

## Analysis of Farmers' Access to Agricultural Credit from Bank of Agriculture (BOA) Yola, Adamawa State, Nigeria

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### Abstract

The study analyzed farmers' access to agricultural credit from the Bank of Agriculture (BOA) Yola, Adamawa State, Nigeria. Specific objectives of the study were to describe the socio-economic characteristic of the respondents; determine major factors influencing farmers' access to agricultural credit; compare the amount of credits applied for and that disbursed to the respondents by the bank and identify major constraints faced by the respondents in farm credit acquisition. Using Simple random sampling techniques 120 respondents were selected. The Data were analysed using descriptive and inferential statistics. Inferential statistics used included the Logit Regression Analysis (Eviews computer software) and the Z-test. The results showed that 78% of the respondents were male, married (89%), educated (85%) and commanded farm holdings of less than five hectares (83%). Majority of the respondents (63%) belong to an organization and 75% had assessed the bank's loan. The result from logit analysis revealed that age has a negative coefficient, while years of formal education, membership of cooperatives and annual income all had positive coefficients and were directly related to credit access. All of the above variables were statistically significant. The result further revealed that statistically there was no significant difference between the amount of credit applied for and that disbursed by the Bank. This suggested high credit access by the respondents. Major problems faced by the respondents included complicated eligibility criteria by the Bank, lack of collateral or guarantor, delays in loan approval and disbursement and high interest rate. By way of recommendation, the bank is encouraged to relax its lending policies, reduce administrative delays in loans approval and disbursement and lower interests on their loans. The farmers on their side should approach their loan requirements through cooperative associations.

### Keywords:

Bank,  
Agriculture,  
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### **Background to the Study**

Agricultural growth in Nigeria is increasingly recognized to be central to sustainable economic development of the nation. The sector plays a very significant role in addressing food insecurity, poverty alleviation and other human development challenges. However, in recent years, there has been a marked deterioration in the productivity of Nigeria's agriculture. Many reasons have been advanced for the declining productivity in agriculture .Among these reasons the poor financing of the sector rank high (Nwaru, 2004; Manyong *et al.*, 2005). According to Mudi (2007), credit is as a major factor in agricultural development and lack of it can limit farmer's horizons to modernize his production. If credit is made available to the farmer, the retarded agricultural sector will be rapidly modernized and made more productive.

Agricultural credit is any of the several credit vehicles used to finance agricultural transactions and businesses, including loans and advances. These types of financing are adapted to the specific financial needs of the farmer which are highest during planting, harvesting and marketing operations. The type of credit available to the farmer determines the kind of operations to be financed by the credit. Short term credit is use to finance operating expenses while intermediate credit is used for the procurement of farm machinery and long term credit is used for real-estate financing (Adebayo and Adeola, 2008).

Government has approached credit scarcity challenge through many fronts; prominent among them being the establishment of the Bank of Agriculture (BOA). The Bank is specifically charged with the responsibility of financing agriculture and agricultural related activities. Other direct and indirect efforts of the government to finance agriculture can be found in the establishment of specialized financial institutions to carter for the financial needs of rural farmers. These institutions included the (former) Peoples Bank of Nigeria (PBN), The Rural Banking Scheme (RBS), the Agricultural Credit Guarantee Schemes (ACGS) and Family Economic Advancement Programme (FEAP) among others. They were to provide affordable credit facilities to segments of the Nigerian society who have little or no access to the services of conventional Banks. Despite of all these efforts however, the credit needs of the Nigerian farmer remain largely unsatisfied. Several factors appear to work against government's efforts to provide cheap farm credit to the rural poor .There are problems relating to levels interests charged on agricultural loans, issues of collateral on the loans, delays in the disbursement of the loans and general administrative bottlenecks associated with government programs. This study is an inquiry into the performance of BOA Yola with regard to providing farm credit to farmers. Specifically the study;

- i. Described the socio-economic characteristic of the respondents;
- ii. Determined major factors influencing respondent's access to agricultural credit;
- iii. Compared the total amount of credits applied for and the amount of cash disbursed to the respondents by the bank;
- iv. Identified major constraints faced by respondents in accessing credit from the bank.

