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DETERMINANTS OF AWARENESS OF CREDIT PROCUREMENT PROCEDURES AND FARMERS INCOME IN MINNA METROPOLIS, NIGERIA

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Abstract

The study analysed the determinants of awareness of credit procurement procedures and farmers income in Minna Metropolis, Niger State. A total of 90 farmers were randomly sampled from six villages around Minna Metropolis. A structured questionnaire was used to obtain data from the respondents in the study area. Descriptive statistics and three stage least square estimate were used to determine the relationship between farmers' socio economics factors, utilization of credit and total value of output, amount of credit procured and awareness of credit procurement procedures. The result appears to suggest that older farmers are not keen on available agricultural credit and tend to run the farm enterprise as a social enterprise. In view of this, and in order to reposition agriculture, farmers have to be enlightened to run their farm enterprise as a business and procure credit in order to increase the capital investment in the farm enterprise.

Keywords: Awareness, procurement procedure, credit utilization, farm income

Introduction

The Nigerian farmer is trapped in the vicious cycle of poverty resulting from low income, low savings, low investment and low output (Jiriko, 2011). The small scale farmers are poor, cultivates small area from which they produce little output, sell only a small amount which in turn cannot help in expanding the farm or acquiring modern technology; and hence the vicious circle of poverty continues (Onu, *et al.*, 2011). Nmadu (1997) reported the need to inject capital into agriculture in order to break the circle of poverty and this is achievable by putting in place well focused empowering programmes capable of reducing incidence and severity of poverty such as increasing their access to factors of production, especially credit. Akinwumi (2008) observed that the solution to farming is by securing appropriate technology that will make farming much attractive and rewarding in production. Apart from the need to substitute crude implements with modern technology, small scale farmers need credit facilities to maintain adequate farm size, finance the use of purchased inputs such as fertilizer improved seeds, insecticides, additional labour etc (Onu, 2011). In the same vain, Bakhtiari, (2006) found that small amount of capital provided to the poor can make the difference between absolute poverty and thriving little business, generating enough income to feed the family, send their kids to school and build decent housing.

Tanko and Jirgi (2008) viewed agricultural credit as the temporary transfer of purchasing power from a person who owns it to a person who wants it allowing him the opportunity to command another person capital for agricultural purpose but with confidence in his willingness to repay at a specific later date. Credit contributes to

economic development by enhancing production and productivity, and thus higher income and better quality of life for the people. According to Ijere (1992) credit act as a catalyst or elixir, energies or motivates other factors of production and enable farmers to reap the economies of scale. There is however an endemic problem with most of the smallholder farmers concerning lack of knowledge of the sources of credit, the procedures and proper utilization. Eze (2003) reported that credit awareness can be related to adoption, such that people who know about credit facilities will adopt more readily than their uneducated counterparts. Therefore awareness enhances adoption.

The fact remains that whatever programme or technology innovation to be extended to the farmers, its adoption will to a large extent be dependent on farmers ability to finance the innovation. Therefore, increased demand for investment capital must largely come from an increased supply of credit as the need to provide financial assistance is universal. Agricultural credit is an important instrument not only for fostering agricultural development but improving efficiency and increasing production in the right direction (Aja, 2003). In view of these, successive Nigerian Governments have realized the importance of providing outside source of finance to the farmers in the rural areas. Some of these are presented in Table 1.

The need for credit facilities in agriculture is justified when farmers are faced with low savings capacity, poorly developed rural financial market and lack of appropriate technology. Tanko (2005) found out that farmers who had access to credit were more efficient in arable crop production in Kebbi State Nigeria. The broad goal of this study is to determine if socio- economic factors do determine the level of awareness of credit procurement procedures and the effect of credit on the income of the farmers in the area. The specific objectives are to analyse the socioeconomic factors affecting awareness of credit procurement procedures.

Three-stage least squares (3sls) estimate is used to determine the factors affecting output of the farmers in the study area. The three stage least squares model is a combination of two stage least squares and seemingly unrelated regression. It provides consistent estimates for linear regression models with explanatory variables correlated with the error term. It also extends ordinary least squares analysis to estimate system of linear equations with correlated error terms (Alimadhi *et al.*, 2007). According to, three-stage Rego (2012) least squares estimation is superior to two-stage least squares estimation because it takes the cross-equation error correlations into account to improve large sample efficiency. In addition, Amemiya (1983) stated that the robustness of 3sls estimates and the fact that they retain their consistency regardless of whether or not the model yields a unique solution for y makes the estimators attractive. In view of the observed properties of the model, it was employed in this study. It is hoped that the results of this study will better inform appropriate policy organs on the management of agricultural credit programmes in Nigeria.

