

ANALYSIS OF CREDIT UTILIZATION BEHAVIOR OF SMALL SCALE BUSINESS FARMERS  
IN BOSSO LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA

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ABSTRACT

This study analyses the credit utilization behavior of small scale farmers in Bosso Local Government Area of Niger state. The main objectives of the study include the identification of the various formal and informal sources of credit, pattern of their utilization by farmers as well as the examination of the effect of credit allocation on the value of output. Primary data used for the study were obtained using structured questionnaire administered to 60 purposively selected farmers. Descriptive statistics and regression analysis were used to analyze the data. Result shows that most of the farmers (95.0%) were married and ownership of farmland was mainly through inheritance. Results of the regression analysis gave R<sup>2</sup> value of 0.684. This indicates that 68.4% of the variation in Y (value of output) was explained by the independent variables (X<sub>1</sub> – X<sub>5</sub>) include in the model. Three (3) out of the five (5) variables in the model were found to be statistically significant in explaining total value of output. This include X<sub>3</sub> (amount allocated to other inputs), X<sub>4</sub> (amount allocated to equipment) and X<sub>5</sub> (amount allocated to land). High interest rate, inadequate credit and late arrival of credit were identified by the farmers, as some of the constraints encountered in accessing credit. It was however, recommended that timelines of loan disbursement will reduce its diversion to other non farm uses. Interest rates charged by banks should be reduced to enable farmers' access it profitably.

KEYWORDS: credit, utilization, regression analysis, source, acquisition, household

INTRODUCTION

The most important sector of the economy of nearly all the developing nations remains agriculture. Nigeria, with more than 70% of her population directly engaged in agriculture should be self sufficient in food production, but for the peasant nature of its agricultural sector, Nigeria is classified as agrarian (Essien, 1990).

Agriculture was the leading contributor to the Gross Domestic Product (GPD) up to the 1960s. The trend continued until the advent of other sub – sectors of the economy. The contribution of agriculture to the GPD fell to as low as 25% in 1991; but there has been a steady growth rate in agriculture contributing about 40% and above in 1998 (CBN,2000).

Oladosu *et al* (1997), observed that the agricultural sector in Nigeria is still been dominated by peasant farmers who by their characteristics low level of farm income have low saving capacity. The only means of improving capital investment of the farmers is for them to have access to credit with minimum bottle necks. Credits has assumed a dominant role in agricultural finance since credit extended to the agricultural sector had significantly influenced the rate at which farmers adopt innovations, increase farm output, and returns on investment (Awofisoye, (2004), Davidson,(2006).

Lack of capital (credit) has received much attention as major constraint limiting agricultural development especially among small scale farmers in low income countries (Ndanitsa, 2004). For any country to be regarded as developed, they must have attained a position of food security. Food security is a state of affair where people at all times have access to safe and nutritious food to maintain health and active life (Oyatoye, 1999).

The Nigerian government both military and civilian in the past has introduced various agricultural programmes and policies such as Operation Feed the Nation (OFN), Green Revolution (GR), Directorate of Food and Rural Infrastructures (DFRRI) all with the primary objective of achieving self-sufficiency in food production. Despite all the efforts made by the Government and Non-Governmental Organizations to attain food security in the country, income is still being spent on food importation. This is largely because agriculture in many developing countries has remained stagnant and traditional in nature (CBN, 2000).

Farmers requirement for credit have direct implication on the adoption of innovation; most of the improved technologies (hybrid seeds chemicals, machineries and equipments) extended to farmers demands a lot of money to procure them; hence credit available is necessary to facilitate innovation adoption by farmers. This will eventually lead to higher output from the agriculture sector.

#### PROBLEM STATEMENT

There are incentives to boost agricultural production among the Nigerian small scale farmers. Unfortunately, agricultural credit which is meant to facilitate agricultural production is met with constraints such as farmers' attitude and consumption versus investment preference.

