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Analysis of credit demand and supply markets among youth farmers in Agro-ecological zone B, Kogi State, Nigeria

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Abstract
There has been a shift of dominance in the sources of credit markets in Nigeria from the Government to the private sector. Inadequacy of capital has been identified as one of the constraints faced by youth farmers. This research work aimed to analyse credit demand and supply markets among youth farmers. Data collected were analyzed using descriptive, multiple regression and Z-test. Most credits were sourced through informal souces by the youth farmers. Personal savings(65%), RoSCAs (52.5%) and Money lender(50.8%) respectively are from the informal sources while LAPO (42%) and even commercial bank (15%) which is the least are obtained from formal sources. Further, the study showed that 50% of the respondents demanded credit to the tune of ₦2, 000,000 while most of the credit supplied(45.83%) was only less than N100.000. The multiple regression results showed an R^2 value of 0.65. The study identified the potential credit demanded by the farmers to be at the range of ₦1, 000,001-2,000,000. Furthermore, the study identified age, marital status, level of education, interest rate and credit awareness as the major determinants of the volume of actual credit supplied by youth farmers. The test for significant difference shows that there is significant difference in the amount of credit sourced and required by the youth farmers by 1%. The study recommends that the interest rate charged on credit facilities should be reduced to motivate the youth farming in the study area to source for credit.

***Keywords:** Agricultural Credit; Demand; Supply;Youth Farmer*

Introduction

Credit is a necessary input in the various farming operations. The Nigerian credit market can be broadly categorized into the formal and informal sectors, based on the structure of the lending process.Agricultural credits are loans extended to farmers for production, storage, processing and marketing of farm produce. Such credit can be short, medium or long term depending on its duration. Inadequacy of access to credit can be a function of both demand and supply. On the supply side, banks may find it very risky and expensive to provide credit to rural smallholders, thus rationing the supply of credit or making available contracts that may be too expensive or too demanding on collateral. On the demand side, apart from the situations where farmers may not have adequate collateral, even in situations where credit is available, farmers may find it too risky to borrow (Awotide et al., 2008).

The concept of credit demand, credit supply and various credit sources is pertinent. Some borrowers cannot obtain the amount of fund they desire at the prevailing interest rate as such, circumstance liquidity can be a binding constraint on farmers operation and an inherent problem in agricultural credit market (Efobi and Osabuohien, 2011). The provision of agricultural credit makes available additional capital used to step up the level of households' productive capacity. Agricultural

credit plays an enormous role in the agricultural production sub-sector of the Nigerian economy hence the need to understand the following terminologies:

Credit Supply (Actual amount of credit sourced): this is the actual amount of credit a youth farmers is able to secure due to some limiting factors such as age, interest rate, collateral security etc.

Credit Demand (Potential credit required): it implies the amount of credit a youth farmer will need to carry out his farming activities effectively and efficiently under normal circumstance.

Financing agriculture involves lending money to farmers to stimulate production. However, financing of agricultural production, especially through the provision of credit to small-scale farmers is key to macroeconomic development (Anetor et al., 2016). Only few farmers in Nigeria can save enough money from their meagre earnings to take full advantage of the ever increasing range of improved technologies (Ofuoku and Urang, 2009). These farmers produce very little output hence, sell and receive small amounts of money which in turn cannot help them expand their operations, acquire new production technology or enjoy a prosperous living.

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). It is against this background that this study assessed the determinants of credit utilization and its influence on farm income.Agricultural credit is essential in agricultural development if we want youth farmers to be actively involved in agriculture and adopt new technologies such as the use of improved seeds, highly producing livestock, machineries and other agrochemicals. Farmers with poor financial capability resort to subsistence farming because of their inability to acquire inputs such as credit required to expand production (Ammani, 2012).

