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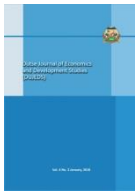

ANALYSIS OF THE IMPACT OF BANK OF AGRICULTURE'S CREDIT FACILITIES ON RURAL POVERTY IN TARABA STATE, NIGERIA

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Abstract
The study appraised the impact of Bank of Agriculture credit facilities on 300 rural households in the study area using primary data. The broad objectives for achieving the desired target for boasting agricultural credits and poverty levels growth have not been attained due to visible bottlenecks. The research used both ordinary least squares (OLS) and chi-square (X^2). Both methods indicate that the sources of agricultural credit facilities have a positive effect on eradicating rural poverty by increasing rural farmer's productivity with limiting potentials for enhancing agricultural growth. The credit facilities much needed from banks in the rural areas are mainly found in the urban areas, leaving the rural farmers without formal sources of credit. Major limitations or challenges in accessing agricultural credit include; high interest rates, distance, bureaucratic bottlenecks, late approval of loans, and collateral. The study recommended that the federal Government in collaboration with Banks of Agriculture should create credit instruments and services which are easily accessible to the farmers - tailored towards low risks and cash flow patterns in the agricultural sector to avoid or reduce challenges faced by women, and creating environment for enhancing farmer's productivity.

Keywords: Rural Poverty, Credit Facilities, Agricultural Output, Bank
JEL Classifications: A10, B22, C13, C25, D11, D24, E44

Introduction

Credit facility is considered as a catalyst that activates other factors of production and makes under-used capacities functional for increased production (Ijere, 1998). Thus farm credit facility plays a vital role in agricultural and rural development as it enables farmers reap economies of scale, venture into new fields of production, employ new technologies and empower them to provide utilities for a widening market. Ensuring that farmers have adequate access to financial resources is a key tenet of successful rural development strategies. Policy-makers have long understood that rural producers who cannot meet their needs for capital must settle for suboptimal production strategies. When producers are unable to make the necessary upfront investments or cannot bear additional risk, they have to forgo opportunities to boost their productivity, enhance their income and improve their wellbeing (Boucher et al., 2008, and World Bank 2008). Without adequate access to loans or insurance, producers who face negative shocks, such as droughts, illness or a significant drop in the prices they receive, can lose some of the few assets they do have (Diagne and Zeller, 2001). Conversely, producers who have access to well-designed credit, savings and insurance services can avail themselves of capital to finance the inputs, labour and equipment they need to generate income; can afford to invest in riskier but more profitable enterprises and asset portfolios; can reach markets more effectively; and can adopt more efficient strategies to stabilize their food consumption (Zeller et al., 1997).

Considering the population and roles of farmers in agricultural production and household development, it is important to access the availability of credit facilities for farmers in some selected local government areas in Taraba state of Nigeria. Affordability of credit to peasant farmers is another key area of interest. One of the principal characteristics of informal credit as stated by Okojie et al (2010) and Anyanwu (2004) is the

higher interest rates imposed on loans relative to those by the formal banking sector. But this applies more to the informal credit institutions (Money lenders). Agriculture serves as a major employer of labour in Taraba state, where farming is largely subsistence and most farmers are illiterate and resource poor. Production of cereals and vegetables crops is constrained by array of agronomic (poor soil fertility, high cost of land preparation etc), socioeconomic (sex, age, education etc) and institutional (farm size of social organization etc) constraints. Crop production has positively impacted on crop growth, yield and livelihood. Preponderance of challenges in among farmers including poor access to credits causes huge yield losses.

In Nigeria, like any other country of the world, the agricultural sector plays a very important role in the economy. The sector provides massive employments; it generates basic raw materials to the economy, it provides food to the populace, it generates foreign exchange and largely provides security and stability in the polity. However, the main stakeholders in the sector, that is to say the farmers are faced with many problems among them are poor pricing, high cost of fertilizers/insecticides, low education and the most important being lack of adequate capital that would enable them tackle these problems for their benefits and for the benefit of the society generally. One way to do this is for the farmers to get a window of financial palliative.

