, established in May 1999, in partnership with Action Aid; an international NGO. The overall objective is the provision of microcredit credit to women and youth to eradicate poverty (Development Exchange Centre, 2014; Adamu *et al*., 2017). Participation implies playing a role or taking part in an activity usually with others, participation also refers to involvement of individuals and groups in development process with the aim of ensuring self-reliance and better standard of living (Nxumalo and Oladele, 2013; Adamu *et al*., 2019). The important relationship between farmer's participation in agricultural projects and development on one hand, and economic development and poverty alleviation on the other hand, cannot be overemphasized. Indeed, there have been stagnant levels of development in Nigeria, especially in the rural and semi-rural areas. Although, YOTASCID microcredit programme has been in existence since 1995, with no systematic efforts to access the factors

influencing participation of women farmers in the microcredit programme. Hence, it is for this reason this research was undertaken to look at the socio-economic characteristics of the women farmers' YOTASCID microcredit participants in the study area, and factors influencing the participation of women farmers in the microcredit programme.

Methodology

The study was conducted in Kaduna State, an area of about 45,786 km^2 with two distinct seasons: wet and dry. A reconnaissance survey to the area revealed that majority of the women farmers are engaged in farming mainly on subsistence level, however, there are some other income earning activities which were being carried out by the women such as petty trading, basket and mat weaving, wood carving, and fishing.

Three Local Government Areas (LGAs) out of six LGAs that participated in Development exchange Centre (DEC) microcredit programme. The selected LGAs were Sabon-gari, Kaduna South and Jema'a. Two villages were randomly selected from each of the LGAs, as such six villages were randomly selected for the study. The selected villages were Samaru, Bomo, Barnawa, Television, Aduwan and Takau villages. A total of 210 women participants were randomly selected out the six villages. Data were collected through structured questionnaire and focus group discussion.

Conceptual Framework and Model Specification

Participation could be described by the utility maximization theory. It is expected that a respondent will desire to participate in the YOTASCID microcredit programme if the utility derived from the participation in the YOTASCID microcredit programme ranks highest compared to the utility derived from not participating in YOTASCID microcredit programme. In this study, participation is assumed to be binary choice such that a respondent is expected to either participate in the DEC microcredit programme or not. The preference of the *i*-th respondent to participate in DEC is therefore given by the difference between the marginal utility derived from the participation in DEC against the marginal utility foregone. The women farmer is therefore expected to participate in the DEC microcredit programme the highest marginal benefits. The logit regression model is one of the binary choice models in which a dichotomous regression variable is considered as the dependent variable and this dichotomous variable is related to a set of independent variable that are hypothesized to influence the outcome from set of paired variables. In this study, the outcome variable participation is binary (i.e participants and non-participants) hence assigned 1 for participants of the programme and 0 for non- participants. The logit model of characterizing the influence of socio-economic factors is specified thus:

$$Y_{i=} \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots\ldots + \beta_{12} X_{12} \ldots\ldots\ldots 1$$

Y= 1 for participants, 0 for non- participants
X_1 = Age(Years);
X_2 = Educational level (years);
X_3 = Household size (number);
X_4 = Access to credit (Naira);
X_5 = Occupational status (1=farming, 0 = others);
X_6 = Farming experience (Years);
X_7 = Farm size (Hectare);
X_8 = Years of membership in cooperative societies (Years);
X_9 = Household monthly expenditure (naira);
X_{10} = Quantity of inputs (kg);
X_{11} = Access to market (1=yes, 0=no);
X_{12} = Extension contact (1=yes, 0=no);
β_0 = Constant;
β_1 - β_{12} = estimated coefficients

