

Original Research Article

LEVEL AND DETERMINANTS OF WOMEN FARMERS ACCESS TO INFORMAL CREDIT IN ABIA STATE, NIGERIA

ABSTRACT

The study analyzed level and determinants of women farmers access to informal credit in Abia state, Nigeria. The study described socio-economic characteristics of the women farmers who accessed microcredit from informal sources; ascertained level of access to informal micro-finance; and determined socio-economic factors that influenced access to informal micro-finance. Primary data were collected from two hundred and thirty three (233) women farm informal credit beneficiaries using multi-stage random sampling technique. The data were analyzed using likert scoring and descriptive statistics, and probit regression estimation. As large as 60.94% of the women had farm size of between 0.1 and 1.0 hectares with a mean of 15 years farming experience. Majority 72.10% of the respondents had no contact with extension agents and cumulatively 85.84% of the respondents had formal education with 73.82% of them married. Also, 63.52% of them did not belong to any agricultural association. There was relatively higher level of access to loans from friends and relatives compared to other informal credit sources. Probit regression estimate showed that educational level, gross monthly income and membership of association exerted positive significant influences at varied critical levels. Other factors namely farming experience and farm size exerted negative significant influences at varied critical levels. Policies should be made to forge strong linkages between informal and formal financial institutions to ensure that agricultural loans are channeled from formal financial institutions to women farmers through recognized informal credit units. The synergy from such linkage will increase women farmers' productivity.

Key words: *Informal credit, access, productivity, women farmers*

Introduction:

Women play major roles in farm production, product processing and marketing of food and cash crops as well as in livestock production. In spite of these, women and households headed by women remain chronically poor members of rural communities (Alarape, 1992; IFAD, 2012; Ekpo and Ekpo, 2010; and Udoh, 1995). This part on account of the fact that most female farmers have limited access to micro-credit which have deterred their productivity and income (UNDP, 1998). Improving access of women farmers farm credit is central to rural development because it enables women to invest in and

improve production in agriculture, small businesses and small-scale manufacturing of which improve their living standard. Micro credit to women farmers empowers them to invest in agriculture and permit them to sustainably remain in farming. According to Smith and Thurman, (2007) the poor are poor not because they are lazy but because they have no access to credit.

Accessibility to formal credit facilities has been difficult for women farmers and people who are poor. Their only respite has been with informal sources of farm credit. Increasing relevance and loan-giving capacity of informal financial institutions (IFIs) and credit units that provide credit services for women farmers on short notice with little or no restriction Adebajo, (2010) will no doubt sustain them in farm production. Such informal credit has been shown to improve welfare of women farmers; smoothen their consumption and reduce their vulnerability to short term income shocks. Okurut and Thuto (2007) noted that informal credit is demanded by farmers for both productive investment (agricultural production and/or business) and consumption smoothening.

The informal financial sector from where women farmers obtain credit comprises essentially the Self-Help Groups (SHGs) and money lenders. The SHGs include – Rotating Savings and Credit Associations (ROSCAs) locally referred to as “*Esusu*” or “*Esus*” or “*Akawo*” (Igbo), “*Esusu*” or *Bam* (Yoruba) or “*Asusu*” (Hausa). Other informal sources of credit are cooperative societies, age grades, work groups, town unions, religious associations, family or kith and kin associations. These groups, among others, have had developmental impacts in rural areas where they have extended loan facilities (micro credit) to their members without demanding physical collaterals except guarantors (Onyeagocha *et al.*, 2012). Most women farmers depend on the services of these informal financial units and groups for credit for funding agricultural activities and improve their livelihood (Henri-Ukoha, 2011).

63 In Nigeria, conventional financial institutions serve about 35 percent of the active
 64 population (CBN, 2005), with women farmers having the most limited access to such
 65 financial services. Informal Financial Institutions (IFIs) increasingly are steadily fixing this
 66 need for women and low income groups. Reliance of the vulnerable groups on informal
 67 financial institutions makes it pertinent to analyze potential and extent and nature of credit
 68 access they offer to prospective clients. This study strives to provide information on level of
 69 access women farmers enjoy in acquiring credit from informal sources and factors that
 70 influence their access to loans from such financial units in rural communities. Specifically,
 71 the study provided insight on issues of informal financial market by: (i) describing socio-
 72 economic characteristics of women farmers who accessed microcredit from informal sources
 73 in Abia State, Nigeria; (ii) ascertain level of women farmers' access to informal micro-
 74 finance in the study area and (iii) determining socio-economic factors that influenced access
 75 to informal micro-finance by women farmer borrowers in the study area.