Many attempts had been put in place to make financing available to the farmers one of which was the establishment of Nigerian Bank of Agriculture (BOA). Bank of Agriculture Limited is the nation's foremost agricultural and rural development finance institution. It was incorporated in 1972 as Nigerian Agricultural Bank (NAB), in 1978, the name was changed to Nigerian Agricultural and Co-operative Bank Limited (NACB) to reflect the inclusion of co-operative financing into its broader mandate. In October, 2001, following the Federal Government's effort to streamline the operations of its Agencies, that were believed to be performing overlapping functions, three institutions Nigerian Agricultural and Co-operative Bank Limited (NACB), People's Bank of Nigeria (PBN) and the risk assets of the Family Economic Advancement Programme (FEAP) were merged to form Nigerian Agricultural, Co-operative & Rural Development Bank Limited. In October 2010, following the rebranding of the Bank to reflect its institutional transformation Programme, the Bank adopted the new name Bank of Agriculture Limited (BOA).

The main objective of the study is to analyse the impact of Bank of Agriculture credit facilities on rural poverty in Taraba State and specifically, the impact of Bank of Agriculture loan schemes on rural household's income in Taraba State. The remaining sections of this paper will examine both theoretical and empirical literature, methodology and findings, which forms the basis for conclusion and recommendations.

Literature Review

Main literature is the role of the Bank (Bank of Agricultural Credit) and roles in empowering the incomes of the rural poor. The bank (BOA) is the foremost agricultural and rural development finance institution. It was incorporated in 1972 as Nigerian Agricultural Bank (NAB), in 1978; the name was changed to Nigerian Agricultural and Co-operative Bank Limited (NACB) to reflect the inclusion of co-operative financing into its broader mandate. In October, 2001, following the Federal Government's effort to streamline the operations of its Agencies, that were believed to be performing overlapping functions, three institutions Nigerian Agricultural and Co-operative Bank Limited (NACB), People's Bank of Nigeria (PBN) and the risk assets of the Family Economic Advancement Programme (FEAP) were merged to form Nigerian Agricultural, Co-operative & Rural Development Bank Limited. In October 2010, following the rebranding of the Bank to reflect its institutional transformation Programme, the Bank adopted the new name Bank of Agriculture Limited (BOA). It provides affordable credit facilities to segments of the Nigerian society who have little access to the services of conventional banks. The main focus of the bank is three-fold: lending to qualified loan applicants engaged in agricultural and non-agricultural small businesses, providing credit facilities to issuing organizations through our on-lending service and and Monitoring the flow of ground level rural credit.

The theoretical basis of this study hinges on Harrod-Domar growth theory which is mostly referred as the capital only model: that the growth in the capital stock affects total gross national product, may be in the form of investment results to correspondent increase in the flow of national output (Todaro, 2006). It is also related to the *Structural-Change Theory of Development.* Structural change development theories became dominant in the 1960s led by the monumental work of Arthur Lewis, Simon Kuznets and Hollis Chenery - changing the economic structures of developing countries from being composed primarily of subsistence agricultural practices to being a more modern economy. The argument is that excess labour in agriculture presents unlimited pool, which can be transferred to the industrial

sector. Schultz (1964) demonstrated on the example of Indian influenza pandemic in 1918-1919 that when labour is withdrawn (nearly 8% of rural labour force died) from agriculture, "the output of the traditional sector falls." Krugman (1994) also argued that Lewis's ideas were not innovative at all, but rather by leaving out economies of scale, his concept could be modelled using available tools and thus received such enormous publicity in economic literature. Even if these shortcomings are not negligible, Lewis model still represents a key starting point for every structural change theory. Chenery (1960) in his famous Patterns of Industrial Growth argued that countries develop on differing trajectories, which are specific to each country.

