

# Regionalising Loan Repayment Capacity of Small Holder Cooperative Farmers in Nigeria: Exploring South-South Nigeria

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#### **Abstract**

This paper examined the repayment capacity of small holder cooperative farmers in South-south region of Nigeria. A composed sample of ninety-six respondents randomly selected from sixteen cooperatives from eight local governments in Bayelsa and Delta states made up the sample. Descriptive statistics and Multiple regression analysis were used to achieve the study objectives. The result shows that age, education level, loan size, repayment period, net farm income, loan supervision, engagement in other jobs as well as farm size has positive influence on loan repayment capacity. Also, gender, marital status, household size and the amount expended on hiring equipment have negative influence on loan repayment capacity. The author recommends that there is the need to improve access to farm implement and fertilizer as this will help to increase farm yield and consequently the net farm income of the farmers which the study has shown will improve the repayment capacity of the farmers. Also, pertinent that effective loan supervision mechanisms be put in place to ensure loan repayment compliance. More loans should be advanced to females. Government should subsidize farm equipment or at best grant waiver to farmers who want to import such equipment. In addition, government should do well to offer preferential interest rate to small holder farmers.

Key words: Loan Repayment Capacity, Small Holder Cooperative Farmers

# 1.0 Introduction/Background

Credit plays a vital role in economic transformation and rural development. Agricultural or farm credit is a crucial input required by small holder co-operative farmers to establish and expand their farms with the aim of increasing the income of the households and the nation in general while augmenting the individual borrower's ability to repay borrowed funds. Access to credit is regarded as one of the key elements in raising agricultural productivity (Ojiako and Ogbukwa 2012).

For small-scale enterprises to grow up to medium and large-scale level, the need for formal credit source is indispensable because formal financial sector have the financial capacity to meet their growing credit demand, which the informal sector is incapable to supply (Gebeyehu 2002). Credit enables the poor farmers to tap the financial resources and take advantage of the potentially profitable investment opportunities in their immediate environment (Zeller and Sharma 1998). The use of credit has been envisaged as one way of promoting technology transfer, while the use of recommended farm inputs is regarded as key to agricultural development. While credit to the agricultural sector remains a veritable tool for agricultural transformation and economic growth, credit repayment is of paramount importance to have viable financial institutions. Despite the importance of credit, many of the farmers do not have sufficient access to credit from formal financial institutes. Their major source of finance, especially at the start up stage, is the informal sector (i.e. from friends, relatives, local money lenders, e.t.c.). This poor credit access from formal financial source, based on the experience of some developing countries, arises partly from biased government policy, due to the operational practices and procedures of the formal financial institutions and the internal problems of small scale enterprises themselves.

Given the income level of the average small holder farmers in Nigeria and the constraints in access to credit, it is believed that farm credit is an indispensable tool for achieving socio-economic transformation of the rural communities. If well applied, it would stimulate capital formulation and diversified agriculture, increased resource productions in farming, marketing efficiency and value addition while enhancing net farm incomes (Nwagbo 1980).

Despite the acclaimed importance of credits in agribusinesses promotion in Nigeria, empirical studies have shown that their management and repayment have been burdened with numerous challenges (Awoke 2004; Lobi 2010; Oboh and Ekpebu 2011).

A study by Rhasi (2000) found that the lack of adequate accessible and affordable credit is among the factors that contribute to the decline in the contribution of the agriculture sector in Nigeria economy. On the other hand, the high rate of defaults among borrowers remained serious impediment. Awoke (2004) reported that the high rate of default arising from poor management procedures, loan diversion and unwillingness to repay loans had threatened the sustainability of most public agricultural credit schemes in Nigeria. Olagunju and Adeyemo (2007) in buttressing this fact, succinctly argued that the problem of default in loan repayment is one of the factors that



militated against the development of the agricultural sector in Nigeria, because it dampens the willingness of the financial institutions to increase lending to the agricultural sector.

# 1.1. Statement of the problem

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 is small holders residing mostly in rural areas (Afolabi 2010). The need for agricultural loan among the small scale farmers cannot 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 farmers produce the bulk of the food consumed locally and some export crops which generate foreign exchange for the country. This makes agricultural loan very imperative more especially as Nigeria tries to encourage private investors and diversify the economic and revenue base of the country. Understanding the role small holder farmers could play to the economic development of the country, under the current government, some efforts are being made to encourage farmers to borrow at less stringent conditions.