76 **Research Methodology:**

77 **Area of Study**

78 This study was carried out in Abia State of Nigeria. The State was created on 27th
 79 August 1991 out of the then Imo State and is located in South- East geo-political zone of
 80 Nigeria. Abia State has a land area of 7,677.20 square kilometers, with a total population of
 81 2,833,999 persons, made up of 1,434,193 males and 1,399,806 females (NPC, 2006). Abia
 82 State is located between latitudes $5^{\circ}47'N$ and $6^{\circ}12'$ North of the Equator and between
 83 longitudes $7^{\circ}23'E$ and $8^{\circ}02'E$ East of the Greenwich Meridian (NRCRI, 2003). It is bounded to
 84 the North and North-East by Anambra, Enugu and Ebonyi States respectively; to the south by
 85 Rivers State; to the East and South-East by Cross River and Akwa Ibom States respectively;
 86 and to the West by Imo state (INEC, 2008).

87 Abia State is an agrarian area that is richly endowed with land suitable for growing
 88 many tropical crops. The climate is essentially tropical humid on a mean elevation of 122m
 89 with annual rainfall of 1500-2600mm distributed evenly throughout the wet season (April to
 90 October). The diurnal temperature varies between 27⁰C and 31.9⁰C (NRCRI, 2008).
 91 Administratively, the state is made up of seventeen (17) local Government Areas (LGAs)
 92 clustered in three Agricultural zones namely Aba, Umuahia, and Ohafia.

93 **Sampling Technique and Data collection**

94 This study involved a survey that adopted a three-stage random sampling technique in
 95 selecting sampled communities. In the first stage, the three agricultural zones (Aba, Ohafia
 96 and Umuahia) were recognized as primary delineating units. In the second stage, two LGAs
 97 were randomly selected from each of the three agricultural zones. This gave a total of six (6)
 98 LGAs namely Orlu, Osisioma, Bende, Ohafia, Ikwuano and Isiala-Ngwa North. In the
 99 third stage, two communities were randomly selected from each of the six (6) selected LGAs,
 100 to give a total of twelve (12) communities namely Osaa-Ukwu, Nenu, Osokwa, Mbutuoma,
 101 Ozuitem, Nkpa, Abirba, Ebem-Ohafia, Ariam, Oboro, Apu- na- Ekpu Umuoha and Ama-
 102 Asaa Nsulu.

103 A list of Informal credit sources in the selected twelve communities was obtained
 104 with the help of enumerators many of who were natives. The informal credit sources were
 105 visited and lists of women microcredit beneficiaries generated from their registers. This
 106 served as the sampling frame of women farmer informal microfinance beneficiaries. Twenty
 107 female farmer beneficiaries of informal credit were randomly chosen from each of the twelve
 108 communities. This gave a sample of 240 women farmer informal credit beneficiaries who
 109 were used for the study. From the 240 respondents, a total number of 233 copies of
 110 questionnaire which were properly filled out, returned and were used for analysis. Primary
 111 data collected included women farmers' socio-economic variables of marital status,

educational level, farming experience, access to credit from informal sources, interest charged, farm size, primary occupation, household asset endowment, gross monthly income, membership of farmers associations, and extension contact.

Method of Data Analysis

In order to realize the purpose of this study, a number of statistical tools were employed in analyzing the data. Objectives (i) and (ii) were analyzed using descriptive statistics of mean, frequency distribution tables and percentages while, objective (iv) was analyzed with probit multiple regression model.

