EFFECT OF INFORMAL CREDIT ON YAM PRODUCTION IN SHIRORO LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA

Ogaji A., Oseghale A.I. and Yusuf M. O.

Department of Agricultural Economics and Farm Management, Federal University of Technology, Minna, Niger State, Nigeria

Corresponding Author Email/Phone number: itodine.agatha@futminna.edu.ng

ABSTRACT

The study examined the effect of informal credit on yam production in Shiroro Local Government Area of Niger State .The specific objectives were to describe the socioeconomic characteristics of yam farmers, identify the sources of informal credit ,determine the effect of informal credit and finally, to identify the problems associated with the acquisition of informal credit in the study area. Primary data were collected from 138 randomly selected yam farmers using multistage-sampling techniques. A well-structured questionnaire was used to elicit the information. Data obtained wereanalyzed using descriptive statistics (frequency, mean, percentage) and multiple regression. The findings revealed that majority (87.68%) of the respondents were male and they had a mean age of 44 years having one form of formal education (56.52%) or the other. Based on the findings the major source of informal credit identified in the study area was loans from friends and family (76.81%). The results of the regression analysis revealed that informal credit obtained had positive effect on yam production with coefficient of 1.790 and was significant at $P<0.1$. The study concluded that informal credits have positive effect on yam production which means that the more the use of informal credits by the farmer, the more the output of yam. It was recommended that lenders should repay as at when due so as to be considered for more informal credit in subsequent time.

INTRODUCTION

Credit is an important instrument for improving the welfare of the poor (Okurut et al.,2004). It also enhances productive capacity of the poor through financing investment in their human and physical capital (Okurut*et al.,* 2004). Credit is considered as a major aspect of financial services which is fundamental in all production units (Dicken, 2007). Every segment of agricultural production requires the availability of adequate capital since capital determines access to all other resources on which farmers depend (Ayoola and Oboh, 2000).

Credit availability to agriculture is justified when farmers are faced with low savings capacity, poorly developed rural financial markets and limited appropriate farm technologies whose adoption is constrained by shortage of funds (Nwaru, 2004). Traand Lensink(2004) said that the demand for credit has increased as a result of increased economic activities in the informal sector. This shows why farm credit has become acritical factor in modeling the growth of agricultural productivity and the development of the rural economy, which consists mainly of agriculture basedeconomic activities (Nwaru*et al.,* 2004).

The nature and operation of formal sources have failed in delivering credit to a larger proportion of the farmers and also in promoting a viable delivery system, which have caused an increase in the patronage to informal credit sources by rural farmers and other entrepreneurs (Egbe, 2000; Mejeha *et al.,* 2007; Udoh, 2005). According to Basu, 1997; Hoff and Stglitz, 1990 as cited by Nwaru *et al*., (2011), apart from the inability of rural dwellers to access these relatively cheap funds, reducing the exorbitant rates of interest in the informal sector by lowering the cost of funds to the lenders is far from being achieved.

However , as argued by Gebrekidan (2006) , informal credit sources are unquestionably the most popular sources of finance to the rural and urban population because the formal credit sources have scared many food crop farmers due

to the burdens surrounding its use (Yusuf *et al.*,2015).Unregulated money supply, easy accessibility, easy liquidity and low administrative bottlenecks, collateral free lending, proximity, timely delivery and flexibility in loan transaction are some of the attractive features of informal credit sources to the farmers (Khandler and Farugee, 2001; Srinivas, 1993) as sited by Nwaru *et al.,* (2011). Informal credit sources available to rural farmers include loans and gifts from Friends and Relatives, Thrift, ' Esusu/Adashi' clubs (traditional savings association), Agricultural Money Lenders, Cooperative societies, commission agents , traders and shopkeepers among others (Yusuf et al., 2015).This research aims to contribute to the debate on the effect of informal credit on yam production in the study area.

METHODOLOGY

Study area

This study was carried out in Shiroro Local Government Area of Niger State, Nigeria. Shiroro Local Government Area occupies an area of 5,015 square kilometer with a population of 235,404 (NPC, 2006 census). It is located on latitude $90^{o}.58^{1}$N and$60^{o}.38^{1}$E.). Agriculture is the traditional occupation of the people of this local government. Besides agriculture, they engage in petty trading and few of them are in the civil service. The headquarter is located in Kuta, it has 15 political wards and their major occupation is farming.

