ACCESS TO INFORMAL CREDIT AND ITS EFFECT ON CASSAVA PRODUCTION IN YEW A DIVISION OF OGUN STATE, NIGERIA

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Abstract

In Yewa Division of Ogun State, farmers do not have sufficient access to formal credit source therefore, the study was carried out to analyse the access of cassava farmers to the only alternative source of capital investment, informal credit sources. A multistage random sampling technique was used to select the 120 respondents used in this study. Results indicate, that 68.3 percent of the respondents used informal credit sources 94.7 percent of the respondents are males. The results of the logit regression analysis showed that Age, Education, Experience, Farm size, hired labour and marital status arc the determinants of the use of informal sources of agricultural credit. While farm size, years of formal schooling, household size and hire labour determine the volume of credit used from informal source, amount of credit used was found to be very significant in determining the level of cassava output in the study area.

Introduction

Taking into cognizance the central role which cassava plays in ensuring food security in Nigeria, government at various levels in Nigeria have formulated strategic plan for development, to promote cassava production. As a fall out from this plan, the Federal Government launched a presidential initiative on cassava production and export in July, 2002 in Nigeria. The cassava initiative seeks to generate about US$ Sbillion in export revenue by 2007. In order to actualize this initiative, it was determined that at least I50mi!lion tones of cassava should be produced by the end of 2006 (IFA D, 2007)

According to the cassava initiative policy, is to compel, by legislation, the inclusion of cassava flour in bread making in Nigerian, in the ratio of 90% wheat flour and 10% cassava flour as against the subsisting 100% whole wheat bread presently consumed. The new policy measure of the Federal Government of Nigerian also compels 10% inclusion of cassava flour in other confectioneries. This policy encourages exportation of cassava in order to earn foreign exchange. Cassava is the fourth staple food in the world and Nigerian's output of cassava is by far the highest in the world; about a third more than production in Brazil and almost double the respective volume of production of Indonesia and Thailand. Cassava production in each of the other African countries, who are also major producers, namely: Democratic Republic of Congo, Ghana, Madagascar, Mozambique, Tanzania and Uganda appears small in comparison to Nigeria's substantial output (Federal Office of Statistics (FOS), 2002; Programme Coordinating Unit (PCU), 2003; International Institute for Tropical Agriculture (IITA), 2004) By the year 2002, estimate of cassava output in Nigeria was put at

about 34million tones, but by 2003 the output has risen to about 37million tones (Central Bank of Nigeria (CBN), 2002; Food and Agricultural Organization (FAO, 2004)

If the new policy will be successful, Nigeria would have to increase the production of cassava greatly in order to meet both the domestic and foreign market demands. A large proportion of cassava currently produced in Nigeria, is consumed locally of which, gari (granular form) accounts for about 70% of total demand (1ITA, 1997).

Government at various levels have started making efforts to sensitize farmers to go into small scale cassava farming through their cassava stem multiplication programme. In spite of this programme, it appears that Nigeria agriculture, in its present mode, cannot meet the expected supply for cassava. Studies show that the cost of producing a ton of cassava here in Nigeria is about N 5,000 whereas in countries such as South Africa, it's less than N 1500. (Onyeweaku and Fabiyi, 1991; Youssouf, 2000; Nweke, Ugwu, Dixon, Asadu and Ajobo, 1997; Chukwiyi, 2006). This is an indication that necessary input such as investment capital to acquire modern technology for scale production are not in place or out of reach of cassava farmers therefore, accounting for high cost of production.

It therefore, becomes imperative for Nigerian cassava farmers to raise investment capital that will be sufficient to meet the challenges of the policy through the use of Agricultural Credit.

Despite the key role of agricultural credit, cassava farmers' access to formal credit has been difficult due to high cost of capital, risks of small scale lending and lack of collateral (Okorie, 1992). Most formal credit institutions have failed in reaching rural people in Nigeria (Okorie, 1992; Okorie and Iheanacho, 1992). Financial institutions are mostly located in the towns and cities and have hardly reached the rural population consequently, cassava farmers have been relying almost exclusively on informal credit generated from within the rural areas (Iheanacho, 1996). Informal credit sources available to rural farmers include Friends and Relatives, Money Lenders, and Traditional Cooperatives. If cassava farmers would need informal credit, then questions arise such as:

(i) What variables determine the use of informal credit?
(ii) What factors would determine the amount of informal loan a cassava farmer would need?
(iii) Does informal credit affect output in cassava production?

