



## HOUSEHOLD LEVEL DETERMINANTS OF MICRO CREDIT ACCESS AMONG SMALL HOLDER FARMERS IN NIGER DELTA REGION, NIGERIA

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### Abstract

The study examined the determinants of micro credit access among small holder farmers in Niger Delta, Nigeria. A multi-stage random sampling technique was employed in the selection of 384 farm households from four States out of the nine States that make up the Niger Delta region of Nigeria. Data for the study were obtained from primary sources using interview schedule guided by structured questionnaire. Descriptive and relevant inferential statistics such as frequency, percentages, mean, Heckman Double Hurdle Model and Poisson Model were used to analyze the data. Results obtained showed that; region of residence, education and organizational membership positively and significantly influenced access to microcredit, while total household income had a negative influence on access to microcredit. Also, results of factors that determined the amount of microcredit received by small scale farmers showed that: farm size and organizational membership positively and significantly influenced the amount of microcredit accessed while; interest rate had a negative and significant effect. In addition, factors that influenced frequency of microcredit accessed showed that: gender, education and interest rate were negative and significant, while, age, borrowing experience and social capital were positive and significant. The results call for policies aimed at provision of access to free and affordable education to enable farmers' access and process information on credit opportunities. There is also need to encourage farmers to form cooperatives that will enable them access credit with ease. Land reform policies that will enable small holder farmer's access more land is encouraged.

**Keywords:** Household, micro credit, small holder farmers, Niger Delta.

### Introduction

Charistonenko (2004) defines microcredit as the extension of small loans to micro entrepreneurs on low income and too poor to qualify for conventional bank loans, which is channeled towards income generating enterprises. According to Mbat (2000), micro credit involves making credit available to a group of poor people who are not properly organized without asking for securities or determining their credit worthiness. Microcredit is a credit specially packaged to suit the financial needs of the poor because they do not have the necessary collateral demanded by the orthodox banks. Credit access facilities have been identified as the direct solution to increasing investment in agriculture in the country. Credit is a major factor in agricultural production and in many cases may be a limiting factor in small-scale agriculture (Salami and Arawomo, 2013). Before the advent of formalized institutional sources of financing agriculture, agricultural credit, took the form of borrowing from friends, relatives, and neighbours,

etc. with its attendant terms either in the form of selling products to the lender at a future date and price or repayment at some agreed value (Fafchamps 1992; Coate and Ravallion 1993; Fafchamps and Lund, 2003). After the global food crises of the 1970's, the question of how to advance the economy, occasioned by the increase in both the rural and urban population started assuming greater relevance. This led to the formal establishment of greater number of institutional and non-institutional loan procurement and disbursement agencies that provides credit specifically for agricultural production and productivity. The past 70 years have seen major changes in the world economy. Over that time, the World Bank Group-the world's largest development institution has aided more than 100 developing countries adjust to these changes by offering loans and tailored knowledge and advice. World Bank's lending to agriculture and rural development serves to re-orientate supports towards improving productivity and welfare. In most cases, specialized agencies were

created to support small-scale farmers that form the bulk of the producing population (World Bank, 1995). Microcredit is the extension of small loans given to borrowers who typically lack collateral, and enables the poor to undertake income-generating activities to improve their livelihoods. It has brought millions out of poverty and prompted economic sustainability, bringing a host of impacts on families that receive it. Microcredit is designed not only to support entrepreneurship and alleviate poverty, but also in many cases to empower women and uplift entire communities by extension (Yunus, 2004). It has been recognized as a significant means of economic development in recent decades, especially during the microcredit summit held in Washington DC in February 1997. In addition, the United Nations General Assembly nominated 2005 as the International Year of Microcredit in order to boost microcredit and microfinance programs around the world. Since then, microcredit has attracted more attention from governments, NGOs, researchers and development agencies (World Bank, 2006).