The hope for increased agricultural productivity by the nations small scale farmers depend on the amount and quality of factors of production such as land, labour and capital. Among all these, capital limitation has been the major problem but a consensus is that inadequate supply of capital is the key factor around which other factors exert their influence. The level of credit availability to the small scale farmers will influence the types of crops to be grown. It has been known that only when increased credit is available that further expansion can be made.

#### OBJECTIVES OF THE STUDY

The broad objective of this study is to analyse credit utilization by small scale farmers in Bosso Local Government Area of Niger State. The specific objectives are to;

1. examine the socio-Economic characteristics of the farmers.
2. identify the various formal and informal sources of credit and pattern of their utilization by farmers.
3. identify the constraints of credit available to farmers.
4. examine the effect of credit allocation on the value of output.
5. make policy recommendation towards improving access and utilization of agricultural credit by farmers in the study area.

#### RESEARCH HYPOTHESIS

The following hypothesis was formulated for further empirical validation.

Ho: The amount of credit allocated to land, labour and capital has positive and significant effect on the total value of output

#### METHODOLOGY

**STUDY AREA:** The study focuses on Bosso Local Government Area of Niger State. It is located on longitude 6<sup>0</sup>02' East and latitude 09<sup>0</sup>41' North respectively. Bosso area council is bounded to the North - East by Shiroro Local Government Area, to the South - East by Paiko Local Government Area, to the South - West by Gbako Local Government Area and to the North - West by Wushishi Local Government Area. Farming is the main occupation of the people of this Local Government Area.

**METHOD OF DATA COLLECTION:** Primary data were collected through the use of structured questionnaire designed in line with the objectives of the study. 60 questionnaire were purposively distributed to the farmers in 6 selected villages of the Local Government Area namely; Gidan Mangoro, Gidan Kwano, Rafin Yashi, Shanu, Mainkunkele Gari, and Beji.

**METHOD OF DATA ANALYSIS:** Descriptive statistics such as mean, percentages and frequency distribution were used to analyse objectives one, two and three while the Ordinary Least Square (OLS) multiple regression analysis was used to analyse objective four. The model is specified in implicit form

as follows;

$$Y = F (X_1 X_2 X_3 X_4 X_5 U)$$

Where;

Y = Value of farm output (N)

X<sub>1</sub> = Amount allocated to non – farm activities(N)

X<sub>2</sub> = Amount allocated to labour (N)

X<sub>3</sub> = Amount allocated to other inputs such as herbicides, fertilizers etc.(N)

X<sub>4</sub> = Amount allocated to equipment (N)

X<sub>5</sub> = Amount allocated to land (N)

U = Error term

Four functional forms namely: linear, Semi – log, log double log, and exponential functional forms were tried. The explicit forms of the four functional forms are:

1. Linear:  $Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + U$

2. Semi – log:  $Y = \ln b_0 + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + U$

3. Double log:  $\ln Y = \ln b_0 + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + U$

4. Exponential:  $\ln Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + U$

Where variable  $b_0$  = constraint/intercept;  $b_1 - b_5$  = regression parameters to be estimated.

## RESULTS AND DISCUSSION

### SOCIO – ECONOMIC CHARACTERISTICS OF SAMPLED FARMERS

Socio – economic characteristics affect the availability and utilization of credit directly or indirectly. The variables analyzed in the study includes: age, marital status, mode of land acquisition, sources of labour and household size.

Age: Table 1 shows that 73.3% of the sampled farmers were between the ages of 30 – 50 years. Thus majority of the farmers are middle – aged which implies that they were still in their economically active age which could result in a positive effect on production

Marital status: Table 1 indicates that 95.0% of the respondents were married. This is an indication of their chances of their getting a large number of family labour for use on the farm. Only 5.0% of the respondents were single; none were divorced.