This paper, therefore, examine the socioeconomic variables that determine the use of informal credit, the factors which actually determine the variation in the amount of loan taken and the effects of informal credit use on output of cassava farmers.

Methodology

The study was conducted in Yewa division of Ogun Slate. Five Local Government Areas constitute this geo-political division. Dwellers in this study area

are mainly food crop farmers.

A multistage random sampling technique was used to select the sample used in the study. In the first stage, three out of live local Government Areas in Yewa Division were randomly selected. Villages under each local Government Area were identified and five villages were randomly selected in the second stage. In the third stage, eight cassava farmers were randomly interviewed from each village with the aid of a structured questionnaire. Thus, a totai of 120 cassava farmers were sampled in all. Information was collected on their socioeconomic profile, sources of credit, demand for credit, control over credit and their farm output.

Data collected were analysed using descriptive statistics, logit regression model and multiple regression analysis. Descriptive statistics was used to describe the variable in the study.

The logit regression model was employed to examine the socioeconomic variables that determine the use or otherwise of informal credit. The model is specified as:

$$\log\frac{n}{\sim Pi} = \mathbf{a_0} + \mathbf{a_r x,} + a_2.x_2 + a_t.\backslash\backslash + a_4x_4 + a,.\ \mathbf{r_5} + a_{(}x_{()} + a_r\mathbf{t_7} + a_yx_H + U\ \mathbf{1}$$

Where: P| is the probability that a farmers uses credit from informal sources (P|=l); while 1-P, is the probability of non use of informal credit (P_r 1=0); ai-aj are regression co-efficients to be estimated; while the explanatory variables X| is Sex; X_2 is Age (years); X_3 is Education measured in years; X_4 is Farming experience (years); X_5 is Farm size (ha); X_6 is Household size; X_7 is Hired labour (Manday); X_8 is marital status; and U is the error term.

In order to know the factors, which actually determine the variation in the amount of loan taken per farmer, a multiple regression analysis was used. The model is specified thus:

$$Y = <\mathbf{3_n} + a_ix \mid + a_2x_2 + a_yx_y + a_4x_4 + a_yx_s + a_{(}x_{()} + <\mathbf{7_7JC_7} + \mathbf{a_8x_a} + U$$

Where: Y is Amount of loan received; a_ra, are regression co-efficient to be estimated; ***X,*** is Farm size (ha); X_2 is Age (years); X_3 is Formal schooling (yrs); X_4 is Experience (years); X_5 is Household child (Number); X_{fi} is Flousehold adult (Number), X_7 is Hired Labour (Manday); X_8 is Sex; U is error term.

The multiple regression analysis was also employed to examine the effect of credit used on productivity of cassava farmers. The model is specified as:

$$Y = a_0 + a_tx_t + a_2x_2 + a_yx_4 + a_4x_4 + \mathbf{a_5.v_3} + a_{(,}x_h + U$$

Where: Y = Yield (Kg)

X_1 = Amount of loan received (N)

X_2 = Years of formal schooling

X_3= Experience (Years)

X_4 = Distance of farm from home (km)

X_s = Farm size (ha)

X_6 = Sex

U = Error term

Results and Discussion *Socioeconomic*

Profile of Respondents

Age: 31.7% of the respondents used no informal credit while 68.3% used informal credit. The highest percentage, 30% of the 82 users of informal credit fell within the

31-40 years age bracket.

Education: The study showed that none of the respondent who had less than 3years of formal education used credit. 76.9% of the informal credit users had at least lOyears of schooling. This shows that literacy level of farmers may determine their level of awareness of credit source and acquisition.

Household Size: Large family size is common among the respondents. The mean family size is seven. About 84% of the informal credit users have 7 or more persons, 37% have 4-6 persons while only 7% have lower than 4 persons in their family.

Marital Status: 97.6% of the informal credit users are married while only 2.4% was found to be single.

Sex: Ali the users of informal credit (100%) are male while 5.3% of non-users are female.

Use of Credit: 82 out of the 120 respondents sampled used informal credit, representing 68.3% of the total respondent. The remaining 31.7% used no informal credit.

Socio-Economic Variables that Determine the Use of Informal Credit in the Study Area

The Table below presents the logistic regression analysis result of the sampled farmers.

