

Econometric Analysis of Farmers Access to Agricultural Credit and Repayment in South East, Nigeria: Implications for Poverty Alleviation

Ugbajah M. O.

Department of Agricultural Economics and Extension
Chukwuemeka Odumegwu Ojukwu University, Igbariam

J. T. Amah

Department of Agricultural Economics and Extension
Chukwuemeka Odumegwu Ojukwu University, Igbariam

ABSTRACT

The study analysed farmers access to agricultural credit and repayment in Southeast, Nigeria. The study specifically described the socioeconomic characteristics of the respondents, sources of credit awareness, and effects of socioeconomic characteristics on use and repayment of credit. Multistage and simple random sampling methods were used to select 120 respondents. Primary data were collected by means of questionnaire and 3 point likert scale. Non parametric and parametric statistical tools including frequency, distribution, percentages, mean ranking and multiple regression were deployed for data analyses majority (72%) of the respondents were married, 75% had above 11 years experience in farming, mean credit obtained was ₦108, 866.7 and mean amount repaid ₦ 6405.2. the output of the multiple regression R^2 of 83% with the coefficient of education, farming experience, credit awareness and interest rate were significant of the 0.05 probability level. The farmer's access to agricultural credit should be ensured by provision of interest free credit facilities, minimizing beaucratic bottlenecks, education of farmers in proper utilization of credit and training on management and saving mobilization should be encouraged.

Keywords: Rural farmers, Mobilization, Income, Access, Utilization and Management

INTRODUCTION

Agriculture is the main stay in the country's economy, and contributes to the productivity employment incomes and good living standard (Amah, 2011). The renewed focus on agriculture as building the key to national development in the face of an uncertain and vulnerable oil economy poses a compelling challenge to the rural farmer's access to credit delivery and utilization (Nenna, Ugbajah and Ugwumba 2012). Nigeria is the most resource endowed nations in the world but socio-economically, Nigeria are among the poor in the world (Ebo, 2011). Unfortunately small-scale farmers in sub-Saharan Africa are characterized by poverty. This poverty affects their investment in agriculture. The agricultural sector including crops, livestock, fisheries and forestry sub-sectors is central to the economic activities in Nigeria and has accounted for 31 to 42 percent of gross Domestic product (G.D.P) between 2005 and 2008. In addition it provides paid and self employment to over 70 percent of the population (central Bank of Nigeria (C.B.N) 2007, fresh plaza, 2008). The need to maintain sustainable agricultural production and order to achieve overall economic development cannot be overemphasized. Before now both federal and state government have through several programmes perused rural and agricultural development in Nigeria, the rural being always the target of such programmes (C B N, 2005). CBN noted that rural farmers should be the centre

piece of increased agricultural production (CBN, 2007). The impact of rural farmers in agricultural and economic development cannot be overemphasized. Many studies acknowledged this (Okpukpara, 2005, and Adeleye 2008). Government encourage local growers through programmes and projects which include Nigeria Agricultural cooperative and rural development Bank (NACRDB), Agricultural credit guarantee scheme fund (ACGSF), National agriculture insurance company (ADP), River Basin Development Authorities (RBDA), Special programme on food security (SPFS), community based natural resources management programme, Niger Delta south-south co-operation initiative, National economic empowerment development strategy (NEFDS), fada 1 and 11 projects, Root and tuber expansion projects (RTEP), presidential initiatives on cassava, rice, vegetable oils, tree crops, livestock, fishery and Aquaculture. The agricultural credit support scheme (ACSS) was established in 2006 for financing large agricultural projects such as management of plantations, cultivation or production of crops, livestock, and fisheries and farm machinery and hire services. The borrowing rate is 14% with the central bank of Nigeria (CBN), absorbing six percent while the borrower pays eight percent at full repayment in 2008. Large scale agriculture credit was established by the federal government in the wake of the current global economic crisis to finance large integrated commercial farm projects with an asset base of ₦350 million excluding land and medium sized agricultural enterprises with an asset base of ₦200 million (CBN, 2007). The impact of rural farmers in agriculture and economic development cannot be overemphasized. Many studies acknowledged this (Okpukpara 2005 and Adeleye, 2008). However, rural farmers are faced with different constraints in the quest to meet food production target. Many researchers have conclusively acknowledged that access to credit in the rural areas is a major constraint militating against farmer's agricultural production (Idachaba, 2006 and Anambra State Government 2008). The need to maintain sustainable agriculture and rural development in the current initiative, credit programmes has thus far been extremely limited in Nigeria rural setting. In this current system of global economic innovative development efforts should be targeted towards financial challenges with regard to rural transformation. The major problem associated with rural farmers agricultural production is that income generation and expenditure do not occur at the same because the type of production in which the rural farmers engage in is always seasonal. In spite of the strategies to increase access to formal financial services in rural areas the problem still persists (CBN, 2005 and Afolabi, 2008). It is therefore against the backdrop that this study was designed to examine the strategies for necessary rural farmer's access to agriculture credit and constraints in south east, Nigeria