The country's growth in most cases is captured considering the top wealthysocietal individual while leaving youth in despondency. These have pushed many youths into hopelessness, rebelliousness, lawlessness, and their living fanatical. So it is imperative to engage youth in agricultural activities by providing them with operational agricultural input e.g. operational financial credits.International Food Policy Research Institute (2009) stated that, access to agricultural credit has been positively linked to agricultural productivity in several studies. To access substantial loans from financial institutions is usually difficult and issues of collateral and high interest rates screen out most rural farmers. Another problem associated with farmers access to agricultural credit is that agricultural loans are often short term, with fixed repayment period; hence the conclusion that Nigeria agriculture is under-financed. Youth farmers in Kogi State like other farmers in Nigeria are bewildered with this spectrum of problems which has resulted to lack of interest of youth in agriculture.

One of the major challenges of this study is the paucity of datafor the entire market and variables like credit demand and supply requirements have not been exhaustively examined in previous studies especially in the area of study. It is against this background that this research is being carried out to analyse the farm credit demand and supply markets of youth farmers in zone B agro-ecological zones, Kogi state, Nigeria.In order to design appropriate policies that will bring an efficient and effective accessibility and utilization of credit facilities for optimum agricultural productivity, a need to carry out a study on access to agro credit is required in the study area. This study will enable government bodies to identify problems faced by farmers in their bid to access credit facilities and be able to come up with interventions that will help

bridge the gap between what is and what ought to be.

The main objective of the study is to analyse credit demand and supply markets of youth farmers in zone-B agro ecological zone, Kogi State, Nigeria. The specific objective are to identify potential credit sources to youth farmers ; examine the potential credit demand and actual credit supply to youth farmers ; factors affecting amount of credit acquired by youth farmers and test for significant difference between potential credit demand and actual credit supply to youth farmers.

Materials and Method

Study Area

The study area coveredzone-B agro ecological zone, Kogi State, Nigeria which has six extension blocks namely Egume,Dekina, Odenyi, Gboloko, Ankpa and Abejukolo.The extension blocks were splited into 35 extension circles in four local Government areas, namely : Dekina, Bassa, Ankpa, and Omela.

Sampling Procedure

A random sampling technique was employed in the selected zone. Three (3) extension blocks were randomly selected namely; Ankpa, Egume, and Dekina out of the six blocks. Further, two (2) communities were randomly selected from each of the three extension blocks already selected making a total of six (6) communities. From the six (6) selected communities, twenty (20) farmers were randomly selected from each of the communities giving a total of one hundred and twenty (120) respondents used for the study.

Method of Data Analysis

Data for this study were collected through primary sourceswithstructured questionnaire and interview schedule. Data collected were analyzed with the use of descriptive, inferential statistics and multiple regression analysis.

Model Specification

Ordinary Least Square (OLS) estimation technique was used to determine the factors affecting the volume of credit received by farmers implicit form of the model is :-

$Y = a+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5$ - - -+ e

Measurement of variables,

Y = Amount obtained (₦); X_1= Age (years); $X_{2=}$ marital status (dummy); $X_{3=}$ Level of education (years); $X_{4=}$ Farming experience (years); $X_{5=}$ Interest rate (%); X_6= Credit awareness (dummy)

$X_{7=}$ Farm income (₦); $X_{8=}$ Co-operative membership (dummy).

Z –Test (scores)

Significant difference between the amount of credit sourced and required by youth farmers was achieved with the use of Z-test.

Result and Discussion

Results in Table 1 described the socio-economic characteristics of youth farmers and it showed that (62.5%) of the respondents were males while 37.5% were females. The implication is that men dominate farming enterprise in the area. This is an added advantage to the area, since men have more opportunity to obtain credit than females' counterparts due to issue of collateral required by most of the financial institutions. Most of the respondents (40%) fall between the age range of 26 and 30 years. These categories of farmers could be considered to be the economically active production population, as this will help them access credits with all its rigorous procedures This finding agrees with Olarinde, Ajao and Ajetomobi, (2005) who found that old people tend to be risk averse than young people.