Model Specification

To facilitate realization of objective ii, a five point Likert scoring was used in determining respondents' perceived level of access to informal microfinance as follows: (perception scores of accessibility was thus: very high = 5; high = 4; moderate = 3; low = 2 and very low = 1). The Likert scale score(s) is a method of ascribing quantitative values to qualitative perception to make them amenable to statistical analysis. The values of the responses were added and further divided by 5 to obtain a mean score of 3.0, regarded here as mean level of accessibility. Women farmers with accessibility score of 3.0 and above were considered to have had access to informal micro finance, while women farmers with accessibility score of less than 3.0 were regarded as having not had access to informal micro finance sources.

Thus mean accessibility score = $\bar{X}$

$$\bar{X} = \sum fx/N,$$

Mean of each item was computed by multiplying the frequency of positive response with its appropriate likert nominal value and the sum was divided by the sum of the number of the respondent to the items. This was summarized with the equation below:

136 $\bar{X} = \sum fn/N.$

137 Where

138 $\bar{X}$ = mean score;

139 $\sum$ = summation sign;

140 f = frequency or number of respondents who responded positively;

141 n = nominal Likert score;

142 N = Number of respondents.

143 In realizing objective (iii) probit multiple regression model was considered
 144 appropriate because access as a dependent variable (Y) takes one of only two possible values
 145 (access or no access) i.e.1 or 0 probability condition. The model was adopted as used by
 146 Gujarati (2003):

147 $P_i [y=1] = [Fz_i] \quad \dots (1)$

148 Where 

149 $Z_i = \beta_0 + \beta_1 X_1 + e$

150 $Y_i = \beta_1 + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \mu \quad \dots (2)$

151 Y_i^* is unobserved but $Y_i = 0$ if $y_i^* < 0$, 1 if $Y_i^* \geq 0$

152 $P(Y_i = 1) = P(Y_i^* \geq 0)$

153 $P(\mu \geq -\beta_1 + \beta_2 X_{2i} \dots - \beta_k X_{ki}) \quad \dots (3)$

154 Where $i = 1, 2, \dots, 233$.

155 Where Y_i = women farmers who had access to informal micro credit (dichotomized with
 156 mean likert nominal score; where ≥ 3.0 = access=1, < 3.0 = no access=0)

157 β_1 = Unknown coefficient value of factors;

158 X_1 = Farming experience (years);

159 X_2 = Interest charged (Naira);

160 X_3 = Farm size (hectares);

161 X_4 = Educational level (Years);

162 X_5 = Marital Status  = Married, 0 = Single);

163 X_6 = Primary occupation  = Farming, 0 = otherwise);

164 X_7 = Gross monthly income (Naira);

165 X_8 = Membership to farmers association  = member; 0 = otherwise);

166 e = Error term.

167 **Results and Discussion:**

168 **Socio-economic Characteristics of the Women Farmers**

169 Distribution of women farmers according to their socio-economic characteristics was
170 shown in Table 1.0. The table reveals that a good percentage (60.94%) of the women
171 cultivated between 0.1 and 1.0 hectares of land. Cumulatively, 98.28% of the women farmers
172 cultivated less than 3.1 hectares of farm land with a mean farm size of 0.8 hectare. This
173 revealed the limited access of women farmers to land attributable to higher rent paid on land,
174 cultural problem of land tenure system (women exclusion from inheriting land which
175 prevents many of them from taking title of ownership), and land fragmentation prevalent in
176 the study area. All these problems hindered them from having a contiguous land that can be
177 cultivated with tractor and tractor drawn implements (mechanized agriculture) and impeded
178 farm productivity (Ibekwe *et al.*, 2011; Onumadu, 2009).

179 Table 1.0 also showed that 42.49% of the respondents had farming experience of
180 between 1 and 10 years. In descending proportions, 29.19%, 16.74%, 8.58% and 3.00% had
181 farming experiences of between 11 and 20 years, 21 and 30 years, 31 and 40 years and 41 and
182 50 years respectively. The mean year of experience in farming was 15 years. This shows  that
183 most of the women farmers were highly experienced in the farming business. The more
184 experienced a farmer was the better he or she could  diciously utilize borrowed funds
185 (Oriaku, 2010).

