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Determinants of Access to Credit among Rural Farmers in Oyo State, Nigeria

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Abstract - This study examined the determinants of credit access by rural farmers in Oyo state Nigeria. Specifically the study identified the socio-economic characteristics of the rural farmers, examined the factors affecting access to credit by the rural farmers, identified constraints faced by rural farmers in credit acquisition. Data were collected with the aid of structured questionnaires, administered on 210 respondents using multistage sampling procedure. The data were analyzed with the use of descriptive statistics and logit model. The sigma values of the binomial (σ^2 = 90.32) logit model that measured the significance of model showed that the data fit the model reasonably well. The binomial logit model revealed that significant relationships existed between sex (-2.0187), marital status (-1.9786), lack of guarantor (2.1517), high interest rate (6.8263) and access to credit. The variables were significant at 10%. It is concluded that there is need for financial institutions to help look into the conditions for obtaining credit by farmers, so that the less privilege among them will be able to benefit from credit disbursement especially in the aspect of high interest rate, guarantor and collateral security.

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Strictly as per the compliance and regulations of :

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Abstract - This study examined the determinants of credit access by rural farmers in Oyo state Nigeria. Specifically the study identified the socio-economic characteristics of the rural farmers, examined the factors affecting access to credit by the rural farmers, identified constraints faced by rural farmers in credit acquisition.Data were collected with the aid of structured questionnaires, administered on 210 respondents using multistage sampling procedure. The data were analyzed with the use of descriptive statistics and logit model.The sigma values of the binomial (σ^2 = 90.32) logit model that measured the significance of model showed that the data fit the model reasonably well. The binomial logit model revealed that significant relationships existed between sex (-2.0187), marital status (-1.9786), lack of guarantor (2.1517), high interest rate (6.8263) and access to credit. The variables were significant at 10%. It is concluded that there is need for financial institutions to help look into the conditions for obtaining credit by farmers, so that the less privilege among them will be able to benefit from credit disbursement especially in the aspect of high interest rate, guarantor and collateral security.

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I. Introduction

Agricultural credit is very important for sustainable agricultural development to be achieved in any country of the world. Rural credit has proven to be a powerful instrument against poverty reduction and development in rural areas. Farmers are particularly in need of such instrument (ie credit), because of the seasonal pattern of their activities and the important uncertainty they are facing.

Agricultural credit enhances productivity and promotes standard of living by breaking vicious cycle of poverty of small scale farmers. Adegeye and Dittoh (1985) described agricultural credit as the process of obtaining control over the use of money, good and services in the present in exchange for a promise to repay at a future date. Imoudu and Onaksapnome (1992) contended that agricultural loan is a crucial input in small holder agriculture because it enables small scale farmers to establish and expand their farms as this would increase their income and ability to repay loan.

The crucial role of credit in agricultural production and development can also be appraised from the perspective of the quality of problems emanating from the lack of it. In modern farming business in Nigeria, provision of agricultural credit is not enough but efficient use of such credit has become an important factor in order to increase productivity. Credit is not only needed for farming purpose, but also for family and consumption expenses especially during the off season period. Credit has also been discovered to be a major constraint on the intensification of both large and small scale farming (Von-Pischke, 1991). The role of agricultural credit in the agricultural development of a country cannot be overemphasized. One of the reasons for the decline in the contributions of agriculture to the economy is lack of a formal national credit policy and paucity of credit institutions, which can assist farmers (Olagunju and Ajiboye, 2010). The absence of rural banks or their unwillingness to meet credit need of rural farmers largely account for the wide influence of informal lending institutions on agricultural production in the rural areas.

In the developing countries, the role of agricultural credit is closely related to providing needed resources which farmers cannot source from their own available capital. In respect to this, the provision of agricultural credit has become one of the most important government activities in the promotion of agricultural development in Nigeria (Olagunju and Adeyemo, 2008). One of the reasons for the decline in the contributions of agriculture to the economy is lack of a formal national credit policy and paucity of credit institutions, which can assist farmers. Credit (capital) is viewed as more than just another resource such as labour, land, equipment and raw materials (Rahji, 2000). According to Shepherd (1979) credit determines access to all of the resources on which farmers depend. Consequently, provision of appropriate macroeconomic policies and enabling institutional finance for agricultural development is capable of facilitating agricultural development with a view to enhancing the contribution of the sector in the generation of employment, income and foreign exchange (Olomola, 1997). Despite the importance of credit to farmers, they still face some challenges in the acquisition of it which make most of them to get discourage and relent in their effort to contribute to the productivity of farm produce.

