

ANALYSIS OF RURAL FARM HOUSEHOLDS' ACCESS TO FORMAL AGRICULTURAL CREDIT IN YOLA SOUTH LOCAL GOVERNMENT AREA, ADAMAWA STATE, NIGERIA

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Abstract

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The purpose of this study was to analyse rural farm households' access to formal agricultural credit in Yola South Local Government Area of Adamawa state, Nigeria. Descriptive and inferential statistics were used to analyse the primary data collected using structured questionnaire (from 140 rural farming households). Findings from the study have shown that, 90% of the respondents were male, mostly educated (70%) and married (89%) engaging in farming as their primary livelihood activity (about 81%) with an average farm size of 2.47 hectares. The result of the binary logit regression has shown that level of education and income do influence access to credit positively, while age and distance to access point negatively influence respondents' access to formal credit. The study further revealed that, lack of acceptable collateral/security, high interest rates, low financial literacy, and complex banking procedures were the main factors that limits the respondents' access to credit facility from formal sources. In order for farmers to have an improved access to formal credits, the formation of strong groups that are viable to provide the needed capital is encouraged, banking operations should be simplified to suite farmers' needs/convenience and financial literacy among farmers should be improved through awareness campaigns (in agricultural extension packages).

Keywords: access, formal agricultural credit, rural, farm-households, farmers, Adamawa state, Nigeria

INTRODUCTION

Nigeria's rural space is home to over 93 million people who mostly depend on agriculture for their livelihoods (World Bank, 2014). In recent decades, the financial requirements of agriculture related activities have increased tremendously due to the extended use of modern farm inputs and mechanization (Bashir *et al.*, 2010). But, these rural residents constitute bulk of the people trapped in the poverty web (Adepoju and Yusuf, 2012). In Adamawa State for instance, a large proportion

(74.2%) of the residents of the State live in poverty, especially those in rural areas (National Bureau of Statistics, 2014). One major way to drastically reduce poverty and improve the poor welfare situation of the rural farmers is to increase their agricultural productivity (Foltz, 2004; Awotide *et al.*, 2015). Agricultural credit is primarily seen as a tool to increase agricultural output and productivity (especially when provide in good time), through improved adoption of new technologies and use of optimum farm inputs (Foltz, 2004; Bashir *et al.*, 2010; Chandio *et al.*, 2016). This is because when

liquidity is a binding constraint, the amounts and combinations of inputs used by a farmer may deviate from optimal levels that in turn limit optimum production. Credits serves as a catalyst that activates other factors of production and makes under-used capacities functional for increased production (Ijere, 1998). Hence, enhanced access to agricultural credit by rural farmers can expedite economic growth and development of rural areas. Nwankwo (2013) defined credits as borrowed resources (mostly monies) with explicit terms for refund.

Literature is replete with studies carried out across the globe that highlights the importance of credit in enhancing agricultural production and productivity (Feder *et al.*, 1990; Foltz, 2004; Chaovanapoonphol *et al.*, 2005; Bashir *et al.*, 2010; Nimoh *et al.*, 2011; Baffoe *et al.*, 2015; Awotide *et al.*, 2015; Chandio *et al.*, 2016; Anang *et al.*, 2016; Owusu, 2017). According to Feder *et al.* (1990), access to credit contributes to increased productivity by bringing input levels closer to the optimal levels, thereby increasing output and productivity in China. Similarly, Chaovanapoonphol *et al.* (2005) portrayed the key role of agricultural credit in technical efficiency and productivity of farm households in the Upper North of Thailand. According to their findings, credit raises both the technical and allocative efficiency of agricultural production. Bashir *et al.* (2010) studied the impact of agricultural credit on productivity of wheat crop in Lahore, Pakistan. Based on their result, wheat yield will increase as the amount of credit increases. Similarly, Nimoh *et al.* (2011) used net income to analyse the effect of formal credit on the performance of the poultry industry in Kumasi, Ghana. Findings of the study revealed that there was a statistically significant difference between the net income of large poultry farmers who used credit and those who did not. Also, Baffoe *et al.* (2015) conducted a study to establish the relationship between access to credit and agricultural productivity in Ghana. The study established a statistically significant difference between the productivity of borrowers (higher productivity) and non-borrowers which could be attributed to the technical efficiency of borrowers. Awotide *et al.* (2015) examined the impact of access to credit on agricultural productivity of cassava farmers in Nigeria. The study showed that access to credit has a significant positive impact on cassava productivity. In the same vein, Chandio *et al.* (2016) using the OLS method showed that formal agricultural credit has positive and significant impact on agricultural output. Similarly, Anang *et al.* (2016) compared the technical efficiency of smallholder rice farmers with and without credit in northern Ghana using data from a farm household survey. They reported a higher level of efficiency among farmers with credit compared to those without it.