Further Table 1.0 showed that majority (72.10%) of the women had contact with extension agents, as only 27.90% of them reported having had contact with extension agents. This low extension contact could be on ground of inadequate motivation of extension agents/workers, non-provision of adequate transportation and communication facilities; insufficient extension personnel and inadequate monitoring of extension agents (Iwena, 2008). This is consistent with opinion of World Bank, (2003) that in spite of a decade of World Bank's assistance in building up Nigeria's agricultural extension service, "women farmers still received minimal assistance and information from extension agency".

With regards to literacy level, 14.16% of the women had no formal education and 15.45% of them had primary school education. Cumulatively, 49.16% and 20.60% of them had attended secondary and tertiary institutions respectively. In summary, 85.84% of the women had formal education. High level of formal education suggests possession of high literacy level, which is an advantage in appreciating procurement of credit (informal microcredit) as literate borrowers have enhanced capacity to repay loans (Eze, 2013).

In terms of marital status, Table 1.0 showed that majority (73.82%) of the women farmers who accessed informal loan were married, with 14.59%, 11.16% and 0.43% of them being single, widowed and divorced respectively. The married respondents were relatively considered as being more stable, easily identifiable and more credit worthy. According to Adegboye *et al.* (2008) married farmers demanded more microcredit because they had pressing need to supplement their family's income for better livelihood.

Table 1.0 further showed that 63.52% of the women farmers did not belong to any agricultural association. This could be due to low knowledge derivable benefits of belonging to economic groups arising possibly due to poor extension contact in the area. It could also be attributed to misuse of association's fund and lack of trust on the leaders of farmer's

210 association (Ezeani *et al.*, 2000).Membership to farmers association improves a farmer's
211 social capital.

212 **Table 1.0: Distribution of Women Farmers that Accessed Informal Credit**
213 **According to Farm Size in Abia State.**

Variables	Frequency	Percentage (%)
Farm Size (Hectares)		
0.1 – 1.0	142	60.94
1.1 – 2.0	64	27.47
2.1 – 3.0	23	9.87
3.1 – 4.0	4	1.72
Mean = 0.8		
Farming Experience (years)		
1 – 10	99	42.49
11 – 20	68	29.19
21 – 30	39	16.74
31 – 40	20	8.58
41 – 50	7	3.00
Mean = 15.34		
Extensioncontact		
Yes	65	27.90
No	168	72.10
Level of Education Attained		
No formal Education	33	14.16
First School Leaving Certificate	36	15.45
Junior Secondary School Certificate	26	11.16
WASC, GCE, SSCE, NECO, NABTAB,	90	38.63
OND, NCE	24	10.30
HND, BSc, BA, Bed	22	9.44
MSc	2	0.86
Marital status		
Single	34	14.59
Married	172	73.82
Widowed	26	11.16
Divorced	1	0.43
Membership status		
Member	85	36.48
Non member	148	63.52
Total	233	100.00

214 *Source: Field Survey, 2014*

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218 **Level of Women Farmers' Access to each type of Informal Credit Source in Abia**
219 **State:**

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221 **Friends and Relatives**

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Table 2.0 shows that 54.08% of the women farmers had very high level of access to informal credit sources with only 4.29% of them having hindered access to loans from friends and relatives. Friends and relatives as a source of credit had total nominal Likert score of 971 with a mean of 4.17. This was greater than the threshold mean score of 3.0 showing that the women farmers in the area had unhindered access to this source of informal credit. This result is not surprising because in informal credit market, familiarity with a lender is a considerable advantage to secure credit.

Money Lenders

Table 2.0 showed that a fairly good proportion (30.47%) of the women farmers had no access to this source of informal credit. The total likert nominal access score for this informal credit outlet was 618 with a mean of 2.65. This value was less than the threshold means score of 3.0. It means that the women farmers in the state had no access or had limited access to this source of informal credit. Money lenders unlike the other types of informal credit sources demand collateral or guarantor before granting loans to borrowers. Most women farmers in the area are denied access to credit by money lenders on grounds of their inability to provide acceptable collaterals or guarantors. Collaterals as demanded by this source of credit are tangible assets such as, land and estate properties.