Table 1: Logistic Regression Analysis Result of informal Credit Use

Variable code	**Variables**	**Informal Credit Source**
X,	Sex	**-8.6766 (23.0536)**
X_2 '	Age	**-0.773 (.0314)****
X_3	Education	**-0.3032**

		(.0845)***	
X_4	Experience	0.051 1 (.0398)***	
X_5	Farm Size	-2793 (.2611)***	
X_6	Household Size	.3932 (.1481)	
X_7	Hired Labour	.0241 (.0747)***	
X_8	Marital	-2.9398 (1.5622)***	

R Square = 0.685
Adjusted R Square 0.491
I statistics = 5.232***
Cox and Snell - R^A2 = .201 Nagel Kerke - R^A2 = .275
Note that figures in parenthesis are the standard error. *** ***a*** significant at 1%.

The result in the table above, shows that the level of farmers education, age, experience, farm size, hired labour and marital status are the main factors that determine the use of informal credit.

The negative sign of the education coefficient suggests that the higher the level of farmers education the less the likelihood of farmers sourcing fund from friends and relative and other informal sources. So, it can be inferred that educated farmers will prefer taking loans from formal sources than from friends, relatives, money lenders or cooperatives. Likewise, age, farm size, and marital status are inversely related to the decision to use informal credit. In other words, with increase in age and farm size there would be less tendency for cassava farmers to use informal credit. Also, as a farmer gets married it reduces the use of informal credit. Farming experience and hired labour are also significant at 1 percent level. An increase in the number of years of farming experience will increase the tendency to use informal credit. Also, as the number of hired labour increases, the farmer has increase tendency to borrow money from informal source. The result also shows that 69% of the determinants of the use of informal credit is explained by the explanatory variables included in the model and that the overall regression is significant at 1%.

Factors that Determine Variation in the Amount of Credit Used

The Table below presents the result of multiple regression analysis to examine the factors responsible for the variation in the amount of credit use by fanners. The important factors that determine the amount of informal credit use by the cassava farmers vary in magnitude and sign.

Table 2: Determinants of the amount of Credit Used

Variables	**Coefficient**
Constant	-14320.9 (-1.753)
Farm Size	3156.687 (1.745)*
Age	51.943 (.302)
Year of Formal Schooling	2116.134 (4.503)***
Experience	-13.488 (-0.051)
Household Child	217.243 (-258)
Household Adult	264.546 (1.852)*
Manday of hired labour	906.764 (1.852)*
Sex	-12344.7 (-1.131)

The values in parenthesis are t- ratios R Square = 0.563
Adjusted R square = 0.43 I 1 statistics = 3.12
***a-* 10% significant *** *CC* = 1'Vo significant

The results of the multiple regression analysis presented in the table above, show that farm size is significant at 1 percent level which implies that an increase in the farm size will increase the amount of loan in naira cassava farmer would seek from informal sources. Years of formal schooling is significant at 10 percent level. Number of Household adult and manday of hired labour are also significant at 1 percent level. These three variables increases the amounts of loan cassava farmers obtain from informal sources.

Effects of Credit use on Output of Cassava Farmers

The Table below presents the analysis on the effects of credit use on output of cassava farmers. It shows that the amount of loan received, experience of the farmers and distance of farm from home (km) all have significant effect on the cassava output of the farmers.

Table 4.13

Variables	Coefficient
Amount of loan received	4.513 E-02 (2.146)*
Years of formal schooling	28.943 (.026)
Experience	1 17.431 (-2.763)*
Distance of farm from home (Km)	-235.639 (-2.042)**
Farm Size	42.755 (.119)
Sex	3817.632 (1.564)

The values in parenthesis are t- ratios
R Square =0.1534 Adjusted R square = 0.0723 * ***a*** = 10% significant ** ***a*** = 5% significant

The amount of loan received from informal sources has a positive effect on the output of cassava farmers. It is significant at ! per cent level. This shows that the availability and the amount of loan obtainable from informal sources is a determinant of level of production of the cassava 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 cassava improves.

Recommendations and Conclusion

It is evident that small and medium scale cassava farmers are important to the success of the Cassava initiative policy of Nigeria but they usually operate under serious financial constraints. Farmers' age, education, farm size, experience, hired labour and marital status are very crucial to accessing investment capital which is required to purchase other production inputs. Increase in the use of credit raises investment capital and consequently improve the level of cassava production.

The following recommendations are made based on the findings of this study:

(i) Adult education system should be made available to farmers through specialized NGOs

(ii) To support the activities of informal credit lenders, government should provide incentives in form of fertilizers, seed etc. to the farmers at a subsidize rate.

(iii) Proper and prudent financial management training should be extended to the farmers, by extension agents, to encourage personal saving attitude.

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