

AN EVALUATION OF THE FACTORS INFLUENCING THE OUTPUT OF FOOD CROP FARMERS IN KOGI STATE. A CASE STUDY OF BANK OF AGRICULTURE (BOA) FOOD CROP FARMERS LOAN BENEFICIARIES.

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Abstract

This study examines the factors influencing the output of food crop farmers loan beneficiaries of BOA in Kogi State, Nigeria. Using a multi-stage random sampling technique, three agricultural zones in Kogi State (Zone A, B AND C) were chosen. Primary data were collected through the use of structured questionnaire which were administered to farmers who are clients of BOA. The major tools of data analysis were econometric and statistical techniques, such as means, percentages and regression. The sampled food crop farmers were mostly males. The literacy level of the food crop farmers' loan beneficiaries was above average (69.45) and the mean years of experience of respondent was 18 years. The most important factors that influenced the output of food crop farmers' loan beneficiaries are amount of loan obtained and household savings invested. The study recommend the need to emphasize on the major factors that influence the output of food crop farmers loan beneficiaries in drawing up agricultural policy for Nigeria.

Key Words: Loan, Farmers, Influencing, Food, Amount, Evaluation, Factors, Development.

INTRODUCTION.

The endowed of Nigeria with huge expanse of fertile agricultural land, as well as a large active population that can sustain a highly productive, and profitable agricultural sector is view as potential blessing. This enormous resource base if well managed could support a vibrant agricultural sector capable of ensuring self-sufficiency in food crop production and raw materials for the industrial sector as well as, providing gainful employment for the teeming population and generating foreign exchange through export. The issue of agricultural finance could easily be said to be the most critical of the

constraints in achieving this position, as it is vital to the development and procurement of appropriate technology, design and construction of necessary infrastructure, development and maintenance of adequate marketing system, as well as modernization of the land tenure system. Agricultural financing in its broadest sense, involves pre-project planning and feasibility evaluation, taking investment decisions, actual investment and funding of projects, profitable management of project and post project evaluation. This broad concept of agricultural financing ensures that funds channeled to agriculture are profitably used for its development, with a concomitant spillover and multiplier effect to the other sectors of the economy.

The Bank of Agriculture (BOA) since inception have been able to provide the specialized services of agricultural financing with the aid of its network of branches throughout the country in reaching out to the small scale farmers. As Adeolu and Taiwo (2004) noted, BOA is not alone in providing specialized services to farmers and non-farmers alike, but other formal financial institutions especially the reformed Micro finance banks had helped in this direction. Apart from increasing the volume of credit from institutional (formal) sources, as opined by Williams and Ogunniyi (2007), government policy, especially that which established BOA, has consciously made the terms of borrowing for farm production relatively more liberal than for other sectors of the economy compared to what was operational before the advent of the specialized agricultural finance institution. These terms

include concessional interest rate on agricultural loans, relatively long period of moratorium and relaxation of conditions relating to collateral securities.

Extending the view of Adeolu and Taiwo (2004) to the entire agricultural sector and with increased access of farmers to credit through BOA and other formal financial institutions including the reformed Micro finance banks, financial services would be available to farmers to invest in innovations and modern technology that will guarantee agricultural growth and development, and in a more restrictive sense, an increase in food crop production in Nigeria and Kogi State in particular.

Agricultural lending has become a vital function in financial operations as it facilitates the economic growth, agricultural development and improves efficiency. For a farmer to derive benefits from any institutional credit, the size of the loan, the process of granting such loans, timeliness in disbursement and repayment are very important (Nweze, 1991), apart from level of education, marital status and family size (Ibeawuchi, 2002). Unfortunately, financial lending institutions in Nigeria, often shy away from giving loans to farmers because of high cost of administering such loans and high default rate among farmers as asserted by Nweke and Onyia (2001) as well as Kodieche (2007). The government recognition of the difficulties in attracting credit to the agricultural sector, established BOA to help channel fund to the agricultural sector of the economy. Another notable effort at financing agriculture was the creation of the Community Banks which help in the mobilization of rural savings for investment. These community banks

which were formally established by Decree No. 46 of 1992 has since transformed into micro finance banks in Nigeria

