

## RESEARCH ARTICLE

**(Open Access)****Analysis of Loan Accessed by Cooperative Society Farmers from Bank of Agriculture (Boa), in Imo State, Nigeria**NDUBUEZE-OGARAKU, MERCY EBERE<sup>1\*</sup> ANDAMADI, EUNICE MUNACHIMSO<sup>1</sup><sup>1</sup>Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, East-West Road, Rivers State, Nigeria**Abstract**

The study examined the determinants of agricultural loan accessed by cooperative farmers from Bank of Agriculture in Imo State. Specifically, the socio-economic characteristics of the cooperative farmers were identified, volume of loan accessed by cooperative farmers was determined, effects of the socio-economic characteristics of the cooperative farmers on the volume of loan accessed was estimated. 80 respondents were selected randomly from five Local Government Areas of Imo State and data were collected using structured questionnaire. Descriptive statistics and multiple regression analysis were the analytical used. The result indicated that majority, (66.6%) of the cooperative farmers were males and were in the age bracket of 51 years and above. 57.5% of them were married and had household size of between 1-5 persons; the highest farming experience of the cooperative farmers was 10 years. The regression result showed that two regression coefficients (annual income farm and payback period) were positive and significant on the volume of loan accessed by the farmers while farming experience and interest rate negatively influenced the amount of loan accessed and were significant at 5% level. High interest rate, delay in fund release and poor attitude of bank staff were the major constraints faced by the farmers. Therefore, it is recommended that loan for cooperative farmers should be disbursed timely for effective use.

**Keywords:** Determinants, Volume, Loan, Cooperative farmers, Bank of Agriculture**1. Introduction**

Agriculture is one of the major sectors of the economy and a major contributor to Nigeria's GDP [1]. It is estimated that 76 percent of Nigeria's population live in the rural areas and about 90 percent of the rural dwellers are engaged in agricultural production [2]. The agricultural sector is expected to provide food for the growing population, provision of foreign exchange earnings, employment of a significant labour force, and provision of income for the farming households. In attempt to make funds available to farmers for increased food production, the government of Nigeria through its financial institution had made frantic efforts in helping farmers access loan required for farm productive activities. One of which being the Bank for Agriculture.

Nigeria Agricultural Bank was incorporated in the early 1973. In 1978, it was renamed as the Nigerian Agricultural and Cooperative Bank (NACB) Ltd with a mission to "provide affordable financial

and advisory services to the farm and non-farm enterprises of the national economy using well-trained and highly motivated staff. The policy was backed by appropriate technology, thereby fostering accelerated agricultural and rural development. In October 2000, NACB was successfully merged with the defunct Peoples Bank of Nigeria (PBN) and the risk assets of the Family Economic Advancement Programme (FEAP) to form the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB) Ltd. It became the single largest development finance institution in Nigeria. In 2011, NACRDB transformed into the Bank of Agriculture (BOA) Ltd. Its share capital was N50bn which was fully subscribed by the Federal Ministry of Finance Incorporated (60%) and the Central Bank of Nigeria (40%). Unfortunately, as at then, only N20.316bn (40.7%) of the share capital was paid up leaving a shortfall of N29.684bn (59.3%). Records showed that as at March 2011, it was able to disburse an accumulated loan of N42bn in the 10 years period of

\*Corresponding author: NdubuezeOgaraku; E-mail: mercy.onu@uniport.edu.ng  
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2001-2011 and mobilized a deposit of N361bn within the same time period. The bank's broad mandate encompass savings mobilizing and the timely delivery of affordable agricultural loan to meet the funding required on the teaming population in the agricultural and non-agricultural sector of Nigerian national economy.