Lack of access to credit is generally seen as one of the main reasons why many people in developing economics remain poor. Usually the poor have no access to loans from the banking system because they cannot put up acceptable collaterals and/or because the costs for banks of screening and monitoring the activities of the poor and enforcing their contracts are too high to make lending to this group profitable (Hermes and Lensink, 2004). However, access to financial services as opined by Ehigiamusoe (2005), enables the poor household to move from everyday for survival to planning for the future, investing in better nutrition, children's education and health and empowering women socially (Ugwumba et al 2008) This has necessitated the formation of small holder farmers cooperatives as a way to access less strenuous/stressful credit.

Despite the formation of small farm holder cooperatives as a way to improve their access to credit and reduce the loan default rate, studies have shown that small entrepreneurs still have high risk of default. Experience from countries such as Kenya, India, Bangladesh showed that small entrepreneurs are prone to default. Sometimes they make willful default; managerial ability is poor, they don't keep accounts and it is therefore difficult to monitor their operation by the financial institutions (Asrat, 1989). Solving the major financial constraint of this important sub-sector of the economy is an important step towards achieving the national development objective of a country. For this to succeed, the problem of high default risk associated with them, which made the financial institutes reluctant to extend loan, has to be solved (Gebevehu 2002).

While it is important to know the loan repayment capacity of small holder cooperative farmers in Nigeria as this will help in forging policy towards the growth of the sector, studies on loan repayment capacity of farmers in Nigeria have largely concentrated on the south-western Nigeria with little or no study on the South-Southern part of the country. It is against this backdrop that this paper takes a look at the loan repayment capacity of small holder cooperative farmers in Nigeria focusing on South-South region of Nigeria. The paper examined the socioeconomic characteristics of the cooperatives; identified the factors that influence loan repayment capacity of the farmers as well as carried out a gender analysis of loan repayment behaviour of the cooperative farmers in the study area.

### 2.0 Theoretical Literature

#### 2.1 The Nature and Role of Credit Market

Finance is central to establish and operate productive activity. Sufficient finance is a prerequisite to proper organization of production, acquiring of investment assets and/or raw materials and development of marketing outlets e.t.c. Credit is a device for facilitating transfer of purchasing power from one individual or organization to another. As indicated by Oyatoya (1983) credit provides the basis for increased production efficiency through specialization of functions thus bringing together in a more productive union the skilled labor force with small financial resources and those who have substantial resources but lack entrepreneurial ability.

The link between credit and economic development has captured the attention of economists since long (schumpeter, 1933). With improved financial intermediation, the proportion of financial savings that is diverted by the financial system into non-productive uses falls, and the rate of capital accumulation increases for a given saving rate (Mensah, 1999). He further elaborates the importance of financial intermediation as it enhances saving mobilization by providing a variety of safe financial instruments to savers and ensuring tangible returns on savings. The financial sector contributes to the efficiency of the entire economy by spreading information about expectations and allocation of resources to investors.

In more explicit analysis of the association between finance and economic development, Schumpeter (1933) treated the banking system and entrepreneurship as the two key enabling agents of development. Schumpeter argues that the banking system's capacity to supply initiative and entrepreneurship in addition to credit creation enabled it to transfer resources from less productive uses to more economically rewarding uses because those who control existing resource or have claims on current wealth are not necessarily those best suited to use these



resources. The banking system credit creation equipped entrepreneurs with purchasing power with which they were able to express overriding command over real productive resources. Financial theorists argue that if economic units relied completely on self-finance, investment will be constrained by the ability and willingness of each unit to save, as well as by its capacity and readiness to invest (Mensah, 1999).

# 2.2 Theoretical Arguments on Loan Default Problem

Credit markets may be either of formal or informal ones. When we think of small businesses in LDCs, the major source of finance so far is informal sector. The probability of default of small scale enterprises credit from informal market is low because informal financial markets are much closer to their clients and potential clients, and through gossip and daily contact they are much more aware of their activities than a formal banker would ever be, thus they know the risks they are exposed to. On the other hand, small-scale credit scheme from formal financial markets has experienced a high rate of default in many developing countries. Banks in these countries hold a truly alarming volume of non-performing loans (Fry, 1995). Fry listed Brazil, Cote d'Ivoire, Mali, Benin, Liberia, India, Nigeria, Malawi, and Peru as countries in which there are widespread payment delays.