Across Nigeria, smallholder farmers access agricultural finance or credit through a number of

channels. Badiru (2010) broadly categorized these credit institutions into three groups:

- Formal institutions: These are institutions that provide formal financial services. Formal financial service providers are registered companies that are licensed to offer financial services by a central monetary authority (Ghate, 1992). Formal institutions provide much more production loans than other institutions. Examples of such service providers are institutions like the commercial banks, microfinance banks, the Nigeria Bank of Agricultural (BOA), and state government-owned credit institutions;
- Semi-formal institutions: These are institutions that are registered to provide financial services and are not controlled by a central monetary authority eg. Non-Governmental Organizations (NGOs), cooperative societies etc.
- Informal institutions: These institutions render financial services outside the regulated monetary system and it includes the activities of intermediaries such as relatives and friends, traders, credit associations and money lenders (Kashuliza *et al.* 1998). However, informal finance may not be conducive for production activities owing to its expensive nature, short duration of availing credit, and inadequacy of funds to finance large scale production demands.

In Nigeria, there are about 37 million financially excluded adults in the country (Enhancing Financial Innovation and Access, 2014). Noteworthy is the fact that, rural farmers are the most excluded segment of the population in terms of access to formal loans (Ediomu-Ubong and Iboro, 2010; Odoemenem and Obinne, 2010; Akinbode, 2013). This is because financial institutions rate these poor farmers as risky borrowers on account of their lack of suitable collateral (Aigbokhan and Asemota, 2011). Enyim *et al.* (2013) and Nwankwo (2013) opined that poor credit supply is one of the factors responsible for the poor performance of the agricultural sector in Nigeria.

Over the years, the Nigerian government has clearly shown interest and made effort to improve access to finance by rural farmers. This is evident by the establishment of many institutions, programmes and schemes aimed at meeting the financial needs of the rural farmers. Notable among such laudable initiatives were; the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB) now Bank of Agriculture (BOA) established since 1972; the Rural banking programme (operational between 1977 and 1991); Agricultural Credit Guarantee Scheme Fund (ACGSF), operational since 1978 till date; and the Nigerian Agricultural Insurance Corporation (NAIC) which has been operational since 1987. In recent past, such programmes included the Microfinance Institutions (operational since 2005 to date), the Agricultural Credit Support Scheme (ACSS) in 2006 and the Commercial Agricultural Credit Scheme (CACS) in 2009. Despite

the proliferation of efforts geared towards improving rural farmers' access to production credit, a large proportion of Nigerian farmers still lack access to credit from formal financial institutions.

Against this backdrop, therefore, this study sought to analyse the level of access to formal agricultural credit (production credit) by rural farming households in the study area and provide information to rural development actors on appropriate measures that could be adopted to improve rural farmers' access to formal credit. The specific objectives of the study were to;

- describe the socio-economic characteristics of the rural farmers
- examine the factors affecting access to credit by the rural farmers and
- identify constraints faced by rural farmers in credit acquisition.

MATERIALS AND METHODS

Study area

The study was conducted in Yola-South Local Government Area of Adamawa State, Nigeria. The study area lies between Latitude 9°14' North of the Equator and Longitude 12°28' East of the Greenwich Meridian, having an average elevation of about 192 m (Adebayo 1999). The area falls within the Northern Guinea Savannah Zone and has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November–March) while the wet season spans April to October. Mean annual rainfall is about 700 mm (Adebayo *et al.*, 2012). The area has a land mass of 2,310.05 km² and a population of 196, 197 (National Population Commission, 2006). The area is bounded by Girei to the North, Fufore to the East and Demsa to the West. The main economic activity of the inhabitants is agriculture.

Sampling procedure and sample size

Multi-stage sampling technique was employed in selecting the representative households used for this study. All the rural wards in the study area were purposively selected in the first stage. In the second stage, twelve (12) rural communities were proportionately sampled from the wards selected. a total of 140 respondents were randomly selected across the communities from the list of registered farmers obtained from the Federal Department of Agriculture, Yola, Adamawa State. The respondents were farmers who had applied for credit facility from formal financial institutions in the area in the last one year from the time of conducting the survey.