Methodology

The study was conducted in Minna Niger state of Nigeria. Niger state was created on 3rd February 1976 from the defunct North-Western State. The State covers 76,000 square kilometres of which 85 per cent is arable. It has population of 3.95 million (NPC, 2006) with annual growth rate of 3.3 per cent of which 85 per cent makes farming their major occupation. The state lie between latitude 8° and 11°20' North and longitudes 4°30' and 7°40' East, it is bordered North by Zamfara State to the North, Kebbi State in the West, Kogi State in the South and Kwara State in the South West, while the republic of Benin along Agwara LGA borders her North West. The climate is characterized by a distinct dry and wet seasons with annual rainfalls varying from 1100mm in the north to 1600mm in the south (NGSG Diary, 2003). The mean temperature is between 21°C and 39°C. The climate, hydrology and soils permits the cultivation of most Nigeria stable crops and still leave ample space for grazing, forestry and fresh water for fishing. The soil and weather patterns are favourable for the production of wide agricultural food and cash crops such as rice, maize, sorghum, millet, cowpea, sugar cane, melon, soya beans and fresh crops such as vegetables (okra, tomato, pepper, garden egg and onion). Minna area was selected for the study based on dominance of banks and other credit institutions there. Six villages were randomly selected and a structured questionnaire was use to collect data from ninety (90) sampled farmers from six villages (*Maikunkele, Kobo, Garusu, Gidan kwano, Maitumbi and Gusasi*) randomly selected from the ten villages around Minna Metropolis. The data collected covered the 2009/2010 farming season and was collected between January and April 2010. Data collected were analysed using three stage least square estimate and descriptive statistics such as mean, frequency distribution table and percentages. The model was used on the basis of the discrete nature of the dependent variable to determine the effect of socio-economic variables on total output, amount of credit procured and awareness of credit procurement procedure. In general the model is specified as:

$$3SLS = (Z \wedge T \Omega^{-1} Z \wedge)^{-1} Z \wedge^T \Omega^{-1} y \quad (1)$$

Y = dependent variables

Z = Explanatory variable correlated with error term.

The variables included in this model in its implicit forms are:

$$Y_{ki} = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}) \quad (1)$$

Where k=1 to 3, i=1 to n

Y₁ = Total value of output

Y₂ = amount of credit procured

Y₃ = Awareness of credit procurement procedures.

X₁ = Amount of credit procured

X₂ = farm size (ha)

X₃ = amount of fertilizer (ton)

X₄ = amount spent on agro chemicals

X₅ = awareness of credit availability
X₆ = age of farmers (years)
X₇ = sex of the farmer
X₈ = marital status
X₉ = household size
X₁₀ = number of years of formal education
X₁₁ = farming experience
X₁₂ = access of extension contact
X₁₃ = distance from credit institution (km)
X₁₄ = membership of co operatives
X₁₅ = previous attempt of procurement.

Results and Discussion

The socio-economic characteristics of the respondents is presented on Table 2, indicating that the mean age of the respondent farmers is 52years and majority of them (83%) were between the 41-60 years. About 50% of the respondents have acquired formal education viz: 26% at primary, 20% at secondary and 7% at tertiary levels. The implications of these findings are well documented in Nmadu *et al* (2011)

The utilization of the procured credit by the respondents is presented on Table 3. The results revealed that the proportion of credit utilized on the farm activities (₦229, 633.33) is far below the proportion utilized on non-farm activities (₦350, 970.00). This has shown that the respondents did not utilize the loan for the purpose it was procured. Worse still, even the items implemented by the loan are consumption expenditure. This has been one of the strong reasons given by financial and credit institutions why they felt constraint to extend credit to small scale farmers in Nigeria. It is also a strong factor of repayment difficulties experienced by the respondents. In this type of scenario, credit agencies should make advisory services on loan procurement and utilization part of procurement procedures and monitoring of utilization should be intensified.

Table 4 present the results estimated using three least square models. The χ^2 shows the goodness of fit of the model, and indicated that the models specified have fitted the variables appropriately, although the model on awareness of credit procurement procedure is only significant at the 5% level of probability. The results further revealed that total value is output is affected by amount of credit procured (-), farm size (+), amount spent on purchase of agro-chemicals (+), age of the farmer (-), sex of the farmer (+), marital status (+) and household size (+) while the amount of the credit procured is significantly influenced by age of the farmer (-), marital status (-), farm size (+), household size (+) and number of years in formal education (-). Finally, awareness of credit procurement procedure is significantly affected by awareness of credit availability (+). It is further revealed that some of the variables acted against a priori expectation, the implication of which shall be highlighted shortly.