Marital status of the farmers, About (65%) were married while 15.83% were single which implies that married youth participate more in sourcing agric credit than the unmarried ones due to the fact that married persons have more

family obligations and this corroborates with the position of Kimaro, Towo and Benson (2015) that married youth farmers have more socio-economic needs to meet than unmarried counterparts.

The farmer's educational attainments shows that (41.2%) of the farmers had no formal education; which implies that greater percentage of the respondents lack formal education hence, has its limitations in credit acquisition from financial institutions as this requires formalities such as filling forms ,consideration of interest rate at attached at a given time.

About25% of the respondents had 1hectare of land, 34.2% while (20%) of them had between 2.0-2.9 hectares of land. This implies that most of the farmers were small holders and subsistence farmers, a situation that may not allow them to engage in large production, neither have access to bigger credit facilities. Majority (48.3%) of the respondents had a farming experience of 20 years and above while about 17.5% had an experience between 15-19 years. This indicated active participation of the respondents in agricultural production in the area and by extension their quest for credits to boost their production.The result in Table1 shows that, majority (43.3%) of the respondents earned between ₦81, 000 - 100,000; 20% earned ₦40, 000. This is because access to credit is enhanced by high income earning capacity which is in line with Alabi, Aigbokhan and Ailemen (2007) who reported that a farmer with a profitable supplementary income could become an early adopter of new technology that may require demanding for credit facilities.

Sources of credit used by the youth farmers

Results in table 2showedthat 65%; 52.5%;50% and 45%of the farmers obtained credit from Personal saving; RoSCA s; moneylenders and friends respectively which are informal sources. This reflects dominance of informal sources from which youth farmers sourced credit. Hence, it is evident that most of the farmers found acquisition of credit difficult formal sources, the highest sourced from is Lift Above Poverty Organization (LAPO) 45% while commercial banks have as low as 15% credit sourced by the farmers' secured credit from commercial banks. Majority of the respondents prefer the informal sources due to the ease of accessing such capital. This is in consonance to previous studies by Olowogbayi (2013), who found that loans from non-institutional sources are devoid of administrative delays and there is no insistence on collateral security. The low patronage of commercial banks may be due to lack of presence of banks in the rural areas coupled with inadequate security on the part of farmers which prevented them from obtaining loan from the banks. Further, Mgbakor et al. (2014) in their study, sources of agricultural credit to small-scale farmers in Ezeagu local government area of Enugu State, Nigeria opined that many of the farmers that have obtained credit prefer informal sources, like relatives, neighbors and money lenders for easy accessibility, minimize formalities and timely disbursement of loans, to formal institutions.

Table 1 Distribution of respondents according to their socio-economic characteristics

Variables		Frequency	Percentage	mean/mode
Gender:	Male	75	62.5	
	Female	45	37.5	
	Total	120	100	Male
Age:(yrs)	20	5	4.2	
	21-25	22	18.33	
	26-30	48	40.0	
	31-35	39	32.5	
	36 -40	6	5	
	Total	120	100	28.4 years
Marital Status:	Married	78	65	
	Single	19	15.83	
	Widowed	15	12.5	
	Divorced	08	6.7	
	Total	120	100	Married
Educational level:	No Formal	50	41.2	
	Primary Education	41	34.2	
	Secondary education	20	16.7	
	Tertiary Education	09	7.5	
	Total	120	100	No formal education
Farm size (Ha)	1.0	30	25	
	1.0-1.9	41	34.2	
	2.0-2.9	24	20	
	3.0-3.9	18	15	
	4.0 & above	07	5.83	
	Total	120	100	1.5ha
Experience (yrs)	1-5	04	3.3	
	6-9	14	11.67	
	10-14	23	19.2	
	15-19	21	17.5	
	20 & above	58	48.3	
	Total	120	100	11.9years
Type of farming:	Crop farming	71	59.2	
	Animal farming	17	14.2	
	Both crop & animal	32	26.67	
	Total	120	100	Crop farming
Annual Income:	₦40,000	24	20	
	41,000-60,000	10	8.5	
	61,000-80,000	22	18.3	
	81,000-100,000	52	43.3	
	101,000 & above	12	10	
	Total	120	100	₦ 90,500

Source: Field Survey, 2019.

