Analysis of Loan Repayment among Small Scale Farmers in Oyo State, Nigeria

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ABSTRACT The study analysed loan repayment among small scale farmers in Oyo State, Nigeria. It specifically identified socio-economic characteristics of the respondents and quantitatively determined some socio-economic characteristics of these farmers that influence their level of loan repayments. A multi stage sampling technique was used to select 286 respondents in the study area and structured questionnaire administered on them to collect data. Descriptive statistics was used to analyse the socio-economic characteristics of the respondents while multiple regression using Ordinary least square (OLS) was used to quantitatively determine the socio-economic characteristics that influence the level of loan repayment among small scale farmers in the study area. The result showed that 60.23% of the respondents were more than 50 years old and 92.35% of them were males. Analysis also revealed that 83.92% of these farmers operated 4.9 hectares or less as farmland. About 82.17% of the respondents obtained their loans from informal sources while 17.83% patronized formal sources. The result of the repayment function showed that the included regressors explained 68.4% in the variation of the regressand.

INTRODUCTION

In developing countries as is the case of Nigeria, small-scale farmers dominate the agricultural economy. Over 80 percent of the farming population in Nigeria are small holders residing mostly in rural areas. Anaman (1988) disclosed that small farms are mainly responsible for self-sufficiency of food in Africa and cultivation of export crops. They are also very significant in world development with 50% of world's population depending on them. In a survey carried out in 1973/74 by the Federal Office of statistics as reported by Olayide (1980), the small-scale farms were classified to range between 0.1ha and 5.99ha and they constitute about 80.78% of all farm holdings, the medium scale farms range from 6.0 to 9.99ha and constituted about 13.59 % of all farm holdings while large farms range from 10.0ha and above and constituted about 5.63% of all farm holdings.

The need for agricultural loan among the small scale farmers can not be over emphasized as it enables them to establish and expand their farms.

According to Ojo (1998) ,one of the problems confronting small-scale enterprises including farmers in Nigeria is inadequate capital despite the fact that small-scale faemers produce the bulk of the food consumed locally and and some export crops which generate foreign exchange for the country. A study by Afolabi (2002) revealed that 66.99% of the sampled small scale farmers in Oyo State, Nigeria used their loans on farm operations such as payment for hired labour, purchase of implements, fertilizers, seeds and other farm inputs while 31.07% of them utilized their loan for household purpose which include paying for children education and medical treatment. Only 1.94% of them spent their loan proceeds on meeting the expenses of feeding and clothing the family. According to Afolabi and Fagbenro (1998), informal source of credit is more popular among the small scale farmers which may be due to the relative ease of obtaining credit devoid of administrative delays, non-insistence on security or collateral and flexibility built into repayment programme which was against what is obtained in the formal sources. This situation has attracted attention of Nigerian government and this has led the federal government of Nigeria to the creation of specialized institution such as the Nigerian Agricultural and Cooperative Bank (N.A.C.B) which later translated into the Nigerian Agricultural Cooperative and Rural Development Bank (N.A.C.R.B.D) to cater for credit needs in the agricultural sector. In spite of the importance of loan in agricultural production, its acquisition and repayment are fraught with a number of problems especially in the small holder farming (Awoke 2004). Hunter (1996) said that the spate

of defaults in commercial banks lending to agriculture is pervasive and present in both developed and developing credit markets.

Balogun and Alimi (1988) identified the major causes of loan default as loan shortages, delay in time of loan delivery, poor supervision, non profitability of farm enterprises and undue government intervention with the operations of government sponsored programmes. According to Von Pischke (1980), some of the impacts generally associated with default include the inability to recycle funds to other borrowers, deteriment of other financial intermediaries from serving the needs of farmers and the creation of distrust.

Although, a number of reasons have been attributed to loan default by many commentators, little is known about the effect of socio-economic factors affecting loan repayment capacity of the small scale farmers. This study therefore seek to achieve the following objectives: to identify the socio-economic characteristics of small scale farmers in the study area and to examine the factors that influence loan repayment capacity among the respondents in the study area.