A little over a decade, the issues confronting the Niger Delta region of Nigeria have caused increasing National and International concern. The region produces immense oil wealth and has become the engine of Nigeria's economy, but it also portrays a paradox as the vast revenues barely touch Niger Delta own pervasive poverty, hence giving birth to formidable challenges to sustainable human development in the region (UNDP, 2006). People are more volatile, resulting in youth restiveness, conflicts between youths and community leaders, youth and government agencies, youth and multinational companies (UNDP, *ibid*). These propagated negative nominal and real shocks in every sector of the economy including agriculture, with the economy operating under the atmosphere of politically unstable, eroded productivity and declined private investments (Ministry of Niger Delta Affairs, 2011). The recognition of credit as a powerful instrument for the reduction of poverty and food insecurity has led to multitude of programmes, aimed at providing credit to small scale farmers in Nigeria (Oruonye and Musa, 2012). Considering the emergence of many credit programs and financial institutions in Nigeria and particularly in the Niger Delta region, there may be some hope for small scale farmers, but to what extent have farmers in the region accessed microcredit? This study seeks to examine household level determinants of micro credit access among small holder farmers in Niger Delta, Nigeria. Understanding the different drivers of microcredit to small scale farming households, could help illuminate how financial institutions can rearrange lending mechanisms in order to target vulnerable farmers in this region.

## Methodology

### Study area

The study area is the Niger Delta region of Nigeria. It lies between latitude 4°2' and 6°2' north of the equator and longitude 5°2' and 7°2' east of the Greenwich meridian. Nine of Nigeria's constituent States makes up

the region, namely; Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Ondo, Imo, Rivers States, with an area of 112,000sqkm, population of 27 million people, 185 LGA's, about 13,329 settlements; 94% of which have populations of less than 5,000 (Ichite, 2015).

### Sampling techniques and sampling size

The study used cross sectional data from beneficiaries and non-beneficiaries of microcredit. The target population in the study was the microcredit sources and their clients or customers. A multi-stage, stratified, simple random sampling technique was used. The first stage involved random selection of four out of the nine Niger Delta States; Abia, Akwa Ibom, Delta and Rivers States. Secondly, one agricultural zone out of three was randomly selected from each of the states except Akwa Ibom where two zones were selected out of six. At the third stage, two Local Government Areas (LGA) were selected by random sampling from three States and four from Akwa Ibom. In the fourth stage, three communities were randomly selected from each LGA giving a total of 30 communities. In the fifth stage, based on the list of crop farmers obtained from the Agricultural Development Programmes in the States, sixteen (16) crop farmers stratified into beneficiaries and non-beneficiaries of microcredit schemes were randomly selected from each community to give a total of four hundred and eighty four (480) crop farmers. Out of this number, only 384 questionnaires were correctly filled and were therefore used for the analysis. Data from this study was obtained from primary sources through field survey using structured questionnaires.

### Analytical technique

This study adopted N250,000 as the maximum amount of microcredit. Descriptive statistics and Heckman's double hurdle model were used to analyze data for this study. The Heckman double hurdle model was used to estimate determinants of access to microcredit and the amount of microcredit received (Heckman, 1979). This model enables our study to take account selection bias that is likely since the process of selection of microcredit recipient is not governed by principles. The model is specified thus;

$$B_i^* = \alpha + \delta X_{ki} + \varphi V_{ji} + \varepsilon_i \text{ ---- (1)}$$

Where  $B_i^*$  is the amount of microcredit is received by the  $i^{\text{th}}$  farmer,  $X_i$  is  $K^{\text{th}}$  characteristics of the  $i^{\text{th}}$  farmer, and  $V_{ji}$  is the explanatory variable that affects microcredit amount by the  $i^{\text{th}}$  farmer. Using the two step Heckman method, data was tested for selection bias, which was overcome by including the inverse mills ratio from the sample selection model. Let  $B_1^*$  denote latent variable (unobservable) and  $B_2^*$  denotes outcome variable, say amount of microcredit received. The outcome variable  $B_2^*$  is observable when  $B_1^*$  is greater than zero. Thus, estimation of  $B_1$  (accessed microcredit) on  $x_1$  (farmer's characteristics) and  $B_2^*$  (amount of microcredit received) on  $x_2$  (farmer's characteristics) will lead to sample selection bias since the residual of both regression are correlated. Using the Heckman's model for efficient and consistent estimates, we estimate the

probit model considering regression of  $B_i$  (accessed micro credit) on  $x_i$  to obtain  $\delta_i$ . The estimated  $\delta_i$  shall be substituted in the inverse mill ratio {given as

$$y(x_1, \delta_1) = \frac{\phi(x_1 \delta_1)}{\Phi(x_1 \delta_1)} \dots \dots \dots (2)$$