Women in the area possessed relatively low property rights and are lowly rated by providers of farm credit (Ibru, 2009; Iheduru, 2002; Lakwo, 2009; May, 2007; Nwankwo, 1999; Okojie *et al.*, 2010). This fact coupled with high interest charged accounted for their having limited access to informal credit from money lenders.

Daily/weekly Money Deposit Collectors (*Akawo*)

Table 2.0 also showed that 34.33% of the women farmers had access to informal credit, from collectors of periodic money deposits. However, 23.61%, 23.18% and 15.45% of the women had varying level of access to informal credit from this source described here as

high, low and very high levels of access respectively. Quite a small proportion(3.43%) of the women had very low access to funds from daily/weekly deposit collectors. This source of credit had a total Likert nominal score of 756 and a mean of 3.25 for perceived access to credit from them. This implies that the women farmers in the study area had access to credit from daily/weekly money deposit collectors. According to Oloyode (2008) the daily/weekly contribution scheme is a form of savings strategy that is advantageous in the sense that the contributor can borrow from his accumulated savings even before the end of the planned cycle. This strategy makes savings easy since the amount contributed is usually small, though the contributions can accrue to a fairly bulky sum later.

Cooperative Societies

Table 2.0 reveals that 35.62% of the women farmers had moderate access to credit from this source. Varying proportions: 23.18%, 17.17% and 12.45% of the women farmers had low, very low and high level access to small loans from cooperative societies respectively. Only 11.59% had very high access to funds from cooperative societies. This source of credit had a total Likert nominal perceived access score of 648 and a mean of 2.78. This implies that women farmers in the study area did not have unhindered access to credit from cooperative societies. This could be a result of prospective women borrowers not meeting up with the internal conditions for loans from the cooperative societies.

Rotating Savings and Credit Associations (ROSCA)

Table 2.0 showed that a fairly good proportion (35.62%) of the women farmers had low level access to credit from ROSCAs. Varying proportions: 30.90%, 17.59% and 11.16% had moderate, very high and high level access respectively to credit from ROSCA. This source of credit had a total Likert nominal access score of 702 with a mean of 3.01. This implies that the women farmers in the study area had access to informal credit from this source by participating and taking their turns for the loans/deposits. The *ROSCA* system is a

savings mobilization arrangement which operates as a revolving scheme that continues until every member has benefited from the scheme (Adebajo, 2010).

Table 2.0: Estimation of Level of Women Farmers Access to Sources of Informal Credit in Abia State

Level of access	Very high (5)	High (4)	Moderate (3)	Low (2)	Very low (1)	Total	Mean	Rank
Types of informal credit sources								
Friends/relatives	630 (54.08)	232 (24.89)	63 (9.01)	36 (7.73)	10 (4.29)	971	4.17	1
Money lenders	110 (9.44)	120 (12.88)	213 (30.47)	130 (27.90)	45 (19.31)	618	2.65	5
Daily/weekly money Deposit collectors (Akawo)	180 (15.45)	220 (23.61)	240 (34.33)	108 (23.18)	8 (3.43)	756	3.25	2
Cooperative Society	135 (11.59)	116 (12.45)	249 (35.62)	108 (23.18)	40 (17.17)	648	2.78	4
Rotating joint contribution scheme	205 (17.59)	104 (11.16)	216 (30.90)	166 (35.62)	11 (4.72)	702	3.01	3

Source: Field Survey, 2014
 Decision Rule 3.0 and above = Access
 Decision Rule < 3.0 = No access
 Figures in parentheses are percentages.

Determinants of Women Farmers' Access to Informal Credit in Abia State:

The probit regression estimates of factors that influenced access of rural women farmers to informal credit in Abia state, Nigeria was presented in Table 3.0. The model posted a log likelihood value of -115.5278, a pseudo R^2 value of 0.1218 and a goodness of fit chi-square value of 32.04. Overall, the model fitted 72.3% of the data correctly. The estimate of factors that influenced access of rural women farmers to informal credit showed that coefficients of educational level(0.0532), gross monthly income (6.41e-06) and membership of association(0.2127), exerted positive significant influences at 1.0%, 5.0%, and 10.0% alpha

levels of probability respectively. The coefficient of educational level showed a statistically significant positive effect on women farmers' access to informal credit. The sign is in line with *a priori* expectation. It indicates that women farmers' access to informal credit increased with higher educational attainment. Formal Education and training enhanced women farmers' capabilities to understand and accept technological innovations in economic activities which led to increased and sustainable agricultural production. Informal credit lenders were familiar with the applicants and gave more loans to the more educated women farmers with greater potential to repay.

