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Comparative Analysis of Agricultural Credit Users and Non -Credit Users among Cassava Farmers in Ohafia Local Governmnet Area of Abia State, South East, Nigeria

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The study was designed to investigate the comparative analysis of agricultural credit users and non-users among cassava farmers in Ohafia Local Government Area of Abia State. A sample of 50 credit users and 50 non-credit user cassava-based farmers were selected by multistage random sampling technique. Data were collected with a well structured questionnaire administered to a total of 100 randomly selected cassava farmers. Data collected were analyzed using descriptive statistics, inferential statistics and ordinary least square multiple regression technique. The socio-economic characteristic of the farmers revealed that majority of the credit users were educated. Besides, majority of them also had appreciable experience in cassava farming which makes them better cassava farmers. Marital status, level of education, farming experience and household size are important factors that determine farm revenue for both group of farmers. Age was found to be significant and negative. It becomes imperative therefore to enhance farmers' income and living standard by encouraging them to use agricultural credit in cassava production. **[Henri-Ukoha, A et al. Comparative Analysis of Agricultural Credit Users and Non -Credit Users among Cassava Farmers in Ohafia Local Governmnet Area of Abia State, South East, Nigeria. International Journal of Agricultural Science, Research and Technology, 2011; 1(1):7-11].**

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1. Introduction

In the early years of Nigeria's independence, agriculture accounted for nearly 60 percent of Gross Domestic Product (GDP) and 80 percent of export earnings (Shaib, Aliyu, and Bakshi, 1997). Today agriculture accounts for a third of GDP and less than one percent of export earnings, oil accounting for the rest. Agriculture can regain its former status by adopting policy measures that launch it into a higher level. Efforts in this direction include the steps taken by Federal Government on five agricultural subsectors: cassava, rice, vegetable oils, livestock and tree crops. Another of such steps is the Presidential initiative on cassava about US$5 billion a year in 2007; 40 million tons of cassava in 2005 (FAO, 2004), and 60 million tons by 2020 (IITA, 2002). It was estimated that 150 million tons of cassava would be needed by the end of 2006.

This is also a function of area and yield besides requiring an expansion of 2 million ha of land and an average yield of 30 tons per ha. Nigeria alone currently produces over 14 million tonnes annually, representing about 25% of sub-Saharan Africa's output (Ayodeji, 2005).

Given these two targets in production and area, a significant increase in national yields is required. There is no doubt that this can be achieved largely by adopting measures that is required to propel cassava yields from their current trend.

In a developing economy like ours where the majority of the farmers are engulfed in a vicious cycle of poverty (Nwagbo et al 1986), low income, low savings and low capital investments (Mbah, 2009) hinder agricultural credit procurement. Therefore, the provision of incentives to farmers could provide the leverage for increased productivity. This will be in the form of credit. Agricultural credit is defined as the process of obtaining control over the use of money, goods or services in the present in exchange for a promise to repay at a future date (Adegeye and Dittoh, 1985).

Credit motivates the farmer thereby encouraging him to invest in new opportunities. It has the capacity to energize or motivate other factors of production, acts as a catalyst that activates the engine of growth, and constitute the power or key to unlock talents, abilities and opportunities (Boehlji and Eidman, 1984). Access to credit can engender increased agricultural output and improved economic well being of the rural population (Ejiogu and Onubuogu, 2003).

Credit is a vital component of the agricultural support services. Farming especially cassava cultivation requires credit for a variety of purposes including purchase of improved farm

inputs, to pay for production services and for continuous investments to be undertaken (Ejiogu and Onubuogu, 2003). Credit in the hands of poor farmers will also enable them reap the economies of scale, discover new and better products, create demand where none existed and provide utilities to satisfy a widening market (Ijere and Okorie, 1998; Okorie, 1998).The success of farm investment depends to a large extent on continuous access to credit as the farmers have low saving capacity.

Despite the numerous efforts being made to ease the paucity of credit to farmers, inadequate credit flows have still been identified as a major factor hindering the performance of farmers in Nigeria (Oni et al 1980 and Nwajiuba 2000). Lack of access to adequate credit can have significant consequences on agricultural productivity, food security, nutrition, health and over all household welfare. Despite the numerous benefits accruing to the use of agricultural credit, many farmers still do not adopt agricultural credit in their farming business. In view of this therefore, it has become imperative to analyze the agricultural credit users and non-credit users among cassava farmers in Abia state and make policy recommendations that will launch agriculture into a higher level.

The objective of this paper is therefore to describe the socio-economic characteristics of agricultural credit users and non credit users among cassava farmers in Ohafia Local Government Area and to determine the factors influencing the revenue of credit and non-credit users in the area.