Mode of land acquisition: 83.8% of the respondents acquired land by inheritance, while 4.4%, 7.4% and 4.4% of the respondents used rented, purchased and gift land respectively. This implies that the predominant system of acquiring land in the area was by inheritance.

Source of labour: Labour, which is a factor of production accounts for about 50% of total farm expenses (Emeka, 2004). Polygamy practised in most rural communities provides adequate labour to the farmers apart from the hired labour. Table 1 clearly shows that 86.6% of the respondents used both family and hired labour on the farm, 6.7% used only family labour. This clearly justifies the need for financial assistance to farmers to supplement their personal income to enable them employ hired labour particularly during the period of labour scarcity.

Household size: The same table indicates that majority of the respondents (80.0%) have between 1 – 10 household members. This implies that the family labour is a very important source of farm labour in study area. However, potential labour available for farm work is not a function of household size perse, but the composition and quality of those capable of working on the farm (Tanko, 2003). A family composed of aged people including women and children will need hired labour to supplement for its labour requirement.

### Formal source of credit

The ability of the farmers to borrow from formal sources is an indication of how well organized the credit institutions in the area are. It also shows the degree of awareness of the farmers to the various formal sources from which they can borrow from.

Table 2 indicates that 63.5% of the respondents borrowed from NACRDB, 28.6% from cooperative societies, 6.4% from commercial banks and only 1.6% borrowed from the ministry of agriculture. From the result, it can be deduced that NACRDB plays a major role in credit distribution to farmers in the study area.

#### Informal source of credit

The informal sources of credit are those sources from which the farmers borrow credit apart from formal sources

Table 3 reveals that the informal sources of credit are not preferred by the farmers. Out of 60% respondents only 5 (8.3%) borrowed from informal sources which includes friends and money lenders. Some of the reasons given include; the amounts of credit gotten from these sources were too small to meet production needs and complaints of untimely collection.

#### PROBLEMS OF CREDIT AVAILABILITY AND UTILIZATION

It is an established fact that no institution can provide the credits needs of the farmers Table 4 shows the nature of problems faced by farmers in accessing credit.

Table 4 indicates the distribution of farmers according to the problems faced in getting credit facility. 36.1% of the respondents are of the opinion that credit availability came very late, 39.1% of the respondents claimed that the available credit to them was inadequate, 11.5% and 12.6% of the respondents complained that credit was untimely and interest rate too high respectively. The implication of all these problems is that it could limit expansion, in some cases, it could lead to farmers' directing these credits to other uses apart from agricultural activities.

Table 5 shows that the semi - log functional form yield the lead equation (that is the "best fit") and was therefore used for further discussion. It has an  $R^2$  (coefficient of multiple determination) value of 0.684. This indicates that 68.40% of the variation in Y (value of output) is explained by the independent variable ( $X_1 - X_5$ ) included in the model while the remaining 31.60% is as a result of errors in estimation. Non - inclusion of some important explanatory variables and some specific factors of the farmers. The F - ratio is 4.288 and it is significant at 1% level.

Out of the five variables in the model, three were found to be statistically significant in affecting the total value of output. These were  $X_3$  (amount allocated to other inputs like seeds, fertilizers and agro chemicals). It has a coefficient of 65158.208 and was statistically significant at 10%. This implies that the amount of credit farmers allocated to variable input ( $X_3$ ) had a statistically significant effect on output. In other words as the amount allocated to variable input increases, output also increase.  $X_4$  (amount allocated to equipment) was also significant at 1% with a coefficient of 54716.786. Similarly,  $X_5$  (amount allocated to land) with a coefficient of 66081.302 is statistically significant at 5%. This implies that as each of these variables increases, output also increases.

#### CONCLUSION

Based on the findings of this study, it can be inferred that credit has a positive and significant effect on the value of output which underscores the need for increased access to credit by farmers to boost production in the area.

