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Effect of Bank of Agriculture (BOA) on Farmers in Guyuk Local Government Area, Adamawa State, Nigeria

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Abstract

This study investigated the effect of BOA on its beneficiaries in Guyuk local government area (LGA) of Adamawa State, Nigeria. Specifically, the effect of loan disbursed to beneficiaries was examined and a null hypothesis, stating that BOA loan does not have a significant effect on its beneficiaries was tested. Structured questionnaire was used to collect data from 100 farmers (50 loan beneficiaries and 50 non beneficiaries) using purposive simple random sampling technique from BOA branch of Guyuk LGA. Analytical tools used were the student T- test and the Chi-square analysis which tested the null hypothesis. The results showed that there is a significant difference between the farm output (yield in Kg) of beneficiaries and non-beneficiaries in the study area, p= 0.005. The beneficiaries have a higher mean output of (4182), than non-beneficiaries (2762). Generally, the productivity of the beneficiaries in terms of output (yield) is higher than that of non-beneficiaries. The result further indicates that, there is a significant difference between the total income of beneficiaries and that of non-beneficiaries. The T test is 2.87 and p=0.000 which is less than 0.05 (at 5% level of probability). The beneficiaries had a mean total income of N292,295 per annum, while that of non-beneficiaries was ₦208,658 per annum. Furthermore, the calculated chi-square was found to be (10.104) which is greater than the tabulated chi-square (1.64), thus, the null hypothesis which states that there is no significant difference between BOA loan beneficiaries and non-beneficiaries was rejected. The study concluded that beneficiaries of BOA had farm outputs and income far above that of the non-beneficiaries; it was thus recommended that more farmers should patronize the BOA to become beneficiaries of the loan being disbursed so as to increase their yield and incomes in the long run.

Keywords: Bank; Agriculture; Effect; Beneficiaries; Adamawa State.

Introduction

Banking is an institution which accepts deposit from the public and in turn advances loans by creating credits. It is different from other financial institutions in that they cannot create credit though they may be accepting deposits and making advances. Bank of Agriculture (BOA) is a rural bank that provides loans to farmers, supply farm inputs and equipment to rural farmers and help in the overall development of villages in the area it operates. It meets the needs of both small and medium farmers and rural artisans (Jhingan, 2005).

The bank which started as Nigerian Agricultural Bank (NAB) was established in 1973 by the Federal Government and was designed with the function of providing loans for investment in agricultural sector. In 1978, the name was changed to Nigerian Agricultural and Co-operative Bank with responsibilities widened to include financing of co-operative societies. The bank provides loans to local/industrial farmers, cooperative organizations, limited liability companies, State and Federal Government agencies. The prime objective of establishing the bank was to provide medium and long term liquidity toward improving the level and quality of all aspects of agricultural production, to enhance the availability of storage facilities and to promote marketing of agricultural products through liberal credits to farmers (NACRDB, 2006). The bank's name was later changed to NACRDB in October, 2000 after a successful merger with the farmer People's Bank of Nigeria (PBN), the Nigerian Agricultural and Cooperative Bank (NACB) Ltd. and

the risk assets of the Family Economic Advancement Programme (FEAP). The name was finally changed to Bank of Agriculture (BOA) on 18th November, 2010.

The vision of BOA is to be the foremost people-centered self-sustaining development finance institutions for rural savings mobilizations and delivery of micro and macro agricultural credits to the poor. The mission of BOA is 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, backed by appropriate technology, there by fostering accelerated agricultural and rural development. The services the bank provides for its teeming customers (who are mainly farmers and low income rural dwellers that make up 80% of study population) are broadly categorized into savings and lending schemes. Thus, economic development can be viewed as a multidimensional process which involves changes in structures, attitudes, institution as well as acceleration of economic growth and the reduction of inequality, poverty and unemployment. As the role of Agriculture in the economy declines, food importation increases, this decreases locally produced food which in turn decreases farmers expected income that could have been used to increase productivity (Goulen, 1991; NACRDB, 2002; Okumadewa, 2003).

Specifically, this study examined the effect of loan disbursed to beneficiaries and non-beneficiaries of BOA (farmers) in the study area.

Materials and Methods

This study was carried out in Guyuk Local Government Area of Adamawa State Nigeria in 2013 cropping season. The study area is located between latitudes 9^0 30^1 and 10^0 00^1 East of the equator and longitudes 11^0 30^1 and 12° 00^1 North of the Greenwich meridian. Its average annual temperature ranges between 26.1°C and 33°C with an average annual rainfall range of 700-800mm per annum (Adebayo and Tukur, 1999; Adebayo, 2004). The area consists of 10 wards which includes; Banjirarn, Bobini, Bodeno, Chikila, Dukul, Dumna, Guyuk, Lokoro, Kola and Purokayo with a total land area of 871.9KM^2 and a total population of 177,785 persons. (NPC, 2006; CBN, 2007).

Sample Size and Sampling Procedure

Purposive and simple random sampling techniques were employed for the selection of 100 farmers. 50 beneficiaries (i.e. 25% of 2,011 total beneficiaries for that cropping year) were randomly selected from the sampling frame obtained from BOA branch in Guyuk and 5 respondents (non-beneficiaries) were purposively selected across the 10 wards, making a total of 50 non-beneficiaries selected for the study. Both beneficiaries and non-beneficiaries were of the same socio economic outlook and both were selected from the same communities to avoid spillover effect. Data were collected using structured questionnaire which was administered to respondents during the 2013 cropping season.

