



## **AGRICULTURAL CREDIT UTILIZATION AMONG BENEFICIARIES OF DEVELOPMENT EXCHANGE CENTRE IN TAFAWA BALEWA LOCAL GOVERNMENT AREA OF BAUCHI STATE, NIGERIA**

**Bulus, G., Egbeadumah, O. M. and Musa, Andarawus**

Department of Agricultural Economics and Extension,  
Federal University Wukari, Taraba State, Nigeria

**Corresponding Author's E-mail:** godiyabulusdd@gmail.com **Tel.:** +2348165659536

### **ABSTRACT**

The study examined agricultural loan utilization among borrowers of Development Exchange Centre (DEC) in Tafawa Balewa Local Government Area of Bauchi State, Nigeria. Data were collected from 47 randomly selected respondents through the instrument of questionnaire and analyzed using descriptive statistics, Access to Credit Index, t-test, and regression analysis. The results showed that beneficiaries had fair access to credit index of 0.46 having received an average loan amount of ₦31, 500 being 46.1% of the loan applications T-test however, revealed a significant diversion of the granted amount at 0.5%, implying that borrowers diverted some of the funds to non-agricultural use. It was found out that crop production beneficiaries utilized the loan on fertilizer, labour, farm assets, storage bags, agrochemicals and seed or seedlings; and animal production beneficiaries used the loan for stocking, feed, labour, drugs and livestock equipment. Regression results of the factors affecting loan utilization showed that age, household size, non-farm income source, educational level and farming experience were significant ( $P < 0.05$ ). It was concluded that farmers did not make the best use of the loan amount acquired; perhaps due to inadequate loan supervision. It was therefore, recommended that while more should be given in terms of loan volume to farmers, it should be followed by intense supervision as it was found to correlate positively with loan utilization.

**Keywords:** Access, Beneficiaries, Credit, Loan, Utilization.

### **INTRODUCTION**

Poor farmers tend to resign to subsistence farming because of their inability to acquire required credit support to keep in business (Ammani, 2012). Agricultural credit is an important element in agricultural development; and, the popularity of credit is due in part to the notion that loans are necessary to technological changes in farming. The farmer is always in need of working capital and operating capital that is cash in hand for improved farming (John *et al.*, 2017). This therefore suggests that without widespread availability of credit, inputs associated with improved technologies can be purchased only by larger, wealthier farmers. It was believed that access and utilization of micro-credit could address the challenges of low utilization of credit and high collateral embargo placed on credit by lending institutions (Okoronkwo *et al.*, 2014). Money obtained through credit provides a command over resources and this removes the financial constraint, if it was present prior to receipt of it. The adequate provision of agricultural loan alone is, however not enough justification to conclude that development in food production can be achieved, until they are seen to practically stimulate agricultural production as they are meant to. This can be determined through the evaluation of the agricultural projects for which the loans were acquired.

Iliyasu *et al.* (2007) placed the expression of interest by the beneficiary as a prerequisite for the loan. That, "For any loan to be implemented or granted to an applicant there must be an application or an expression of interest to take the loan". This expression of interest must be



hinged on the existence of a new technology and a desire to implement, a need to expand or to improve the existing farm whose limitation is in limited cash flow to the intended beneficiary. The implication of the foregoing crystalizes the efficacy of access and utilization in micro-credit scheme, (Okoronkwo *et al.*, 2014). Danso-Abbeam *et al.* (2016) noted in a study that, the average loan size allocated to the farm and the non-farm sectors based on size of loan received were 66.9% and 33.1%, respectively. He added that although the part allocated to the farm (called average budget share [ABS]) was higher relatively to the value used on non-farm sector it suggests that reasonable diversion was made of the amount acquired, given that the loan was applied purposefully to be used on the farm. Isitor *et al.* (2014) reported that, most of the farmers who sourced for credit did so to expand existing far enterprise.

In modern farming business in Nigeria, beyond poor access, efficient utilization of credit is fast becoming a major factor limiting farm productivity and income (Ololade and Olagunju, 2013). Most times agricultural credits are given carelessly-without regard to the existence of an agricultural purpose for the loan on the part of the beneficiary. This affects its utilization. Thus, for an agricultural loan to be purposeful it must have as its prerequisite an agriculturally oriented need. It was in the light of these that the study was carried out to determine the beneficiary's access to credit index, describe the various farm operations that the loan was committed to, and determine factors influencing agricultural loan utilization.