Sampling techniques and Method of data collection

Multi-stage sampling technique was used to sample the respondents in the study area. Thefirststage involved the purposive selection of ShiroroLocal Government Area due to high preponderance of yam production in the area. The second stage involved the random selection of three (3) wards from the selected local government area. The third stage involved random selection of two (2) villages from each ward selected from the study area making a total of six (6) villages. Primary data was used for this study. The primary data

was collected using a structured questionnaire complemented with interview schedule with the aid of trained enumerators to collect information from the farmers that can neither read nor write.

Method of data analysis

Descriptive statistics, 3-pionts Likert scale and Regression analysis was used to analyze the data collected. The Descriptive statistics was used to describe the Socioeconomic Characteristics of yam farmers in the study area. The 3-pionts Likert scale was used to categorize the problem associated with the acquisition of informal credit in the area of study.

Regression analysis was used to determine the effect of informal credit on yam production.

The implicit form of the model is specified as follows:

Y=f(X1, X2, X3, X4, X5, X6, X7, e) ……(1)

The functional forms of the regression model specified in its explicit form are as follows:

Linear equation

$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots \ldots \ldots \ldots \beta_{10} X_{10} + e$……

(2)

Double- log function

$Log\ Y = a + \beta_1 logX_1 + \beta_2 logX_2 + \beta_3 logX_3 + \cdots \ldots \ldots \ldots \beta_7 logX_7 + \log e$……

(3)

Semi – log Function

$Y = a + \beta_1 logX_1 + \beta_2 logX_2 + \beta_3 logX_3 + \cdots \ldots \ldots \ldots \beta_7 logX_7 + \log e$…… (4)

Exponential function

$$\log Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots \ldots \ldots \ldots \beta_7 log X_7 + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

Where;

Y = Output (tons)

X_1 =Farm size (hectare)

X_2 =Labour input (man-days)

X_3 == Yam seed (kilogram)

X_4 = fertilizer (kg)

X_5 =Agrochemical(L)

X_6 = Manure(kg)

X_7 = Informal Credit obtained (Naira)

$\beta_1 - \beta_{10}$ are coefficients to be estimated

a is constant term

e is an error term

RESULTS AND DISCUSSION

Table 1 shows the distribution of respondent according to socioeconomic characteristics of yam farmers in the study area. The result of this study showed that, 36.96% of the respondent fell within the ages of 41-50 and 21.74% were 50years and above. The mean age was 44. This implies that average families in the study area were in their active age which makes them to be more flexible in their decision to obtain informal credit. The result from the study showed that87.68% of the respondents were males while just 12.32% were females. This implies that men are more engaged in farming activities than women in the study area. Hence, the high level of responsibility which could be the reason

why small-scaleyam farmers use informal credit to improve and increase yield. It was also observed in table 1 that majority (44.20%) of the farmer had a family size of between 6 and 10 individuals with mean household size of9 persons. This implies that large household is a key source of labour that helps support the respondents (farmers) in their activities. Furthermore, study showed that Formal education is more readily promoted in the study area as compared to non-formal education. Indeed, (56.52%) of the respondents had formal education against forty-one percent (43.48%) for non-formal education.

Table 1:Distribution of Respondent according to Socioeconomic Characteristics

Variable	**Frequency (%)**
Age	
21-30	21(15.22)
31-40	36(26.09)
41-50	51(36.96)
Above 50	30(21.74)
Mean	**44**
Gender	
Male	121(87.68)
Female	17(12.32)
Household size	
1-5	40(28.99)
6-10	61(44.20)
11-15	16(11.59)
Above 15	21(15.22)
Education	
Formal	78(56.52)

Non-formal	60(43.48)

Source: Field survey, 2019

According to the study as shown in the table 2, majority of the farmer in the study area had access to informal credit accounting for about 90.58% and only few (9.42) of them do not have access to informal credit. This means that most of the farmer in the study area uses informal credit from one informal source or the other for the production of yam. This may be because majority of the farmer in the study area belong to one cooperative society or the other. The result also revealed that the farmers' main source of informal credit was loans from friends and family, which accounted for about 76.81% as shown in table 3. The reason may be due to the fact that the interest rate by this informal source is comparatively lower and more convenient to payback.