In the second step, we consider the model of interest by regressing Q on x and the mills ratio to ascertain the determinants of quantity of micro credit received. The model is expressed thus;

$$B_i^* = \alpha + \delta X_{ki} + \phi V_{ji} + M\gamma(x_1 \delta_1) + e_i \dots \dots (3)$$

Based on the estimation, an inference about the possible existence of sample selection is noted if the coefficient of the inverse mills ratio is significant or insignificant. If the inverse mills ratio is significant, then the sample selection bias prevails, thereby indicating that additional regressor (inclusive of the inverse mills ratio) increases efficiency. If the inverse mills ratio is insignificant, then there is no selection bias implying that the ordinary least square regression is appropriate (Diagne and Zeller, 2001).

**Factors that determine access to microcredit and the amount of microcredit received by respondents**

The implicit binary Probit model used to estimate determinants of access to microcredit and the amount of microcredit received states thus;

$$MCRE = \left( \frac{P_i}{1 - P_i} \right) = Z_i = \beta_0 + \beta_1 INT + \beta_2 GEN + \beta_3 EDU + \beta_4 AGE + \beta_5 MST + \beta_6 RR + \beta_7 FRMSIZE + \beta_8 ORGMEM + U_i \dots \dots (4)$$

- Where;
- MCRE= Access to microcredit (dummy: 1 for yes, 0 for no)
- INT= Interest amount (this is the total amount the borrower pays as interest charges on money borrowed).
- GEN =Gender of the farmer (takes the value of 1 for male, and 0 for female)
- EDU =Education (This is the level of formal education attained by the household head measured by the total number of years spent in school by household head)
- AGE= Age of house hold head measured in years
- MTS= Marital status (defines the marital state of the household head; 1=married, 0=otherwise)
- RR=Region of residence (1 for urban, 0 for rural)
- FRMSIZE=Farm Size (measured in hectares)
- ORGMEM= Social Capital (it describes membership of cooperative society, measured as dummy. 1 if borrower is a member of a cooperative, 0 otherwise).
- U= Stochastic error term
- $P_i$ = Probability to engage in agricultural activity

**Factors that determine the frequency of microcredit received**

The Poisson regression model determined the frequency of microcredit received. In the Poisson model, the response variable is a count variable. The model was used by Katchova (2005) to investigate farm and personal characteristics that influence the number of loan demands for United State farms. It was employed by Netere, Kutner, Nachtsheim and Williams (1996), on geriatric study of falls in Chicago. Following the

analytical framework, the Poisson probability distribution is given as:

$$f(Y_i) = \frac{\mu^Y e^{-\mu}}{Y!} \dots \dots (5)$$

Where  $Y_i = 0, 1, 2, 3,$   
 $f(Y)$ denotes the probability that the variable Y takes non-negative integer values, and where  $Y!$  (Y factorial) stands for  $Y! = Y \times (Y-1) \times (Y-2) \times (Y-3) \times 3 \times 2 \times 1$

The Poisson regression model is therefore specified as:  
 $Y_i = E(Y_i) + U_i = \mu_i + U_i \dots \dots (6)$

Where the Y's are independently distributed as Poisson random variables with mean

$$\mu_i = E(Y_i) = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots \dots + \beta_k X_{ki} \dots \dots (7)$$

Therefore,  $Y = FCA =$ Frequency of micro credit access by the i farmer in a year (captured as a count, 1 if farmer accessed micro credit once, 2 if twice, 3 if thrice, etc.).

- The X's are defined thus:
- GEN= Gender of the farmer (Takes the value of 1 for male and 0 for female)
- EDU=Education (this is the level of formal education attained by the household head, measured by the total number of years spent in receiving formal education).
- AGE= Age of house hold head measured in years
- INC= Farm income of farmer (receipts of the from sales in the last one year, measured in Naira)
- EIB=Experience in borrowing (being the total number of years the borrower has been borrowing money
- SOC= Social Capital (it describes borrowers acquaintance with lender. Measured as dummy. 1 if borrower is acquainted with lender, 0 otherwise).
- INT= Interest amount (this is the total amount the borrower pays as interest charges on money borrowed).