For this reasons this paper seek to give answers to the following questions.

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1. What are the socio-economic characteristics of the rural farmers?
2. In credit demand, what are its determinants by the rural farmers?
3. Do rural farmers face some constraints in credit acquisition?

a) *Objectives of the Study*

The general objective to this study is to examine the determinants of credit access by rural farmers in Oyo state.

The specific objectives are to;

i. identify the socio-economic characteristics of the rural farmers.
ii. examine the factors affecting access to credit by the rural farmers.
iii. identify constraints faced by rural farmers in credit acquisition.

b) *Theoretical Framework*

i. *Concept of Credit*

The word 'credit has been given several and varying number of meanings, some people refer to it as 'loan' while others used the term 'borrow' to qualify credit. Pischie*et al*. (1983), defined credit as a loan able fund which permits the purchasing of services, money or goods in the present, based upon the promise to pay for time at sometime in future. From this it can be inferred that credit provide the means for the temporary transfer of assets or the use of such assets from a man or organization that has them, to a man or organization that has not.

Baker and Hopkins (1979), however, made a clear distinction between credit and loan. He referred to credit as an assets or a financial reserve which the farmers can call upon when needed provided he has not used his credit 'asset' by exchanging it for a loan. When a farmer makes the exchange of his credit for a loan, then he starts incurring an interest charge, also he uses up part of his capacity and hence part of his ability to acquire additional liquidity in the future by borrowing.

Olajide (1981), defined credit as 'monetary' or financial aspect of capital resources: capital resources being broadly defined as goods employed but necessarily used up to the course of production. They went further to indicate that, it can take the form of: Money in cash or bank over drafts. In kind as forms of biological and physical capital purchase and supplied producers.Adegeye and Dittoh (1985), defined credit as the process of obtaining control over the use of money, goods and services in exchange for a promise to repay at a future date.

A credit transaction often requires the provision of some evidence of debt obligation in return for a loan, except in case of transaction between friends or relatives where loans was given based solely on good reputation and financial position of borrowers. Evidence may take the form of mortgage on land, or buildings and pledging of trees or food crops (Adegboye, 1989).

Miller (1975) defines credit as a device for facilitating the temporary transfer of purchasing power from one individual or organization to another. Credits provide the basis for increased production and efficiency through specialization of function. Thus the skilled farm manager with small financial resources may be brought together with those with substantial financial resources but who lack farm management ability. The product of such a union will be more productive than the individual elements operating separately.

ii. *The Influence of Credit to Small Scale Farmers Production*

The World Bank (1996) opined that credit is necessary for small-scale farmers to increase their agricultural productivity and farm income; however their access to institutional credit is curtailed. Credit has done a thousand times more than enrich mankind than the gold mines in the world. However, merely recognition of credit as a condition for agricultural growth is not sufficient to guarantee increase agricultural productivity and farm income.

Modernizing agriculture requires large infusion of credit to finance the use of purchased inputs such as fertilizers, improved seeds, insecticides, additional labour and so on. In this regard, the provision of agricultural credit can be a powerful economic force for development if used to inject appropriate capital for the purchase of agricultural inputs that are not otherwise available to farmers from their own financial, physical and labour resources. To date, however, institutional supply of agricultural credit remains inadequate; and this continues to impede the transfer of technology and investment into agriculture (Olagunju and Ajiboye, 2010).

Osuntogun (1975) holds the view that 'unless production credit is made available on suitable terms, the majority of the small farmers will be seriously handicapped in adopting profitable technology. Also he outlined three reasons why credit is demanded by small scale farmers. These are:

The farmers require credit for production purposes; Credit is required for the payment of wages, procurement of inputs, like fertilizers, herbicides and improved seeds; Credit is needed for marketing of produce like transportation, storage, processing and other marketing related functions.

According to Ijere (1986), credit is a catalyst which drives the machinery of production to optimum performance. McNamara (1975), is of the opinion that access to credit is crucial to small scale farmers operations, no matter how realistic and essential the land reform. A well motivated farmer without credit cannot buy improved seeds, fertilizers and chemicals. Hence the small scale farmer generally spend less than 20 percent of what is required on such items because they do not have access to credit disbursement.