#### RECOMMENDATION

The following recommendations are suggested:

1. Credit institutions should make available adequate amount of credit to cover both consumption and production needs of farmers taking into account household size and cost of various operations and inputs.
2. Since the use of capital inputs and equipment has a significant effect on the value of output, government and private sector should ensure that inputs such as fertilizer chemicals etc. are made available to the farmers at the right time and right quantity. Sale of fertilizer should be done directly to genuine farmers at subsidized rates.

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3. The demand for collateral security by banks as well as the rate of interest charge by the banks should be reviewed in such a way as to make it possible for farmers to obtain agricultural credit more easily and at a low interest rates.
4. Financial institutions should make credit available at the right time to prevent diversion to other uses.
5. These farmers should form cooperative society so that they can pool their resources together for their benefits. Also, credit could be readily made available to them as group rather than individuals.

Table 1: Socio – economic Characteristics of Sampled Farmers

Variables	Numbers of respondents	Percentage
Age (in years)		
20 – 30	4	6.7
31 – 40	26	43.3
41 – 50	14	23.3
51 – 60	8	13.3
61 and above	8	13.3
Marital status		
Single	3	5.0
Married	57	95.0
Mode of land acquisition		
Gift	3	4.4
Inheritance	57	83.8
Purchase	5	7.4
Rent	3	4.4
Sources of labour		
Family labour	4	6.7
Hired labour	4	6.7
Family and hired labour	52	86.6
Household size		
1 – 5	23	38.3
6 – 10	25	41.7
11 – 15	12	20.0
Total	60	100.0

Source: Field Survey, 2007

Table 2: distribution of respondents according to formal sources of credit

Source of credit	Frequency	Percentage
NACRDB	40	63.5
Ministry of agriculture	1	1.6
ADP	0	0
Cooperative society	18	28.6
Commercial Banks	4	6.4
Total	63*	100.0

\*Multiple responses, Source:Field,Survey2007.

Table 3: Distribution of Respondents According to Informal Source of Credit.

Source of credit	Frequency	Percentage
Friends	2	40.0
Relatives	0	0
Money lenders	3	60.0
Total	5	100.0

\*Multiple responses, Source: Field survey, 2007

Table 4: Distribution of Farmers According to Problems Faced in Accessing

Source of credit	Frequency	Percentage
Source of credit	32	36.8
Lateness of credit	34	39.1
Inadequate credit	10	11.5
Untimely collection	11	12.6
High interest rate	87*	100.0
Total		

\*multiple responses, Source: Field survey 2007.

Table 5: Regression results

Variables	Functional forms			
	Linear	Double log	Semi log	Exponential
Constant	177801.46*** (3.662)	6.223*** (3.094)	-1217635*** (-3.005)	11.942*** (49.859)
X <sub>1</sub> (amount allocated to non-farm activities)	-0.130 (-0.239)	-2.504E-02 (-0.234)	-19127.720 (-0.888)	1.581E-07 (0.059)
X <sub>2</sub> (amount allocated To labour)	1.374 (0.880)	0.145 (1.492)	27990.595 (1.431)	8.034E-06 (1.043)
X <sub>3</sub> (amount allocated to other inputs)	1.500 (1.275)	0.290** (1.576)	65158.208* (1.756)	6.614E-06 (1.139)
X <sub>4</sub> (amount allocated to equipment)	10.417*** (2.654)	0.209** (2.109)	54716.786*** (2.747)	3.648E-03* (1.884)
X <sub>5</sub> (amount allocated to land)	89.237 (1.513)	0.106 (0.648)	66081.302** (2.003)	1.435E-04 (0.493)
R <sup>2</sup>	0.314	0.214	0.684	0.147
R <sup>2</sup> = Adjusted	0.241	0.141	0.518	0.068
F - Statistic	2.933**	2.937**	4.288***	1.861

Sources: computed from the data collected.

Note: \*\*\* implies statistically significant at 1%, \*\* implies statistically significant at 5%, \* implies statistically significant at 10%

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