## Hypothesis

- i.  $H_0$ : There is no significant difference between the amount of credits applied and the amount of cash disbursed to the respondents.

## Methodology

### The study area

The study area was Yola North and Yola South local Government Areas of Adamawa State, Nigeria. The area lies between Latitudes  $8^{\circ} 19' - 9^{\circ} 27' N$  and Longitudes  $12^{\circ} 3' - 12^{\circ} 41'E$  (Adebayo, 1999). The area falls within the Northern Guinea Savannah Zone and has tropical rainy and dry seasons. The wet season spans from April to October while the dry season lasts from November to March. Mean annual rainfall is about 700mm. The area has a land mass of  $2,310.05\text{km}^2$  and a population of 336, 648 (National Population Commission, 2006). The people are predominantly farmers. Major crops grown in the area include rice, maize, sorghum, cowpea, millet and groundnut. Also dry season farming is well established along the Benue, Chouchi and Beti Rivers and beside some other large water bodies like the lakes Geriyo and Njuwa. Remarkable fishing activities are also undertaken in the area.

Being the State capital, the area is provided with good number of hospitals, schools, good road networks, Banks, Insurance companies and Markets. There are also small and medium scale enterprises, National (Electricity) grid, international airport, print and electronic media outfits and good telecommunication net works (GSM). All these combine to improve the lots of the farmer and make farming a worthwhile business.

### Source of Data

The study use predominantly primary data. The data were collected using structured questionnaires. Also some supplementary information were obtained from the bank's 2014 applicants' records and served as secondary data for the study.

### Sampling Technique and Sample Size

Simple random sampling technique was used to select 120 respondents. The list of loan applicants for 2014 production season was obtained from the Bank (BOA Yola) and used as the sampling frame. Other relevant information pertaining to the respondents like their telephone numbers, contact addresses, amount of loan applied for and the kind of farming the farmers were into was also provided by the Bank. This information has greatly facilitated the conduct of the survey.

### Analytical Technique

The data were analysed using both descriptive and inferential statistics. Descriptive statistics used were mainly the mean, percentages and frequencies counts, while the inferential statistics used were the Binary logit regression analysis and Z-test. Access to credit, which is a bivariate, that takes the value of 1 for beneficiary and 0 otherwise was used as the dependent variable (Y). The Binary Logistic Regression model was specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + U \dots \dots \dots (1)$$

Where;  
 Y = Access to credit (dummy);  
 $\beta_0$  = Constant;  
 $X_1$  = Age (years);  
 $X_2$  = Gender (Male=1: Female=0);  
 $X_3$  = Marital status (Married=1: Single=0);  
 $X_4$  = Educational level (Years of schooling);  
 $X_5$  = Extension Contact (1=Access; 0= otherwise);  
 $X_6$  = Membership of cooperatives (1=yes; 0= otherwise);  
 $X_7$  = Annual Income (Naira);  
 $X_8$  = Distance to the Bank (Km); and  
 U = Error term

Furthermore, to compare the total amount of credits applied for and the amount of cash disbursed to the respondents, the Z-test was used as specified below:

$$Z \text{ cal.} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

Where:

$\bar{X}_1$  = Mean of the amount of credit applied for;

$\bar{X}_2$  = Mean of the amount cash disbursed;

$S_1$  = Standard Deviation of the total amount of credit applied for;

$S_2$  = Standard Deviation of the total amount cash disbursed;

$N_1$  = Number of respondents who applied for credit;

$N_2$  = Number of respondents who were disbursed with cash.