## 2.3 Empirical literature

There is plethora of studies on loan repayment world over. Loans are either given to groups or individual members of cooperatives. Vigano (1993) revealed that being women, married, aged, proximity to the bank, use of better technology and being flexible to adjust to market changes, proper use of the loan, project diversification, frequency of loan maturity, collateral, personal guarantee and being a pre-existing depositor are negatively related to loan default risk. Chirwa (1997) estimated the probability of agricultural credit repayment utilizing data from five Agricultural Development Divisions in Malawi using a probit analysis. The result based on 1237 sample farmer club members showed that the availability of resources from crop sales and income transfers, the size of the club, the degree of diversification and the quality of information determined the probability of repayment. In contrast, other factors such as amount of loan, sex of household's head, size of household and club experience was not statistically significant. Crop sales, income transfers, degree of diversification and quality of information are positively while size of club is negatively related with the probability of repayment. A study made on loan repayment determinants under the Social Emergency Loan Scheme (SEALS) in Nigeria by Njoku and Odii (1991) employing multiple regression model based on 300 sample beneficiaries (9.3% of the total population) indicated that poor loan repayment performance was due to late release of loan funds, cumbersome loan application and disbursement procedures and emphasis on political considerations in loan approvals. In addition, loan diversion to non-agricultural enterprises as well as low enterprise returns resulting from low adoption rate of improved agricultural technologies contributed to poor loan repayment performance of small holders. Loan volume, years of farming experience, farming as major occupation, years of formal education, household size, loan period, farm size, farm output, value of assets and interest paid on loan were all highly significant determinants of loan default.

Oni (1999) studied the proportion of loan repayment by smallholder farmers in Osun State. His explanatory variables were: amount of loan collected, expenditure on farm, interest rate, extent of farmers contact with bank, disbursement lag, cultivated land area and years of experience in farming. The result of linear and log form equations showed that the regression coefficients associated with amount of loan (+), disbursement lag (-) and extent of farmers' contact with banks (+) had expected signs and were statistically significant at 5 per cent. In his study of small-scale farmers of Oyo State, Nigeria, Afolabi (2010) also using the OLS regression technique found that borrower's farming experiences, and gross farm income had positive influence on loan repayment while family size and non-farm expenses had negative influence. Another study in Ogbomoso zone of Oyo State identified loan size, farming experience with credit and level of education to have significant positive influence on loan repayment as against age of farmers that had significant negative influence (Oladeebo and Oladeebo, 2008). Oni et al. (2005) in Ojiako and Ogbukwa (2012), found that farmer's age and income had positive and significant influences on loan default while their level of education had a significant negative influence. Based on this finding, the study recommended targeting of the young and better educated farmers during loan disbursements.

# 3.0 Methodology

The study was carried out in South-south Nigeria using Bayelsa and Delta State as case study. Multistage random sampling technique was used in selecting respondents. In the first place, from the six states that make up South-south Nigeria, two states –Bayelsa and Delta were selected. Also, four local governments each were randomly selected from the two states giving a total of eight local governments for the study. These local governments include- Yenagoa, Ogbia, Sagbama and Southern Ijaw from Bayelsa while Isoko-South, Oshimili-South, Ndokwa-West and Ughelli-North were selected from Delta State. The people of the two states are dominantly farmers-subsistence and commercial cash crop and fish farmers with some percentage of the people in the public and private employment (paid employment). In the second stage, one community each was



randomly selected among the communities that have cooperatives in each local government. This gives a total of four communities in each state and eight in the two states-Bayelsa and Delta. Two cooperatives were randomly selected from each of the eight communities selected making a total of sixteen cooperatives for the study. Also, six respondents were selected from each of the sixteen cooperatives to give a total of ninety-six respondents for the study. The data used for the study were from primary sources and secondary sources. The secondary sources are the works cited while the primary data were from detailed and structured questionnaire that was used to elicit information from respondents. The questionnaire covered all possible responses to the research objectives. Data on the socio-economic and demographic characteristics of respondents, as well as their loan access, use and repayment behaviours during the 2012 cropping season were collected from the respondents. Bayelsa and Delta states were purposively selected for the study for cost and convenience as well as the presence of low income farmers that belong to cooperative societies in the area.