Table 2: Distribution of respondents by access to informal credit

Access to Informal credit	**Frequency (%)**	**Average Amount(₦)**
Access	125(90.58)	71,509.43
No access	13(9.42)	0.00

Source: Field survey, 2019

Table 3: Distribution of respondents by sources of informal credit

Source of informal credit	*Frequency (%)
Friends and family	106(76.81)
Esusu and Adashi	77(55.8)
Cooperative society	66(47.83)
Thrift	55(39.86)
Commission agents and traders	14(10.14)
Agricultural lenders	7(5.07)

Source: Field survey, 2019

***Multiple responses recorded**

The result of multiple regression on the effect of informal credit on yam production as presented in table 4 shows that the coefficient of farm size has positive effect on the production of yam and it was significant at 1% probability level. The estimated elasticity of mean output with respect to the farm size was 0.239; this implies that for every 1% increase in farm size, there will be an increase in the output of yam by 0.239%. farm size is directly related to the amount of credit to be obtained, In other word the larger the farm size the higher the amount of credit that would be used for yam production this finding is in collation with finding that says increase in farm size have positive relationship with output (Amaza, et al., 2009) in contrary with the finding that says farm size is inversely proportional to the decision of farmer to use informal credit. The result also revealed that the coefficient (0.542) of labour was positive and significant ($P<0.01$). This means that for every increase in the number of labourers by 1% there will be an increase in the output of yam by 0.542%. This finding correlate with the finding of Ashaolu (2011) on his study on the microcredit effect on agricultural productivity. The findings also showed that seed have positive effect on yam output and it was significant at 0.01% probability level with a coefficient of 0.269%. This means that for every 1% increase in the quantity of seed used the

increase in the level of output of yam by 0.269%. More so, manure was positively significant at 0.1% probability level with a coefficient of 0. 039.this connotes that every 10% increase in manure will lead to 0.039% increase in the output of yam. Finally, the amounts of informal credit obtained have positive effect on the output of yam. It has a coefficient of 0.019 and it is significant at 0.1% probability level. This implies that for every increase in the amount of informal credit obtained, there will be increase in the output of yam by0.019%. This means that the availability and the amount of loan obtainable from informal sources is a determinant of level of production of the yam farmers. This is so because farmers would have, at least, some investment capital to buy production inputs that would raise the output level. Hence, as the amount of loan receivable from informal sources increases, then, the production of yam improves. The frequency distribution of the problem associated with the acquisition of informal credit in the area of study using the 3-points likert scale as shown in table 5, revealed that improper record keeping ranked first with a mean of 2.37 followed by Incompetent participants, High interest rate, Restriction on the use of credit and Short repayment time respectively. The explanation given by the farmers was that they were unable to realize more money due to failure in crop yield, because of this, they were unable to pay back at the stipulated time .This result correlate with the findings of Yusuf et al., (2015) that opined that majority of the farmers have the problem of short repayment time.

Table 4: Effect of informal credit on yam production

Variables	Linear coefficients	Doublelog coefficients	Semi log coefficients	Exponential coefficients
constant	-1433.70(-3.10***)	2.76(3.90***)	5.24(33.27)	-4004.83(-1.480)
Farm size	183.07(1.05)	0.24(2.72***)	0.01(-0.15)	57.17(1.71*)
Labour	71.45(3.7***)	0.54(3.48***)	0.04(6.63***)	765.45(1.29)
Seed	0.08(0.45)	0.27(2.58***)	0.00(0.44)	396.07(1.00)
Fertilizer	2.62(2.30**)	0.14(1.15)	0.01(2.30***)	211.86(0.45)
Agrochemical	-0.37(-0.04)	0.05(0.50)	0.01(2.18**)	-17.33(-0.05)
Manure	0.10(0.03)	0.04(1.66*)	-0.00(-0.35)	140.94(1.58)
Informal credit	0.03(8.14***)	0.12(1.79*)	5.69(4.59***)	71.26(1.80*)
R-squared	0.56	0.62	0.60	0.29
Adj. R-squared	0.54	0.60	0.58	0.25
F-value	23.79	29.76	28.09	7.50

Figures in parenthesis are t-values
*****,**,* implies significance at 0.01,0.05 and 0.1 probability levels**
Source: Field Survey 2019

Table 5:Problem associated with the acquisition of informal credit

Constraints	Sc Freq (%)	NSC Freq (%)	NC Freq (%)	Weighted sum	Weighted mean	Rank	Remarks
Improper record keeping	82(59.42)	25(18.12)	31(22.46)	327	2.37	1st	Constraint
Incompetent participants	63(45.65)	26(18.84)	49(35.51)	290	2.10	2nd	Constraint
High interest rate	48(34.78)	52(37.68)	38(27.54)	286	2.07	3rd	Constraint
Restriction on the use of credit	47(34.06)	51(36.96)	40(28.99)	283	2.05	4th	Constraint
Short payment time	46(33.33)	49(35.51)	43(31.16)	279	2.02	5th	Constraint
Illiteracy level	21(15.22)	58(42.03)	59(42.75)	258	1.87	6th	Not a constraint
Delay in approval of loan	35(25.36)	43(31.16)	60(43.48)	251	1.82	7th	Not a constraint
Delay in loan disbursement	23(16.67)	53(38.41)	62(44.93)	237	1.72	8th	Not a constraint
Lack of collateral	17(12.32)	34(24.64)	87(63.04)	206	1.49	9th	Not a constraint
Lack of guarantor	15(10.87)	34(24.64)	89(6.49)	202	1.46	10th	Not a constraint

Source: Field Survey, 2019.

