

Determinants of Micro Finance Accessibility among Tomato Farmers in Kokona Local Government area of Nasarawa State, Nigeria

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Abstract— This study was carried out to access the Determinants of micro finance accessibility among tomato farmers in Kokona Local Government Area in Nasarawa State. Primary data was collected from 60 tomato farmers from six Communities in Kokona Local Government Area using a structured questionnaire. Data was analyzed using descriptive statistics such as mean, percentages, frequency distribution, range and regression analysis. The results indicated that most of the respondents were young and able-bodied who could be productive for agricultural production in a given conducive atmosphere. Majority of the respondents were married and had 30 years and above farming experience. Results of the findings revealed that majority (73.3%) had access to credit while only 26.7% had no access to credit. The result also indicated that majority (80.0%) of the respondents were males while only 20.0% were female. Results from the findings revealed that larger proportion (26.7%) of the respondents had annual income between the range of ₦100,001- ₦150,000, while 21.7% had annual income ranging between ₦200,001- ₦250,000 and ₦50,000- ₦100,000 respectively. The result showed that all of the respondents (100.0%) of the farmers engaged in tomato farming had no access to extension contact. Results also revealed that majority (70.0%) of the respondents had farm sizes ranging from 1-2 hectares. The results of the multiple regression analysis revealed that the value of the multiple regressions co-efficient (R^2) was found to be 0.896, implying that the regression model accounted for about 89% of none zero variations in the study. The research work concluded by advocating the establishment of financial institutions in each local government headquarters of Nasarawa State for easy accessibility to loan by farmers.

Keywords— Tomato Farmers, Micro Finance, Kokona.

I. INTRODUCTION

Tomato (*Lycopersicon esculenta*) is an important vegetable crop grown in many parts of the world, contributing significantly to income security and the nutritive diets of many households. According to Mofekeet *al.* (2013) vegetable crops constitute 30 to 50% of iron and vitamin A in resource poor diet. Vegetable crops including tomatoes are widely cultivated in most parts of Sub Sahara Africa, particularly by small scale farmers in most states of Nigeria (Girohet *al.*, 2010). Global production of fruits and vegetables tripled from 396 million MT in 1961 to 1.34 billion MT in 2003 and Nigeria ranked 16th on the global tomato production scale, accounting for 10.79% of Africa's and 1.2% of total world production of tomatoes (Weinberger and Lumpkin, 2012).

Denton and Swarup (2010), observed that tomato production in the Northern States as in other parts of the country is done during the dry season, while its production is scarce during the rainy season because of high disease incidence associated with growing tomatoes and preference of tomato producers for grain food crops during rainy season. Nigeria is unable to meet its growing domestic requirements for vegetables, fruits, floriculture, herbs and spices, dried nuts and pulses. Between 2009 and 2010, Nigeria imported a total of 105,000 metric tons of tomato paste valued at over 16 billion Nairain order to bridge the deficit gap between supply and demand in the country (Food and Agriculture Organization, 2006).

Kalu (2013), attributed this situation to poor finance from financial institutions, socio-economic constraints surrounding the key actors in the tomato value chain, institutional weaknesses and declining agricultural research. According to Kalu (2013), Microfinance is the provision of a broad range of financial services such as deposits, loans, payment

services, money transfers, and insurance to poor and low-income households and, their micro-enterprises. Microfinance services are provided by three types of sources; formal institutions, such as rural banks and cooperatives; semiformal institutions, such as non-governmental organizations; and Informal sources such as money lenders and shopkeepers.

Mike(2002), observed that institutional micro finance include micro finance services provided by both formal and semiformal institutions. Microfinance institutions are defined as institutions whose major business is the provision of microfinance services. Ojo (2009) emphasized that the goal of Micro Finance Institutions as development organization is to provide service, the financial needs and underserved market as a means of meeting development objectives.

The rural farmers' savings ability is very low and they are unable to purchase new technology because of insufficient credit (Ogungbile and Olukosi, 2011). This situation in the rural area implies that farmers require assistance in form of credit in order to adopt new technologies to improve their farm productivity and income.