## Results and Discussion

### Socioeconomic Characteristics

The distribution of the respondents by age is presented in Table 1. The result revealed that 97% of the respondents fall between the ages of 30–60 years. Implying that, majority (97%) of the respondents was within their economically active age and would be highly innovative and would be able to use the loans productively. This finding agrees with those of Etonihu *et al.*, (2013) and Ololade and Olagunju (2013) who independently reported that most farmers who accessed agricultural loans in their studies were relatively younger and in their active age of 30-60 years.

Furthermore, 78.3% of the respondents were males. This indicated that men had better access to farm credit (at least from the Bank) than their female counterparts. This can be attributed to cultural factors that put men at a more vantage position to control and access farm resources (including farm credit) than females. This finding is in line with that of Ololade and Olagunju (2013), who reported that males had better access to farm credit than females.

The table further showed that majority (89.17%) of the respondents was married. It implied that married people had accessed the loans from the Bank better than the unmarried ones. Married men (and women) showed more interest in accessing loan facility from the Bank because they had bigger responsibilities to shoulder and thus needed money (credit) more to diversify their livelihoods. This can further be seen from the table as most (79.17%) of the respondents had household sizes of 6-10 persons. In addition, the society also accords more respect to married persons and this may influence the Bank's decision in terms of the client's credibility. This is in agreement with the findings of Ololade and Olagunju (2013) in Oyo state who noted that married men (and women) had better access to farm credit than unmarried people.

The Table further showed that majority (85%) of the respondents were literates and thus may find the process of securing loan from the Bank relatively easier. This was because the process of accessing loan from the Bank was entirely a formal activity that required some level of literacy from the prospective beneficiaries (Akinbode, 2013).

It was also revealed that 62% of the respondents were primarily into both crop and livestock production and majority (83%) had less than five hectares of land. This shows that majority of the respondents were small-scale farmers that may require more funds so as to increase their production level. This finding is in line with that of Etonihu *et al.* (2013) who observed that small-scale farmers were always in dire need to access farm credit; and hence constituted the bulk of the loan applicants from the Bank.

In addition, it was found out that most (62.5%) of the respondents belong to a cooperative group. Belonging to a cooperative group give farmers a better opportunity to access credit from the Bank. This was because the Bank and indeed any other Bank will find it easier to deal with a cooperative group than with individual farmer. Cooperative groups therefore stood better chances to access farm loans than Individual farmers.

**Table 1: Socio-economic Characteristics of the Respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age (years)</b>		
30-40	31	25.83
41-50	44	36.67
51-60	41	34.17
61-70	4	3.33
<b>Gender</b>		
Female	26	21.7
Male	94	78.3
<b>Marital Status</b>		
Married	107	89.17
Single	6	5.00
Divorced/Widowed	7	5.83
<b>Household Size (people)</b>		
1-5	8	6.66
6-10	95	79.17
11-20	17	14.17
<b>Educational level/status</b>		
No Formal education	18	15.00
Primary education	15	12.50
Secondary education	57	47.50
Tertiary education	30	25.00
<b>Farm Size (Ha)</b>		
<1	17	14.2
1-4.99	99	82.5
5-10	4	3.3
<b>Cooperative membership Status</b>		
Member	75	62.5
Non-Member	45	37.5

**Source:** Field survey, 2015

### **Determinants of Respondents' Access to credit**

Binary Logit Regression analysis was used to examine the factors that influence access to credit from the BOA. The analysis was undertaken using the *evIEWS* computer software. The result of the analysis as contained in Table 2 revealed that the McFadden R-square was 0.692. This implied that the independent variables used in the model explained about 69.2% of the likelihood of the respondents to access credit from the Bank. The result further revealed that Age ( $X_1$ ) had a negative coefficient of -0.247 and was significant at 1% probability level. This implies that the ability of the respondents to access credit from the bank diminishes with age. As one advances in age (beyond what can be considered as economically productive age) his chances to access farm loan drop. People within their economically active age may however have good chances of accessing agricultural credit, but these chances decrease with increase in age. This may be due to complacency and conservative nature of older farmers. This finding is in line with that of Ololade and Olagunju (2013) in Oyo State, Nigeria who noted that farmers access to farm credit drops with increase in age.