Agricultural loan has been one of the pre-requisites for farmers to increase their agricultural output, it is also very important for sustainable agricultural development in any country of the world. In Nigeria, agricultural loan has long been identified as a major input in the development of the agricultural sector [3]. Despite the crucial role of agricultural loan in agricultural production and development, farmers still have limited access to agricultural loan. It's of a truth that one of the major problems confronting small scale farmers; who are the local/primary agriculturists, is poor access to adequate agricultural loan, even though this category of farmers produces the bulk of the domestic agricultural output [4]. Access to agricultural loan is regarded as one of the key elements in raising agricultural productivity [5]. Availability of adequate and timely agricultural loan help in expanding the scope of operation and adoption of new technologies, enhance the purchase and use of improved inputs and facilitate other up-stream and down-stream operations in agriculture [6]. Some scholars have tried to reveal the impact of cooperative societies on agriculture. In a study conducted by [7] on the determinants of the women's access to agricultural loan in Abia State Nigeria, it was reported that farmers who were members of cooperative societies had more access to agricultural loan than non-cooperative farmers. In a similar study in Abia State, [8], stated that there was a significant difference in the income and output of cooperative and non-cooperative farmers. The mean income and output of the cooperative farmers was found to be higher than that of the non-cooperative farmers. The report by [9] in Enugu State in Nigeria revealed that about 60.5% of the respondents who belonged to cooperative societies got various sums of money as agricultural loan through their cooperatives. Notwithstanding, cooperative businesses in Nigeria are still contending with problems that have hampered their development and one of such problems is the lack of access to investment from agricultural loan.

The report by [3] showed that the minimum and maximum of loan cooperative farmers applied

from bank was fifty thousand five hundred naira (₦50,500) and ₦350,500.00 respectively with an average amount of ₦200,927.35. The minimum and maximum of loan received was ₦50,500 and 450,500 respectively with an average of ₦238,534.19. The applicant repaid the minimum and maximum amount of ₦50,500.00 and ₦450,500.00 each while the average amount repaid was ₦106,175.372.

It has been observed that most of the bank loan defaults arose from poor management procedures, loan diversion among others. In spite of the amount invested in agricultural loan, there seems to be not much remarkable improvement in the output of food and other agricultural products as well as the financial positions of farmers especially members of farmers' cooperative society in Imo State. Agricultural development efforts have identified cooperatives society in Nigeria as a vehicle for the development of agriculture [10]. According to them, it enables farmers to solve agricultural problems such as inadequate capital, inadequate access to loan and high level of illiteracy which still remain major problems in agricultural sector. Therefore, the study was designed to analyze the volume of agricultural loans accessed by cooperative farmers from BOA in Imo State, Nigeria. Specifically,

identified the socio-economic characteristics of the cooperative farmers in Imo State, estimated the volume of loan accessed by cooperative farmers in the study area, determined the effects of socio-economic characteristics of farmers on the volume of loan accessed and identified the challenges faced by the cooperative farmers in accessing the agricultural loan from the Bank of Agriculture in Imo State.

## 2. Material and Methods

### 2.1 Area of the Study

The study was carried out in Imo State. There are 27 Local Government Areas in Imo State. Imo State is located in the eastern region of Nigeria with an area size of 5,530km<sup>2</sup> (2,140sq m<sup>2</sup>) and a population size of 3,934,899 [11] (NPC, 2006) with a density of 710/km<sup>2</sup> (1800/sq m<sup>2</sup>).

### 2.2 Sampling Technique

Random sampling technique was used to select five (5) Local Government Areas in Imo State (Owerri West, Owerri Municipal, Ikeduru, Ohaji-Egbema and Owerri North) from the 27 Local Government Areas. Also, two (2) farmers' cooperative associations were selected from each Local Government Area giving a

total number of 10 farmers' cooperative society. 8 cooperators were selected from each society making a total of 80 respondents.

2.3 Method of Data Collection

Primary data was collected using structured questionnaire and interview schedule. Descriptive statistics such as frequency and percentage were used.

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e) \dots \dots \dots \text{eq 2}$$

The explicit forms of the linear regression equation is as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + e \dots \dots \text{eq 3}$$

Where

Y = volume of loan accessed in ₦

$\beta_0$  = Intercept

$\beta_1 - \beta_9$  = Regression Coefficients

X<sub>1</sub> = Sex of the farmer ( 1 = male, 2 = female

X<sub>2</sub> = Age of the farmer in years

X<sub>3</sub> = Education level of the farmer ( 1 = non formal, 6 = primary, 11 = secondary 12 = secondary, 15 = tertiary, 16 = tertiary, 17 = tertiary