Mahadevan theory argued that the production frontier traces out the maximum output obtainable from the use of available inputs. In the light of this study, the maximum export especially with regards to trade and international commerce is a function of the available input effectively converted into finished product as well as the political well-being of the nation. Mahadevan further iterated that a production curve will only shift from its axis into a higher one as a result of technical efficiency, input growth and technological progress-effectively, the role of the political atmosphere in achieving this is so vital to be left out. For example, the production curve may not be able to behave maximally, even when other things (e.g., technical efficiency, input growth, and technological progress) are equal, in the presence of political turmoil. This is evident in most African countries that have witnessed slow growth, Nigeria inclusive, which had experienced periods of fatal coups and civil unrest and so on. Mahadevan (2003) argument is taken further by introducing the value of political constraint that most leaders have no political will to translate good development plans for growth and progress of the economy from a simple stage.

There are various empirical literature that supports the fact that agricultural sector is capable in the transformation drive of governments – increasing rural income and growth of domestic national product.

A study by Atieno (2001) indicates that income level, distance to credit sources, past credit participation and assets owned were significant variables that explain the participation in formal credit market. Hussien (2007) also indicates that farm household are more likely to prefer the informal sector to the formal sector with respect to flexibility in rescheduling loans repayment in times of unexpected income shocks.

In addition, Agricultural household models (Singh et al; 1986; Sadonlet and de Janvry, 1995) suggest that farm credit is not only necessitated by the limitation of self-finance, but also by uncertainty pertaining to the level of farm input and output and the time lag between input and output (Duong and Izumida, 2002).

Okojie *et al* 2010), the lack of bank accounts, collateral, and information regarding the procedure for accessing credits from banks limit peasant farmers and rural women's access to credit from formal institutions. In Nigeria, credit has long been identified as a major input in the development of the agricultural sector (Balogun, 1990). It is a major factor necessary for technological transfer in traditional agriculture (Oyatoye, 1981). In addition, Affordability of credit to peasant farmers is another key area of interest. One of the principal characteristics of informal credit as stated by Okojie et al (2010), and Anyanwu (2004) is the higher interest rates imposed on loans relative to those by the formal banking sector. But this applies more to the informal credit institutions (Money lenders).

Adejobi and Atobatele (2008) suggested that loan default could limit access to credit, while Agnet (2004) asserted that the complex mechanism of commercial banking is least understood by the small-scale (peasant) farmers, and thus, limits their access. Rahji and Fakayode (2009) blamed the limitation on imperfect and costly information problems encountered in the financial markets; credit rationing policy; and banks perception of agricultural credit as a highly risky venture; while Philip et al (2009) stated that high interest rate and the short term nature of loans with fixed repayment periods do not suit annual cropping, and thus constitute a hindrance to credit access.

Agricultural credit services are provided by both formal and informal institutions. The informal sector remains the leading provider of agricultural credit. Consequent of their poor resource endowment, most farmers are unable to meet the stipulated criteria for formal credit especially that of pledging collaterals for loans, which is a basic requirement for credit transactions with formal financial institutions. As a result, poor farmers are left with no option other than to source credit from informal sources, which are regarded as exploitative because they mostly charge higher interest rates, much to the disadvantage of the farmers. In fact, according to the World Bank (1997), the three most important sources of rural credit in Nigeria are all informal: i) Rotating savings and credit associations (ROSCAs) locally known as "adashe" or "esusu", (ii) Family, and (iii) Friends. Commercial banks came fourth, with only

11 per cent of the sampled rural dwellers sourcing credit from them.

The Agricultural Credit Guarantee Scheme Fund (ACGSF) under the Agricultural Credit Guarantee Scheme Fund Decree 1977. The purpose of the Fund is to increase the level of bank credit to the agricultural sector through the provision of guarantee in respect of loans granted by any bank for agricultural purposes. The Agricultural purposes in respect of which loans can be guaranteed by the fund are those connected with:

1. Establishment or management of plantation for the production of rubber, oil palm, cocoa, coffee, tea and similar crops;
2. The cultivation or production of cereal crops, tubers, fruits of all kinds, cotton, beans, groundnuts, sheanuts, benniseed, vegetables, pine-apples, bananas and plantains;
3. Animal husbandry, that is to say, poultry, piggery, cattle rearing and the like, fish farming and fish capture;
4. Processing in general where it is integrated with a least 50% of farm output e.g. cassava to garri, oil palm fruit to oil and kernel, groundnut to groundnut oil, etc.