Mbata (1991), opined that credit is pertinent to increase efficiency required by the small scale farmers. Harsch (1994) also, noted that farmers in Africa have demonstrated that when given the opportunity to earn higher incomes they can be dynamic producers. Kitbur (1990) submitted that modernization of agriculture demands increased use of modern inputs which consequently increase the demand for credit.

Galbraith (1952), contents that at a certain stage of agricultural development, agricultural credit clearly does not become a strong force for further improvement when a man with energy and initiative who lacks only resource for more and efficient production is enable by use of credit to eliminate the one block on his path to improvement and this is consistent with the views of Taylor *et al.*, (1986).

Perhaps the best known criticism of the effectiveness of providing credit to the small-scale farmers is attributed to Shultz (1964), who's poor but efficient hypothesis states, that the provision of agricultural credit will be ineffective in improving productivity and income, since investment is limited. Traditional farmers he hypothesized to be efficient but faced with technological barriers that cannot be overcome by the mere influx of capital provided by credit programmes alone. This view, does not discountenance the necessity of agricultural credit for the improvement of the productivity of the small-scale farmers, but rather stresses the need a combination of credit with other technological packages in order to increase production and income of the small scale farmers.

II. Methodology

a) *Study Area*

This study was carried out in Oyo State, Nigeria, mainly because a number of international and federal agricultural establishments are located in the state and because of its prominent agricultural activities being the primary occupation of the inhabitants of the state.

b) *Sampling Technique*

A multistage sampling technique was used to select 210 respondents from the state. Firstly, Ogbomoso agricultural zone was purposively chosen from the state, because majority of the populace makes farming their primary occupation and main source of income. The zone contains 5 blocks. Secondly, simple random sampling was used to select 3 cells from each block Random sampling was used to select 20 farmers each from 2 cells, 15 farmers each from ten cells, 10 farming household each from three cells. This selection was based on the number of registered farmers available in each cell.

c) *Analytical Techniques*

Various analytical techniques were used for this study. Descriptive statistical tools were used to analyse the socio-economic characteristics of the farmers and constraints they face in credit aqusition. The farmers' access to credit was conceptualized to involve either access to credit or no-access to credit. Binomial Logit Regression model was used because the variable is a dummy variable.

d) *Conceptual Framework*

i. *Binomial Logistic Regression*

A Logistic model is a univariate binary model. We use a binomial logistic regression model given that the dependent variable is dichotomous: 0 when a farmer is having no access to credit and 1 when having access to credit. Predictor variables are a set of socioeconomic and demographic status indicators and dwelling endowment of the farmers. They contain both dichotomous and continuous variables. Let Pj denote the probability that the j-th farmer is having access to credit. We assume that Pj is a Bernouli variable and its distribution depends on the vector of predictors X, so that:

$$P_j(X) = \frac{e^{\alpha+\beta X}}{1+e^{\alpha+\beta X}} \qquad \text{(ii)}$$

The logit function to be estimated is then written as:

$$\ln\frac{P_j}{1-P_j} = \propto + \sum_i \beta_i X_{ij} \qquad \text{(iii)}$$

The logit variable ln{Pj/(1-Pj)}is the natural log of the odds in favour of the farmer having access to credit. Equation iii is estimated by maximum likelihood method and the procedure does not require assumptions of normality or homoskedasticity of errors in predictor variables.

III. Result and Discussion

a) *Socio-economic Characteristics*

Data collected from sampling of 210 farmers is made up of 133 (63.3 %) male and 77 (36.7%) female. This shows that majority of the rural farmers are males, which may be attributed to the intensive labour requirement. The respondents were either married or single; except for five respondents who were widowed. There was a high level of homogeneity in the distribution of farmers' marital status in the study area because of similarities in cultural and religious practices. The average age of sampled farmers was 48.47years indicating an ageing farming population. Meanwhile, over 80 percent of the respondents were young and still in their active working years. Most of the rural farming

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household head have formal education (93.3%) and 6.67% have no formal education which may impede their acceptance of improved storage technologies since education facilitates farmers' adoption of innovations. 76.7% of the sampled population belongs to an average household size >5. Household size in the study area is fairly large with an average of 7 members and this is expected to have a multiplier effect on the poverty status of the respondents.