**Results and Discussion**  
**Socioeconomic characteristics of respondents**

The socioeconomic characteristics of respondents are presented in Table 1. Results of the socio-economic characteristics in Table 1 shows that 44.79% of microcredit beneficiaries are within the age range of 41-50 years and 39.58% of non-beneficiaries within the age range of 31-40. The mean age of the farmers is 42.87 years for beneficiaries and 42.19 years for non-beneficiaries. Age has been found to determine how active and productive the head of the household would be, which implies that majority of the farmers, in the region are energetic and still able to do manual farm work, which confirms the result of a study done by Okurut and Bategeka (2005). Result of the respondents' educational level showed that majority (62.97% and 69.79% of beneficiaries and non-beneficiaries respectively) of the respondents acquired one form of formal education or the other. Beneficiaries had a higher mean literacy level (11.65%) than non-beneficiaries (11.41%). The mean literacy level is 11.53 years indicating a high literacy level among respondents in the region. The level of education could determine the level of opportunities available to improve livelihood

strategies. High education status of farmers will enable them acquire knowledge and skills, for budgeting, saving, adoption of innovations and use of resources (Esturk and Oren, 2014). The result showed that 64.58% of beneficiaries and 60.94% of non-beneficiaries had a household size of 5-8 persons and, the mean household size was 5 for beneficiaries and non-beneficiaries respectively. The mean household size in the study area was approximately 5 persons. The household is not large, which could also indicate low supply of labour to the family enterprise. Results of the respondents farming experience showed that 51.56% of beneficiaries and 52.09% of non-beneficiaries have spent 6-15 years in farming. The mean farming experience was 13 years for beneficiaries and 14 years for non-beneficiaries. The mean farming experience in the study area is 14 years.

This shows that farm households in the region had a considerable experience in farming. Nwaru (2004) noted that the number of years a farmer spends in the farming business may give an indication of the practical knowledge he has acquired. The result also shows that 83.85% and 80.21% of beneficiaries and non-beneficiaries households were headed by males, while 16.15% and 19.79% of beneficiaries and non-beneficiaries households were headed by females. This confirms Jibowo (1992) who indicated that patriarchal marriages where the base of family power rests with males are common in Nigeria. A high percentage of respondents (86.98% beneficiaries and 77.08% of the non-beneficiaries) were married. However, a cursory look at the table shows that on the average, about 82.03% of the respondents were once married, while

**Table 1: Socioeconomic characteristics of respondents**

Variable	Pooled data N=384		Beneficiaries N=192		Non Beneficiaries N=192	
	Freq.	Percentage	Freq.	%	Freq.	%
<b>Age</b>						
20-30	48	12.49	26	13.54	22	11.46
31-40	125	32.55	49	25.52	76	39.58
41-50	151	39.30	86	44.79	65	33.85
51-60	54	14.05	31	16.15	23	11.98
6-70	6	1.56	0	0	6	3.13
<b>Mean</b>	<b>42.53</b>		<b>42.87</b>		<b>42.19</b>	
<b>Education</b>						
No Edu	6	1.56	4	2.08	2	1.04
Prim. Edu	88	22.92	43	23.39	45	23.44
Sec. Edu.	165	42.97	76	39.58	89	46.35
OND	46	11.98	23	11.98	23	11.98
HND/B.Sc.	74	19.27	42	21.88	32	16.67
M.Sc	5	1.30	4	2.08	5	5.00
<b>Mean</b>	<b>11.53</b>		<b>11.65</b>		<b>11.41</b>	
<b>Household size</b>						
1-4	128	33.33	59	30.73	69	35.94
5-8	241	62.76	124	64.58	117	60.94
9-12	15	3.91	9	4.69	6	3.13
<b>Mean</b>	<b>5.00</b>		<b>5.00</b>		<b>5.00</b>	
<b>Gender</b>						
Males	315	82.03	161	83.85	154	80.21
Females	69	17.97	31	16.15	38	19.79
<b>F/experience</b>						
1-5	57	14.84	33	17.19	24	12.50
6-10	104	27.08	48	25.00	56	29.17
11-15	95	24.74	51	26.56	44	22.92
Above 15	128	33.33	60	31.25	68	35.42
<b>Mean</b>	<b>14.36</b>		<b>13.96</b>		<b>14.76</b>	
<b>Marital status</b>						
Married	315	82.03	167	86.98	148	77.08
Divorced	6	1.56	3	1.56	3	1.56
Widowed	30	7.81	7	3.65	23	11.98
Separated	12	3.13	7	3.65	5	2.60
Never married	11	2.86	4	2.08	7	3.65
Single parent	10	2.60	4	2.08	6	3.13

*Source: Field survey, 2014*

### Sources of microcredit

The distribution of respondents according to microcredit sources accessed is presented in Table 2.