### 3.1 Loan Repayment Model Specification

The choice of the explanatory variables considered in this model is guided by theory, evidence from past studies on loan repayment behaviours, and hypothesized relationships with the endogenous variable. The variables considered for inclusion in this model are grouped into different category: borrower-specific characteristics, lender-specific characteristics, loan-specific characteristics, farm and institutionally determined variables. The variables were screened to ensure that only relevant ones are retained in the empirical model. Adapting Mayong et al (1996), we specified the empirical model of loan repayment capacity of small holder's cooperative farmers as:

Where  $Y_{t~(REP)}$  is the dependent variable defined as the loan repayment capacity of the respondent given as the actual amount of loan repaid in the year 2012, measured in Nigeria naira

 $\beta_0$  is the constant or intercept of the equation

X1.....Xn represent the independent variables in the model while the  $\mu_t$  represents the stochastic error term or the white noise. The model is further specified as:

 $Rep = \beta_0 + \beta_1 age + \beta_2 gen + \beta_3 edu + \beta_4 exp + \beta_5 hhs + \beta_6 mar + \beta_7 Ojb + \beta_8 Nfy + \beta_9 fns + \beta_{10} Trt + \beta_{11} Int + \beta_{12} Imp + \beta_{13} Lsz \\ + \beta_1 4slspv_+ \beta_{15} Ldvs_{0+} \mu_t$ 

Where: age=age; gen=gender; edu=education level; exp=loan use experience in years; hhs=house hold size; ojb=engagement or otherwise in other jobs; nfy=net farm income during the 2012 faming year; fhs=farm size; Trt=amount expended in farm equipment hiring; Lsz=loan size; Int=rate of interest; dummy depicting whether or not respondents use the borrowed fund to support growing of improved crop variety; lspv=loan supervision; Ldvs=loan diversion.

# 4.0 Empirical results

#### 4.1 Socioeconomic characteristics of the respondents

A number of socio-economic attributes of the respondents were examined. The result in table 1 in the appendix shows the socioeconomic attributes of the respondents that were examined. The examined socio-economic attributes included age of the respondents, household size, highest education level, level of experience in business, gender and marital status.

The result in Table 1 shows that 21.6% of the respondents are below the age of 31 years while 46.0% of the respondents are between 31 and 50 years. In the same vein, 32.4% of the respondents are above 50 years of age. The result further shows that 38.7% of the respondents had at most 5 people in their households. The result also revealed that 50.0% of the respondents had between 6-9 people in their households while 11.3% of the respondents had minimum of 10 people in their households.

Of the number of respondents in the study, 11.7% had higher degree, 53% had WAEC and equivalent, 28.6% had primary school while 6.7% had no formal education. Evidence from the result showed that majority of the respondents had from 6 to years experience doing business while 24.8% of the respondents had maximum of 5 years experience doing business and 22.8% also had minimum of 10 years experience in business. In the same vein, 37.1% of the respondents are males while 62.9% are females. As for marital status,48.0% of the respondents are married while 40% of the respondents are single. In the same vein, while 4.0% of the respondents are on consensus married, 8.0% are widowed.

#### 4.1 Factors that Influence Loan Repayment among Small Holder Cooperatives Farmers

To determine the factors that influence loan repayment capacity among small holders' cooperative famers in South-south Nigeria, Ordinary Least Square regression analysis was used. The repayment capacity of the respondents (proxied by the actual amount of loan repaid in the year 2012, measured in Nigeria naira) was used as the dependent variable while age, gender, marital status, education level, loan use experience, loan size, interest rate, repayment period set by cooperatives, diversion of loan, net farm income, loan supervision, household size, engagement in other jobs, farm size as well as amount expended on hiring farm equipment were



used as the independent variables. As indicated in the methodology, the choice of the explanatory variables considered in the study is guided by theory, evidence from past studies on loan repayment behaviours, and hypothesized relationships with the endogenous variable. The result of the multi[le regression in Table 2 shows that reasonable number of the socioeconomic variables included in the model influenced loan repayment positively. For instance, age of the respondents, loan use experience, loan size, repayment period set by cooperatives, net farm income, loan supervision, engagement in other jobs as well as farm size, all have positive significant influence on the loan repayment capacity of the farmers at 0.05 level of significant except repayment period which has positive but not significant at 0.05 level. On the other hand, the result shows that gender, marital status, loan diversion, household size, amount expended on hiring equipment had significant negative influence on loan repayment capacity of the respondents.