OBJECTIVES OF THE STUDY

The overall objective of the study was to conduct an econometric analysis of farmer's access to agricultural credit and repayment in south east, Nigeria. The specific objectives were;

1. Examine the socio-economic characteristics of the respondents
2. Identify sources of credit
3. Examine effects of socioeconomic characteristics on credit use, repayments and identify constraints to credit access and also use the result of the study to make recommendations to improve famer's access to agricultural credit facilities.

METHODOLOGY

The study was conducted in the rural setting of Southeast, Nigeria. The area is located between latitudes 4⁰ and 14⁰ N and longitudes 3⁰ and 14⁰ E, covering a land area of about 924,000km² with a population of the country as released recently showed that Nigeria has a population of over 140million (NPC, 2007). The study was carried out in the Southeast geographical zone of the country. This is made up of five states out of the 36 states of the Federal Republic of Nigeria. The five Southeastern states are: Abia, Anambra, Ebonyi Enugu and Imo. The area had

a total population of 25.9 million, which is about 30% of the population of the country (NPC, 1991). The southeast lies in the core oil palm belt of Nigeria, is among the most densely settled area of the country with an average population density of 247 persons per square kilometer as against the national average of 96 persons per square kilometer (NPC, 1991).

During the rainy season, a marked interruption in the rains occurs during August, resulting in a short dry season often referred to as the “August break”, though for years now this has not been consistent in August due to climate change. Temperatures are slightly lower in the humid tropical region of the south east when compared with northern Nigeria. Similarly, humidity is lowered in December and January during the Harmattan or dry season when cool dry winds blow off the desert (Okonkwo and Mbajjorgi). Seventy percent is arable land which is under cultivation. The area is situated on a fairly flat land with tropical vegetation. It has a weak soil that is easily eroded, thus accounting for over 500 erosion sites of varying depths and length (SEEDS, 2006). Agriculture is the predominant occupation in the rural areas of the zone engaging more than 70% of the rural population. The major crops cultivated in the state are cassava, yam, rice, maize, cocoyam, oil palm, plantain//banana, beans and leafy vegetables. The farming system is root crop – based and characterized by inter – crops. The choice of the area was based on the intense economic activities including agriculture. Also there is a high degree of socio – cultural homogeneity in the study area as the inhabitants are mainly Igbos, known mainly for their hard work, self – reliance and economic prowess. An important feature of the farming system in the upland areas, where there is pressure on land, is compound and homestead farms. Compound farms integrate not only arable crops and tree crops but also livestock and at times fisheries (Ugbajah, 2011). The dominant criterion for selecting southeast is the prevalence of formal and informal financial institutions in most of the rural areas of the zone.

Multistage and simple random sampling technique was used to select respondents for the study. Stage 1 involved random selection of one state from the five states in the southeast. Stage 11 was the random selection of one agricultural zone from the selected state. Four communities were selected from the selected agricultural zones by random sampling at stage 111. Stage 1v was the random selection of 24 (12 male and 12 female) farmers from each of the selected communities to arrive at 120 respondents for the study.