The existence of informal financial institutions in the pre-colonial and colonial Nigeria society helped in providing fund for farm projects where such funds were needed. Informal network of financial market participants include money lenders, rotating savings collectors, Mutual assistance groups, and Self - Help Groups (SHGs). The Self - help Groups have long been in existence in Nigeria as informal or semi-formal associations known in different tribes as Esusu or Isusu in Igbo, Adashe in Hausa, Ajo in Yoruba, Yak'khisar in Ngas, Ban in Tiv, Oku in Kalabari and Oja in Igala among others. Despite the effort in this direction of sourcing for fund through informal means and the effort of government at accelerating agricultural production, the sectors performance have continued to decline. This has resulted in the country spending increasing proportion of it's foreign exchange earnings on importation of goods and services hence the slow rate of economic development. In other to improve on the sector's production, various governments identified efforts to promote production. Some of the efforts were reflected in the implementation of special policy programmes and strategies like Operation Feed the Nation (OFN) in 1976, National Agricultural Food Production Programme (NAFPP), Agricultural Credit Guarantee Scheme of 1977, Nigerian Agricultural Insurance Company (NAIC), the establishment of the defunct Marketing Commodity Storage Boards in 1978. Others include; the establishment of Universities of Agriculture in 1988, the National

Directorate for Employment (NDE), and the Agricultural Development Programmes (ADPs). For further development, government intervened in agricultural financing by establishing financial institutions like the Nigerian Agricultural Co-operative Bank (NACB) in 1973, which was later renamed, Nigerian Agricultural Co-operative and Rural Development Bank in 2001 after merging it with the People's Bank (PB) and the Family Economic Advancement Programs (FEAP) (Adegbite, 2005). The Bank was renamed Bank of Agriculture in November, 2010.

The discrimination against agriculture in granting of credit and the high rate of interest coupled with stringent conditions like the issue of collateral and the short term nature of credit granted by the formal financial institutions like the First Bank, Union Bank, United Bank for Africa and Mainstreet Bank was one of the factor that led the government into adopting a policy measure that was expected to ensure easy flow of credit and financial services to the agricultural sector and hence the birth of BOA and other Micro-finance agencies.

The declining fortune of the BOA has prompted people into asking question as to the efficacy of government programme in this regard. In finding answers to some of these questions like what is the influences the amount of loan obtained from BOA on the output of farmers? This present research attempt at evaluating the factors influencing the output of Food Crop Farmers from BOA in Kogi State Nigeria between 2008-2010

The objective of the study is to evaluate the factors influencing the output of food crop farmers from NACRDB in Kogi State Nigeria. The specific objective is to evaluate the effect of BOA loan, farm size, household size, household savings invested, fertilizer input, level of education of respondents, farming experience and age of respondents on the output of food crop farmers in Kogi State Nigeria and make recommendations based on the findings from the study for policy decisions.

MATERIALS AND METHODS.

Study Area. Kogi state is one of Nigeria's 36 states, a quintessential Nigeria with three dominant ethnic groups Igala, Igbira, Yoruba and several minorities. Located within the heart of Nigeria, or what is historically referred to as the middle belt of the country, but described in a new political lexicon in the country as belonging to the North Central geopolitical zone.

The state is located between Latitude 7°30' North and Longitude 6°42' East and occupies an area of 29,833 square kilometers. It is bounded by the Federal Capital Territory (FCT), Niger and Nassarawa States on the North; Anambra and Benue States on the East, and Ondo, Kwara, Ekiti, Edo and Enugu on the West. The state comprises three senatorial districts; East, West and Central. In the East it is dominated by the Igalas, but with other minority groups like the Bassa Kwomu and Bassa Nge. The central is predominantly Ebira, but with a minority group known as Ebira Koto, and the western

predominantly Okun, but with other minorities, especially the Oworo, Ogori and Nupe people.