Results and Discussion

Description of Socioeconomic characteristics of respondents

Table1 shows that many (45%) of respondents were between the ages of 31 to 40 years for participants and about 50.4% for non-participants. Mean age of participants was 37years and 38years for non-participants. About 72% and 69% of participants and non-participants respectively, had one form of education or another. About 60% of participants and 47 % non- participants had a mean of 6 persons per household, 71% of participants and 62 % non-participants cultivated land areas of between 2 to 4 hectares, while approximately 22% of non-participants cultivated less than 2 hectares. The mean farm size for participants and non-participants was 2 hectares. Majority of the participants (52%) and 47% of non-participants had farming experience of between 11 to 20 years. About 47% of participants and 53% of non-participants belong to women group association and cooperative society. Majority (73% and 82% of programme participants and non-participants) had monthly contact with extension workers during the 2015 cropping season in the study area. About 71% of programme participants received between N40,001-N50,000 with a mean amount of N45,580.95, while 96% of the participants and 89% of non-participants attended training at least one or four times during cropping season in the study area.

Factors influencing women participation in YOTASCID Microcredit

The results of the logit model showed that age, education, household size, credit, occupation, farming experience, farm size, years of cooperative involvement and extension contact were the significant factors influencing women participation in YOTASCID microcredit programme. As shown in Table 2, the selected empirical model with LRchi^2 (13) of 147 (prob>chi^2 = 0.000) was significant at 1%, indicating model of best fit. Also with Pseudo R^2 of 0.653, further demonstrate the predictability of the dependent variable (women farmers' participation in YOTASCID microcredit programme) by the selected independent variables. This implies that about 65% of the variation in the probability of a respondents' participation in YOTASCID microcredit programme can be jointly explained by the variation in the selected independent

variables. The coefficients for age and education were positive and significant at 1% and 5% and 1% level respectively, implying that any increase in age and level of education will lead to a corresponding increase in probably of participation in the scheme. This is plausible because adult women farmers would tend to stick to farming and income generating activities, reflecting their age and would work hard toward alleviating their poverty and improved their agricultural output, income and level of level. Any new development programme that would bring this improvement, the women farmers would like to be associated with it and would have greater desired to participate in it. With regards to educational level, the higher the educational level of the women farmers, higher the chances of getting involved in others means of income generating business and increased participation in YOTASCID microcredit programme. This study re-affirms the position of many other studies, including that of Ogunbameru *et al*. (2006) and Adamu and Michael (2020) that identified age and educational level as factors influencing women participation in urban agriculture. The coefficient on credit was statistically significant at 1% and positively related to probability of participation, implying that as the ability to access credit increases, so is the probability of participation in YOTASCID microcredit programme. This finding is consistent with that of Adang *et al*. (2013) that women farmers who were members of development groups had better access to credit. Past studies showed that within a development group, women farmers are able to enhance chances of accessing financial services, extension services as well as having the capability to push for policy advocacy (deHaan, 2001, Adamu *et al*., 2018).

The coefficient for occupational status was positive and significant at 1% level, implying that full time women farmers tend to participation in more the scheme. The coefficient for farm size was positive and significant at 10% level. This revealed that there is relationship between farm size and farmers decision to participate in YOTASCID microcredit. Farm size is a vital resource factors for agricultural production, hence women farmers who decide to cultivate an additional hectare of land are usually moving away from subsistence production and are therefore more likely to participate in YOTASCID microcredit in order to have access to credit, inputs, technology and high yield. The coefficient of farming experience was positive and significant at 10% level, indicating that the more the experienced the women farmers are, the more they tend to participate in YOTASCID microcredit programme. Most experienced women farmers tend to invest their resources and incomes into various ventures, suggesting women's farming experience influence participation in YOTASCID microcredit programme. This result was in contrast with Tologbonse *et al*. (2013) who noted that most experienced women farmers tend to invest their resources and incomes into other ventures instead of increasing their level of participation in WIA programmes. The household size variable had a positive coefficient significant at 5% level, suggesting that, large household size influenced probability of participation in YOTASCID microcredit programme than small sized households. Households with larger size had an advantage for farm labour compared to small household. This depends on age structure and available farm labour among members. Extension contact was significant at 5% level and significant at 5% level. It was not surprising that extension contact was a good predictor of probability of participation, given the important role being played by contact in the study area under the Training and Visit (T&V) system of extension and the replacement of most male extension agents with females. Similarly, Ogunbameru *et al*. (2006), Dodo and Dutse (2018) identified extension contact, access to market, level of education, access to credit, access to land and taking part in decision making as important factors affecting women participation in urban agriculture.