2. Material and Methods

The study was carried out in Ohafia Local Government Area, Abia state. Abia state has 17 Local Government Areas. Multistage Random Sampling technique was used in the study. In the first stage, 10 communities were selected randomly namely: Okagwe, Akanu, Asaga, Ebem, Amaekpu, Isiugu, Etiti-ama, Ndagbo, Ama-ogudu and Amaeke. From the list of credit users and non-credit users compiled from Abia Agricultural Development Program (ADP) extension Agent, 5 credit users and 5 non-credit users were selected randomly from each community. A total of 50 credit users and 50 non-credit users were selected and used for the study. The credit users used were those who used informal credit.

Data for this study were collected from both primary and secondary sources. Primary data were collected through the use of structured questionnaires. The secondary information was obtained from textbooks, internet, library, journals, magazines, seminar papers, etc.

Data were analyzed using simple descriptive statistics such as percentage, means and frequencies, ordinary least square multiple regression technique.

In using the ordinary least square multiple regression technique, four functional forms: linear, semi-log, double log and exponential equations were tried. The model with the highest value of coefficient of multiple determination (R^2), highest no of significant variables as well as the significance of the F-test was selected as the lead equation.

The model is stated implicitly as:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, e)$

Where

Y=Revenue is in (Naira)

X_1=Sex (Male =I; Female =0)

X_2=Age (Years)

X_3=Marital Status (1= Married; 0 = Single)

X_4=Level of education (Number of years spent in school)

X_5=Household size (Number)

X_6=Farming experience (Years)

X_7=Farm size (Hectares)

e=Error term

It is expected apriority that;

$X_2, X_3, X_4, X_5, X_6, X_7, > 0, X_1 < 0$

3. Results and discussion

3.1. Socio-economic characteristics of the farmers.

Table 1 shows the mean age of those who use credit as younger with the mean age of 47years while those who do not use credit were older and was 50years, indicating that majority of the respondents were middle aged farmers who are still active, vibrant and dynamic and are more likely to adopt innovations better and faster than their earlier counterparts. Age bracket of 31-50years contain innovative, motivated and objective individuals (Yunusa, 1999). Again, old age contributes negatively to credit unless the farmers have enough credit to enable them hire more labor.

The mean number of years spent in school for those who use bank credit was 6years and those who do not use credit had 2years, indicating that though the respondents in the area are moderately educated but those who use credit were more educated than their counterpart. This is likely to influence the adoption behavior of the farmers positively which has a strong bearing on the awareness of credit and investment of the farmers.

The table further showed that the respondents who used credit were reasonably experienced. This is indicated in their mean years of 14 years. The implication is that they were well experienced in farming and can therefore understand the need for credit and access it. This could be due to the fact that their much experience in farming may

have exposed them to the benefits of using credit. However, those who do not use credit have a mean experience of 14years. The mean farm size of those who use credit were 3hectares while those who do not use credit had a mean farm size of 2 hectares. This implies that the farmers who use credit are able to use the money to increase their hectare. A reasonable proportion of the respondents who use credit were males (64%) while women dominate among those who do not use credit (34%). Men have access to credit facilities more than women who contribute more to food production in the area. This is consistent with the assertion made by Tanko (1994) that women do not get the same as men in their access to critical farm resources and services such as farm land, credit and improved input due to cultural, traditional and sociological factors. Regrettably, rural women in particular are responsible for half of the world's food production and produce 60-80% of the food in most developing countries (FAO, 2004). The table further revealed that 74% of those who use credit are married while 64% of those who do not use credit are married. This implies that married farmers have more responsibility and would use more credit while the married non-credit users would not go for credit for fear of diverting the credit to other family responsibilities.

3.2 Factors Influencing Revenue of Credit Users and non Credit Users

From the result of the four functional forms, double log was chosen as the lead equation. This is because it gave the highest number of significant variables, the highest F-value and the highest value of coefficient of multiple determinations (R^2). To identify the factors that determine revenue among credit and non-credit users, four functional forms of the multiple regression models were fitted into the field data as shown in tables 2 and 3. The table shows that the double log function was chosen as the lead equation in the two groups of farmers, based on having the highest value of the coefficient of multiple determinations (R^2), conformity with apriority expectations and having more significant variable coefficients. The results showed that level of education(X_5), farming experience (X_6),farm size (X_3), household size (X_4) and marital status (X_2) were significant at 5% implying that the greater they are, the higher the revenue earned by the credit users. Hence, they have a huge influence on the revenue of farmers. Again, these factors are important determinants of revenue by cassava farmers who use credit in the area. However, level of education(X_5), farming experience (X_6) and farm size (X_3) are significant at 5% implying that the greater they are, the higher the revenue earned by the non-credit users. Age (X_1) was also negative and significant in the two group of farmers implying that the older one gets, the less the revenue earned from cassava production. However, household size (X_4) was negatively significant among cassava farmers who do not use credit. Sex (X_1) though had positive coefficients, but none had significant effects on revenue among both group of farmers. This implies that amount of revenue obtained from both group of farmers was gender insensitive. This is consistent with the findings of Mbah (2009) who found age of farmers insignificant and conforms to the apriority expectation.