The population of the state is put at 3,595,789 million according to the 2006 Population Census figure. About 75 percent of the population lives in rural areas. Kogi state is blessed with fertile arable land because of its location in forest savannah which supports extensive agriculture. Tropical climate in the state is marked by two distinct seasons, the dry season (September - March) and the wet season (April - October). Average temperature ranges from 28°C to 40°C (Kogi State - Wikipedia, the Free Encyclopedia, 2010).

Agriculture is the mainstay of the economy. The state produces cash crops like coffee, cocoa and food crops such as palm oil, peanuts, maize, cassava, yam, rice and sorghum. The state is blessed with a lot of mineral resources like coal, limestone, iron, petroleum and tin. The state is home to the largest iron and steel industry in Africa known as Ajaokuta Steel Company Limited as well as one of the largest cement factories in Africa, the Obajana Cement Factory, a subsidiary of Dangote Group of Companies.

Sample Selection

A multi-stage random sampling procedure was used in this study. The multi-stage random sampling procedure was chosen because it allows for effective and equal representation of all the units within the study area. The sampling procedure is in stages, and the peculiarities of characteristics are

taken into consideration at all the sampling stages for equal representation. The Kogi State Agricultural Development Programme has classified the state into four agricultural zones based on the peculiar agricultural activities. They are; Zone A with headquarters at Aiyetoro, Zone B at Anyigba, Zone C at Koton-Karfe and Zone D at Aloma. This will form the basic stratification segments in stage 1

In stage 2, only three (3) of these zones have BOA branch offices and they are: Zones A, B and C. This account for the reason for purposive sampling of these zones. A sampling frame of BOA loan beneficiaries was obtained from the BOA zonal office in Abuja. In stage 3 two Local Governments were selected from each of the zones as shown below:

Zones	LGA's Sampled
A	Kabba/Bunu and Ijumu
B	Dekina and Ankpa
C	Lokoja and Ajaokuta

In stage 4, five farm settlements were selected at random from each of the six local governments.

In stage 5, a random sampling of 30 farmers - loan beneficiaries was drawn from each of the 6 Local Governments giving a total of 180 samples or respondents. The farmer - loan beneficiaries in this study are those food crop farmers that cultivate any or combination of the following food crops: Yam, Cassava, Maize and Sorghum.

Sources and Types of Data Collected

This research work relies on both primary and secondary data. The primary data were collected through the use of structured questionnaire, which was administered to the farmers who have benefited from the credit facilities of BOA in the three sampled zones.

Analytical Tools

The method of analysis adopted is both descriptive and analytical. The descriptive tools consist of the use of percentages, frequencies and arithmetic means. The analytical tools consist of the use of correlation and regression Analysis. Multiple regression analysis is used to analyze the factors influencing the output of food crop farmer loan beneficiaries of BOA and the correlation was used to identify the independent variables that has meaningful correlation with the dependent variable. The correlation coefficient is calculated using the formula shown below:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Model Specification

$$\text{Log}Q = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + U$$

Where

Q = Value of output of food crop farmers selected (yam and cassava)
(N)

- x_1 = Amount of loan granted
(₦)
- x_2 = Farm size
(hectare)
- x_3 = Household size (No. of persons/household)
- x_4 = Household savings invested
(₦)
- x_5 = Fertilizer input
(KG)
- x_6 = Level of education of respondents (years spent in school)
- x_7 = Farming experience
(years)
- x_8 = Age of respondents
(Years)
- U = Error term.

Results and Discussion

The study revealed that out of the 180 loan beneficiaries, 78.89% of them were males while 21.11 were females which shows that more males are involved in farming activities in the state than the females (Table 1). This confirm the notion that males are bread winners of the family and are saddled with responsibility of putting food on the table and providing for the other needs of the family. It goes to confirm that even the BOA recognized the position of the male in farming activities in the state. Results also showed that, 175 respondents representing 97.22% of the loan beneficiaries had one form of formal education or the other while 5 respondent representing 2.78 of the loan beneficiaries has no formal education (Table 1). This implies that