X<sub>4</sub> = Household size ( number of persons)

X<sub>5</sub> = Farming experience in years

X<sub>6</sub> = Annual income from farm business in ₦

X<sub>7</sub> = Interest rate in %

X<sub>8</sub> = Grace period in months

X<sub>9</sub> = Payback period in years

X<sub>2</sub> = Age of the farmer in years

e = error term

Linear model function

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + e \dots \dots \text{eq 4}$$

Semi – log model function

$$Y = \beta_0 + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4 + \beta_5 \log X_5 + \beta_6 \log X_6 + \beta_7 \log X_7 + \beta_8 \log X_8 + \beta_9 \log X_9 + e \dots \dots \text{eq 5}$$

Double Log Model Function

$$\log Y = \beta_0 + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4 + \beta_5 \log X_5 + \beta_6 \log X_6 + \beta_7 \log X_7 + \beta_8 \log X_8 + \beta_9 \log X_9 + e \dots \dots \text{eq 6}$$

3. Results and Discussion

The socio-economic characteristics of the cooperative farmers in Imo State are presented on the Table 1.

Table 1: Socio-economic characteristics of the cooperative society farmers in Imo State.

Sex	Frequency	Percentage (%)
Male	53	66.5
Female	27	33.5
<b>Age in years</b>		
20-30	2	2.5
31-40	13	16.2
41-50	31	38.2
51 & above	34	41.5
<b>Marital status</b>		
Married	46	57.5
Single	17	21.2
Divorced/Separated	3	3.8
Widow/Widower	14	17.5

<b>Educational level</b>		
Non formal	20	25
Primary	19	23.8
secondary	28	35
Tertiary	13	16.2
<b>Household Size in persons</b>		
1-5	45	56.2
6-10	26	32.5
11-15	5	6.3
16 persons and above	4	5
<b>Farming Experience (years)</b>		
1-5	7	8.8
6-10	34	42.5
11-15	13	16.2
16 and above	26	32.5

Source: Field survey, 2015.

The result on Table 1 showed that majority 66.5% of the cooperative farmers were males while the remaining 33.5% were females. It is implied that more males were able to access loan from the Bank of Agriculture. This in line with the findings of [12] Ololade and Olagunju, (2013), who observed that in agricultural production, women are more constrained than their male counterparts in accessing funds for agricultural production. The result also showed that most of the respondents (42.5%) were in the age range of 51 years and above. The age bracket of 41-50 years constituted 38.2%, age bracket of 31-40 years was 16.2% and those in the age bracket of 20-30 years were only 2.5%. It is implied that the age bracket of 51 years and above had more information on the loan facilities at the Bank of Agriculture.

The result further indicated that 57.5% of the respondents were married, (21.2%) were single, (3.8%) were divorced/ separated and (17.5%) were widow/widower. It clearly showed that those that are married are more involved in the farmers' cooperative societies when compared with the singles, divorced/separated or widow/widower. This finding supports the views of [3] that married people dominated in the cooperative society's membership. It was found that 23.8% of the respondents had primary

education, 35.0% attained secondary education, 16.2% had tertiary education while 25.0% had no formal education. The implication is that they had one form of formal education or the other. This is expected to reflect in the management of their respective cooperative societies. This finding supports the views of [3] that majority of the cooperative farmers from the study area are literate. It was also found that (56.2%) of the farmers had family size of 1-5 persons, those that had family size of 6-10 persons was (32.5%), family size of 11-15 persons accounted for (6.3%) while farmers that had family size of 16 persons and above was 5.0%. It was showed that those with household size of 1-5 persons were more in the cooperative societies. The result also indicated that 8.8% of the cooperators had 1-5 years' experience in the doing farm business, 42.5% had 6-10 years farming experience, 16.2% had 11-15 years farming experience while 32.5% had up to 16 years and above in farming activities. The result implies that most cooperative farmers have acquired reasonable years of experience in cooperative farming.

*Volume of loan accessed by the farmers in the study area.*

The volume of loan accessed by the cooperative farmers from the Bank of Agriculture in Imo State.