Conclusion

The study show important factors influencing women farmer participation in YOTASCID microcredit programme as accessibility to credit, age, education, household size, occupation, farming experience, farm size, and extension contact were the main determinants of farmer participation in YOTASCID microcredit programme. Since most co-operating partners and government agencies have high preference to work with women farmers and vulnerable groups, the study recommends policies that enhance women farmers' capacity to access and process information on innovations and credit by giving them free or affordable education and training to enhance productivity.

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Table 1: Distribution of respondents according to socioeconomic characteristics

Variables	Participants	Mean	Non-Participants	Mean
Age(years)				
20-30	39(18.7)	37	45(21.4)	38
31-40	94(44.9)		106(50.4)	
>50	77(36.7)		59(28.3)	
Educational level (years)				
Primary	51(24.3)		32(15.2)	
Secondary	92(43.8)		100(47.2)	
Tertiary	08(3.8)		13(6.2)	
Koranic	59(28.0)		65(30.9)	
Household size (no.)				
1-3	62(29.5)	6	99(47.1)	6
4-6	126(60.0)		99(47.1)	
>7	22(10.4)		12(5.7)	
Farm size(ha)				
< 2	25(11.9)	2.0	46(21.9)	2.0
2.0- 4.0	149(70.9)		130(61.9)	
>4	36(17.2)		34(19)	
Farming Exp (years)				
1-10	09(4.3)	22	13(6.2)	19
11-20	109(51.9)		140(66.7)	
21-30	79(37.6)		52(24.8)	
>40	13(6.2)		5(2.4)	
Membership of Association				
Women group	100(47.6)		55(26.2)	
Youth group only	06(2.9)		13(6.2)	
Mixed group	38(18.1)		31(14.8)	
Cooperative society	66(31.4)		111(52.9)	
Extension Visits (no.)				
None	2(1.0)		12(5.7)	
Weekly	45(21.4)		22(10.5)	
Monthly	153(72.9)		173(82.4)	
Annually	10(4.8)		3(1.4)	
Credit received (₦)				
20,001-40,000	53(25.2)	₦45,580.95		
40,001-50,000	150(71.4)			
>50,000	7(3.4)			
Training (number)				
1-4	201(95.71)		186(88.6)	
5 above	09(4.29)		24(11.4)	

Source: Field Survey, 2015. Figures in parentheses are percentages

Table 2: Logit regression estimates of factors influencing women participation in YOTASCID Microcredit Programme

Variables	Coefficients	Standard error	Z - value
Age (X_1)	0.93131	0.0256	2.590**
Education (X_2)	1.60066	0.1859	4.050***
Household size (X_3)	1.22394	0.0996	2.480**
Credit (X_4)	1.00011	0.0000	6.810***
Occupation (X_5)	0.84745	0.0488	2.870***
Farm Experience (X_6)	1.05900	0.0349	1.740*
Farm size (X_7)	1.18109	0.1091	1.800*
Cooperative membership (X_8)	1.08820	0.1481	0.850
Household Expenditure (X_9)	1.00000	0.0000	0.300
Input (X_{10})	1.15087	0.1656	0.980
Market (X_{11})	1.08345	0.1431	0.610
Extension (X_{12})	0.67324	0.1147	-2.320**
_cons	0.00508	0.0052	-5.120
	LR chi2(13)	=	147
	Prob > chi2	=	0.000
	Pseudo R2	=	0.653
	Log likelihood	=	217.513

Source: Field Survey, 2015. *** P< 0.01, ** P<0.05 and * P<0.10