educational qualification play a part in obtaining loan from the BOA in the state as the percentage of respondent without formal education among the loan Beneficiaries is 2.78% as literacy level can influence their ability to manage the loan and put it into productive use. The mean years of experience following from the study was about 18 years (Table 1). This is an indication that most of the food crop farmers (respondents) have engaged in farming activities long enough and could be assumed to have acquired skills for effective farming activities. The acquired skills and expertise is likely to have a positive influence on the amount of loan received from the BOA as it is assumed that they have the required management skill which will also influence to a greater extent their ability to put the loan acquired to productive use. The study showed that 169 respondents representing 93.88% of the loan beneficiaries are between the ages of 21 - 60. The mean age of the sampled food crop farmers is about 52 years (Table 1). This follows that majority of the food crop farmers in Kogi state are those in the productive age. This implies that the farmers are matured and are likely to concentrate on the farming activities which can influence positively their patronage of BOA programmes. The study also revealed that 102 respondents representing 56.67% of loan beneficiaries were major farmers while 79 respondents representing 43.33% of loan beneficiaries were minor farmers (Table 1). Majority of the food crop farmers' loan beneficiaries are engaged in farming as their major occupation. This would exert a positive influence on their patronage of BOA programmes since BOA is a specialized

Agricultural Bank. The study showed that 155 respondents representing 86.11% of the loan beneficiaries had a household size of between 1 - 10, while 25 respondents representing 13.89% had a household size of 11 and above. . The mean household size was about 8persons (Table 1). This large family size will serve as a cheap source of labour for farming activities and may influence the BOA positively in the granting of loan to the household. On the other hand, a large family size will lead to spending more on non farming activities such as payment of hospital bills; children school fees, feeding, and clothing. Increased spending on non business activities may therefore influence negatively the farmers patronage of the BOA programmes, as loan granted may not be paid back due to huge non farming expenses.

Table 1: Summary of Socio-economic and Demographic Characteristics of Respondents.

Variables	Frequency	Percentage
Sex		
Male	142	78.89
Female	38	21.11
Age (yrs)		
≤ - 20	3	1.67
21 - 30	18	10.00
31 - 40	50	27.78
41 - 50	70	38.89
51 - 60	31	17.22
61 and above	8	4.44
Household Size		
1 - 5	88	48.89

X8	-0.159249	-0.267461	0.525133	0.498697	-0.197091	0.025341	-0.351137	0.614729	1.000000
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The pairwise correlation matrix presented in Table 2 shows that all the variables except X_2 (farm size)

And X_8 (Age of respondents) are positively and meaningfully correlated to the dependent. X_4 (household

Savings invested) was found to have the highest meaningful correlation coefficient of 0.506. It was

closely followed by X_1 (amount of loan granted) with the correlation coefficient of 0.388. The variable

with the least positive correlation is X_3 (household size) with a correlation coefficient of 0.087. All

variable except X_2 and X_8 were included in the regression.

Multiple Regression Analysis of the Factors Influencing the Output BOA Food Cop Farmers Loan Beneficiaries.

These were used to determine the factors that influencing the output of food crop loan beneficiaries of BOA in the study area.

The estimate of the Regression Equation is therefore presented in the Table 3.0:

Dependent Variable: Q
Method: Least Squares
Date: 02/22/13 Time: 20:10

Sample(adjusted): 1 88

Included observations: 88 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-34230.91	53519.75	-0.639594	0.5242
X1	0.374986	0.317862	2.979713	0.0026
X3	4054.691	4166.178	0.973240	0.3333
X4	2.161916	0.637358	3.391995	0.0011
X5	-24.51803	165.2368	-0.148381	0.8824
X6	1497.643	2096.967	0.714195	0.4772
X7	-40.29376	3182.378	-0.012662	0.9899
R-squared	0.787359	Mean dependent var		86738.64
Adjusted R-squared	0.734571	S.D. dependent var		117679.3
S.E. of regression	102956.2	Akaike info criterion		25.99820
Sum squared resid	8.59E+11	Schwarz criterion		26.19526
Log likelihood	-1136.921	F-statistic		5.443624
Durbin-Watson stat	2.154434	Prob(F-statistic)		0.000090

The result of the multiple regression analysis of the assessment of the factors influencing the granting of BOA loans to the yam and cassava farmers is presented in Table 3.0. The coefficient of amount of loan obtained and household savings invested were significant as shown in Table 3.0.