RESEARCH METHODOLOGY

Study Area

The study was conducted in Oyo State, Nigeria. The study area lies between latitude 7^0 and 9.3^0N and longitude 2^0 and 4^0E and characterized by two climatic seasons. These are the dry season between November and March and the rainy season between April and October. The state is made up of 33 local government areas with a population of 5,591,585 people (National Population Commission 2006). Oyo State is bordered in the North by Kwara State, in the South by Ogun State, in the East by Kwara and Osun State and in the West by Republic of Benin. The favourable climate of the area encouraged about 70 percent of the inhabitants to engage in farming. They grow both permanent and food crops. Farmers in the state are predominantly small scale.

Sampling Technique

A multi-stage sampling technique was used to select 286 small-scale farmers from 5 local government areas of Oyo State, Nigeria. The first stage was a purposive selection of 5 local government areas. These are Ogo Oluwa, Ibarapa East,

Akinyele, Afijio and Ogbomosho local government areas because of the predominance of small sale farmers in the area. The list of farmers that borrowed for farming activities during 2003/2004 farming season compiled with the help of the extension agents and officials of the Oyo State Agricultural Credit Corporation operating in the study area which revealed the defaulters and non-defaulters.

One hundred and eighty copies of structured questionnaire were administered on random basis on the loan defaulters but one hundred and fifty six were found to be useful for the analysis. On the other hand, one hundred and eighty copies of structured questionnaires were also administered on random basis on non-defaulters but one hundred and thirty copies were found to be useful for the anlaysis.

Methods of Data Analysis

Descriptive statistics such as frequency distribution and percentages were used to analyse the socio-economic characteristics of the sampled farmers. Multiple regression was used to quantitatively determine the factors that *influence loan repayment among the respondents in the study area.*

Model Specification

The function postu-lated is implicitly presented by equation (1) i.e.
$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8 \, U_i) ....$$
equation (1)
Where
Y = The individual's capacity to repay measured by the percentage of loan repaid.
X_1 = Farming experience (yrs)
X_2 = Amount granted (₦)
X_3 = Gross farm income
X_4 = Farm size (ha)
X_5 = Family size
X_6 = Non farm expenses (₦)
X_7 = Interest rate charged (%)
X_8 = Non farm income (₦)
u_i = Error term (which is assumed to have zero mean and constant variance (Koutsoyiannis 1977).

The linear, semilog and exponential functional forms of the production function were tried using Ordinary Least Square Technique (OLS). The estimated functions were evaluated in terms of the magnitude of the coefficient of multiple

determinations (R^2), the significance of the coefficients and the magnitude of the standard errors. Based on these statistical and economic criteria, the Cobb-Douglas functional form was selected as the lead equation.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents: Table 1 revealed that 60.23% of the respondents were older than 50 years in age while 19.74% of them fell between 41 and 50 years age bracket. About 14.18% of these farmers were between 31 and 50 years old while 5.85% were 30 years old or less. Analysis indicates that majority of these respondents belong to the aged group which can have a negative effect on their productivity and hence their loan repayment capacity ceteris paribus. The table also showed that 92.35% of the respondents were males which may be due to the drudgery nature of agriculture in the study area. Analysis also revealed that 89.16% of the respondents were married while 3.15% and 7.69% of them were widowed and divorced respectively. This may have positive effect on the availability of family labour which may lead to increase in their level of production which can translate to higher income and hence higher loan repayment capacity. The table also showed that 73.43% of these farmers were literates which can have a positive effect on the adoption of new agricultural practices and enhance ability to repay loan which confirm the finding of Oladeebo (2003).