R^2 (coefficient of multiple determination) were found to be 0.7825 in credit users and 0.7243 in non-credit users implying that 78% of the variability in revenue was explained by the combined effect of the independent variables. Also 72% of the variability in revenue of non credit users was explained by the combined effect of the independent variables.

Table 1: socio-economic characteristics of the respondents

Variables	Credit Users		Non-credit Users	
	f	%	*f*	%
Age				
25-39	10	20	5	10
40-54	25	50	14	28
55-69	13	26	22	44
70 and above	2	4	9	18
Educational level				
0	3	6	30	60
1-6	12	24	13	36
7-12	23	46	5	10
13and above	10	20	2	4
Sex				
Male	32	64	17	34
Female	18	36	33	66
Farming experience				
1-5	24	48	5	10
6-11	11	22	7	14
12-17	8	16	8	16
18-23	5	10	10	20
24 and above	2	4	20	40
Farm size (Ha)				
0.1-1.59	6	12	21	42
1.6-2.90	8	16	14	28
3.0-4.39	10	20	7	14
4.40-5.79	21	42	5	10
5.8 and above	5	10	3	6
Marital Status				
Married	37	74	32	64
Single	13	26	18	36
Total	50	100	50	100

Table 2: Estimate of multiple regression result on factors influencing revenue of credit users

Variable	Linear Form	Semi log Form	Double log Form	Exponential Form
X_1 (Sex)	18.0371	3.8213	0.0847	0.0073
	(1.0539)	(1.3217)	(1.0548)	(2.6070)**
X_2 (Age)	-12.1339	-1.6144	-0.0617	-0.0091
	(-1.037)	(-1.2699)	(-2.6453)**	(-2.1163)**
X_3 (Marital Status)	16.0227	3.0792	-0.026	0.0059
	(3.8513)**	(3.0111)**	(2.9491)**	(1.4391)
X_4 (Education)	13.9103	4.1138	0.742	0.0072
	(1.1699)	(1.2051)	(3.4512)**	(1.2203)
X_5 (H size)	-16.0122	-3.8917	0.0693	-0.0083
	(-1.0688)	(-1.3344)	(4.1163)**	(-2.9643)
X_6(Farming experience)	17.9213	1.5108	0.0885	0.0067
	(3.0716)**	(1.1978)	(4.1163)**	(3.1905)**
X_7 (Farm size)	14.1394	3.1198	0.742	0.0082
	(1.0892)	(1.0866)	(3.4512)**	(1.1389)
Constant	305.1067	271.4529	216.0912	183.5518
R^2	0.4939	0.4013	0.7825	0.2153
F-Value	3.0677	2.1077	11.2915	3.6816
Degree of freedom	84	84	84	84
N	100	100	100	100

* = Significant at 5%; ** = Significant at 1%

Table 3: Estimate of multiple regression result on factors influencing revenue of non credit users

Variable	Linear Form	Semi log Form	Double log Form	Exponential Form
X_1 (Sex)	6.5549	2.7814	0.0814	0.0053
	(1.1145)	(0.9875)	(1.0541)	(1.1277)
X_2 (Age)	-4.1893	-1.7545	-0.01608	-0.0074
	(-1.0736)	(-1.1856)	(-3.1103)**	(-3.5238)**
X_3 (Marital Status)	5.6719	1.4914	-0.0916	0.0066
	(2.7921)**	(0.9922)	(0.0713)	(1.2222)
X_4 (Education)	5.4447	1.5928	0.0782	0.0057
	(1.0917)	(1.2982)	(3.6037)**	(1.1861)
X_5 (HH size)	-3.6605	-1.2281	-0.0659	-0.0098
	(-1.2218)	(-2.9942)**	(-2.7119)**	(-3.1613)**
X_6 (Experience)	7.4163	0.8413	0.0227	0.0083
	(3.5925)**	(1.0653)	(2.7349)**	(2.6774)**
X_7 (Farm size)	6.3999	2.5814	0.0789	0.0017
	(1.1239)	(1.1827)	(3.5701)**	(1.2143)
Constant	289.5521	247.10.86	189.4447	1.63.1185
R^2	0.4837	0.4138	0.7243	0.6214
F-Value	3.0043	2.1894	8.2777	5.1611
Degree of freedom	84	84	84	84
N	100	100	100	100