Data for the study were collected from both primary and secondary sources. Primary data were collected with a set of structured and pre – tested questionnaires administered to the respondents. Primary data were collected on socio – economic characteristics such as age, marital status, level of educational, farming experience, family size, membership of farmers’ organization, amount of credit received and farm income. Data on socioeconomic characteristics of the farmers and constraints to credit access and repayment were analyzed using frequency counts, percentages and mean ranking while multiple regressions was used for determinants of credit access.

The multiple regression model was explicitly specified as

$$CA = \beta_0 + \beta_1AG + \beta_2MS + \beta_3EDU + \beta_4EXP + \beta_5CA + \beta_6IN + e$$

CA = amount of credit obtained from both formal and informal credit sources (₦)

AG = age (years)

MS = marital status (dummy; married = 1, otherwise = 0)

EDU = level of education (years)

EXP = farming experience (years)

CA = credit awareness (dummy: aware = 1, not aware = 0)

IN = interest rate (%)

$\beta_0, \beta_1, \dots, \beta_6$ = parameters to be estimated

e_i = stochastic error term.

RESULTS AND DISCUSSIONS

The socio economic characteristics studies included age, educational qualification, and occupation, marital status, farming experience and credit awareness. Table 1 presents the statistical description of socio economic characteristics of the respondents under study. The mean value for age was 23.7 and also about 76.6% of the respondent were within the age range of 31-50, this implied that the respondents are within the active productive years, majority 59% engaged in farming and trading, 72% were married 75% had between 15-20years of farming experience, 92% were aware of credit, 42% obtained between ₦51, 000.00- ₦100, 000.00, 32% become aware of credit through friends and neighbors. The implication of these findings are that access to agricultural credit can be improved by ensuring that sources of ;information on credit availability should be enhanced, agricultural credit should be provided at the appropriate time to coincide with farming season, and reduction of bureaucratic bottle necks in the provision of agricultural credit to ,rural farmers socioeconomic characteristics of respondents . Table 1 presents the statistical description of the socioeconomic characteristics of the respondent. The multivariate analysis of the multiple regressions was used to predict effects of socio economic factors of the respondents such as age, marital status, educational qualification, years of farming experience, credit awareness and interest rate. The output of double leg multiple regression signs and number of significant parameter estimates. Multiple regression analysis result showed that age (AGE), educational Qualification (EDU), farming experience (EXP), credit awareness (CA) and interest Rate (IR) were statistically significant at 7% probability level.

Age of respondent had a positive influence and significant t-value of 3.824 to access of agricultural credit, thus mast 80% of the farmers were within the active productive age. The farmers will likely apply for agricultural credits for agricultural production.

Education attainment has a positive coefficient, statistically significant at 5% probability level. This result agreed with the priory expectation that higher educational level will facilitate the adoption of appropriate agricultural technologies, skills and be able to access and use the agricultural credit more efficiently. This agrees with the findings of Agbamu (2011), that level of education influences participation in agricultural productive activities, adoption, transfer and application of innovations and therefore enabled them earn more income.

Years of farming experience has a positive coefficient, statistically significant at 5% probability level. This agrees with the findings of Smeeding and Weinbery (2001) that farmers with higher level of farming experience are more likely to have acquired entrepreneurial skills and the ability to diversify production enterprises and manage credit facilities more efficiently and generate more income.

Constraints to Repayment

The respondents in the area encountered some problems which affected their ability to access and repay the agricultural credit. These problems include poor access to information, lack of participation in decision making, lack of extension services, while those of repayment include environmental problems, family responsibilities, low market prices, cost of production and other problems. Among these problems as shown in Table 3, poor access to information with the highest mean score of 3.0 was implicated as the most serious constraint to access to

agricultural credit. This agrees with the findings of Enete and Amusa (2010), that poor access to information constrained the adoption of conservation technology by farmers. This was closely followed by problem of bureaucratic bottlenecks (2.25), lack of participation in decision making (2.12) and lack of extension services (1.22). the most serious constraint to agricultural credit repayment was environmental problem with a mean of 3.0. This corroborates with Mbam and Okereke (2012) who in their study confirmed environmental problem as a constraint to repayment of credit. This was closely followed by family responsibilities (2.25). This agreed with Igwilo (2012), that family responsibilities are among the major causes of default in repayments of loans by farmers in Awka North local Government of Anambra State, Nigeria. This was followed by low market prices (2.20), high cost of production (2.10) and other problems (1.25).