Table 2. Distribution of respondents according to the sources of credit used.

Sources	Types	Frequency	Percentage
Formal:	Commercial banks	18	15
	Co-operative banks	23	19.2
	Bank of Agriculture (B.O.A)	20	16.6
	Lift Above Poverty Org. (LAPO)	51	42
Informal:	Friends	54	45
	Relatives	39	32.5
	Personal Savings	78	65
	Moneylenders	61	50.8
	RoSCAs	63	52.5

Source: Field Survey, 2019.

Table 3 indicate that majority 45.83% of the respondents were only able to sourced credit less than equal to₦100, 000 followed by 36.67% of the respondents sourced credit of₦100,001-500,000and only 2.5%, obtained to the tune of ₦1,000,000-2,000000 and none of borrowers could source credit beyond ₦2,000,000 This shows that most of the borrowers sourced credit less than ₦500, 000. This suggests that majority of youth farmers in the area were peasant farmers with small land holdings who needed additionalcreditto expand production. Hussien (2007) has affirmed that farm households are discouraged to borrow when credit sources are located further away from their farming operations which is a feature of formal souces located away from the rural farming households. Also, it could be because of the exorbitant interest rate charged by most financial institutions especially in the informal sector. Futher, results in table 2 indicated that 50% of the respondents require credit between₦1, 000,001-2,000,000 and 25% require credit between ₦2, 000,001-2,500,000 as compared with credit supplied implying that actual credit needed to carry out their farming business effectively were limited by some certain factors depite no respondent demanded less than ₦100,000 and the case of N500,001-1,000,000 18.3% amount of credit was demanded while only 15.0% was supplied.

Table 3 : Amount of potential credit demanded and actual credit sourced by youth farmers

Value of credit (₦)	Frequency (Demanded)	% (Demanded)	Frequency (Supplied)	% (Supplied)
< 100,000	0	0.0	55	45.8
100,001 - 500,000	08	6.7	44	36.7
500,001 - 1,000,000	22	18.3	18	15.0
1,000,001 - 2,000000	60	50.0	3	2.5
2,000,001 - 2,500,000	30	25.0	0	0.0
Total	120	100	120	100

Source: Field Survey, 2019

Results of multiple regression analysis in table 4 showed a co-efficient of multiple determination R^2 value of 0.65 (65%) of the total variations in volume of credit suppliedto youth farmers were accounted for by joint contributions of eight independent variables

while the rest 35% was due to error term (e). F-Statistic value of 4.28 was statistically significant at 1% level of probability which reflect the goodness of fit of the estimated model. The result indicated that age, which is negative sign but statistically significant at 5% had an inverse effect on the volume of credit sourced by farmers from either formal or informal financial institutions which is in consonance with the a priori expectation. Older people stand more risk than younger people for debt repayment obligations.

In addition, the older people find it difficult to understand the operations and conditions of formal and informal financial institutions and are also afraid of these credit conditions. Marital status was negative and statistically significant at 1% level of probability. The a priori expectation is also met. Married youths tend to be reliable and credit worthy, always attract considerable financial support from both formal and informal financial than the single counterparts. This is in consonance with findings of Ojo and Jibowo (2008) who reported that married people are responsible individuals whose views are highly respected within rural communities in Africa.

Table 4: Determinants of factors affecting the amount of credit obtained by farmers

Variables	Coefficient	Standard error	t-value
Constant	3.029	0.316	9. 59
Age	-0.117	0.058	-2. 02**
Marital status	-0.192	0.040	-4.817***
Level of education	0.080	0.044	1.838*
Farming experience	0.01	0.014	0.714
Interest rate	-0.032	0.019	-1.684*
Credit awareness	0.037	0.024	1.542*
Farm income	-0.034	0.041	-0.829
Co-operative membership	0.059	0.042	1.410
F-statistics=4.28			
R^2=0.65			

*,**,***, signifies significant at 10%,5% and 1% level of probability respectively

Source: Field survey, 2019.