Agricultural credit therefore, means access to capital for the purpose of farming which payment will be made at later date (Alamu and Yakubu, 2009). While agricultural financing, according to Otu et al. (2014), can be classified as formal or informal. Formal financial institutions are subject to banking laws and other specific regulations governing their establishment. The informal financial institutions operate outside legal frameworks and are governed by social control mechanisms and norms. This sector is made up of money-lenders, friends, relatives, asusu or adashegroups, produce buyers, traders, merchants and local co-operatives.

In an attempt to solve farmers' agricultural production financing problems, the federal government has come in, in different ways to assist rural farmers. In 1973 the Nigerian Agricultural Credit Bank (NACB) was established to lend to state credit institutions at 5-6% interest rate and the states in turn were to lend to farmers at slightly higher rate of interest. The name was later changed to Nigerian Agricultural and Co-operative Bank (NACB) in 1978 to embrace co-operative activities and emphasize the importance of credit in agricultural production. However, the NACB has undergone some changes in name and functions, its name was change to Nigerian Agricultural, Co-operative and Rural Development Bank (NACRDB) limited and of recent it was renamed Bank of Agriculture (BOA) (Olukosi, 2007).

Central Bank of Nigeria in 1972 prescribed the size of credit allocation by banks to designated sectors. According to Balogun (2006), between 1969 and 1982, the commercial

banks were obliged to grant a minimum of eight percent (8%) of their total credit to agriculture at six percent (6%) interest and between 1971 and 1977, agricultural loans by commercial banks was at an average of three percent (3%) to the total commercial banks lending to economy which then grew to approximately to seven percent (7%) between 1978 and 1984. He further stated that, the mandatory sectoral allocation of loans and advances to agriculture was reviewed upward to twelve percent (12%) in 1985, fifteen percent (15%) in 1990 and eighteen percent (8%) in 1991. However penalty was attached in the form of amount in default being given interest free to the NACB by any bank who fails to comply with the guidelines.

Before the deregulation of interest rate in July 1987, lending to agriculture by financial institutions was completely through NACB and Agricultural Credit Guarantee Scheme Fund (ACGSF) at concessional rate of interest. Other efforts which were made by the FGN to induce a positive participation of banks in developing the rural financial markets were the two initiatives of rural banking scheme and agricultural credit guarantee scheme fund established in 1977/1978. The ACGSF guarantee 75% of the loan granted to farmers by commercial banks. The rural banking was equally initiated to remedy the anomaly of the skewed distribution of commercial banks between urban and rural areas. The CBN constrained commercial banks to establish a specified number of branches in the rural areas (Olukosi, 2007).

The informal source of credit constitute fund from relatives, friends, traders, merchant, money lenders, saving groups (adashe or asusu), and these are institutions which meet short term production or consumption needs. Miller (2007) stated that the informal source is the most extensive supplier of credit in Nigeria, yet the source has not supplied the amount of credit required nor has it provided credit on the terms required by farmers to modernize their farming method on a short term basis and the interest charge are sometimes greater than 100% annually. This shows that the informal sources are very easy means but very expensive source of credit to rural sector.

II. JUSTIFICATION OF THE STUDY

Over the years, lack of access to finance has been identified as one of the major constraints to small business growth (Owualah, 2011; Lawson, 2011). The reason is that provision of financial services is an important means for mobilizing resources for more productive use.

Tomato production is done by small scale farmers in Nigeria and small and medium enterprises are believed to be the

engine room for the development of any economy, because they form the bulk of business activities in a growing economy like that of Nigeria. This is manifested in the following ways, Employment generation, rural development, Economic growth and Industrialization and Better Utilization of Indigenous Resources.

A whopping sum of N11.7 billion is spent annually to import processed tomato paste into the country. The productivity and economic value of this vegetable crop in Nigeria is hindered by an array of factors that make its cultivation difficult and cumbersome. Inadequate finance, Pests and diseases are major factors in the low tomato production. Storage technologies for the fruit need to be modernized to avoid post-harvest losses. Farmers usually practice rain fed agriculture and at the peak of the season there is a glut that results in very high losses.

Nigeria tomato production is increasing over the decades but her production output has not been able to meet up the ever growing population. This may be attributed to the fact that majority of the Nigerian agricultural production is done by the small scale farmers. This has mitigated their production output and also, their inability to access loan from financial institutions.