CONCLUSION

The study showed that access and repayment of agricultural credit in Southeast Nigeria was affected by constraints such as bureaucratic bottle necks, delay in credit disbursement to coincide with agricultural production and lack of collateral security and administrative cost among others.

RECOMMENDATIONS

- a) Based on the findings of the research, the following recommendations have been made:
- b) The administrative bureaucracy should be relaxed so that farmers can access credit with little or no collateral security.
- c) Provision of micro credit to the farmers and giving directives for the farmers to be given priority in credit disbursement.
- d) Lending institutions should set out mechanism for monitoring borrowed credit through careful proposal assessment of the farmers before giving out credit.
- e) Provision of infrastructural development such as roads, electricity, storage facilities etc.
- f) Organization of farmers into functional cooperative society and establishment of government marketing agent/board to buy the produce from farmers.
- g) Education of farmers by extension agents and the agricultural credit staff on credit management and savings mobilization.

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Table 1: Distribution of respondents according to socio- economic characterristics

Variable	Frequency	Percentage	Mean
Age			
20-30	5	4.2	
31-40	25	20.8	
41-50	55	45.8	
51 and above	35	29.2	23.7
Educational qualification			
No formal education	10	8.3	
Primary	40	33.3	
Secondary	62	51.7	
Tertiary	8	6.7	
Marital status			
Married	86	71.7	
Widowed	14	11.7	
Single	20	16.7	
Farming experience			
Less than 10	20	10	
11-15	40	33.3	
16-20	50	41.7	
Above 20	10	8.3	15.2
Occupation			
Farming	60	50	
Trading	35	29.2	
Others	25	20.8	
Credit awareness			
Options			
Yes	110	91.7	
No	10	8.3	
Means of Credit Awareness			
Radio/television	30	25	
Friends/Neighbors	38	31.7	
Newspaper/magazine	18	15	
Agric extension agent	12	10	
Officers of lending institutions	12	10	
Other means	10	8.3	
Source of Credit			
Friends/relatives/Age grade	22	18.3	
ESUSU/money lenders	32	26.7	
NACREDB/supervised	46	38.3	
Agric credit	12	10	
Owners savings	10	6.7	
Neutral	2	1.7	
Amount of Credit Received			
Below ₦50,000	30	25	
₦ 51,000- ₦ 100,000	50	41.7	
₦ 101,000 - ₦ 150,000	10	8.3	
₦ 151,000- ₦ 200,000	8	6.7	
₦ 201,000- ₦ 250,000	2	1.7	
₦ 251,000- ₦ 300,000	4	3.3	
Above ₦301,000	16	13.3	108,866.7
Total Amount Repaid			
Below ₦ 25,000	65	54.2	
₦ 26,000- ₦ 50,000	45	37.5	
₦ 51,000 - ₦ 100,000	8	6.7	
₦ 101,000 - ₦ 150,000	2	1.7	6405.2

Table 2: estimated Regression output

Variables	Coefficient	T. statistics	Significance
Constant	-1.020	-4.163	2.000
Age	0.403	3.842	2.000
Marital status	-1.296	-0.238	2.000
Educational Qualification	0.196	3.152	2.000
Years of experience	0.396	3.735	2.000
Credit awareness	0.259	3.381	2.000
Interest rate	0.451	3.205	2.000
R ²	0.835		
R ² adjusted	0.685		
F statistics	62.351		
Durbin waston	2.130		

Table 3: Distribution of Respondents by constraint to access and repayment

	Mean	interpretation	Rank
Poor access to information	3.00	High	1 st
Bureaucratic bottle necks	2.25	High	2 nd
Lack of participation in decision making	2.12	High	3 rd
Lack of extension services	1.22	Low	4 th
Repayment	3.00	High	1 st
Environmental problems	2.25	High	2 nd
Low market prices	2.10	High	3 rd
Cost of production	2.10	High	4 th
Other problems	1.25	Low	5 th