## **MATERIALS AND METHODS**

### **The Study Area**

Tafawa Balewa Local Government Area (LGA), created in 1976, is one of the twenty local government areas of Bauchi State. The area lies between latitude  $9^{\circ}30'$  and  $10^{\circ}15'$  north of the equator and longitudes  $9^{\circ}00'$  and  $10^{\circ}00'$  East of Greenwich. It has an average annual rainfall of 1000 to 1200mm and is located at an altitude of between 1000 to 1500 feet above sea level. It is bounded in the north by Dass, in the east by Alkaleri, in the south by Bogoro and in the North-west by Toro Local Government Areas (LGAs) of Bauchi State. In both west and south-west, it is bounded by Jos South and Mangu and Pankshin LGAs of Plateau State. By the population census figures of 2006, the LGA has a projected population of about 280 thousand people, at a growth rate of 3.6% (National Population Commission [NPC], 2006) constituting many tribes, among which are Sayawa, Jarawa and Fulani which are the major tribes. Others include the Tapshinawa, Sigdawa, Hausawa, Botawa, and Lerawa.

### **Sampling Procedure and Sample Size**

The target population was the agricultural loan beneficiaries of Development Exchange Centre (DEC) whose office was situated in Tafawa Balewa town. This was selected out of the many sources of agricultural loan available to farmers in the study area because it was a non-governmental and a non-religious financial institution that charges low interest on micro-credits and has been enjoying high patronage from farmers. A list of the beneficiaries was obtained from the office and since the beneficiaries were grouped for the loan, ten groups were selected by balloting. Out of these, five beneficiaries were selected using simple random sampling from each group thereby totaling 50; and of these, only 47 questionnaires were successfully retrieved and used as sample size.

### **Analytical Techniques**

Descriptive statistics such as frequency distribution, percentages and means were used to describe the socio-economic characteristics of agricultural loan beneficiaries spread of loan amount on operations.



Access to credit index method specified in equation 1 was used to find out whether there was difference between loan amount applied for and the amount approved and disbursed:

$$AC_i = \frac{L_o}{C_r} \quad \dots(1)$$

where;

$AC_i$  = access to credit index

$L_o$  = loan obtained

$C_r$  = credit requested

Independent t-test used to test the difference between two means is specified as:

$$t = \frac{\bar{x}_A - \bar{x}_B}{S.E. \cdot \bar{x}_A - \bar{x}_B} \quad \dots(2)$$

where;

$\bar{x}_A$  = the first mean under consideration

$\bar{x}_B$  = the second mean to be compared

$S.E. \cdot \bar{x}_A - \bar{x}_B$  = the standard error of the two means

Multiple regression analysis was used to examine factors that determine agricultural loan utilization such as age of respondents, availability of non-farm income source to the beneficiary, level of education expressed, timely loan receipt, household size, farming experience, number of supervision visits received, loan volume and the interest rate charged. The data were subjected to linear, semi-log and Cobb Douglas functional forms of regression analysis and the one that gave the best fit based on the *a priori* expectation was selected as the lead equation. The *a priori* expectations are the form with the highest number of variables that are statistically significant, highest coefficient of determination and least number of negative coefficients. The implicit form of the relationship was:

$$Y = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8 + X_9 + u \quad \dots (3)$$

where;

$Y$  = the amount of the loan used on the farm (in naira);

$X_1$  = Age of respondents (in years);

$X_2$  = Non-farm income source (1 = none, 2 = yes);

$X_3$  = Educational level expressed in years spent schooling;

$X_4$  = Timely loan receipt (2 = yes, 1 = no);

$X_5$  = Household size expressed in number of persons;

$X_6$  = Farming experience in years;

$X_7$  = Number of supervision (number of visit);

$X_8$  = Access to credit index;

$X_9$  = Interest rate (in naira).