Sources of data and instrument for data collection

Data for the study were collected from primary sources using structured questionnaire administered to the selected respondents through scheduled interviews conducted individually. The instrument

was validated by experts after which a pilot test was conducted on a subset of the study population to ensure that the study objectives were achieved. The data collected covers the socio-economic characteristics of the respondents, factors affecting the respondents' access to credit and their constraints to agricultural credit acquisition

Data analysis

Both descriptive and inferential statistic were used to analyse the data collected for this study. Descriptive statistical tools were used to analyse the socio-economic characteristics of the farmers; a four-point Likert-type scale was used to identify the respondents' constraints to credit acquisition. The Likert scale was coded and used for the study as: Strongly agree (4), Agree (3), Disagree (2), and strongly disagree (1). Binary Logit Regression Model was used to examine the determinants of households' access to agricultural credit in the study area. Access to credit by household heads was conceptualized as bivariate, taking the value of 1 for households with access in the last one year and 0 for lack of access in the same period. This was used as the dependent variable. Socio-economic variables as well as other indicator variables were used as independent variable and specified explicitly in the model as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + U$$

Where;

Y = Access to Formal Credit (1 = Yes, 0 = otherwise)

β_0 = Constant

X_1 = Age of the household head (years)

X_2 = Gender of the household head (Male = 1 : Female = 0).

X_3 = Educational status of the household head (Number of years).

X_4 = Distance (Kilometres)

X_5 = Membership of cooperatives (Yes = 1 : No = 0)

X_6 = Annual Income (Amount in Naira).

U = Error term

RESULTS AND DISCUSSION

Respondent's socio-economic characteristics

Respondents' socio-economic characteristics are presented in Tab. I. The Tabel showed that majority of the respondents were male (90%) due to homogeneity in their cultural and religious practices. The mean age was 41.39 years, and there were more married household heads (88.57%) than those divorced/widowed (11.43%). The average household size in the study area was 7 which is relatively large. Meanwhile, distribution of household heads by education revealed that majority of them had one form of education or the other (70%). About 96.42% of household heads interviewed were small scale farmers who cultivate between 1–5 hectares of land.

Respondent's Access to Formal Production Credit

The respondents' access to formal production credit is presented in Tab. II. The result revealed that, 87.14% of the households had not accessed any formal credit from financial institutions in the last 12 months, only 12.86% had access to the facility. Considering the encouragement given to financial institutions by the government to improve credit access by rural farmers, access to formal credit by the respondents is very low.

Among farmers who had access to credit facility (in Tab. 2), majority (72.22%) patronized Microfinance Banks, 16.67% got theirs from Bank of Agriculture (BOA), while 11.11% accessed the facility from Commercial Banks (as presented in Tab. III).

Determinants of Credit Access

The determinants of the respondents' access to formal production credit is presented in Tab. IV. The Binary logit model has a McFadden R-square of 0.729 which implies that about 73% of the likelihood of a respondent to secure formal credit is strongly

I: Socio-Economic Characteristics of the Respondents (N = 140)

Variable	Frequency	Percentage
Age (Years)		
20–29	12	8.57
30–39	51	36.43
40–49	40	28.57
50–59	29	20.71
60 and Above	8	5.72
Mean = 41.39 Years		
Sex		
Male	126	90.0
Female	14	10.0
Marital Status		
Married	124	88.57
Widowed/Divorced	16	11.43
Household size		
1–5	59	42.14
6–10	65	46.43
11 and above	16	11.43
Mean = 7 People		
Primary Occupation		
Farming	113	80.71
Trading	9	6.43
Civil Servant	8	5.72
Artisans	10	7.14
Educational Attainment		
No formal Education	42	30.0
Primary School	41	29.28
Senior Secondary School	40	28.57
Tertiary	17	12.15
Farm Size (Hectares)		
< 1	15	10.71
1–5	120	85.71
6–10	5	3.58
Total	140	100

Source: Field survey, 2014

II: Respondents' Access to Formal Credit

Status	Frequency	Percentage (%)
Accessed	18	12.86
Did not Access	122	87.14
Total	18	100

Source: Field survey, 2014

III: Financial Institutions where Respondents Had Accessed Formal Credit

Financial Institution	Frequency	Percentage (%)
Microfinance Banks	13	92.22
Commercial Bank	2	11.11
Bank of Agriculture	3	16.67
Total	18	100

Source: Field survey, 2014

IV: Parameter Estimates of Determinants of Access to Formal Credit by the Respondents

Variable	Coefficient	Std. Error	Z-Statistic
Age (X_1)	0.109206	0.066842	1.633804
Gender (X_2)	-3.054253	1.584884	-1.927115***
Education level (X_3)	0.274196	0.132431	2.070473**
Distance to access point (X_4)	-0.955078	0.430806	-2.216959**
Coop. membership (X_5)	0.010218	1.014701	0.010070
Annual income (X_6)	1.89E-05	6.96E-06	2.713343*
C	-2.187271	2.955073	-0.740175

