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EFFECT OF CREDIT UTILISATION ON THE PRODUCTIVITY OF RICE FARMERS IN OYO STATE NIGERIA

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Abstract

Credit is an important factor in rice production and it is needed by farmers to acquire needed agricultural inputs. This paper examined the effect of access and utilization of credit on rice productivity in Oyo state Nigeria. Two hundred and two farmers were interviewed using structured questionnaire through a probability to size sampling technique. The analytical tools adopted for this study are descriptive statistics and ordinary least square regression (OLS). The socio economic characteristics of rice farmers revealed that majority (78.3%) are in their productive age (30-59). Also, more than sixty percent of the farmers can at least read or write and fifty one percent are male. For land ownership 64% of the farmers have 2-3.99 hectares of land while 74% have household sizes of between 4 and 9. 53.5%, 31.7% got their credit from formal and informal sources while 14.9% of them got their credit from both sources. To determine the effect of credit usage on productivity Ordinary Least Square (OLS) regression analysis was used. It was found out that access to credit was significant at 1% affecting the effect of credit usage on productivity while farmer's age and household size has negative coefficient with an R- squared value of 0.524. It was found out that access to credit has a positive coefficient and significant at 1 percent, implying that for every unit increase in access to credit there will be an increase of 87.3 percent in the output of the farmer. It was recommended that since farmers' age has negative coefficient implying that for every unit increase in farmers' age, there will be a decrease of 0.846 percent in the output of the farmer, thus farming should be made more attractive so that more youths will venture into farming increasing the availability of labour. For every unit increase in household size, there will be a decrease of 8.32% in the output of the farmers. Farmers should therefore be educated on family planning methods to reduce their family size, thereby having more money to spend on their farms. Credit should be made more accessible to the farmers thus increasing their productivity.

Key words**:** *farmers, micro credit, rice production, Oyo state, Nigeria*

INTRODUCTION

Since the mid 1970s the demand for rice has been increasing at a much faster rate in Nigeria than in other West African countries. During the 1960's for instance Nigeria had the least per-capita annual consumption of rice in the sub-region (average of 3 kg). Nigerian per-capita consumption levels have grown significantly at 7.3% per annum since then. Therefore, per-capita consumption during the 1980's was around 18kg and got to 22kg in 1995-1999. Nigerian consumption levels still lag the rest of the sub region (34 kg in 1995-1999), in spite of the catching up of per-capita consumption with the rest of West Africa. For some time to come, above average growth rates in Nigerian per capita rice consumption are likely to continue. There is the need to strengthen the financial capacity of the (rural) agricultural producers to increase the level of agricultural production and development in Nigeria [8] [2] [3]. Similarly, sufficient flow of credits into agriculture has been recognized as a critical factor in quickening incremental food production in Nigeria [13]. The difficulty that poorly capitalised farmers have (faced) in obtaining credit for inputs is the major barrier to the intensification of agriculture in sub-Sahara Africa [7]. In agreement with [4] the financial services usually available to the (rural) poor, are limited in terms of cost, risk and convenience.

The recent global food crisis which resulted in the escalation of prices of rice causing some panic in the Nigerian food market has resulted in the urgent need to strengthen the nation's agricultural production capacity. The only sustainable way to ensure national food sufficiency and security on a long term basis is in improving local rice cultivation and processing, rather than resorting to massive

importation. Thus, based on 2006 population census figures, Nigeria has a population growth rate yearly of about 3.2 percent as against 2.5 for aggregate food production growth [9] [11], revealing a decrease in food production. In order to meet the nation's food requirement there is the need for an urgent call for the evolution of strategies that can increase food production.

In spite of increasing hectares being put into production annually the reality is that, Nigeria(and Oyo State in particular)has not been able to attain self-sufficiency in food crop production. Low crop yields and resource productivity seems to be mainly, the constraint to rapid growth of food production [1]. According to [5] low agricultural productivity in Africa is shown by the true yields of major crops. Government interventions at various times aimed at increasing food Production in Nigeria, has not yielded the desired results, while existing medium/large scale farms have equally been ascertained as not being able to sustain the food requirement of ever increasing population in Nigeria, the task of bulk food production, still lies with rural peasant farmers.

Some of the problems faced by rural farmers include low product price, low and unstable yields arising from unpredictable natural disasters and all these makes farming a low-return activity. [15] opined that these problems, seriously tell on food production and food security, and also that the major problems facing humans, is the alarming rate of population growth and declining availability of sufficient food to feed them. Therefore, there is the need to study the effect, access to credit facilities will have on rice productivity in Oyo state. For better appreciation for these effects, the following problem need to be examined: What is the effect of credit utilization on productivity?

MATERIALS AND METHODS

The study was carried out in Oyo state in Nigeria. Ibadan is the capital of Oyo state, which is one of six states in South West Geo-Political zone in Nigeria. From the former Western State was it formed in 1976, including Osun State, which was split off in 1991. Oyo State is uniform, inhabited mainly by the Yoruba ethnic group who are mainly farmers, but have a special liking for living in high density urban areas. Oyo state has thirtythree Local Government Areas [12] and covers approximately an area of 28,454 square kilometres, ranked 14th by size. Old hard rocks and dome shaped hills make up the landscape, reaching a height of about 1,219 metre above sea level in the northern part and rises gently from about 500 meters in the southern part. Principal rivers such as Osun river, Oni, Erinle, Ofiki, Otin, Oba, Oyan, Sasa, and Ogun river take their sources from this highland.