For Nigeria to be able to expand her production, adequate policies that can guarantee better production technologies, adequate finance, and expansion of production inputs must be put in place. Over the years, farmers have not been capacitated to acquire loan and this has crippled production expansion. It becomes crucial to assess farmers' access to finance and the effects of farmers' inability to access this finance in Kokona Local Government Area of Nasarawa State.

The findings of this study will also serve as information source and knowledge for individuals especially students wishing to go in for further research on the effect of micro-finance on tomato production. It will also create room for financial institution to understand the loopholes crippling small scale farmers in Nigeria at large and Kokona Local Government in particular.

Objectives of the Study are to:

- i. describe the socio-economic characteristics of tomato farmers in the study area;
- ii. analyze the effect of farmers demographic variables on the ease of acquiring loan in the study area;
- iii. identify the main sources of finance used by respondents in the study area; and
- iv. identify the constraints militating against farmers accessing credit for tomato production in the study area.

III. METHODOLOGY

The research was carried out in Kokona Local Government Area of Nasarawa State, Nigeria. Kokona is a Local Government Area in Nasarawa State, Nigeria and its headquarters is located in Garaku. It has an area of 1,844 km² and a population of 109,749 inhabitants (NPC, 2006). It is located between latitude 8° 51'N and longitude 5°05' E. The mean annual rainfall range from; 14.2mm to 229.4mm with the highest in August and lowest in April, The mean annual temperature of the area in a year range from 19.3°C to 23.8°C. The annual mean humidity varies from 32% to 86 %. (NMA, Lafia, 2013). The major tribes in the area include; Gwandara, Mada, Afo, Hausa, Fulani, and Eggon. The economic activity in the area is largely agrarian where majority of the people live as subsistence farmers who cultivate crops such as yam, sesame, rice, cassava, sorghum, millet, cowpea, groundnut and other crops.

Population and sample selection

The population of the study area comprises of tomato farmers. A simple random sampling procedure was employed for selection of respondents for the study. Kokona Local Government Area has about 200 communities from which six communities namely; Angwa Doka, Kokona, Bukoko, Sabo Ruwa, Garaku and Amba was randomly selected. Next involves the random selection of ten (10) tomato farmers from each of the six (6) communities giving a sample size of sixty (60) respondents for the study. The data for this study was obtained from primary sources through a structured questionnaire. The data also cover relevant information on the objectives of the study.

Analytical Techniques

Descriptive statistics such as mean, percentages, frequency distribution and range were used to achieve objectives i, iii and iv, while objective ii was satisfied using regression analysis. The linear form of the model is stated explicitly as follows:

Multiple regression analysis was used to satisfy objective iv.

The model is expressed as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + \mu.$$

Where;

Y	=	Annual income of respondents in naira
X ₁	=	Age of farmers (years)
X ₂	=	Years of experience of farmers in tomato farming (years)
X ₃	=	Farm size (hectare)
X ₄	=	Educational level (No of years spent in school)
X ₅	=	Household size
X ₆	=	Annual income (₦)

X_7	=	Extension Contact (yes =1 No=2)
$b_1 - b_7$	=	Regression coefficients
a	=	Constant term
μ	=	Error term

IV. RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents

The results from Table 1 show that majority (51.7 %) of the tomato farmers were within the age bracket of 41-50, 23.3% were within the age bracket of 31-40 years, while 6.7% were within the age bracket of 20-30 years. The mean age was 45.5 years, meaning they were in their active age. This supports the findings of Bawaet *et al.* (2010) who reported that crop farmers in Borno State, North-East Nigeria, were at their economically active age and were able to access loan from financial institution due to their receptive ability to take risk in crop production activities and this were youths within the economically productive age range of 18-40 years. Ogunbameru (2001) also asserted that young and middle aged people are the most active in agricultural production activities for increased productivity.

Table 1 also revealed that larger proportion (33.3%) of the farmers engaged in tomato farming had primary education, 31.7 % had secondary education, 26.7% had no formal education and only 8.3 % had tertiary education. It can be deduced from the finding that 73.3% of the tomato farmers were literate. This will increase their ability to access loan from bank as educated individuals understands the processes involved in accessing loan from financial institutions. Education has been discovered to be highly related to effectiveness of work and economic function (Meskel, 2010). This findings share a common view with Abdullahi and Abdullahi (2011) work who reported that western education facilitates farmers' ease of accessing agricultural credit for efficient productivity.