Source: Eviews 7 software *, **, *** Significant at 1, 5 and 10%, respectively

V: Constraints to Accessing Formal Credit by the Respondents (N=140)

S/N	Constraints	SA	A	D	SD	Mean (X)	SD	Remark
1	Lack of collateral security	(67.1%)	(32.9%)	(0%)	(0%)	3.67	0.47	A
2	Financial illiteracy	(62.9%)	(35.7%)	(1.4%)	(0%)	3.61	0.52	A
3	Complex banking procedures	(63.6%)	(32.1%)	(2.9%)	(1.4%)	3.58	0.62	A
4	High Interest rates	(64.3%)	(35.7%)	(0%)	(0%)	3.64	0.48	A
5	Weak farmer groups	(48.6%)	(44.3%)	(4.3%)	(2.9%)	3.39	0.70	A
6	Distance to access points	(42.9%)	(54.3%)	(2.9%)	(0%)	3.40	0.54	A
7	Farmer's lack of interest	(22.1%)	(9.3%)	(65.7%)	(2.9%)	2.51	0.86	A

Source: Source: Field survey, 2014

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree, SD = Standard Deviation.

explained by the independent variables used in the study. The significant determinants of access to formal credit by rural farmers were; age, education, distance from access point, and income level of the respondents. The finding from the study revealed that Age (X_1) has a coefficient of -3.05 and significant at 10%. This implies that the probability of accessing formal production credit in the area reduces with age. This finding lends credence to the submission of Owusu (2017) who reported that age influences the probability of accessing formal credit by rural farmers in Ghana. The coefficient of years of formal education (X_3) is statistically significant at 5% level

and has a positive relationship with access to formal credit. Specifically, the probability of a farmer to access loan in the area is increased by 0.274 for respondents with higher level of formal education than their counterparts with no formal education. The result corroborates those of Anyiro and Oriaku (2011), Aliero and Ibrahim (2011), Etonihu *et al.* (2013) and (Owusu 2017) who stated that education plays a very significant (positive) role in ensuring formal credit access by farmers. Consistent with *a priori* expectation, the co-efficient of distance to access point (X_4) was negative and statistically significant at 5%. This implies that, respondents

who live in remote areas may have less chances to access credit from formal financial institutions compared to their counterparts that reside closer to those institutions. The result is substantiated by Bakhshoodeh and Karami (2008) and Anyiro and Oriaku (2011) Etonihu *et al.* (2013) who reported significant negative relationship between distance and formal credit access among farmers in Iran and Nigeria, respectively. Level of income was positive and statistically significant at 5% and in conformity with *a priori* expectations, it was positively signed. This suggests that wealthier respondents are more likely to access formal credit than others with lesser income due to their ability to provide collateral and bear costs of receiving credit. This result is consistent with those of Anyiro and Oriaku (2011), Aliero and Ibrahim (2011) who find level of income to be an important determinant of demand for credit. However, contrary to *a priori* expectation, the coefficient of membership of co-operatives was not significant in accessing formal credit in the area.

Respondent's Constraints to Credit Acquisition

The respondents' ability to access formal production credit in the area is constrained by some factors which are presented in Tab. 5. These constraints are common to all the formal financial institutions located in the study area. Foremost among these constraints were; lack of acceptable collateral/security ($X = 3.67$), high interest rates ($X = 3.64$), low financial literacy among the farmers ($X = 3.61$), and the complex nature of banking procedures for accessing credit ($X = 3.58$). Other problems include; weak nature of farmer groups/cooperative societies, long distance access points and total lack of interest to access formal credit for cultural and religious reasons. These outlined constraints have limited the respondents' ability to access credits that could have been used to improve their agricultural production capacities in the area.

CONCLUSION

The findings from this research revealed that age, level of education, distance to access point and income level were the main factors determining farmers' access to credit in the study area. Also, lack of collateral security, high interest rate, low financial literacy and complex banking procedures were among the major problems the respondents face in their bid to access formal credit in the area. Based on these findings, it is therefore, recommended that;

- For farmers to solve the collateral/security issue associated with credit acquisition, they should be encouraged by all rural development actors to form groups that will enable them pull resources together.
- Financial institutions should be encouraged to make their operational procedures in terms of credit administration much easier by modifying some of their operations to suite farmers, especially their eligibility criteria and other legal issues.
- Interest rate being charged by formal financial institutions in the area should be reduced to enable rural farmers to access credit facilities from the institutions.
- Adequate awareness should be created among the residents of the study area (to spur interest) on the need and processes of acquiring formal production credit facilities from Banks.

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