The average year of farming experience is approximately 23 years. Farming experience is an important factor determining both the productivity and the production level in farming. 67.14 percent of those surveyed are fully engaged in crop farming. This is closely followed by those engaged in livestock farming (22.38 percent). The distribution generally reveals the relative importance of crop farming as the main occupation and largest employer of labour in the study area. Over 50% of the farmers have secondary occupation while below average have no secondary occupation. Secondary occupation is very essential for farmers, it serve as extra source of income and it also help farmers to have income living on especially during the off season period.

Table 1.0 : Socio-Economic characteristics of Farmers

Gender	Frequency	Percentage
Male	133	63.3
Female	77	36.7
Total	210	100
MARITAL STATUS		
Single	13	6.2
Married	192	91.4
Widow	5	2.4
Total	210	100
AGE		
21-40	46	21.90
41-60	139	66.19
>60	25	11.91
Total	210	100
Educational Level		
Informal	14	6.67
Formal education (yr)	192	91.4
1-6	50	23.81
7-12	96	45.71
13-18	48	22.86
>18	2	0.95
Total	210	100
Farmexperience		
1-10	35	16.7
11-20	73	34.8
>20	102	48.6
Total	210	100
PrimaryOccupation		
Cropfarming	141	67.14
Livestock farming	47	22.38
Crop/Livestock farming	22	10.48
Total	210	100
Secondary Occupation		
Food processing	46	17.6
Civil servant	37	17.6
Artisan	41	19.5
No sec occupant	87	41.4
Total	210	100

b) Binomial logit Regression Analysis

The significant determinants of factors affecting access to credit by rural farmers are gender, marital status, guarantor and high interest rate. The study reveals that not being married reduces the probability of having access to credit by 86.3%. The study reveals that being a female reduces the probability of having access to credit by 71.3%. Farmers' access to credit is positively affected by availability of guarantor and a unit increase in interest rate leads to the probability of not having access to credit.

Table 2.0 : Binomial Logit Estimate of the factors affecting access to credit

Variable	Coeff	Std. Err	t-ratio	P-Value
CONSTANT	0500407	1.15316	0.433943	0.66433
PRIMOCC	-0.21525	0.272469	-0.70	0.429529
FAREXP	-0.00417	0.013925	-0.29953	0.764535
GENDER	-0.71307**	0.353228	-2.0187	0.04515
MARTSTA	-0.86318*	0.436252	-1.9786	0.047858
EDUCATION	-0.02991	0.030536	-0.97953	0.327316
GUARANTO	0.506192**	0.235258	2.15168	0.031425
COLLATER	-0.11113	0.309021	-0.35963	0.719123
HIGHINTE	1.93449***	0.283391	6.82625	8.72E-12
NETFAMINC	0.28277	0.293468	-0.96356	0.335267

**- 0.1 level of significance*

*** - 0.05 level of significance*

**** - 0.01 level of significance*

c) *Constraints facing Rural Farmers in Credit Acquisition.*

Table 16 shows that majority (73.3%) of the rural farmers acknowledged lack of collateral security as a problem, while about 54.3% realized lack of guarantor as a problem. Others are in the following other, high Interest Rate 51.9%, Mode of Repayment 28.6% and lack of information about the credit availability 23.8%. It is clearly seen that, lack of collateral security, lack of guarantor, and high interest rate have above 50%. Mode of repayment and lack of information about the credit availability have below 50%. This implies that the first three problems are seen as the major problems while the last two are seen as the minor problems they face in credit acquisition.

Table 3.0 : Frequency and Percentage Distribution of Problems faced by Rural Farming Household in Credit Acquisition

Problems	Frequency *	Percentage
Lack of collateral security	154	73.3
Lack of guarantor	114	54.3
High Interest Rate	109	51.9
Mode of Repayment	60	28.6
Lack of information	50	23.8
Total	487	231.9

**- Multiple Response*

IV. Conclusion

This study investigated the determinants of access to credit by rural farmers in Oyo State. The study revealed that gender, marital status, guarantor and high interest rate are the main factors determining farmers' access to credit in the study area. Also, lack of collateral security, lack of guarantor and high interest rate are the major problem the farmers are facing in credit acquisition.

Thus, there is need for financial institutions to help look into the conditions for obtaining credit by farmers, so that the less privilege among them will be able to benefit from credit disbursement especially in the aspect of high interest rate, guarantor and collateral security. In case of collateral security it is recommended that the household heads/respondents should form a cooperative group to enable them pull resources together or form a group to collect loan or credit from bank.

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