The coefficient of the amount of loan obtained was significant and positive meaning that output of yam and cassava farmers is directly related to the amount of loan obtained. This means that as the amount of loan obtained increases, the output of yam and cassava farmers also increases. This position agree with the “a priori” expectation that increase in the amount of loan obtained is expected to exert a positive influence on the output of yam and cassava farmers bearing in mind the important position of finance in increased productivity. This is consistent with the findings of Bravo-Uretta and Pinheiro, (1997), that there is considerable agreement with the notion that an effective economic development strategy depends critically on promoting productivity and output growth in the agricultural

sector through adequate credit supply. It follows therefore that the influx of credit expands income enough to cater for credit/loan repayment since credit act as catalyst or elixir that activate the engine of growth (Ijere, 1998).

The coefficient of household savings invested was significant and positive indicating that the output of yam and cassava farmers is proportionally related with household savings invested. Meaning that as household savings increases, output of farmers increases. This agrees with the “a priori” expectation as increase household savings invested was expected to exert a positive influence on output of farmers. Additional sources of funds in form of farmers’ personal savings from other enterprises are required for the farmer to sustainably solidify their financial base with assumed increased output level (Akanni, 2007). This is contrary to the findings of Nwaru and Onuoha, (2010), that the rural credit structures have not been able to achieve the desired aim of allowing the farmers to employ efficient production techniques designed to raise their physical output and income.

However, other variables were measured but were not significant. These include Household size, fertilizer input, level of education and farming experience. This means that these variables have no influence on the output of yam and cassava farmers in Kogi State that benefitted from BOA loan and hence were ignored. The value of the coefficient of multiple determinations (R^2) is 0.787 meaning that, amount of loan obtained and farm size account for 78.7 per cent of the variations in the output of yam and cassava farmers that benefitted from BOA loan. The F-ratio was 3.087 which is significant at

1% level indicating that the overall effect of all the included variables were significant.

Conclusion and Recommendations.

This study has revealed that the most important factors that influenced the output food crop farmers are: amount of loan obtained and farm size. This agree with the findings of Bravo-Uretta and Pinheiro, (1997), that there is considerable agreement with the notion that an effective economic development strategy depends critically on promoting productivity and output growth in the agricultural sector through adequate credit supply and the findings of Adegbite, (2009) that, the larger the farm size, the higher the probability that beneficiaries will repay on schedule given the expected productivity and the level of production that could match the repayment. . Policy makers should be guided by this fact in drawing up loan disbursement guideline for like the BOA.

The following implications are drawn and recommendations are made for a sustained and successful BOA service delivery to farmers in Kogi State and Nigeria at large from the findings of this study.

1. The endowment of Nigeria in huge expanse of fertile agricultural land, as well as a large active population that can sustain a highly productive, and profitable agricultural sector faces enormous challenges. The paramount challenge is for BOA to increase their

outreach so that many rural farmers who produce the bulk of the food crop can benefit from the credit extended by them.

2. There is need to emphasize on the major factors that influence the output of food crop farmers loan beneficiaries which are: amount of loan obtained and household savings invested. This implies that these factors should be emphasized in designing loan programmes among the food crop farmers.
3. Bearing in mind the success of the BOA programme in Kogi State, it is important that government should increase their financial obligation to the bank as this will translate to increased food production and hence solving the food security question.
4. With increased access of farmers to credit through BOA and other financial institutions including the reformed micro finance banks, financial services would be available to farmers to invest in innovations and modern technology that will guarantee agricultural growth and development, and in a more restrict sense, an increase in food crop production in Nigeria and Kogi State in particular. There is urgent need for the government to have in place policy framework that will regulate and re-direct credit from these institutions to the rural farmers.

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