**Table 2 Percentage distribution of respondents according to microcredit sources accessed**

S/no	Microcredit sources	Frequency	Percentage
1	Banks	27	10.93
2	Government	25	10.12
3	NGO	13	5.26
4	Esusu	50	20.24
5	Cooperative	89	36.03
6	Money lender	21	8.50
7	Friends, neighbours and relatives	22	9.00

Source: Field survey, 2014

The most accessed sources of microcredit were: Cooperatives (36.03%), followed by Esusu (20.24%), and Banks (10.93%). To avoid incurring much loss, most microcredit entities adopt the group solidarity approach (lending to farmers in cooperatives). The essence of group selection will encourage the members of the group to have confidence in one another to the extent that access to credit for any member of the group will depend on the consent of all the members of the group. The group members share in the risk and benefits that are associated with the loan collected (Zeller, Sharma, Ahmed and Rashid, 2001 and Bullen, 2004). Furthermore, in the Niger Delta region, the informal

sources are the most patronized sources (73.77%), while the patronage of the formal sources is about 26.31%. Udoh (2005) noted that in agricultural financing, informal credit sources are unquestionably the most popular. Informal sources according to Ijere (2000) are provided by traditional institutions that work together for the mutual benefits of their members. These institutions sometimes provide savings and credit services to their client

Determinants of access to microcredit and the amount of microcredit received by respondents is presented in Table 3.

**Table 3: Parameter Estimates and Marginal effects of the Heckman Double Stage Selection Model of analysis of factors influencing access to microcredit and the amount of microcredit received by respondents**

Variables	Selection (Access model)		Outcome (Amount model)	
	Regression Coefficient	Marginal effect	Regression coefficient	Marginal effect
<b>INTEREST</b>	-0.00716 (-2.30) ***	-0.00733 (-2.30) ***	-0.55886 (-8.62) ***	-0.08556 (-8.62) ***
<b>GENDER</b>	-0.02758 (-0.74)	-0.02703 (-0.74)	-0.02129 (-0.08)	-0.00326 (-0.08)
<b>EDU</b>	0.02043 (5.88) ***	0.02179 (5.88) ***	-0.05239 (-1.35)	-0.00802 (-1.35)
<b>AGE</b>	0.01193 (7.73) ***	0.012524 (7.73) ***	-0.02265 (-1.47)	-0.00346 (-1.47)
<b>MT STATUS</b>	-0.02525 (-0.60)	-0.02647 (-0.60)	-0.18503 (-0.65)	-0.02689 (-0.65)
<b>RR</b>	0.06860 (2.13) **	0.05676 (2.13) **	0.45628 (1.68) *	0.06986 (1.68) *
<b>FRMSIZE</b>	0.02933 (1.72) *	0.03721 (1.72) *	0.30401 (2.02) **	0.04654 (2.02) **
<b>ORGMEM</b>	0.09193 (2.72) ***	0.06239 (2.72) ***	1.58953 (4.00) ***	0.16864 (4.00) ***

Source: Field survey 2014. \*\*\*, \*\*, \* indicates significance at 1, and 5% and 10% respectively

Figure in parenthesis are z- ratios, Number of observations =192, Prob >chi 2=0.0000, rho value= 0.45526

The Heckman double stage model was used to examine the factors influencing the amount of microcredit received by small scale farmers. Regression results showed that, Interest rate (INT) was significant ( $p < 0.01$ ) and negatively related to access and level of microcredit received each. A unit increase in the interest rate will have a marginal effect on reducing the probability of access to microcredit by -0.00733 (-7.3%) and probability of amount of microcredit accessed by -0.08556 (-8.5%). This result shows that there is an inverse relationship between interest rate and demand of

microcredit. Increase in interest rate will lead to decrease in demand of microcredit. Fernando (2006) in his study noted that the interest rates charged on microcredit loans is higher than other loans. This happens because the credit services provided are for small sums of money and the cost of these loans makes interest on them very high (Aagnet, 2004)