As observed by Okon and Nkang (2009), the ACGSF is founded on the credit guarantee principle, designed to overcome the reluctance exhibited by financial institutions towards lending to the disadvantaged borrowers targeted by the scheme.

The provision of credit will reduce the costs of capital intensive technology and assets relative to family labour. Thus, instead of growing low yielding local crops, for example, access to credit may allow an increased use of improved seeds and fertilizers leading to higher crop output per unit of labour and land (Feder *et al*, 1985). This may in turn encourage the adoption of labour-saving technologies, such as animal traction in crop production (Zeller, 1999). Carter (1989) argued that credit could lead to efficient resource allocation, increase farmers' technical efficiency and, by implication, increase farmers' profitability. Qureshi et al (1996) observed that an increase in credit to agriculture will lead to increase food production and farmers' income because as the demand for credit increases, farmers output also increases, resulting in improvement in their wellbeing.

Methodology

The study is Taraba State is a state of Nigeria. Taraba has sixteen Local Government: Ardo Kola, Bali, Donga, Gashaka, Gassol, Ibi, Jalingo, Karin Lamido, Kurmi, Lau, Sardauna, Takum, Ussa, Wukari, Yoro, and Zing. Taraba State lies largely within the middle of Nigeria and consists of undulating landscape dotted with a few mountainous features. The Mambilla Plateau with an altitude of 1,800 meters (6000 ft) above sea level has a temperate climate all year round. The major occupation of the people of Taraba State is agriculture.

Primary data were collected through the use of structured questionnaire administered to 300 households actively involved in agricultural production (farming, processing and marketing). The questionnaires were to be administered among the areas of study and covered the areas of production, processing and marketing activities known to be the strong hold of households in the three selected local government areas of the study. Information on farmers' socio-economic characteristics, production activities and access to credit facilities were among the bulk of data collected. The population from which samples were drawn from the list of the districts, political wards, and villages, a sampling frame of 1200 household were obtained for the study accordingly.

Multi-stage, purposive and simple random sampling was adopted in selecting respondent for the study. In the first stage Ardo-Kola (Taraba North), Gassol (Taraba Central) and Wukari (Taraba South) local government areas were purposively chosen from each of the senatorial districts and based on high agricultural activities in the area. The second stage was the selection of 10 villages from each of the 3 local government areas. Finally, a total of 10 sample questionnaire administered to respondents in each of the 30 villages selected to give a total sample size of 300 respondents.

Table 1: Sample Locations

Senatorial Districts	Local Government	Villages	No. of respondents
Taraba Central	Gassol	1. Duniya DanAnacha	10
		2. Gassol	10
		3. Gidan-Sartin	10
		4. Kufai	10
		5. Maiwuya	10
		6. Sabongida	10
		7. Takai	10
		8. Tela	10
		9. Wurno	10
		10. Wuro-Jam	10
Taraba North	Ardo-Kola	1. Ardo kola	10
		2. Iware	10
		3. Jauro-Yinu	10
		4. Lamido Borno	10
		5. Mallum	10
		6. Mayo-Ranewo	10
		7. Sarkin-Dutse	10
		8. Sibre	10
		9. Sunkani	10
		10. Tau	10
Taraba South	Wukari	1. Pwadzu	10
		2. Rafinkada	10
		3. Tsokundi	10
		4. Chonku	10
		5. Kenke	10
		6. Sondi	10
		7. Be-Pi	10
		8. Bantaje	10
		9. Chediya	10
		10. Sabongida	10
Total	3	30	300

Source: Field Survey, 2017

Methods of Data Analysis

Both inferential and descriptive analytical techniques will be used for the analysis of the data collected. The descriptive statistics will be frequencies and percentages, the non-parametric statistics will be Chi Square (X^2), while the inferential tools of analysis will be subjected to regression analysis (Ordinary Least Square). The use of (OLS) was informed by the fact that under normality assumption i.e. the OLS estimator is normally distributed and is said to be best and unbiased linear estimator (Gujarati, 1995).