The result of the 3lss suggests that as the farmer is growing older and settling down to family responsibilities, he is less enthusiastic about taking credit hence does not seek

knowledge about their availability and the procurement procedures. This is contrary to expectation as it is reasonable to expect that with advancement in age; the farmer gains more farm managerial experience; allocate scarce resources efficiently and thus should be interested in investing more capital in the farm. However, Nmadu and Peter (2010) had shown that capital investment does not increase with age. Similar results have also been reported by Nwaru (2005), Eze (2003) and Onwubya (2002). It may be that the farmer is risk-sensitive to avoid credit procurement in order not to jeopardise family welfare. On the contrary, sex of the respondent and the size of the household seems to encourage seeking knowledge on the availability of credit. Most of the respondents in this study are male (Nmadu *et. al.*, 2011) and married. The mean household size is 10, showing that families with large household are more likely to seek and procure credit. Indeed Nmadu *et. al.* (2011) found that farmers in this area procured a mean credit of N100,000.00 but expended a mean of N33,498.75 on farm activities while N348,939.70 were expended on non-farm activities lending credence to the possibility that farmers with larger family size are more likely to seek agricultural credit only to expend them on family obligations. It is also possible that the high level of awareness on credit facilities may be attributed to more number of individuals in the household as each of them might secure information from different sources and share them among other members thus increasing the probability of awareness of procurement procedure and enhancement of adoption of innovation which requires credit facilities. Farm size was also found to have accentuated the level of awareness of agricultural credit procurement procedures, which is expected but contrary to the result obtained by Nmadu (2007) who reported that larger acreage does not necessarily indicate increased agricultural production. In addition, and in line with Ademileye *et al.* (2011), the amount of credit granted by the credit institution is greatly influenced by size of the farmland used as collateral. The larger the farm size use as collateral the more the credit procured and the more likely to be poverty reduction among farming household. The results also tend to suggests that the availability of credit influences the rate of awareness of credit procurement procedures. This finding agrees with Ademiluyi *et al* (2011), who noted that lack of source of credit owing to the low literacy level, distance to credit source is a serious constraint to farmers accessing credit. This finding seems to corroborate the findings of Nwaru (2004) and Tanko (2005) who noted that farmers who had access to credit are efficient in production.

Conclusion and Recommendations

3sls were used to determine the relationship between various socio- economic factors and awareness of availability of agricultural credit and the procurement procedures on the one hand; while on the other, agricultural income in Minna metropolis. Results have shown that the level of awareness is negatively correlated with some socio-economic variables while it is positive with others. However, it appears that older farmers are not keen on available agricultural credit and tend to run the farm enterprise as a social enterprise. In view of this, and in order to reposition agriculture, farmers have to be enlightened to run their farm enterprise as a business and procure credit in order to increase the capital investment in the farm enterprise.

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Table 1 Programmes to enhance provision of finance to agriculture

Programme/Source	Time
Sectoral allocation of credits	1970 - 1996
Nigerian Agricultural Co-operative Bank (NACB)	1973 – 2000
Agricultural Development Project (ADPs)	1976 till date
Rural Banking Programme	1977- 1991
Lending as a percentage of savings mobilized in rural areas to rural people	1977- 1996
The Agricultural Credit Guarantee Scheme found ACGSF)	1977 till date
Agricultural Credit Guarantee Scheme	1977 till date
Concessionary interest rate	1980 - 1987
The raising of bank loans and advances to the agricultural sector from 6% to 8%	1980 till date
Directorate of Food, Road and Rural Infrastructure (DFERRI)	1987 to 2000
Peoples Bank of Nigeria (PBN)	1990 – 2002
Community Banks (CBs)	1990 -2007
Peoples Bank of Nigeria	1990 to 2002
Nigerian Agricultural Insurance Corporation	1996 till date
Family Economic Advancement Programme (FEAP)	1997 - 2001
National Poverty Eradication Programme (NAPEP)	1999 till date
Microcredit initiative	2000
Nigerian Agricultural Co-operative and Rural Development Bank (NACRDB)	2000 till date
National Programme for Food Security	2001 to date
Commodity-based associations and crop specific presidential initiative	2002 -2007
Setting aside NIB for farmers to embark on Commercial Agriculture	2005 till date
Microfinance Banks	2007 till date