Note: SC= Serious constraint, NSC=Not a serious constraint NC=Not a constraint

Figures in parenthesis are percentages.

CONCLUSION AND RECOMMENDATIONS

The study concluded that informal credit have positive effect on yam production which means that the more the use of informal credit by the farmer, the more the output of yam .also access to informal credit could offer more opportunities to farmers in terms of higher profit, expansion of farm holding, reduction of risks and enjoyment of economies of large scale production with the associated benefits of reduction in the cost of operations and increase in returns. Based on the result, the study recommended that lenders should repay as at when due so as to be considered for more informal credit in subsequent time. Furthermore, farming communities should be transformed with the provision of basic amenities such as good motorable roads, water, electricity, schools and hospital. This will make transport available at reduced cost and encourage the youths to reside in their rural communities and thus offer their services to the yam farming business.

REFERENCES

Ashaolu, O.F., Momoh, S., Philip B. B. and Tijani I. A. (2011). Micro credit and effects on agricultural productivity: A Comparative Analysis of Rural farmers in Ogun State, Nigeria. (www.ajol.info/index.php/ijaaar/.../79536). Retrieved: 30/04/14

Ayoola, G.B. (2001). Essays on the Agricultural Development Policy andAdministration inNigeria". TMA Publications, Ibadan.

Dicken, P. (2007). Global Shift: Mapping the Changing Contours of the World Economy. 5th Edition, London, California, New Delhi: Sage Publications Inc.district of central region of Ghana. *J. Dev. Agric. Econ.* 4(14):416-423.

Gebrekidan, A. (2006). The impact of micro financing institutions on the livelihood of the rural poor. Seminar Series, Department of Business Management, Adama University, Nazareth, Ethiopia.

H. O. Yusuf, P. Ishaiah, O. Yusuf, H. A. Yusuf and H. Shuaibu1(2015). The Role of Informal Credit on Agriculture: An Assessment of Small-Scale Maize Farmers Utilization of credit in Jema`a Local Government Area of Kaduna State, Nigeria. *American Journal of Experimental Agriculture* 5(1): 36-43, 2015

2231-0606

Mejeha, R. O., &Ifenkwe, G. E. (2007). Density and microfinance service coverage of rural banks in Nigeria. International Journal of Agriculture and Rural Development 10(2):1-6.

NationalPopulationCensus (2006). Minimization in Agricultural Lending under ACGSF in Bauchi State, Nigeria, Proc.Ann.

Nwaru, J. C., Onyenweaku, C. E., Nwagbo, E. C., & Nwosu, A. C. (2004). Determinants of rural farm loan repayment: implications for rural credit markets development in Imo State, Nigeria. *Journal of Agricultural and Food Science*2(1), 57-67.

Nwaru, J.C. (2004). Rural Credit Market and Arable Crop Production in State Unpublished Research Finding Presented to the College of Agricultural Economics, Rural Sociology and Extension. Michael Okpara University of Agriculture Umudike, Abia State, Nigeria.

Nwaru, J.C. (2005). Interest Rate, Farm Credit Demand and Supply, theirDeterminant and Implication of Rural Credit Market in Imo State, Nigeria.*Journal of Agriculture and Science.* 3(2), 137 – 149.

Okurut N, Schoombee A, Van der Berg S (2004). Credit demand and credit rationingin the informal financial sector in Uganda. Paper to the DPRU/Tips/Cornell conference on African Development and Poverty reduction: The Macro-Micro linkage October 2004.

Tra, P. T., &Lensink, R. (2004). Household borrowing in Vietnam: acomparative study of default risk of informal, formal and semi - informal credit. Paper presented at the Expert Group on Development Issues (EGDI) and United Nations University (UNU) – World Institute for Development Economics Research (WIDER) Conference. Unlocking human potential: linking the Informal and Formal sectors. Helsinki, Finland.

Udoh, E. J. (2005). Demand and control of credit from informal sources by riceproducing females of Akwa Ibom State, Nigeria. *Journal of Agriculture and Social Sciences*1(2), 152-155.