In order to ascertain the true determinants of rural poverty in Taraba State, Ordinary least square (OLS) method will be used as the best linear unbiased (Gujarati, 1995). The model for this study is specified thus:

Functional relationship

$$\boldsymbol{Y = f(L_r, L_{rt}, Expln)} \text{ ..... } \boldsymbol{(1)}$$

Linear relationship

$$Y^* = \alpha + \beta_1 L_r + \beta_2 L_{rt} + \beta_3 Expln + \cup_i \text{ ..... } (2)$$

Where:

Y^* = Total output (kg)
α = Constant Parameter of the Equation
β_{1-3} = Coefficient of the Independent Variables
L_r = Loan received
L_{rt} = Interest on loan received
$Expln$ = Expenses incurred in obtaining the loan
$\cup_i$ = Error term

Apriori expectation(s)

1. There should be a positive relationship between output (Y) and loan received and income, negative for interest on loan received and expenses incurred in obtaining loan

$\frac{\Delta y}{\Delta Lrt} > 0$

$\frac{\Delta y}{\Delta Lrt} < 0$

$\frac{\Delta y}{\Delta Expln} < 0$

1. *If the calculated Chi-square value is greater than the tabulated Chi-square value, the null hypothesis would be rejected and the alternative hypothesis accepted.*

Chi Square (X^2) Method

Chi Square (X^2) which is non-parametric statistics, is used to determine the frequency or proportion with which an event occurs. The model used enables the study to make decisions on 'The impact of Bank of Agriculture Credit facilities on rural poverty in Taraba State'.

The equation for the Chi-Square test is as follows:

$$X^2 = \frac{\sum[(fo-fe)]^2}{fe}$$

Where:
X^2 = Chi-square
$\sum$ = Summation
f_0 = Observed frequency
f_e = Expected frequency
The formula for testing the degree of freedom in testing the chi-square is:
Df = (C-1) (R-1)

Where: DF = Degree of freedom
C = Number of columns
R = Number of rows
Level of significance = 5%

Results and Discussion

In order to investigate the impact of BOA credit facilities on rural poverty in Taraba State, the chapter is divided into two parts: data presentation, analysis and discussion of the results of both descriptive and inferential analysis.

Socio Economic and Descriptive Characteristics of Respondents

Below is the interpretation of the socio economic and descriptive characteristics of the respondents.

Table 2: Socio Economic and Descriptive Characteristics of Respondents

Variables	Frequency	Percentage%
Gender		
Male	104	36.4
Female	182	63.6
Total	286	100
Marital Status		
Married Single	136	47.6
Single	122	42.7
Divorced	15	5.2
Widowed	13	4.5
Total	286	100
Age		
18-28 Years	106	37.1
29-39 Years	98	34.3
40- 50 Years	60	21.0
51 Years above	22	7.7

Total	286	100
Level of Education		
Primary	76	26.6
Secondary	98	34.3
Tertiary	35	12.2
None	77	26.9
Total	286	100
Number of Household		
24 above	2	0.7
18-33	12	4.2
12-17	30	10.5
6-11	94	32.9
Below 5	148	51.7
Total	286	100
Monthly Income		
81,000-100,000 Naira above		
61,000-100,000 Naira	6	2.1
41,000-100,000 Naira	24	8.4
21,000-100,000 Naira	53	18.5
Below 20,000 Naira	101	35.3
Total	102	35.7
	286	100
Monthly Expenditure		
81,000-100,000 Naira above	15	5.2
61,000-100,000 Naira	13	4.5
41,000-100,000 Naira	39	13.6
21,000-100,000 Naira	122	42.7
Below 20,000 Naira	97	33.9
Total	286	100
Major source of income		
relatives/friends	24	8.4
salary	15	5.2
private business	35	12.2
loan	23	5.0
farming	189	66.1
Total	286	100
Monthly level of borrowing		
81-100 per cent	21	7.3
61 -80 per cent	22	7.7
41-60 per cent	48	16.8
21-40 per cent	82	28.7
10-20 per cent	113	39.5
Total	286	100
Extra source of income		
Bonus	22	7.7
Gift	72	25.2
Gambling	10	3.5
Thrift	100	35.0
Sales of property	82	28.7
Total	286	100
Scale of expenditure		
Others	16	5.6
purchase of asset	20	7.0
household expenditure	136	47.6
loan repayment	21	7.3
reinvesting in farming	91	31.8
Nil	2	0.7
Total	286	100
Size of farmland		
24 acres above	3	1.0
18-23 acres	4	1.4
12-17 acres	24	8.4
6-11 acres	79	27.6
10 acres	176	61.5
Total	286	100
Types of crops		
Others	28	9.8
all of the above	19	6.6
legumes	58	20.3

