EFFECT OF MICRO FINANCE BANK LOAN ON FARMERS OUTPUT IN KWARA SOUTH, NIGERIA

OLAOYE, IBUKUN JAMES[1] & ALALADE OLUWASEGUN AYODEJI[2]
[1]Department of Agricultural Economics and Farm Management
[2]Department of Agricultural Extension and Rural Development
[1&2]University of Ilorin, Ilorin, Nigeria
E-mail: olaoyeibukunjames@yahoo.com, segunalalade@gmail.com
Phone No: +234-805-340-0889, +234-706-089-6827, +234-706-388-0416

Abstract
*Against the background of the recent recapitalization of the commercial banks in Nigeria which led to the restructure of community banks to microfinance bank this paper examine the effect of microfinance bank loan and social capital on farmers output of MFB beneficiaries in Kwara South, Nigeria. Data were collected in 2012 using a three stage sampling techniques which include purposive selected two local government, random selected 7 cooperative groups benefiting from MFB loan and randomly selected 10 farming household from each of the cooperative groups making a total of seventy respondents. The data were analyzed using descriptive statistics, gross margin analysis and a multiple regression model. It was found that total gross margin of the farm production on the average was ₦19,407.32 (US $ 97.40) per month. MFB loan, Cooperative loan, Gift and Mutual help are the major socio capital factors influencing the naira value of the output of MFB farmer beneficiaries (Fcal 16.031***, P.value<0.010). However, it was recommended that proper supervision should be given to disbursed MFB loan and that government should help MFB farmer beneficiaries to remove the production constraints and inadequate fund, by putting in place good policy towards empowerment of MFBs in rural area.*

Keywords: Recapitalization, Commercial bank, Restructure, Microfinance bank, Loan, Social capital, Beneficiaries, Mutual help, Gross margin, Multiple regression, Kwara South, Nigeria

Introduction
Agriculture has contributed immensely to the Nigeria economy in various ways, amongst which are; provision of food for the increasing population, supply of adequate raw materials and labour input to a growing industrial sector, source of employment, generation of foreign exchange earnings, and provision of market for the products of industrial sector (Okumadewa, 2009; World bank, 1998; FAO, 2006). It was noted that agriculture contributed 41.72%, 42.20%, 42.13%, 43.10%, 43.30%, and 43.59% of the Nigeria GDP in 2006, 2007, 2008, 2009, 2010, and 2011 respectively (CBN, 2005; 2007; 2010, NBS, 2011). However, sustainable agricultural development is necessary to ensure survival of the rapidly growing population of Nigeria, as well as the economic development of the country. In lieu of this, Nigeria agricultural policy provides among others, adequate financing for agriculture. The role of finance or credit in agriculture, just like in the industrial and service sector, cannot be over-emphasised. Public expenditure on agriculture has, however, not substantial enough to meet the objective of the government agricultural policy to bring about the growth and development of agricultural sector (International Food Policy Research Institute, 2008).
However, the government have deemed it fit to restructure the MFB in Nigeria through the process of recapitalization in order to be able to empower the small scale business including

agriculture through MFB loan. The application of microfinance systems has become a crucial factor in finance economics related discipline to the extent that local and international organizations are exploring the modalities of driving the best in the area of social economics needs of individual, small and medium enterprises over the years (Oloyombo, 2010). Oloyombo and Ogundimu, (2006) noted that microfinance institution is now a growing phenomenon all over the world.

According to CBN (2008) microfinance loans granted to clients is increasing from 2007 to date and most of it goes to financing microenterprises in rural areas. Ketu, (2008) observed that microfinance banks have disbursed more than ₦800 million micro credits to over 13,000 farmers across the country to empower their productive capacities. About 60 percent of poor people in the country live in the rural areas and 80 percent of them are farmers and artisans (NBS, 2005). Microfinance banks have therefore been the main sources of funding to these less disadvantaged groups. Rural people are empowered through microfinance loans and services, and hence small scale agricultural practice and microenterprise is developed.