**Table 2:** Volume of Loan Assessed by Cooperative Farmers in the study area

Volume of Loan Accessed(₦)	Frequency	Percentage (%)
200,000.00 – 250,000.00	44	52.5
250,000.00 – 300,000.00	23	27.3
300,000.00 and above	13	16.2
Total	80	100
Mean volume of loan accessed		₦280,625.00
Minimum volume of loan accessed		₦250,000.00
Maximum volume of loan accessed		₦350,000.00

Source: Field survey, 2015.

The result on Table 2 indicated that 52.5% of the respondents accessed loan amount between two hundred thousand naira to two hundred and fifty thousand naira (₦200,000.00 - ₦250,000.00) from the BOA. 27.3% of them accessed loan amount between two hundred and fifty thousand naira to three hundred thousand naira (₦250,000.00 - ₦300,000.00) and 16.2% accessed loan of three hundred thousand naira (₦300,000.00). The result also indicated that a mean volume of loan accessed by the farmers was estimated as two hundred and eighty thousand six hundred and

twenty five naira (₦280,625.00). The minimum volume of loan accessed was two hundred and fifty naira (₦250,000.00). The maximum volume of loan accessed by the farmers during the period was three hundred and fifty thousand naira (₦350,000.00). This is contrary to the finding of [3] Anigbogu, Onugu, Onyeugbo&Okoli (2014), that reported that the minimum, maximum and average loan received by farmers was ₦50,500 and 450,500 respectively with an average amount of ₦238,534.19.

**Table 4 .** Regression results of regression model

Variables	Linear	semi log	double log
Constant	369998.059 (5.911)	5.609 (59.744)	5.127 (6.171)
Sex (X <sub>1</sub> )	-2754.057 (-1.202)	-0.04 (-1.248)	-0.007 (-0.370)
Age (X <sub>2</sub> )	1491.770 (0.881)	0.003 (1.018)	0.004 (0.086)
Educational level (X <sub>3</sub> )	27.218 (0.105)	0.000 (0.305)	-0.050 (-1.875)
Household (X <sub>4</sub> )	891.107 (0.479)	0.002 (0.541)	0.05 (0.314)
Farming experience(X <sub>5</sub> )	-1387.208 (-3.611)***	-0.002 (-3.555)***	-0.050 (-1.875)*
Income level (X <sub>6</sub> )	0.557 (26.612)***	8.273E-007 (26.355)***	-0.005 (-0.154)
Interest rate (X <sub>7</sub> )	-22061.582 (-6.465)***	-0.035 (-6.813)***	0.219 (0.335)
Grace period (X <sub>8</sub> )	-1137.077 (-0.313)	0.001 (0.120)	0.140 (1.309)
Payback period (X <sub>9</sub> )	5873.776 (2.073)*	0.008 (1.777)*	0.067 (0.787)
R <sup>2</sup>	0.917	0.915	0.067
Adjusted R <sup>2</sup>	0.906	0.904	-0.053
F-value	85.397	83.837	0.561

Source: Data analysis (2015)

\*\*\*Significant at 1% level, \*Significant at 10% level, values in parenthesis are the T- values.

The result on Table 4 showed the effects of the socio-economic characteristics of the cooperative farmers on the volume of loan accessed in the study area. Three functional forms (linear, semi-log and double log) were used. The linear functional form was chosen as the lead equation because it had the highest R<sup>2</sup> value of (0.917). This implies that about 92 % of the variation in the volume of loan accessed by the cooperative farmers was explained by the explanatory variables introduced in the model while the remaining 9 percent was due to other factors not specified in the

model. The F-ratio which determines the overall significance of the regression has a high coefficient of 85.40 which is implied that the regression has a high explanatory power.

The finding shows that farmers' annual income from the farm business and payback period were positive and significant at 1% and 10% respectively. The positive sign of the annual income variable means a positive relationship between the income level of the farmers and volume of loan accessed by the respondents. This implies that the higher, the annual

income generated from the farm business by the farmer, the more agricultural loan would be accessed. The coefficient of payback period was also positive and statistically significant at (10%). This signifies a positive relationship with the volume of loan accessed from Bank of Agriculture. This implies that as the payback period is extended, more farmers will be willing to access more loans from the Bank. The longer the payback period, the greater the volume of loan farmers would access from the bank.