T-ratios are the value in bracket; * = Significant at 5%; ** = Significant at 1%

4. Conclusions and recommendations

The study compared the total revenue earned by credit users and non-credit users among cassava farmers on both part time and full time agribusiness in Ohafia Local Government Area of Abia State and found that credit users performed better in terms of farm size, farm revenue and adoption. Credit still plays an important role in promoting better farm revenue in the study area.

Based on the findings of this study, the following recommendations are proffered:

The farmers should as much as possible endeavor to embrace the use of Agricultural credit for increased purchase of farm input, adoption of new innovations and improved technological system for increase production which will help break the various cycle of poverty. The government should formulate credit policies that will improve the level of education in the rural areas thereby increasing the level of awareness of agricultural credit. This can be achieved through education schemes and extension services.

Government should also make policies that will enhance the provision of credit to the rural populace. This can be achieved by the Government enacting laws that will ensure that a greater percentage of total loanable funds. This will increase the number of rural populace access to credit. Also the interest rates charged on credit borrowed should be lowered. Farmers can form co-operatives and pool their resources together for increased productivity in cassava.

References

1. Adegeye, A. J and Dittoh J. S. (1985). Essentials of Agricultural Economics. Centre for Agricultural and Rural Development (CARD). University of Ibadan, Ibadan, Nigeria.

2. Ayodeji, O. F. (2005). Nutrient Composition and processing effects on cassava leaf (Manihot esculenta, Crantz) antinutrients. Pakistan Journal of Nutrition. 4 (1): 37-42.

3. Boehlji, M. D and Eidman, N. R. (1984). "Farm Management" John Willey and Sons, Intl. Canada, U.S.A.

4. Ejiogu, A. O and Onubuogu, A. (2003). Assessment of the lending interest rates of the traditional credit and savings association of rice farmers in Imo State. In Esu, E.E, U.C. Amalu, B.F.D. Oko and G.N. Asumugha (Eds) Agriculture: The bedrock of enduring democracy. Proceeding of the 37th Annual Conference of the Agricultural Society of Nigeria, University of Calabar, Nigeria, 71-76.

5. FAO. (2004). Trends in Cassava Production. Rome, FAO.

6. IITA. (2002). Competitiveness workshop. Opportunities for Cassava in Nigeria. Bokanga, IITA-Ibadan.

7. Ijere, M. O and Okorie, A (1998). "Reading in Agricultural Finance". University Press Publishing Company, Ibadan, Nigeria. Pp 10, 20-35.

8. Mbah, S. O. (2009). The state of financing Agricultural Development in Enugu State, Nigeria. Proceedings of the 45th Annual Conference of the Agricultural Society of Nigeria held at Abuja, 2009.

9. Nwagbo, E. C., llebani. D and. Habor, F. O. (1989). The role of credit in agricultural development: A case study of small scale food production in Ondo state, Nigeria. Samaru journal of agricultural education, 3 (1&2): 29-35.

10. Nwajiuba, C. (2000). Issues and experience in Agricultural Financing in Nigeria, lessons for policy, Nwosu C.A., Nwajiuba, C.A and Mbanaso, I.A (Eds) Agricultural Transformation in Nigeria. Conference held at the federal university of agricultural Umudike Abia State, Nigeria 24-26th August Novelty industrial enterprises ltd, Owerri Pp. 124-132.

11. Okorie, A. (1998). "Management of Risks and Defaults in Agricultural Lending" M. A.Ijere and A.Okorie (eds) Reading in Agricultural Finance, Longman, Nig. PLC, Lagos.

12. Oni O. A., Oladele O. J and Oyewale I. K (1986). Trends and Diversification of Agricultural Productivity in Nigeria". International food policy research institutes IFPRI.

13. Shaib, B., Aliyu, A and Bakshi, J.S. (1997). Nigeria National Agricultural Research Strategy Plan: 1996-2010. Ibadan, Nigeria: Intec Printers Limited.

14. Tanko, N. M. (1994). Contribution of Rural women to Agricultural Planning and Economic Developments in Nigeria, In: Ikpi A.E and Olayemi J.K (eds) Winrock, International for Agricultural Development.

15. Yunusa, M. B. (1999). Not for alone. A study of Rural Livelihood in middle Belt Nigeria. DARE/ASC Working Paper. Pp38-39