grains	150	52.4
tubers	31	10.8
Total	286	100
Loan Received		
Others	6	2.1
Family	102	35.7
credit and thrifts	76	26.6
cooperatives	74	25.9
banks	28	9.8
Total	286	100

Source: Field Survey (March 2017)

In table 2, out of 286 respondents based on the sample size selection 182 respondents which constitutes about 63.6% of the total percentage are female. This shows that most of the respondents are female, while about 104 respondents are male which constitutes about (36.4%) of the total percentage, since the sample size is true representation of the population, then female respondents are the greater population of the households. Out of 286 respondents, 136 are married which constitutes 47.6% 0f the respondents, 122 are single (42.7%), 15 are divorced 5.2%, and 13 are widowed 4.5% which forms the least representation of the marital status of the respondents meaning the greater number of the respondents are married.

Out of 286 respondents, 106 are within the ages of 18-28 years which constitutes 37.1% of the respondents and the highest percentage of the respondent's population, 98 are within the ages of 29-39 years which constitutes 34.3%, 60 are within the ages of 40-50 years which constitutes 21% and 22 of the respondents are within the ages of 51 years above which constitutes 7.7% and the least percentage of the respondent's population.

Out of the 286 respondents, 76 of the respondent's highest qualification is primary which is 26.6%, 98 of the respondent's highest qualification is secondary which is 34.3%, 35 of the respondents highest qualification is 12.2%, and 77 of the respondents highest qualification is 26.9%. This result shows that, the greater number of the respondents has attended secondary school having basic education, and the least number has attended tertiary institutions meaning 88% of the respondents are subjected to farming because their qualification cannot fetch them white collar jobs or formal jobs.

Out of 286 respondents 2 of the respondents have 24 above number of household which is 0.7%, 12 of the respondents have 18-33 number of household which is 4.2%, 30 of the respondents have 12-17 number of household which is 10.5%, 94 of the respondents have 6-11 number of household which is 32.9%, and 148 of the respondents have below 5 number of household which is 51.7%. This means that the greater number of respondents with lowest number of household is 51.7% and the highest number of house hold is 0.7%.

Out of 286 respondents, 6 respondents have a monthly income between 81,000-100,000 Naira above which constitutes 2.1% of the respondents, 24 respondents have a monthly income between 61,000-80,000 Naira which constitutes 8.4%, 53 respondents have a monthly income between 41,000-60,000 Naira which constitutes 18.5%, 101 respondents have a monthly income between 21,000-40,000 Naira which constitutes 35.3% and 102 respondents has a monthly income below 20,000 Naira which constitutes 35.7%. This means that, 2.1% of the respondents earn up to 100,000 Naira above and the larger population of the respondents 35.7% earns below 20,000 Naira.

The table 2, shows the monthly expenditure of households, 15 respondents have a monthly expenditure between 81,000-100,000 Naira above which constitutes 5.2% of the respondents, 13 respondents has a monthly expenditure between 61,000-80,000 Naira which constitutes 4.5%, 39 respondents has a monthly expenditure between 41,000-60,000 Naira which constitutes 13.6%, 122 respondents has a monthly expenditure between 21,000-40,000 Naira which constitutes 42.7% and 97 respondents has a monthly expenditure below 20,000 Naira which constitutes 33.9%. This means that, 5.2% of the respondents spend up to 100,000 Naira above and the larger population of the respondents 42.7% spends 21,000-40,000 Naira.