Moreover, social capital represents social connections and all the benefits they generate (World Bank, 2006) which is also known to have contributed to the sustainability of the economic growth. The benefits for people having these social connections can occur either at an individual level (for example, through family support) or at a wider collective level. Hence, in measuring social capital through monetary valuation of social capital stocks approach consists of producing estimates of the value of social capital assets. The social capital identified in this paper aims to cover all the relevant dimensions of social capital which were personal relationships and social network support as identified by the OECD (OECD, Scrivens & Smith, 2013). Despite the numerous works on roles of microfinance banks, less is known about the effect of loan from micro finance banks and on farmers' output as well as the effect of social capital on the output of farmers in the area. Hence, the general objective of the study is to examine the effect of micro finance bank loan and social capital on farmers output of MFB beneficiaries in Kwara south, Nigeria. The specific objectives are to; identify the socio economic characteristics of the farmers, determine the gross margin of the MFB farmer beneficiaries in the study area, examine the effect of loan given by microfinance banks on the productivity of the farming households in the study area, and examine the challenges facing the farming household in accessing loan from micro finance bank in the study area.

Methodology

Study Area: This study was conducted in Kwara State Nigeria. The State was created on 27th May, 1976 and is usually referred to as the gateway between the northern and southern part of Nigeria. It lies on latitude 7^0 15^{l}N and longitude 6^0 18^{l}E and covers a land area of about 32500km^2. The State shares common boundaries with Oyo, Ondo, Osun, Niger and Kogi States and has an international border with the Republic of Benin (Kwara State Ministry of Information 2011). There are twenty three (23) Microfinance banks in Kwara State and has about 260,528 farm families (KWADP, 2006) and about 36,820 hectares of farmland (FOS, 1995).

Sampling/Data collection: A three stage sampling techniques was used. The first stage was the purposive sample of Isin and Irepodun Local Government Area (LGA) because majority of MFB's loan beneficiaries in this area were farmers, in the second sample stage 7 agricultural cooperative societies benefiting from loan from MFBs using Bank list of beneficiaries were randomly selected while the third stage involved the random selection of 10 farming household

respondents from the list of each of the agricultural cooperative societies making a total of 70 respondents. Data were collected through the use of structured questionnaire coupled with interview scheduled.

Data analysis

Descriptive statistics as well as inferential statistics were used to analyse the data obtained. Descriptive statistics such as percentage, frequency distribution, mean, and mode were used to analyze the socio – economic characteristics of the respondent. Gross margin analysis was used to determine the profitability of the MFB farmer beneficiaries while regression model was used to measure the effect of the incentives received by the respondents from MFB on their output. The incentives received by the respondents from the MFBs and cooperatives are regressed against the output which was the dependent variable and the five incentives were the independent variables.

Gross Margin Analysis: Budgeting techniques was used to estimate cost and returns of MFB farmers' beneficiaries. The specific type of budgeting technique used was the gross margin analysis. The model specification is stated thus:

$GM = TR - TVC$ ..... (1)

Where,

GM = Gross Margin

TR = Total Revenue

TVC = Total Variable Cost

TFC = Total Fixed Cost

Multiple Regression Model: This was used in this study to identify and explain the variable inputs used to explain the variation in output. Three functional forms were fitted for the data and these include linear function, semi log function and exponential function. Based on the work of Herbert (2003), the criteria for choosing lead equation were used. However, the best fitted equation was the linear function with highest R^2 and numbers of significant variables.

The implicit form regression model specification for the best fit model is thus;

$Y = F(X_1, X_2, X_3, X_4, X_5, X_6, U)$ .....(2)

Where, Y = Farm output (Naira)

X_1 = MFB loan (Naira), X_2 = Cooperative loan (Naira), X_3 = Gift (Naira), X_4 = Subsidy (Naira)

X_5 = Mutual help (Naira), U = Error term

The model in its explicit form was as follow

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U$ ..... (3)

Where; β_0 = intercept and, $\beta_1 - \beta_5$ = slope coefficient of the independent variables