The coefficient of years of formal education (EDU) was significant ( $p < 0.01$ ) and positively related to access to microcredit. A unit increase in years of formal education

of the farmers will have a marginal effect of increased probability of microcredit access by 0.02179 (2.1%). The result shows that education has a positive significant effect on access to Microcredit. Asogba *et al.* (2017), Biyase and Fisher, (2017) and Weir (1999) noted that education increases the household head's probability of accessing microcredit, enhance diversification of household income sources and thus reduce risk and improve food security. Age of household head (AGE) was significant ( $p < 0.01$ ) and positively related to microcredit access. A unit increase in the age of household head will have a marginal effect of raising the probability of accessing microcredit by 0.012524 (1.2%). This finding supports the result of studies conducted by Fred (2009), Olujide (2008), and Zeller *et al.*, (2001) who indicated that age affects the probability of accessing microcredit. The older the household head, the more his experience and the higher the probability of access. Region of residence (RR) was significant and positively related with access to microcredit at  $p < 0.05$  and amount of microcredit accessed at  $p < 0.10$ . The result of the marginal impact showed that, a unit increase in region of residence will yield 0.05676 (5.6%) increase in the probability of access to microcredit and 0.06986 (6.9%) increase in the probability of amount of microcredit accessed. This result is in line with Nguyen (2007) who reported that the nearer the households to microcredit source, the

more likely they will access microcredit. The coefficient of farm size (FMSIZE) of the farmers had a positive and significant ( $p < 0.10$ ) relationship with access to microcredit. Farm size also had a positive and significant ( $p < 0.05$ ) relationship with the amount of microcredit accessed. The result of the marginal effects on farm size indicated that a one-unit increase in farm holdings of the farmers *ceteris paribus* would lead to 0.03721 (3.7%) increase in probability of accessing microcredit and 0.04654 (4.6%) increase in probability of amount of microcredit accessed by the farmers. This finding agree with Okurut, Scoombe and Berg (2004), who investigated the household and individual characteristics that acts as determinants of demand for formal and informal credit, and reported that farm size influences demand for credit. Organizational membership (OGMEM) of the farmers was found to be significant ( $p < 0.01$ ) and positively related to microcredit access and amount of microcredit accessed each. The result of the marginal impact showed that a unit increase in organizational membership of the household head, will result in increase of the probability of access of microcredit by 0.06239 (6.2%) and increase in the amount of microcredit accessed by 0.16864 (16.8%). This finding supports the result of the studies of Kausar (2013) and Vaessen (2001) who indicated that at the household level, being part of a specific target group influences access to credit.

#### ***Factors influencing frequency of microcredit received***

The factors influencing frequency of microcredit accessed is presented in Table 4.

**Table 4: Parameter estimates of Poisson Model: Analysis of determinants of frequency of microcredit accessed by respondents**

<b>Variables</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z value</b>
<b>CONSTANT</b>	0.07875	0.45653	0.1725
<b>GENDER</b>	-0.08546	0.03169**	-2.6963
<b>EDU</b>	-0.00128	4.1599e-04***	-3.0782
<b>AGE</b>	0.00403	1.16985e-03***	3.4501
<b>FARM INC</b>	-3.02796e-07	1.77802e-07*	-1.7030
<b>EIB</b>	0.00301	0.00058***	5.1872
<b>SOC</b>	0.29109	0.16274***	4.7887
<b>INT</b>	-7.02313e-06	6.07096e-06**	-2.4568
McFadden R-squared	0.871093	Adjusted R-squared	0.616550
Log-likelihood	234.0424	Akaike criterion	486.0848