Table 1: Socio-economic characteristics of respondents

Variable	Frequency N = 286	Percentage
Age (Years)		
< 30	17	5.85
31 – 40	41	14.18
41 – 50	56	19.74
> 50	172	60.23
Total	286	100.00
Sex		
Male	264	92.35
Female	22	7.65
Total	286	100.00
Marital Status		
Married	255	89.16
Widowed	9	3.15
Divorced	22	7.69
Total	286	100.00
Level of Education		
No formal education	76	26.57
Primary education	165	57.63
Secondary education	45	15.80
Total	286	100.00

Farm Size of Respondents: Table 2 showed that 29.37% of the respondents operated less than 2.0 hectares of land while 54.55% of them had farm size in the range of between 2.0 and 4.9 hectares of land. About 12.24% of these farmers owned farms in the range of between 5.0 and 7.9 hectares of land while only 3.84% of them had 8.0 hectares or more as farm land. Analysis revealed that 83.92% of the respondents operated small farms based on Olayide's (1980) classification of farms. The dominance of small scale farmers in the study area may not be unconnected with tenurial problem which confirmed the findings of Olayide (1980) .According to a priori , an increase in hectarage of farmland would lead to a higher level of income resulting from higher level of production and hence higher loan repayment capacity which contradicted the findings of Oladeebo (2008) .

Distribution of Respondents by Source of Credit: Table 3 revealed that 7.69% of the respondents patronized money lenders while 23.43% of them obtained their loans from friends and relations. About 27.27% of these farmers got their loans from esusu while 13.64% of them patronized merchant lenders. About 10.14% of these respondents obtained their loans from farmers cooperatives while 11.54% and 6.29% of them patronized agric credit corporation and community bank (now microfinance house) respectively.

Analysis indicates that 82.17% of the respondents patronized informal sources for their loan requirement .The high patronage of informal sources by the respondents in the study area may be due to the relative ease of obtaining credit devoid of administrative delays, non insistence

Table 2: Distribution of respondents by farm size

Farm size (ha)	Frequency	Percentage (%)
< 2.0	84	29.37
2.0 – 4.9	156	54.55
5.0 – 7.9	35	12.24
eH 8.0	11	3.84
Total	286	100.00

Table 3: Sources of credit to the respondents.

Sources	Frequency	Percentage (%)
Money lenders	22	7.69
Relation/friends	67	23.43
Esusu	78	27.27
Merchant lenders	39	13.64
Farmer's Cooperative	29	10.14
Agric Credit Corporation	33	11.54
Community banks	18	6.29

Table 4: Distribution of respondents by reasons for farmers' default.

Causes of default	Frequency	Percentage (%)
Crop failure	6	3.85
Family commitment	73	46.79
Untimely disbursement of loan	27	17.31
High cost of production	50	32.05
Total	156	100.00

on security or collateral and flexibility built into repayment programme. The result of this study reinforced the findings of Afolabi and Fagbenro (1998) in which they found out that informal source of credit are more popular among the small scale farmers.

Reasons for Loan Default by Farmers: Table 4 revealed that 3.85% of the respondents attributed crop failure as the reason for their inability to repay their loan as at when due while 46.79% claimed that family commitment was their problem. About 17.31% and 32.05% of them said that untimely disbursement of loan and high cost of production was their major difficulty in meeting their loan obligations. High level of crop failure among the respondents would translate to lower level of income and hence high incidence of loan default. Increased expenses to meet family needs

would reduce the level of income available to meet loan obligation. Untimely disbursement of loan can negatively affect loan repayment because agricultural production is time specific. So, instead of utilizing the loan for agricultural purposes, farmers may divert the loan because it did not coincide with the time they need it for agricultural production. High cost of production can make agricultural ventures less profitable and hence negatively affect the borrowers loan repayment capacity. The result of this study confirmed the findings of Balogun and Alimi (1988).