Analytical techniques

Inferential statistics were used to analyze the data. The student t-Test analysis was used to analyze the effect of loan disbursed to beneficiaries while Chi-square was used to test the null hypothesis which states that there is no significant effect of loan disbursed on the income of beneficiaries and non-beneficiaries in the study area. The T test analysis was used to determine the mean difference in output and income level of loan beneficiaries and non-beneficiaries of BOA. The formula is thus given as;

$$t = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \qquad (1)$$

X_1 = Mean output and income level of beneficiaries

X_2 = Mean output and income level of non-beneficiaries

S_1^2 = Standard deviation of output and income level of beneficiaries

S_2^2 = Standard deviation of output and income level of non − beneficiaries

n_1 = Number of respondents of beneficiaries

n_1 = Number of respondents of non-beneficiaries

The test statistic chi-square distribution was used to test the hypothesis at 0.05 level of significance. The formula thus is given by

$$x^2 = \sum \left(\frac{F_0 - F_e}{F_e}\right) \qquad (2)$$

Where
x^2 = chi square to be estimated
F_0 = observed frequency
F_e = expected frequency

Decision rule: The rule of the thumb states that if computed chi-square (calculated) value is greater than the critical (tabulated) value of chi-square, reject null hypothesis (H_0) and accept the alternative hypothesis (H_1).

Results and Discussion

The t-Test Analysis

Table 1 shows that, there is a significant difference between the farm output (yield in Kg) of beneficiaries and non-beneficiaries in the study area. T. test is 4.08 and p= 0.005 which is less than 0.05. The beneficiaries have a higher mean output of (4182), than non-beneficiaries (2762). Generally, the productivity of the beneficiaries in terms of output (yield) is higher than that of non-beneficiaries. The implication is that credit disbursement had enhanced the productivity of beneficiary farmers in Guyuk. This finding is in agreement with that of Oyeyinka (2002) which showed that positive and significant relationship exists between agricultural credit and productivity. Similarly, the income of the farmers in the study area as presented on Table 1, increase in yield (output) is desirable for farmers especially when it leads to increased income level. Access to credit facilities helped the beneficiary farmers in the study area to translate their increase in yield to a significant increase in income.

Table 1: T test values of output and incomes level of the beneficiaries and non- beneficiaries

Variables	Mean of BF	Mean of NBF	Mean differences	T.test Values	P
Output	4182	2762	1420	4.08	0.005
Income level	298295	208658	89637	2.87	0.000

Source: Field survey, 2013
BF = Beneficiaries
NBF = Non-beneficiaries

The figures on Table 1 indicate that, there is a significant difference between the total income of beneficiaries and that of non-beneficiaries. (p=0.000 which is less than 0.05 at 5% level of probability). The beneficiaries had a mean total income of N292,295 per annum, while that of non-beneficiaries was ₦208,658 per annum. The higher income accruing to the beneficiaries may be a consequence of the loan obtained from BOA which has enabled them to invest more in agriculture. This finding is in line with that of Zeller (2001) and Oyeyinka (2002) who observed that improved access to credit enabled farm households to invest in farm assets which in turn increased the income levels of the beneficiary farm households.

Chi Square Analysis

The calculated chi-square was found to be (10.104) while the tabulated chi-square was (1.64). Since the calculated chi-square (x^2) value is greater than the critical (tabulated) value of chi-square (x^2) at 0.05 level of significance, the null hypothesis was rejected. This is because, the rule of thumb states that if computed chi-square (calculated) is greater than the critical (tabulated) chi-square, reject null hypothesis (H_0) and accept the alternative hypothesis (H_1). Thus,

the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted implying that there is a significant difference between beneficiaries and non-beneficiaries of BOA loans, this means that the income of beneficiaries has greatly improved by the loan obtained from BOA in the study area. This can be observed from Table 2 and 3 i.e, observed and expected frequency computations.

Table 2: Observed Frequencies Analysis

Role rating	2009	2010	2011	2012	Total
Good	28	23	22	12	*85*
Very good	12	15	22	22	64
Excellent	9	10	11	14	44
Total	**49**	**48**	**48**	**48**	

Source: *Field survey, 2013*

Table 3: Expected Frequencies Analysis

Role Rating	2009	2010	2011	2012
Good	21.58	21.14	21.14	21.14
Very good	16.25	15.92	15.92	15.92
Excellent	11.17	10.94	10.94	10.94

Source: *Field survey, 2013*

Conclusion

The study revealed that credit disbursement to beneficiaries has enhanced their output as well as their income level. The beneficiaries have significantly higher mean output index of (4182), than non-beneficiaries which is (2762). Also the income level realized by the beneficiaries was (N298,295 per annum) which is higher than that realized by non-beneficiaries (N208,658 per annum). Generally, the beneficiaries' access to credit has enabled them to make effective and efficient use of improved farm inputs and labour than the non-beneficiaries.

Recommendation

Farmers are encouraged to patronize the BOA so as to benefit from the loan being disbursed; this will greatly improve their farm output as well as their income in the long run.

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