The implications of the results are that age plays significant role in loan repayment. The older the respondents the more the capacity to repay loan. Also, the result implies that the longer the years of experience in business, the more the capacity to pay back loan. In the same vein, the bigger the size of loan, the bigger the size of the farm, the more the capacity to pay loan. Also those who had their loan supervised; had longer repayment period as well as those who are engaged in other jobs have the greater tendencies to repay their loans. On the other hand, increase in interest rate, household size; amount of money expended on hiring equipment as well as being a male have the tendencies of reducing loan repayment capacity. The R-squared value of 0.577 (58%) shows that the independent variables included in the model explained 58% of the variation in the repayment capacity of the farmers

#### 5.0 Conclusion and Policy Recommendation

The study on the loan repayment capacity of small holders' cooperative in South-south Nigeria is very timely. Given the impact credit to farmers has made in other economies of the world, and the recent drive by the federal government of Nigeria towards diversifying the economic base of Nigeria loan small holder cooperative farmers has become a major plank in the policy for accelerated agricultural development as well as the growth of the economy. The policy has dual intent; poverty reduction and economic growth. The findings showed that loan size, net farm income, loan supervision and engagement in other jobs have significant influence on repayment. In other words, policy to improve the repayment capacity of small holder farmers can be promoted. For example, by increasing the size of loans available to small holder farmers in South-south Nigeria. Also, there is the need to improve access to farm implement and fertilizer as this will help to increase farm yield and consequently the net farm income of the farmers which the study has shown will improve the repayment capacity of the farmers. It is also pertinent that effective loan supervision mechanisms be put in place to ensure loan repayment compliance. Also, the findings that gender has negative significant influence on loan repayment imply that females have the higher probability of not defaulting. Hence, more loans should be advanced to females, though the result did not indicate loan utilization. The amount expended on hiring farm equipment and machinery has been found to significantly reduce the capacity to repay loan. This suffice that government should subsidize farm equipment or at best grant waiver to farmers who want to import such equipment. Interest rate is one variable of great interest to the private sector. Government should do well to offer preferential interest rate to small holder farmers. Currently there is increasing spate of loan default among small and medium farmers and enterprises because of the aforementioned factors. Again, government should strengthen her regulatory framework to ensure full compliance by farmers. This way the small holder cooperative farmers will contribute meaningfully to the diversification of the economy and fight against poverty. This is crucial as the country drives towards joining the league of big 20s (becoming one of the 20 biggest economies in the world come the year 2020 -vision 20:2020).

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**Appendix** 

**Table 1: Socioeconomic Characteristics of Respondents** 

Socioeconomic characteristics	Category	percentage	
Age (years)	< 31	21.6	
	31–50	46.0	
	> 50	32.40	
Size	5 and below	38.7	
	6-9	50.0	
	10 and above	11.3	
Education	No formal	6.7	
	Primary school	28.6	
	WAEC/GCE/SSCE	53.0	
	Higher Degree	11.7	
Level of experience	0-5yrs	24.8	
	6-10yrs	52.4	
	>10yrs	22.8	
Gender	Male	37.1	
	Female	62.9	
Marital Status	Married	48.0	
	Single	40.0	
	Consensus	4.0	
	Widowed	8.0	

Source: Survey data 2012

Table 2 Result of the Estimated Repayment function

Independent Variables	В	Std. Error	t	Sig.
Constant	0.316	0.012	18.177	0.000
Gender	-0.005	0.009	-0.102	0.919
Age	0.545	0.058	9.534	0.000
Marital status	-2.037	0.122	0.005	0.130
Edu. level	0.331	0.053	6.196	0.000
Loan use experience	0.669	0.055	2.258	0.004
Loan size	0.382	0.102	-2.949	0.003
Interest rate	-0.209	0.067	-3.055	0.004
Repayment period set by	0.157	0.099	-1.578	0.118
cooperative				
Diversion of loan	-0.462	0.099	-6.933	0.000
Net farm Income	0.107	0.052	-2.067	0.034
Loan supervision	0.275	0.072	3.796	0.000
Household size	-0.092	0.004	21.773	0.000
Other jobs	0.044	0.000	-67.532	0.000
Farm size	0.131	0.005	12.116	0.000
Amount expended on	-0.150	0.064	8.116	0.000
hiring farm equipment				

Source: Field survey data, 2012



# **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.783ª	.577	.568	.02401246

a. Predictors: (Constant), household size, Respondent's Marital status, Respondent's loan use experience, respondent's loan size, Respondent's highest educational qualification, respondent's repayment period set by cooperative, respondent's net farm income, interest rate, loan supervision, engagement in other jobs, household size, farm size, amount expended on hiring farm equipment.

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