Expectedly the coefficient of gross monthly income was statistically significant and had positive effect on women farmers' access to informal credit. This implied that women farmers with higher gross monthly income stood better chance and accessed more informal credit. The key variable observed by lenders before granting access to informal loan was income. Consistent with *a priori* expectation women farmers' chance of accessing informal credit increased as their gross income increased in the area. This is because borrowers with higher income levels had relatively better potential for repayment of their loans.

Membership of association was also statistically significant and positive in determining access to informal credit. This result is at variance with Anyiro and Oriaku (2011) who obtained a negative relationship between membership of farmers association and access to credit in Abia state.

Other factors: farm size (-0.1667), and farming experience (-0.1394) exerted negative significant influences at 5.0% and 10.0% alpha levels of probability, respectively.

The negative sign of this coefficient showed that access to informal credit in the study area decreased with increase in farm size, and years of farming experience. Although these results are not totally in tandem with *a priori* expectations they showed that relatively less experienced women farmers accessed more informal credit in the study area. The more

experienced women farmers could not access more informal credit possibly on grounds of their acquired practical knowledge over time that have enabled them to manage their resources at levels that have enabled them to positively impact on their productivity and hence their reduced demand and access to informal microcredit. This result is in contrast with Nwojo, (2011) who noted that more experienced farmers are considered better credit risk takers in the sense that they are rational decision makers and have established reputation in the community in the use of credit. With respect to farm size, the women farmers had reduced chances of access to informal credit as their farm sizes increased. Although, the sign of the coefficient differs from *a priori* expectation, it suggests efficiency in the use of land rather than expansion of cultivated areas to increase chances of accessing credit. By these revelations, hypothesis H_{01} was rejected in terms of farming experience, farm size, educational level, gross monthly income and women membership to associations.

Table 3: Binary probit Regression Estimates of factors affecting Access of Women Farmers to Informal credit in Abia State, Nigeria.

Variables	Estimated coefficients	Standard errors	Z-ratios	P> z
Constant	0.0795	0.5455	0.15	0.884
Farming Experience	-0.1394*	0.0087	-1.60	0.109
Interest charged	0.1419	0.0540	0.63	0.009
Farm size	-0.1667**	0.7440	-2.24	0.025
Education level	0.0532***	0.0183	2.91	0.004
Marital status	0.1821	0.1197	1.52	0.128
Primary occupation	0.0314	0.0972	0.32	0.747
Gross monthly income	6.41e-06**	5.34e-06	2.20	0.030
Membership of	0.2127*	0.2137	1.60	0.319

association	
Log likelihood	-115.5278
Wald $\chi^2(10)$	32.04
Pseudo R^2	0.1218
Cases predicted correctly (%)	72.3

Source: *Field Survey, 2014.*

***, **, * Significant at 1.0%, 5.0% and 10.0% levels respectively.

Conclusion

Based on the empirical evidence this study concluded that women farmers had unequal level of access to different sources of informal micro credit on basis of their differences in farming experience, farm size, educational level, gross monthly income and their membership of agricultural associations. There was relatively higher level of access to loans from friends and relatives compared to other informal credit sources.

Recommendations

This study therefore made the following recommendations:

- (i) The government should make policies to increase synergistic linkage between informal and formal financial institutions to facilitate channeling of agricultural loans from formal financial institutions to women farmers through recognized informal credit units. The synergy from such linkage will increase women farmers' productivity.
- (ii) Women farmers should be encouraged and educated by extension workers to belong to cooperative associations so as to enjoy benefits emanating from being members of agricultural association.

(iii) Women farmers should pool their financial resources and use same to buy or rent consolidated pieces of farm land for enhanced production and income as members of cooperative society.

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