Result and discussion

Socio Economic Characterisation of Farmers: The characteristic of the sampled farmers that are MFB beneficiaries are presented in table 1. The average age of the farmers which are beneficiaries of the MFBs was 48 years in which about 68% of the respondents were between the ages of 41 to 55 while only about 10% of the respondents belong to the age group of above 55 years. Table 1 further showed that 77.14% of the respondents were male gender while 16 (22.86%) of the MFB beneficiaries were female gender. Majority of the farmers that are MFBs beneficiaries have tertiary school education while about 34% have secondary school

as their education status. Also, surprisingly about 61% of the farmers that are MFBs beneficiaries have household size between 1 and 5 and the average of household size of 4 which is not higher than the national average. More so, all of the farmers' enjoyed socio capital from family/relatives which was followed by cooperative society with 84% of the farmers benefited from socio capital through the association they belong to. However, the major forms of social capitals identified by the respondents were Cooperative loan, Mutual help and gift respectively in order of their magnitude.

Profitability of MFB Farmers' Beneficiaries: The average cost-benefit analysis of farm production of MFB beneficiaries is shown in Table 2. The result revealed that the total gross margin of the farm operation on the average of the 70 farmers sample selected was ₦232,887.87 (US $ 1168.82) per annum which is ₦19,407.32 (US $ 97.40) per month. This shows that agricultural production of the MFB farmer beneficiaries in the study area is very profitable since the return to capital was more than the 3% interest rate charge by the Micro finance banks and their respective cooperative society. The result also shows that the total variable cost which was ₦68,413.51 accounted for over 70% of the total cost of input used in production. However, this result supported the work of Daniel *et al;* (2010) that have found out that the variable cost accounting for the largest share of total cost in farm production.

Effect of MFB's Loan and Social Capital on Farmers Output: To assess the effect MFB loan and social capital on naira values of farmers' output, a regression analysis was carried out to model the farmers' output, as a function of five independent variables. The result of the regression estimate is presented in Table 3. The result shows that about 44% of the variation in Naira value of the farmers output was accounted for by the MFBs loan and their social capital benefits include in the model. The F-value of 16.031 indicated that the whole model is significant and is a good fit. Regression estimates showed that MFBs loan, cooperative loan, Gift, and mutual help had positive relationship with farmers' output. However, only MFBs loan, cooperative loan, gift and mutual help were found to be significantly related to the output of the farmers. When other factors are constant, a 1% increase in value of MFB loan, and cooperative loan resulted in an increase of 3.4%, and 5.3% of the farmers' output in Naira respectively other things remaining constant and this was found to support the findings of Arthur (2004), Fred *et al.,* (2011) and Obilor (2012), that there was a strong positive correlation between credit and net income.

Challenges Faced by the Farming Household in Accessing Loan From Microfinance Bank: The result in Table 4 showed that, inadequate loan was found to be the major constraints of MFBs beneficiaries in the study area which implies that there was high need to recapitalize the microfinance bank for greater challenges. This may probably be in consonance with Nigeria agricultural and rural development bank (NARDB), (1998) positing that the poor asset quality as well as high operating cost combined could erode the small capital base of the banks. The result also revealed that the challenge of inadequacy of fund was the most felt while the weather uncertainty was the least felt challenges by the farmer. This might be as a result that most of the farmer were not arable farmers but mostly poultry and fish farmers which may need adequate supply of credit for the day to day running of their farms and others which might be arable crop farmers might have been able to adapt or cope with the issue of climate change and they still believed that if they have more access to capital or credit their productivity might be increased.

Table 1: Socio economic characteristics of the respondents

	Frequency	Percentage
Age	15	21.4
Mean	48	68.6
26-40	7	10
41-55	(46)	
More than 55		
Mean Age		
Gender		
Female	16	22.86
Male	54	77.14
Education status		
Informal	6	8.57
Primary	6	8.57
Secondary	24	34.29
Tertiary	34	48.57
Household size		
1-5	43	61.43
6-10	27	38.57
Mean household size	(6)	
Source of social capital		
Cooperative society	59	84.29
Family/relative	70	100
Religion cycle	19	27.14
Friends/peer group	27	38.57
Commercial bank	5	7.14
Money lender	0	0.00
Social capital identified		
Cooperative loan	53	75.71
Gift	41	58.57
Subsidy	12	17.14
Mutual help	49	70.00
Grant and aid	8	11.43