The major source of income of the 286 respondents out of which 24 respondent's major source of income is obtained from relatives and friends which is 8.4%. 15 respondents major source of income is salary which is 5.2%. 35 respondents major source of income is private business which is 12.2%. 23 of respondent's major source of income is loan which is 8% and 189 respondents major source of income is farming which is 66.1%. This means that the greater population of the household are into farming 66.1% and the least source of income is salary 5.2%.

The monthly level of borrowing of the 286 households are as follows; 21 respondents has a monthly level of borrowing between 81-100 per cent which constitutes 7.3% of the respondents, 22 respondents has a monthly level of borrowing between 61-80 per cent which constitutes 7.7%, 48 respondents has a monthly level of borrowing between 41-60 per cent which constitutes 16.8%, 82 respondents has a monthly level of borrowing between 21-40 per cent which constitutes 28.7% and 113 respondents has a monthly level of borrowing below 10-20 per cent which constitutes 39.5%. This means that, 7.3% of the respondents borrow up to 100 per cent of their monthly income and the larger population of the respondents 39.5% borrow up to 20 per cent of their monthly income.

The table 2 also shows the extra source of income of the 286 respondents out of which, 22 respondents extra source of income is bonus which is 7.7%. 72 respondents extra source of income is gift which is 25.2%. 10 respondents extra source of income is gambling which is 3.5%. 100 of respondent's extra source of income is thrift which is 35.0% and 82 respondents extra source of income is sales of property which is 28.7%. This means that the greater population of the household extra source of income is thrift 35% and the least extra source of income is gambling 3.5%.

In addition, the scale of expenditure of the 286 respondents are; 16 respondents prefers to spend their income on other purposes which is 5.6%, 20 respondents prefers to spend their income on purchase of asset which is 7%, 136 respondents prefers to spend their income on household expenditures which is 47.6%, 21 respondents prefers to spend their income on loan repayment which is 7.3%, 91 respondents prefers to reinvest their income in farming which is 31.8% and 2 respondents is indifferent on their scale of expenditure which is 0.7%. This implies that, the larger number of respondents 47.6% prefers spends their income on household expenditures and the least population of the respondents 5.6% prefers to spend their income on other expenditures.

Furthermore, table 2 shows the number of acres of farmland cultivated by the 286 households. 3 of the respondents have cultivated 24 acres above which is 1.0%, 4 of the respondents have cultivated 18-33 acres which is 1.4%, 24 of the respondents have cultivated 12-17 acres which is 8.4%, 79 of the respondents have cultivated 6-11 which is 27.6%, and 176 of the respondents have cultivated below 5 acres which is 61.5%. This means that the greater number of respondents has the lowest size of farmland 61.5% and the lower number of respondents has the largest size of farmland.

Finally, table 2 shows the various sources of loan of the 286 respondents. 6 respondents obtain their loan from other sources which is 2.1%, 102 of the respondents obtain their loan from their family (relatives) which is 35.7%, 76 of the respondents obtain their loan from credit and thrifts which is 26.6%, 74 of the respondents obtain their loan from cooperatives which is 25.9% and 28 respondents obtain their loan from banks (Bank of Agriculture, Micro finance bank and commercial bank) which is 9.8%. This implies that, the greater population of the respondents obtain their loan from their family members which are 35.7% and the lower number of the respondents obtains their loan from other sources which is 2.1%.

Regression result in table 2, 642.108 is the constant or intercept of the regression function, 0.348 is the β coefficient of the loan received, 0.206 is the β coefficient of interest and 0.326 is the β coefficient of expenses incurred on colleting the loan. By implication, this means that when neither of these β coefficient exists, rural farmers income will be 642.108 thus if there is 1 unit increase in loan received, income will increase by 34.8% plus the intercept, if there is a 1% increase in interest, this will result to 20.6% increase in output, this goes against the a priori expectation because from the result of the descriptive statistics 4.1, it has shown that 35.7% of the respondents collects loan from family and had it been the greater number of loan collected is from the bank, there would have been a negative effects.