## RESULTS AND DISCUSSION

The results of Table 1 indicated a mean age of 38 years for beneficiaries of agricultural loan, implying that those who benefitted from the loan were within productive age that should expectedly make the best use of it. That 100% of the respondents were females and 97.9% of them were married with a mean household size of 6 persons as shown by the result is an indication they have a responsibility and need to produce in order to feed their families. A mean farming experience of 21 years and that about 93.6% of the respondents have had one form of education or the other also gives prove that they have the requisite knowledge and experience



to manage the loan amount effectively. This differ with the result of Danso-Abbeam *et al.*, (2016) who reported a mean age 36 years, 74% female beneficiaries, mean farming experience of 5 years and that only 35% of the farmers had formal education.

**Table 1:** Socio-economic Characteristics of Loan Beneficiaries

Variable	Min.	Max.	Mean	Std. dev.
Age (years)	18	65	38	11
Household size (number)	2	9	6	1
Years of experience in farming (years)	3	44	21	11
Frequency of extension visits (per season)	1	8	2	
	Frequency		Percentage	
Level of education				
None	3		6.4	
Koranic	18		38.2	
Primary	17		36.2	
Secondary	6		12.8	
Tertiary	3		6.4	
Sex				
Male	0		0	
Female	47		100	
Marital Status				
Single	1		2.1	
Married	46		97.9	

Source: Field data (2018)

Beneficiaries indicated (Table 2) a need for a minimum of ₦12,000 and a maximum of ₦203,000 in their loan application with a mean of ₦68,000, but were granted a minimum of ₦10, 000 and a maximum of ₦72,000 with a mean amount of ₦31,500 granted to the loan applicants by the bank. Access to credit index was 0.46, meaning less of what was applied for was granted. This demonstrated the inadequacy of the loan amount granted in terms of the expressed need of the farmer. It is similar to what was reported by Isitor *et al.* (2014) that average loan granted (₦55, 500) was lower than applied for (₦77, 900).

**Table 2:** Respondents' Loan Amount Applied for and Amount Granted (₦'000)

Applied (₦)	Granted (₦)	Applied		Granted	
		Frequency	%	Frequency	%
12-43	10-20.2	12	25.5	14	29.8
44-75	20.3-30.5	20	42.6	11	23.4
76-107	30.6-40.8	10	21.3	10	21.3
108-139	40.9-51.1	1	2.1	7	14.8
140-171	51.2-61.4	3	6.4	2	4.3
172-203	61.5-71.7	1	2.1	3	6.4
Mean amount applied (₦)		68,350			
Mean amount granted (₦)		31,500			
Access to credit index		0.46			
Total		47	100	47	100

Source: Field data (2018)



The summary of costs for crop production (Table 3) indicated that cost of fertilizer, labour and agrochemicals accounted for 38.6%, 35.1% and 8.1%, respectively. This was followed by seeds or seedlings (7.8%), farm assets (6.1%) and storage (4.3%). Animal production had stocking, labour and feeds accounting for 42.1%, 21.6% and 18.4%, respectively; and the others were livestock equipment (12.3%) and drugs (5.6%). Danso-Abbeam *et al.*, (2016) had reported that the need to provide agricultural credit is a necessary step in boosting agricultural development and enhancing efficiency of the production processes.

**Table 3:** Respondents' according to Operational Expenses on Agricultural Enterprise

Crop production			Livestock production		
Variable	Amount (₦)	%	Variable	Amount (₦)	%
Labour	12, 100	35.1	Labour	12, 000	21.6
Storage	1, 500	4.3	Stocking	23, 400	42.1
Seeds or seedlings	2, 700	7.8	Livestock	6, 800	12.3
Agrochemicals	2, 800	8.1	Equipment		
Fertilizer	13, 300	38.6	Feeds	10, 200	18.4
Farm Asset	2, 100	6.1	Drugs	3, 100	5.6
Total	34, 500	100	Total	55, 000	100

Source: Field data (2018)

The result on Table 4 showed that a mean of ₦31, 500 was collected by the beneficiaries, whereas a mean of ₦24,730 was utilized on the farm from the amount collected. Further examination revealed that of the amount collected the part used on the farm represents 78.5% while a mean of ₦6,770 was diverted to non-agricultural use, which represents 21.5% of the loan amount collected. T-test results (6.7) for the significance of diversion showed significance at  $P < 0.5$ . This agrees with Danso-Abbeam *et al.* (2016) who had reported that the mean amount of credit received was significantly higher than the mean amount allocated to the farm business.