(CBN, 2005, Yisa, 2009, Anonymous, 2011, Jahansoozi, 2011)

Table 2 Socio-economic characteristics of the farmers

Factor	Frequency	%
Distribution of respondents by age		
21 – 30	1	1.1
31 – 40	14	15.6
41 – 50	19	21.1
51 – 60	56	62.2
Total	90	100
Mean	52 years	
Distribution of respondents according to marital status		
Married	80	88.9
Single	3	3.3
Divorced	5	5.6
Separated	2	2.2
Total	90	100
Distribution of Respondents according to Educational level		
University	1	1.1
Collage of Education	3	3.3
Collage of Agriculture	2	2.2
Secondary Education	20	22.2
Primary Education	26	28.9
Quranic Education	38	42.2
Total	90	100
Distribution of respondents according to household size		
1 – 5	13	14.4
6 – 10	25	27.8
11 – 15	16	17.8
16 – 20	26	28.9
21 – 25	10	11.1
Total	90	100
Mean	10	
Distribution of respondents according to their major Occupation		
Civil servants	7	7.8
Trading	17	18.9
Farming	66	73.3
Total	90	100
Distribution of respondents based on years of farming experience		
Years of experience	Frequency	Percentages
1 – 10	3	3.3
11 – 20	12	13.3
21 – 30	23	25.6
31 – 40	52	57.8
Total	90	100
Mean	27years	
Distribution of respondents according to farm size		
0.01 – 0.5	4	4.4
0.5 – 1.00	45	50
1.0 – 1.50	10	11.1
1.5 – 2.00	27	30
2.00-3.00	4	4.4
Total	90	100
Mean	1.42 hectares	

Source: Nmadu *et al.*, 2011

Table 3: Utilisation of the credit by the respondents

Utilisation	Total	Mean	Minimum	Maximum
Agricultural				
Implement	385000	15400	0	50000
Seed	593000	17969.7	1000	35000
Chemical	351300	10332.35	300	55000
Processing	500	100	0	500
Storage	3000	375	0	2000
Weeding	45000	2368.421	0	5000
Non-agricultural				
School Fees	591000	25695.65	0	50000
Hospital	47350	3156.667	0	10000
Transport	41500	2184.211	0	10000
Computer	575000	35937.5	0	150000
Buying Car	500000	10204.08	0	250000

Table 4: Estimates of the three least square models

Variables	Coefficients	Marginal effects
Total value of output		
Amount of credit procured	-3.312947** (1.342803)	-3.312947**
Farm size (ha)	421091.4*** (92544.01)	421091.4***
Amount spent on purchase of fertilizer	96.65763 (284.5547)	96.65763
Amount spent on purchase of agro-chemicals	4.931539* (2.925965)	4.931539*
Total farm asset	4.229596 (3.692092)	4.229596
Awareness of credit availability	134115.2 (109795.4)	134115.2
Age of the farmer	-15255.44*** (4839.334)	-15255.44***
Sex of the farmer	133684* (75091.42)	133684*
Marital status	-364856.8*** (106334.1)	-364856.8***
Household size	22794.87*** (6968.392)	22794.87***
Number of years in formal education	-21858.38** (10157.48)	-21858.38 **
Years of experience in farming	-1406.125 (3749.513)	-1406.125
Constant	584280.3*** (168743.6)	
Amount of credit procured		
Age of the farmer	-3776.121** (1897.343)	
Sex of the farmer	5425.455 (26925.74)	
Marital status	-106218.9** (41842.02)	
Farm size (ha)	105581.6*** (19581.55)	
Household size	5012.243* (2593.449)	
Number of years in formal education	-4656.043* (2813.857)	
Years of experience in farming	278.6123 (1469.901)	
Constant	150206.1** (68864.82)	
Awareness of credit procurement procedure		
Number of years in formal education	-.0018233 (.0094713)	
Awareness of credit availability	.2275795*** (.0798042)	
Access to extension contact	-.1040974 (.0755432)	
Distance of credit institution to settlement	-.0013559 (.0026581)	
Membership of cooperative/community associations	.1110573 (.0758774)	
Previous attempt to procure credit	-.0016478 (.0746632)	
Constant	.8029094*** (.10329)	

Equation	RMSE	"R-sq"	chi2
Total value of output	287088.7	-0.9027	57.02***
Amount of credit procured	96852.47	0.3284	45.05***
Awareness of credit procurement procedure	.3516594	0.1096	12.86**

NB: ***P=.01, **P=.05, *P=.10