**Source: Field survey 2014. \*\*\*,\*\* and \* indicates significance at 1, 5% and 10% respectively**

The Mac fadden R-squared is 0.87, which implies that all the explanatory variables included in the model were able to explain 87% of the frequency of smallscale farm households to access microcredit in the study area. Regression results showed that the coefficient of gender was negative and significant at 5% level of significance. This implies that frequency of access has an indirect relationship with gender. Female household heads access microcredit more than their male household heads. The antilog of the coefficient of gender is 1.2175, implying that male headed household's access microcredit once a year. Olalade and Olagunji (2013) from their findings reported that there is a negative and significant relationship between gender and access to

credit, indicating that women are more likely to access credit than men. There is increasing recognition of the significant contribution of women to agriculture in sub-Saharan Africa and other parts of the world resulting in some lending institutions targeting women farmers. Jazairy (1992) and Amudavi (2003) shared similar views. Coefficient for education coefficient was negative and significant at 1% level for the household. The implication is that the frequency of access to microcredit by household heads in the study area has an indirect relationship with the educational level of the household head. The more educated the household head is, the less frequently he accesses microcredit. The antilog of the coefficient of education is 1.0000. This

implies that once a year, the respondent will access microcredit based on level of education. This follows the findings of Nguyen (2007). He assessed the determinants of rural household credit activity, paying particular attention to identifying the separate channels of credit demand and supply on the amount and frequency of credit obtained by households. Age was positive and significant at 1% level. This implies that the frequency of microcredit access increases with age. The antilog of the collateral is 1.0000; implying that the respondent would access microcredit only once in a year. Studies conducted by Fred (2009), Olujide (2008) and Zeller *et al.* (2001) confirm that age affects the probability of accessing credit. The older the respondent, the more his experience and the higher the frequency of accessing microcredit, when properly utilized; leads to increased productivity, ownership of assets and the end result will be improved household incomes and food security. Farm income was negative, consistent with *a priori* expectation signs and significant at 10%. This implies that the frequency of microcredit access will decrease with increase in respondent's income. The more income the farmer earns, the less likely he will go for external funds. The antilog of the coefficient of farm income is 1.0000 showing that small scale farmers in the study area will access microcredit once in a year based on farm income. This result could be attributed to increased income as a result of increase in economic activities in the area. This result follows Udonsi (2007) who reported that farm income is one factor that has positive significant influence on small holder livestock farmers' frequency of accessing credit. Nwaru, Essien and Onuoha (2001) and Mohamen (2003) support these findings. The coefficient of experience in borrowing was significant at 1% level with a positive sign. This implies that there is a direct relationship between frequency of microcredit access by borrowers in the study area and the experience they have acquired borrowing money for farming. The antilog of the coefficient of experience in borrowing is 1.0000. This implies that small scale farm household heads would only access microcredit once in a year based on their experiences in borrowing money. The result of this study follows the findings of Essien, Arene and Nweze (2013) in Niger Delta. The Social Capital coefficient is positively signed and significant at 1% level. This is in consonant with *a priori* expectation; the frequency of microcredit access by small scale farm household heads in the study area has a direct relationship with the borrower's acquaintance with the lender. The more the respondent is acquainted with the lender, the greater his chance of accessing funds. The antilog of the coefficient of social capital is 2.0000. The implication is that microcredit borrowers that have formed acquaintance with the lender would be able to access funds twice in a year compared to those without close acquaintance with lender. Informal lending is usually on trust, and being acquainted with the lender certainly tends to be a trust booster. In a study of the factors that affect microcredit demand in Pakistan, Kausar (2013), found out there are many factors which may affect the demand of microcredit by the borrowers one of which is the

relationship between lenders and borrowers. Essien, Arene and Nweze (2013) also shared similar view. Interest amount was negative and significant at 5% with the right *a priori* sign. This implies that the frequency of microcredit access has an indirect relationship with interest. The more the amount to be paid as interest increases, the less microcredit that is accessed. The antilog of the coefficient on interest is 1.000. This implies that a unit increase in interest amount will reduce frequency of access to once a year.

### Conclusion

Microcredit still remains the greatest tool with a potential of alleviating food insecurity among the poor. Farm households borrow microcredit and engage in agricultural production to reduce poverty and food insecurity problems. Microcredit schemes in the study area have been successful in raising income levels and still remain the greatest tool with a potential of alleviating food insecurity among the poor. The study recommends that the scope of micro credit should be expanded and the volume increased, this will go a long way in alleviating their capital constraints in the region as micro credit is at the center of financing for development. Expanding its scope is a step in the right direction. The results therefore, call for policies aimed at provision of access to free and affordable education to enable farmers' access and process information on credit opportunities. There is also need to encourage farmers to form cooperatives that will enable them access credit with ease. Land reform policies that will enable small holder farmer's access more land is encouraged.

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