Education status was positively signed and statistically significant at 10% level of probability which meets a priori expectation, higher level of education stands the chances for better consideration for credit acquisition. This is supported by Olowogbayi (2013) in a study on analysis of credit demand and supply markets for cassava production in zone-A agricultural development project, Kogi State, Nigeria. He stated that the level of education of a farmer enhances his ability to access, evaluate and understand new production techniques. This assertion that educated farmers are more amenable to risk taking and change than their non-educated ones further established the effect of education on farm practices improve with increase in the level of education. Farming experience was positively signed and found not statistically significant. This implies that the volume of the credit supplied to the farmers does not depend on the number of years of farming experience a farmer has acquired in agricultural production. This finding disagreed with Ugbajah and Ugwumba (2013) who found a positive and significant relationship between access to credit and farming experience.

The relationship between interest rate

charged and the volume of credit supplied to farmers conform to a priori expectation. Hence, the lower the interest rate charged by financial institutions, the higher the volume of credit demanded by farmers and vise versa. Ugwumba and Omojaba (2013) had similar result. This result also showed that interest rate was statistically significant at 10% level of probabilities. Awareness to credit availability had a positive and significant relationship with the volume of credit supplied to farmers from either formal or informal financial institutions. The positive relationship was expected because those individuals who are aware of the credit availability in the financial institutions have better chances to obtain more credit than those who are not aware.

Result in table 5 shows a signifiant différence in the amount of actual credit supplied and potential credit demanded by youth farmers by 1%. This implies that youth farmers do not obtained the required credit needed for their farming business. This could be as result of inadequate collaterals and high interest rate charge and Olowogbayi, 2013, who observed that large loan from banks could not be accessed by most smallholderfarmers dueto of lack of collateral and high interest rate. He futher observed that credit from formal financial institutions meet only a small portion of the total credit demand of the agricultural sector.

Table 4: Test for significant difference between the amount credit supplied and credit demanded

Variables	Mean	Std.	Std. Error mean	df	T	sig
Credit Supply Credit demand	-426783.33333	390174.75471	35617.91909	119	11.982	.000

Source: Field survey, 2019.

Conclusion and Recommendations

Analysis of credit demand and supply markets of youth farmers in zone B agro-ecological zones, Kogi State Nigeria was the broad objective of this study. Considering the socio-economic characteristics of the respondents, credit aquisition favours the male than their female counterparts hence, most of them are married with an average farming experience of 20years and average farm size of 1.5ha. The average annual farm income is ₦90, 500. Most credits were sourced through informal sources by the youth farmers. Personal savings(65%), RoSCAs (52.5%) and Money lender(50.8%) respectively are from the informal sources while LAPO (42%) and even commercial bank (15%) which is the least are obtained from formal sources.The result for significance difference in the amount of potential credit demanded and actual credit supplied showed asignificant difference at 1% level. The study indicated that, commercial interest rate, long procedures and collateral requirement charged by formal financial institutions, largely restricted farmers from seeking credit from the source. Farmers secured credit from informal financial institutions than formal sources. Furthermore, the study identified age, marital status, level of education, interest rate and credit awareness as the major determinants of the volume of actual credit supplied by youth farmers. Hence, it is recommended that interest rate charged on credit facilities should be reduced to motivate the farming youth source for credit.

The actual amount of loan demanded for should be supplied to farmers so as to actualize planned farm projectto enhance improved farm practice for effectiveness and efficiency in farm production. Inadequate information about agro-credit should be ameliorated by the use of agricultural extension agents to educate

farmers on the formal sources of credit since its identified to provide more credit volume while colateral security that can be afforded by youth farmers only are to be used as condition.

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