Source: Computed from survey data, 2012

Table 2: Economics of MFB farmers' beneficiaries' production

Gross revenue/year (Naira)	324105.88
Total Fixed cost/year (Naira)	22804.50
Total variable cost/year (Naira)	68413.51
Gross cost/year (Naira)	91218.01
Gross margin/year (Naira)	232887.87
Gross margin/month (Naira)	19407.32

Source: Computed from survey data, 2012

Note: Official exchange rate: 1 US dollar = 199.25 Nigerian Naira.

(a) The figure shown are average for the 70 sample MFB beneficiaries farmers

Table 3: Regression Analysis showing the effect of MFB on the farmers output

Variable	linear coeffi.	t – value	Decision
X_1= MFBs loan	.508***	2.302	5%
X_2= Cooperative loan	.752***	3.510	1%
X_3= Gift	.372	.185	Not
X_4= Subsidy	-.153	.108	Significant
X_5= Mutual help	.296	1.448	Not
Constant	3.553		Significant
R^2	.469		
R^2 (adjusted)	.440		
F – value	16.031***		

Source: Computed from Field survey data, 2012

*** = significant at P < 0.01;** = significant at P < 0.05;* = Significant at P< 0.10

Dependent Variable: value of output in naira

Table 4: The challenges faced by beneficiaries of microfinance bank were ranked based on the degree of it felt need

Challenges	Highly Felt	Moderately	Slightly	Rarely	Not Felt	Mean	Rank
Inadequate of fund	23(32.9)	20(28.9)	17(24.3)	3(4.3)	7(10)	3.70	1st
Collateral Problem	2(2.9)	6(6.8)	25(35.7)	17(24.3)	20(28.6)	2.33	5th
Time of processing	16(22.9)	1217.1)	11(15.7)	16(22.9)	15(21.4)	2.97	3rd
Lateness of fund	12(17.1)	11(15.7)	20(28.6)	16(22.9)	11(15.7)	2.96	4th
Level awareness	7(10)	4(5.7)	12(17.1)	11(15.7)	36(51.4)	2.07	6th
Weather uncertainty	6(8.6)	2(2.9)	8(11.4)	20(28.6)	34(48.6)	1.94	8th
High interest	5(7.1)	9(12.9)	5(7.1)	10(14.3)	41(58.6)	1.96	7th
MFB/Group guidance	32(45.7)	6(8.6)	10(14.3)	17(24.3)	5(7.1)	3.61	2nd

Source: Computed from Field survey data, 2012.

NB: Figure in parentheses are percentages

Conclusion

The study examined the effect of micro finance bank loan on farmers' output in Kwara South Nigeria. Majority (77%) of the MFB beneficiaries were male and the mean (48 years) age of the respondents was still at the working class range. Majority of the farmers were literate and the mean household size of the farmer was six (6) which reflected from the level of the farmer education in the study area. Majority of farmers benefited from cooperative society loan and obtained social capital through their cooperative society, family and relatives network. The results obtained in this study also showed that the production of farmers that were beneficiaries of MFBs is a profitable venture in the study area. MFB loan and cooperative loan had a positive effect on farmers' outputs although; there are still rooms for improvement. More so, inadequacy of loan and lateness in time of delivery are the mostly felt constraints be the MFB farmers beneficiary.

Recommendations

The implication of this study for increased agricultural production in Nigeria is that MFB loan should be adequately given to farmers for effectiveness in their farm operations. The use of the loan should be monitored and supervised by the Banks through the farmers' cooperative society. Famers should also be trained with the help of extension agent on how to use their farm inputs optimally and to provide them information of the modern techniques or innovation in farming practices. Secondly, Microfinance bank should provide adequate and timely loan to

the farmers in order to avoid delay in their farm activities or operation. Finally, government should empower MFB farmer beneficiaries to remove the production constraints and inadequate fund, by putting in place good policy towards the empowerment of the MFBs in rural area and provision of a revolving loan to individual farmers.

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