The results from table revealed that majority (71.7 %) of the tomato farmers had household size within the ranges of 5-10 persons, 16.7 had household size within the ranges of 11-15 and only 11.7% had household size less than 5 persons. The mean household size was 7.5 persons. Large household size could provide educated individuals who could understand the processes of accessing loan from financial institution.

Table 1 indicated that all of the respondents (100.0%) of the farmers engaged in tomato farming had no access to extension contact. This is an indication of poor extension service delivery. This may be due to the poor funding in the Nigerian extension system and the poor attitude of extension agents towards their job.

Results from table 1 revealed that majority (70.0%) of the respondents had farm sizes ranging from 1-2 hectares, while only 30.0% of the less than 1 hectare of farm size to cultivate their tomato. The mean farm size was 1.2. This is an indication that most of the tomato producers were small holders and this can hinder large scale production of tomato and could also discourage them from applying for loan from financial institutions. This is a typical characteristics of Nigerian farmers. Most Nigerian farmers are small scale farm holders and this has been the bane of agricultural development in developing countries.

The result also indicates that majority (80.0%) of the respondents were males while only 20.0% were female. This suggests that most of the farm work were undertaken by men in the study area. This agrees with the claims of Ojo and Jibowo (2008) who in their study revealed that leadership roles visa- vise decision making are dominated by the men folk and women are not always given access to productive resources which can serve as a collateral to accessing loan from financial institutions especially in northern Nigeria.

Table 1 indicated that majority (90.0 %) of the tomato farmers were married. This could also mean more educated individuals and increase ease of loan access. Ojo and Jibowo (2008) in his study of farmers' adoption to agricultural innovation observed that household with large number of individuals have more educated individuals.

Table 1 shows that larger proportion (41.7 %) of the respondents had farming experience above 30 years, 31.7% had farming experience between 21-30 years and only 26.7% had farming experience of between 10 and 20 years. The mean farming experience was 26 years. Abdullahi and Abdullahi (2011) observed that tomato farmers in the study area were experienced and high farming experience could increase farmers ability of taking farm production risk which could encourage them to apply for loan.

Results of the findings revealed that majority (73.3%) had access to credit while only 26.7% had no access to credit. This implies that tomato producers in the study area had the ability to access loan from one source or the other. Access to loan can increase input purchase and in turn increase farm productivity.

Results from the findings revealed that larger proportion (26.7%) of the respondents had annual income between the range of ₦100,001- ₦150,000, while 21.7% had annual income ranging between ₦200,001- ₦250,000 and ₦50,001- ₦100,000 respectively. The mean annual income was ₦146,883. Kuponiyi, (2000) in his study observed that income provides capital that improves crop production and farmers' ability to expand their production capacity.

Table.1: Socio-economic Characteristics of Respondents

Characteristics	Frequency	Percentage	Mean value
Gender			
male	48	80.0	
female	12	20.0	
Total	60	100.0	
Age			
20-30	1	1.7	
31-40	14	23.3	
41-50	31	51.7	45.5
51-60	10	16.7	
above 60	4	6.7	
Total	60	100.0	
Marital Status			
married	54	90.0	
divorced	1	1.7	
widowed	5	8.3	
Total	60	100.0	
Household Size			
less than 5	7	11.7	
5-10	43	71.7	7.5
11-15	10	16.7	
Total	60	100.0	
Educational Status			
primary education	20	33.3	
secondary education	19	31.7	
tertiary	5	8.3	
non formal	16	26.7	
Total	60	100.0	
Farming Experience			
10-20	16	26.7	
21-30	19	31.7	25.6
greater than 30	25	41.7	
Total	60	100.0	
Extension Visit			
No	60	100.0	
Total	60	100.0	
Occupation			
full time farming	39	65.0	
part time farming	21	35.0	
Total	60	100.0	
Farm Size			
less than 1	18	30.0	
1-2	42	70.0	1.2
Total	60	100.0	
Access to credit			
yes	44	73.3	
no	16	26.7	
Total	60	100.0	

Annual Income		
1-50,000	6	10.0
50,001-100,000	13	21.7
100,001-150,000	16	26.7
150,001-200,000	13	21.7
200,001-250,000	6	10.0
250,001-300,000	2	3.3
above 300,000	4	6.7
Total	60	100.0

Source: Field survey, 2017

Farmers' Demographic Variables and their ease of Acquiring Loan

The results of the multiple regression analysis as presented in Table 2 revealed that the value of the multiple regressions co-efficient (R^2) was found to be 0.896. This implies that the regression model accounted for about 89% of none zero variations in the study model. This shows that independent variables determine about 89% of variations in the farmers' access to loan. Thus, the regression has a good fit to explain the relationship of farmers' loan access and socio-economic factors that determine farmers' ability to access loan from financial institutions. The result from Table 2 showed that, farm size and educational status of the tomato farmers were significant at one percent and ten percent respectively.