The coefficient of farming experience of the farmers was negative and statistically significant at (1%). This shows an inverse relationship with the volume of agricultural loan accessed by the cooperative farmers from the Bank of Agriculture. This was not expected as most of the farmers have acquired reasonable years of experience in farming. This is in contrary to the findings of [13] which stated that the higher the farming experience of the farmers, the higher the ability to adopt new techniques in farming and enhances the repayment of loan accessed from the banks. The coefficient of the interest rate negatively influenced the volume of loan accessed by the farmers and was statistically significant at 1%.

This indicates that the higher the rate of interest, the lower the volume of loan accessed. This supports the findings of [14] Obeta (1992), that high interest rate limits farmer's access to loans from the banks. This was expected because the banks' interest rates were on the high side.

It was generally observed that the socio-economic characteristics of the cooperative farmers (farming experience and income level generated from the farm business) had significant effect on the volume of loan accessed by the farmers. Therefore, the null hypothesis that socio-economic characteristics of farmers do not affect the volume of agricultural loan accessed was rejected. Therefore, the alternative hypothesis which stating that socio-economic characteristics of farmers had influenced on the volume of agricultural loan accessed was accepted. The finding supports the views of [15]), who found a significant relationship between the socio-economic characteristics on the accessed loan by farmers.

Challenges faced by cooperative farmers in accessing agricultural loan from Bank of Agriculture in the study area.

**Table 5.** Challenges Faced By Cooperative Farmers in Accessing Agricultural Loan

<b>Constraints</b>	<b>Frequency</b>	<b>Percentage%</b>
<b>Delay in fund release</b>	76	95
<b>High interest rate</b>	62	77.5
<b>Short payback period</b>	48	60
<b>Farm record keeping</b>	57	71.25
<b>Administration costs</b>	36	45
<b>Delay in approving application letters</b>	28	35
<b>Poor attitude of the Bank Staffs</b>	64	80
<b>Gender inequality</b>	33	41.25
<b>Distance barriers</b>	53	66.25
<b>Lack of bank account</b>	38	47.5
<b>Lack of information</b>	49	61.25
<b>Total</b>	505	

Source: Field survey, 2015

The result on Table 5 showed the challenges faced by cooperative farmers in accessing agricultural loan from the Bank of Agriculture. The study indicated multiple responses from the respondents. The study found that 95% of the cooperative farmers were faced with the problem of delay in loan facility disbursement as this affects their production activities. This findings support the views of [16,17] that minimum amount of loan accessed could be related to complicated application procedures and delay in loan delivery. 62 (77%) of the cooperative farmers are faced with high interest rate, 57 (71.25%) are faced

with short payback period, 48 (60%) are faced with not keeping farm records which enhances access to loan from the bank. 36 (45%) had problems with the bank administration costs, 28 (35%) were faced with delay in approving application forms, and 25 (31.25%) complained about poor attitude of the bank staffs in handling the application forms. These findings support the views of [18], who stated that lack of bank accounts and information regarding the procedures for accessing loans from the banks, affected the rural women's access to loan from the formal financial institutions. Also [19, 20], asserted

that gender inequality in access to loan is one of the reasons responsible for the failure of agriculture to move forward in Nigeria. Delay in the release of fund, cumbersome loan procedures and high interest rate limit farmers' access to loans from the Bank of Agriculture.

#### 4. Conclusions

Conclusively, majority of beneficiaries were male and are literate. The bank should be revisited by the government and agricultural loan facilities should also be made available to farmers which could ameliorate some of the farmer's problems such as small farm size, low output, low income and low social-economic status. It can also relieve the farmers of the excessive interest rate impose on them by the informal agricultural loans who usually charge very high interest rate.

#### 5. Recommendations

The following recommendations were made from the study;

1. Bank of Agriculture and other financial institutions should improve upon their loan procedures, so as to facilitate more farmers' access to their loan facilities.

2. The regulatory bodies of financial institutions in Nigeria should ensure that Bank of Agriculture (BOA) adhere to its core mandate by giving loans to farmers for farm activities.

3. Loans for agricultural production should be released to farmers at right time for proper utilization of funds.

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