Furthermore, the coefficient of years of education ( $X_4$ ) was 0.18.2 and statistically significant at 10% level. Specifically, the probability of a farmer to access loan from the bank increases by 18.2% for increase in every year of schooling. Educated farmers had better access to information and were better disposed to procure farm credit than non educated farmers. This was because securing loan from the Bank involves some basic procedures such as filling of loan forms, provision of acceptable collaterals to the Bank and satisfying certain other loan conditions which educated farmers would find easier to satisfy than non educated farmers. The result corroborates with that of Akinbode, (2013) who noted that educated farmers had better access to formal credit than non educated farmers in Nigeria.

Consistent with *a priori* expectation, the co-efficient of membership of cooperatives ( $X_6$ ) was positive (2.64) and statistically significant at 5%. This indicates that, farmers who belong to cooperative organisation had about 2.64% better chance of securing credit from the bank than non-members. This could be due to the fact that banks prefer dealing with cooperative groups than with individuals due to ease of loan management and recovery. Loans given to cooperative groups can be more effectively monitored and managed. Similarly, when loans are sought through cooperative associations the problems of collaterals will be minimal as members can pool their resources together and meet the Bank's requirement. Similarly, loans advanced to cooperative groups are less vulnerable to defaults. This finding is in line with that of Akinbode (2013) who noted that cooperative associations had better access to loan facility in Nigeria than individual farmers.

Annual income ( $X_7$ ) was directly related to credit access with a coefficient of 1.61 and statistically significant at 5%. With higher level of income, one has about 1.61% better chance of securing a loan facility from the Bank than someone with lower income level. This is because repayment capacity of loan applicants is a major consideration for loan approval by the bank. This result is in line with that of Aliero and Ibrahim (2011) who reported that farmers with higher income levels had better access to farm credit than those with lower incomes in Katsina State, Nigeria.

**Table 2: Logit Regression Analysis**

Variable	Coefficient	Std. Error	z-Statistic
Age( $X_1$ )	-0.246978	0.064250	-3.843983***
Gender( $X_2$ )	-1.021087	1.125874	-0.906929
Marital status ( $X_3$ )	0.217723	0.150157	1.449971
Education ( $X_4$ )	0.181576	0.095272	1.905867*
Extension Contact ( $X_5$ )	1.163572	1.034265	1.125023
Coop. membership ( $X_6$ )	2.637669	1.038098	2.540867**
Annual income ( $X_7$ )	1.614294	0.654360	2.466980**
Distance to the Bank ( $X_8$ )	-0.166691	0.108606	-1.534820
C	12.12628	3.981679	3.045519***
McFadden R-squared	0.692675		

**Source:** Computer output from evIEWS software.

\*10% levels of significant; \*\* 5% levels of significant; \*\*\* 1% levels of significant

### **Difference between the Amounts of Credit Applied for and Cash Disbursed by the Bank (BOA)**

The comparison between the amount of credit applied and cash disbursed to the respondents by the Bank was undertaken using the Z-test. The result is presented in table 3. From the table it can be seen that while the computed Z-value was 0.94, the tabulated Z- value was 1.96 (5% probability level). The null hypothesis is therefore accepted. This implies that there was statistically no significant difference between the amount of credit applied for and that which was disbursed by the Bank (as loan). This clearly suggests high level of credit access among the respondents. This finding contradicts that of Ugbajah (2014) who reported low credit access among loan applicants of BOA across the six geopolitical zones of Nigeria.

**Table3: Comparison between Amounts of Credit Applied and Cash Disbursed to the Respondents (5% probability level)**

<b>Z- Statistic</b>	<b>Z-Value</b>
Computed	0.94
Z – Critical	±1.96
Decision rule	Accept $H_0$

**Source:** Field survey, 2015

### **Major Constraints to Credit Access**

The result in Table 4 outlines the main constraints faced by the respondents in accessing credit from BOA. They include the following:

#### **Complicated Eligibility Criteria**

Foremost among the constraints faced by the respondents was the eligibility criteria adopted by the bank for selecting loan beneficiary. These criteria were regarded as complicated by the respondents (32%) and therefore constituted a major factor limiting their credit access. Unless such criteria are made less cumbersome for farmers, their ability to access credit from the Bank will be limited.