Estimated Repayment Function: The result in table 5 showed that the estimated coefficient of multiple determination (R^2) indicates that the included variables in the model explained 68.4% in the variation of the level of loan repayment of respondents. All the estimated coefficients except family size, and non-farm expenses had positive signs which indicate that an increase in the quantity of these variables would lead to an increase in the level of loan repayment among the respondents ceteris paribus. The coefficients of family size and non-farm expenses that had negative sign implied that an increase in these variables would lead to a decrease in level of loan

Table 5: Estimates of repayment function postulated for respondents in the study area.

Variable	Functional Forms		
	Linear	Cobb-Douglas	Exponential
Constant	-3062404.4	0.139	-14139482
	(674917.3)	(2.379)	(4276652)
Farming experience (X_1)	397.114	0.249	-287578.2
	(14686.783)	(0.502)	(435001.85)
Amount granted (X_2)	6183.137	0.0542*	-839207.6
	(16570.987)	(0.182)	(633921.41)
Gross farm income (X_3)	-523735.4	1.077	1063117.4
	(364166.29)	(0.363)	(197407.52)
Farm size (X_4)	1175.154	0.544*	262513.31
	(12778 .92)	(0.11)	(165227.33)
Family size (X_5)	-0.06335	-0.05365	-80443.332
	(0.42971)	(0.092)	(213005.97)
Non farm expenses (X_6)	-491.094	-0.07468	809483.32
	(1882.858)	(0.118)	(20243.40)
Interest rate charged (X_7)	4484.403	0.1873*	559881.43
	(1027.945)	(0.012)	(530882.39)
Non farm income (X_8)	-730129.86	0.796*	-641663.92
	(69402.82)	(0.218)	(752690.40)
R^2	0.567	0.684	0.579
R^2	0.516	0.625	0.498
F – Value	0.751	0.674	0.534

* Significant at 5%

Figures in parenthesis are standard errors of the coefficients.

repayment of respondents. The positive effect of farming experience on loan repayment may be due to the fact that farmers are becoming more knowledgeable in farming practices which can increase their level of income and hence loan repayment capacity. This confirmed the finding of Oladeebo and Oladeebo (2008) in his study "Determinants of loan repayment among small-holder farmers in Ogbomoso agricultural zone of Oyo state, Nigeria: The positive coefficient of amount granted may enable farmers to adopt agricultural innovations which can translate to increase in the level of income and hence high level of loan repayment ceteris paribus. Increase in gross income may lead to increase in loan repayment. An increase in hectarage of farm land may lead to higher income resulting from higher level of production and hence loan repayment capacity which contradicted the finding of Oladeebo and Oladeebo (2008). Negative effects of family size and non farm expenses on loan repayment may be due to pressure on income generated from the farm which can then reduce loan repayment capacity. An increment in interest rate may induce rational debtor to repay quickly to escape further increment while an increased non farm income would mean more money to the farmer and hence higher level of loan repayment capacity ceteris paribus.

On the whole, the study revealed that 60.23% of the respondents were more than 50 years old which can be grouped as aged. Analysis also showed that 92.35% of these farmers were males while the remaining 7.65% were females. All the respondents were married and 73.43% of them had formal education. The result also showed that 83.92% of these farmers operated 4.9 hectares of less as farmland. Analysis revealed that 82.17% of the respondents patronized informal sources of credit while 17.83% of them patronized formal sources. The study also showed that the reasons for loan default by the respondents ranged from crop failure, family commitment, untimely disbursement of loan to high cost of production. The result of the repayment function postulated for the respondents in the study area showed that 68.4% of the regessand was explained by the regessors. The result obtained in this study also revealed that the amount of loan granted to farmers, farming experience, farmsize, gross farm income, interest rate charged and non farm income were the major significant socio-economic characteristics determining loan repayment in the study area. However, family size and non farm

expenses had negative influence on the level of loan repayment.

RECOMMENDTIONS

Based on the results obtained in this study, it is recommended that credit institutions or lending agencies should look out for the socio-economic characteristics that significantly influence loan repayment before granting loans and advances to small-scale farmers to reduce the incidence of loan delinquencies and defaults.

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