However, the age and farming experience, their family size of tomato farmers in the study area were not significant. The regression analysis also showed that Farm size and educational status of tomato farmers were positively correlated with their ability to access loan. This means that an increase in any of these variables will lead to an increase in their ability to access loan. However, the age, farming experience, the family size of the respondents was negatively correlated with their ability to access loan. Implying that increasing this variable will reduce the tomato farmers' ability to access loan from financial institution due to so much family responsibility which could divert money meant for tomato production to family responsibilities.

Table.2: Farmers' Demographic Variables and their ease of Acquiring Loan

Variables	Coefficients	Standard Error	t-value
(Constant)	4.542	0.052	87.617***
Age	0.019	0.020	0.974 ^{NS}
farming experience	0.008	0.024	0.331 ^{NS}
farm size	0.377	0.024	15.480***
Education status	0.022	0.011	1.936*
Family size	-0.002	0.031	-.073 ^{NS}

Source: Field survey, 2017 NS= Not significant ***significance at 1% level of probability. *significance at 10% level of probability

$R^2 = 0.896$; F. Value = 93.36

Results from Table 3 revealed that larger proportion (48.3%) of the respondents had no access to credit institutions, 26.7% accessed loan from local lenders, while only 25.0% of the accessed loan from friends and relatives. This implies that local farmers do not have access to loan in the study area. Credit availability is essential to improved inputs purchase and farm productivity. This supports the findings of

Adelani et al. (2007), who on their analysis of constraints that affect smallholder farmers in the production of tomatoes in Ga-Mphahlele, LepelleNkumbi Municipality, Limpopo Province, South Africa, that farmers in rural areas do not access loan from financial institution due to their inability to provide collateral security.

Table.3: Source of Credit to Tomato Farmers

Source	Frequency	Percentage
No source	29	48.3
Local lenders	16	26.7
friends and relatives	15	25.0
Total	60	100

Source: Field survey, 2017

Constraints Militating Framers from Accessing Loan

Results from Table 4 showed that larger proportion (53.3%) had inadequate extension services and high interest rate as their major constraints, 43.3% had inadequate information on how to access loan as their constraints, 36.6% had insufficient credit source as their constraints, while 28.3% of the respondents considered illiteracy as a factors militating

them from accessing loan from financial institutions. This implies that tomato farmers in the study area had numerous factors preventing them from accessing loan from financial institutions. This is in line with Bediakoet *al.* (2007) who observed that high interest rate, lack of collateral security, illiteracy, and poor extension education as factors that militate farmers ability to access loan from credit institutions.

Table.4: Constraints Militating Farmers from Accessing Loan (n=60)

Constraints	Frequency	Percentage
Lack of collateral security	20	33.3
Inadequate land	11	18.3
High rate of illiteracy	17	28.3
Inadequate information on how to access loan	26	43.3
Inadequate extension support	32	53.3
High interest rate	32	53.3
Insufficient credit source	22	36.6
size of loan or credit requested	6	10
loan repayment ability	9	15
Total	175*	

Source: Field survey, 2017*Multiple response allowed.

V. CONCLUSION

The findings of the study revealed that tomato farmers in the study area had numerous problems that affect their ability to obtain loan from financial institutions. These are high interest rate, poor extension services, lack of collateral security, and illiteracy. These factors tend to reduce their production efficiency and productivity. Based on the findings in the study area, the following suggestions are recommended: -

The high interest rate attached to loan should be removed to encourage farmers to easily apply for loan. Government and non-governmental organization should establish sufficient financial institutions in Kokona Local Government that can make loan available to farmers at none single digit interest. Extension agents should educate farmers on how to access loan from financial institutions

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