Table 3: Regression Analysis

Variables	B	Std. Error	t-statistics	Probability
(Constant)	642.108	86.456	7.427	.000
Lr				
Irt	.348	.001	5.066	.000
ExpIn				
	.206	.011	2.200	.029
	.326	.024	4.701	.000
R square	.681			
Adjusted R Square	.678			
F stat	200.599			

Source: Field work (March 2017)

$Y^* = \alpha + \beta_1 Lr + \beta_2 Irt + \beta_3 ExpIn + \beta_4 Inc + \mu_i$

Y=	642.108	+	0.348Lr	+ 0.206Ir	+ 0.326ExpIn
S. E	(86.456)		(0.001)	(0.011)	(0.024)

A unit increase in expenses incurred in obtaining the loan will result to 34.6% increase in output, this goes against the a priori expectation because from the result of the descriptive statistics 4.1, it has shown that 35.7 % of the respondents collects loan from family meaning they don't spend any expenses on loan processing, transport, and other expenses associated with the loan collection. If the greater number of loan collected was from the bank, there would have been negative effects.

The R^2 shows the fitness of the model in terms of explaining changes in the dependent variable. In table 4.2, an observed R^2 of 0.681 in this research shows that a 68% change in total output is explained by the changes in the independent variables while unexplained changes are captured in the error term.

The F-statistics measures the joint significance of the parameters. The regression result in table 4.2 shows that the F-statistic is statistically significant with the probability p=0.000 which is less than 0.05 which means that the coefficients are jointly significant.

Table 4: Analysis of Agricultural Credit Facilities and Production

f_0	f_e	$f_0 - f_e$	$(f_0 - f_e)^2$	$\sum(f_0 - f_e)^2/f_e$
6	57.2	-51.2	2621.44	45.83
24	57.2	-33.2	1102.24	19.27
53	57.2	-4.2	17.64	0.31
101	57.2	43.8	1918.44	33.54
102	57.2	44.8	2007.04	35.09
286	286	44.8	7666.8	X^2 = 134.04

Source: Fieldwork

= (6-1) (2-1)
= 5
Level of significance = 5%
Calculate X^2 = 134.04
Tabulated X^2 = 14.07

Null Hypothesis (H_0): Bank of Agriculture credit facilities have negative effect on rural farmer's productivity.

Alternative Hypothesis (Hi): Bank of Agriculture credit facilities have positive effect on rural farmer's productivity.

Since the calculated Chi-square value is greater than the tabulated Chi-square value (134.04 > 14.07), therefore we can reject the null hypothesis and accept the alternative hypothesis, which means that Bank of Agriculture credit facilities have positive effect on rural farmer's productivity.

Conclusions and Recommendations

From the results, bank of agriculture credit facilities has a positive effect on eradicating rural poverty by increasing rural farmer's productivity, the expectation of change in total income to change in total output is in conformity with the a priori expectation. This also agrees with the Chi-square value (134.04 > 14.07), therefore we can reject the null hypothesis and accept the alternative hypothesis, which means that Bank of Agriculture credit facilities have positive effect on rural farmer's productivity. Expenses incurred is not in conformity with the apriori expectation because, 102 respondents out of 286 respondents in table 1, obtain their loan from their family members and the loan is zero interest rate meaning no interest charged on the loan collected the negative effect is that the amount is small and the payment is not flexible. 74 respondents obtain their loans from cooperatives and 28 respondents obtain their loan from the bank (commercial bank, BOA, microfinance banks). Such loans attract high interest rate. Also that draw-backs on the ineffectiveness of access depended on location of banks considering logistics and distance for such locations.

The following recommendations were made based on the findings of the study.

1. The provision of access to financial services, due to distance to credit sources, considering the number of those in need in Taraba State.
2. BOA should provide measures to cushion the effects of cost of money (interest rates)

and bottlenecks, empower them with entrepreneurial skills,

3. establish mass literacy programs to enable the farmers to be minimally self-reliance,
4. Provide basic entrepreneurial facilities to empower farmers to access financial services for agricultural growth in different locations and the need for output growth which contributes to national product of Nigeria.

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