#### **Lack of Collateral (Security)**

Lack of acceptable collateral or guarantor was another major constraints faced by 30% of respondents. The issue of collateral/guarantor was a very crucial factor limiting farmer's access to any loan facility from the Bank. Lack of collateral or guarantor that is acceptable to the Bank can prevent a potential beneficiary from accessing loan from the Bank. This is because without good collateral (guarantor) the Bank will have no fallback incase of default, and therefore the Bank will be reluctant to advance credit under that circumstance.

#### **Delays in Loan Approval and Disbursement**

Delays in loan approval and disbursement constituted a major problem to 26% of the respondents. This normally is a result of administrative bottlenecks. Due to administrative delays, loan disbursement does not coincide with the farm operations they were meant to finance and as such the loans could be diverted. This has serious implication on agricultural production, because when funds are not released on time, farming activities which are largely

time specific may not yield the desired outcome. This in turn will have several consequences including loan default.

### High Interest Rate

Financial institutions are profit-making organizations, hence they charge interest on loans issued out to customers. However, the Bank of Agriculture was not established to make profits but to finance agricultural development. It is against this background that the respondents considered the interest rate of 12% -14% being charged by the Bank as high. This was considered a major challenge by 10.54% of the respondents. However, this rate was less than that charged by commercial banks (21% - 24 %) for agricultural loans. Notwithstanding however, the bank needs to charge lower interest rates than what presently it charges if more farmers are to access the loans.

**Table 4: Constraints to Credit Access**

Constraints	Frequency	Percentage (%)
Complicated Procedures	120	32.24
Lack of Collateral/Guarantor	109	30.19
Delay in Approval and Disbursement	94	26.04
High Interest Rate	38	10.54
<b>Total</b>	<b>361*</b>	<b>100</b>

**Source:** Field survey, 2015

\*Case of multiple response.

### Summary, Conclusion and Recommendations

The study analysed farmers' access to credit from Bank of Agriculture (BOA) Yola. Data were collected from 120 respondents using simple random sampling technique. The data was analysed using descriptive and inferential statistics. Binary Logistic regression analysis and Z-test were the inferential statistics used. Findings reveal that, 78% of the respondents were males and married (89%). Most (97%) of them were within their economically active age of not more than 60 years and majority (85%) were educated. The respondents were mostly small-scaled farmers (83%) and commanded between 1-5 hectares of land for both crop and livestock production (62%). Majority (75%) of the respondent had accessed loan from the Bank and most of them (66%) earned not more than ₦100,000 per annum.

The result of the Binary Logit regression analysis which was undertaken using the *evIEWS* computer software showed that the coefficients of educational level, membership of cooperatives and income level were all positive while that of age was negative. However they were all statistically significant. The Z-test showed that the amounts of credit applied for and that disbursed by the bank were not statistically different. This suggested high credit access by the respondents. However, the respondents faced some constraints in accessing credit from the Bank which included complicated administrative procedures of the bank, lack of acceptable collateral (or guarantor) by the respondents and delays in loan approval and disbursement among others.

Based on these findings, the following recommendations were proffered;

- i. The Bank should make its operation guidelines with regards to credit access much easier for farmers to understand and appreciate. This will enable farmers without much educational attainment to be able to access loans and other services of the Bank.
- ii. To solve the problem of collateral, farmers should be encouraged to form cooperative associations, which will enable them pull their resources together and and resolve the collateral issue.
- iii. The Bank should be encouraged to approve and disburse funds to loan beneficiaries in good time. This is because most farm activities are time specific.
- iv. The current interest rate charged by the Bank may need to be reviewed down ward.

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