**Table 4:** Distribution of Respondents according to Amount Collected and Used

		Collected		Used	
Collected (₦)	Used (₦)	Frequency	%	Frequency	%
10.0-20.2	1.0-12.7	14	29.7	15	31.9
20.3-30.5	12.8-24.5	11	23.4	11	23.4
30.6-40.8	24.6-36.3	10	21.3	9	19.1
40.9-51.1	36.4-48.1	7	14.9	8	17.0
51.2-61.4	48.2-59.9	2	4.3	2	4.3
61.5-71.7	60.0-71.7	3	6.4	2	4.3
Mean amount collected (₦)			31,500		
Mean amount used on the farm (₦)			24,730		
Total		47	100	47	100

Source: Field data (2018)

Three functional forms of regression analysis were run and each of the estimated functions has an F-ratio that was statistically significant at  $P < 0.01$  which suggests that they were fit for use in further analysis. However, based on the *a priori* expectation Cobb Douglas functional form was found to have the best fit and was therefore chosen as the lead equation.



From Table 5, the coefficient of determination value was 65.9% and it showed that the independent variables accounted for 65.9% of the change in the amount of the dependent variable which in this case is the amount put to agricultural use of the loan collected, while 34.1% accounted for the variables not included. Five variables were found to be statistically significant and these included age, non-farm source of income, educational level, household size and farming experience all at 0.5% level of significance. This is similar to the findings of Oboh and Ekpeazu (2011) who found out that age, education, farm size, loan delay, bank visit and household size were significant variables that affect the rate of credit allocation to the farm sector.

Also, in Table 5, educational level maintained positive effect ( $P < 0.1$ ) on loan utilization which means that the more educated a beneficiary the better the loan utilization on the farm and this agreed with Oboh and Ekpebu (2011) that farmers with higher levels of education allocate farm resources more efficiently. Age and farming experience were found to positively affect agricultural loan utilization conforming to Oboh *et al.* (2007) that credit allocation to the farm increases with increasing age of farmers. This perhaps is because as they advance in age, they gather more experience on the farm and the need to produce for the family becomes more eminent, given the positive effect of household size. The positive effect of non-farm income source denotes that farmers with other sources of income utilize their credit on the farm more than those without it.

**Table 5:** Regression analysis of Factors Influencing Agricultural Loan Utilization

Predictor	Coefficient	Std. dev.	t-ratio	P
Constant	7.014***	1.46100	4.80	0.000
Age ( $X_1$ )	1.9830*	0.9667	2.05	0.048
Non-farm source ( $X_2$ )	0.3906*	0.3184	1.23	0.022
Educational level ( $X_3$ )	0.1116*	0.2317	0.48	0.033
Timely loan receipt ( $X_4$ )	-0.2997NS	0.5850	0.51	0.102
Household size ( $X_5$ )	0.2197*	0.41845	0.53	0.030
Farming experience ( $X_6$ )	0.5364*	0.2635	2.04	0.050
No of supervision visits ( $X_7$ )	-0.2939NS	0.1821	-1.61	0.116
Loan volume ( $X_8$ )	-0.2939NS	0.4511	-0.99	0.328
S	0.4058			
$R^2$	69.8			
$R^2$ Adjusted	65.9			

Note: NS= not significant; \*Significant at  $P < 0.1$ ; \*\* at  $P < 0.05$  and \*\*\* at  $P < 0.01$

Source: Field data (2018)

## CONCLUSION AND RECOMMENDATION

It was concluded that farmers made the best use of the loan amount acquired; however, the loan volume granted to farmers, given their loan application and household size was inadequate to bring about the needed improvement in food production that would lead to the attainment of food sufficiency for the subsistent farmers they are. It was therefore recommended that while more should be given in terms of loan volume to farmers followed by intense supervision so as to foster utilization of higher proportion of the granted loan for the purpose for which it was acquired.



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