Data Collection

The source of data was through the administration of well-structured questionnaire among rice farmers (202). Proportion to size sampling technique was used. In Oyo state the three local governments were selected namely Akinyele, Ogo-Oluwa and Igbo-Ora. Based on the population of rice farmers 60, 60, 82 were selected respectively from the local government areas. A total of two hundred and two farmers who used credit were interviewed in Oyo state.

Proportion to size =

$$\frac{\text{No Re} \times \text{T No Ri Fa}}{\text{No Ri Fa}}$$

where:

No Re = number of respondents

T No Ri Fa = Total Number of rice farmers in the area

No Ri Fa = number of interviewed respondents.

Methods

The analytical tools used in this study include, descriptive statistics and ordinary least square regression. Descriptive Statistics include the use of tables, figures and percentages. To determine the effect of credit usage on productivity of farmers in Oyo state ordinary least regression was used. The estimated models are as specified below:

$Y = F(X_1, X_2, X_3, X_4, X_5, X_6, e_i)$..... (1)
Implicit form

$Y_{Di} = \alpha_0 + \alpha_i \sum X_i + e_i$ …… Explicit form, or

$Y_{Di} = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \alpha_4 x_4 + \alpha_5 x_5 + \alpha_6 x_6 + e_i$.....(2)

where:
a_o & a_1 = parameters,
x_i =explanatory variables,
x_1 =gender(male, female),
x_2 =marital status,
x_3 =access to credit,
x_4 = age(years),
x_5 =educational level,
x_6 =Household size,
e_i =error term.

RESULTS AND DISCUSSIONS

Socio- Economic Characteristics of Rice Farmers in Oyo state Nigeria

Presented in Table 1 was the summary of socio-economic characteristics of rice farmers in Oyo state. Seventy eight percent of rice farmers were aged between 30 and 59.They are still young and would be able to boost rice production in the years onward. Seventy five percent have household sizes of between 4 and 9 members thus having help needed to increase their production as their wives and children would help on the farm. Moreover, less money would also be used to hire Labour and more money will go to other aspects of production. Eighty nine percent are married while fifty one percent are male. More than half (68.3%) of the farmers can at least read and write. There is a reasonable level of literacy among the farmers which can make them to be willing to take more productive risks, the adoption of new technological innovations such as improved farming practices and the use of agrochemicals on the farm would be enhanced. Ninety six percent are well experienced in farming activities, having 6 - >15 years of experience. The number of years of farming (farming experience) a farmer has will serve as an indication of the practical knowledge that he has acquired over the years [3] [16]. It would likely have positive impact on his productions. Also, in Table 1, 73.3% have 2.00-4.99 hectares of land implying that most of them are still involved in subsistence farming. This has implication for the technology used as well as the scale of production.

Furthermore, majority of the farmers access their credit from formal sources (45%) against 26.7% that accessed it from informal sources. This is in agreement with [6] that, informal loan sizes are considerably lower than the matching loans sizes from formal source.

Table 1. Socio-Economic Characteristics of Rice Farmers

Variable	Category	Frequency	%
Age group (yrs)	<30-59	166	82.2
	>60	36	17.8
Gender	Male	102	50.5
	Female	100	49.5
Marital status	Single	10	5.0
	Married	180	89.1
	Widowed	12	5.9
Household size	4-9	158	78.2
	>10	44	21.8
Educational Status	No formal education	64	31.7
	Primary	104	51.5
	Secondary	18	8.9
	Tertiary	16	7.9
Years of experience In rice farming	1-5	8	3.9
	6-10	28	13.9
	11-15	24	11.9
	>15	142	70.3
Rice farm size	2.0-4.99	148	73.3
	5.0-6.99	54	26.8
Credit use status of Rice farmers	Informal	64	31.7
	Formal	108	53.5
	Informal and formal	30	14.9
	Total	202	100

Source: Author's computation, 2018.

Informal sources, especially friends and relatives, are more constrained for fluids and are not in the place to risk giving huge sum of funds. Also, informal sector provides significantly short term loan than the formal sector.

Table 2. OLS Regression: Results of the effect of credit usage on Productivity

Variables	Coefficient	Standard Error	t-value	P(T)>t
Constraint Bo	1.061	0.608	18.183	0.000
Gender	-0.807E-02	0.111	-0.073	0.942
Marital Status	0.135	0.129	1.053	0.295
Access to Credit	0.873	0.819	10.656	0.000 ***
Age	-0.846E-02**	0.187	-0.045	0.964
Educational level	-0.474E-04	0.974	-0.486	0.628
Household size	-0.832E -01**	0.104	-0.799	0.426

Source: Author's computation 2018 ***, **, *Significant at 1%, 5%, 10%

In Table 2,the R^2 of 0.524 indicates a good fit for the model. Access to credit was significant at 1% from the result in table 2 above.

Farmer's age is significant at 5% and has a negative coefficient. For every unit increase in farmer's age, there will be a decrease of 0.846% in the output of the farmer. The effective labour force of agricultural productivity is reducing as the farming population is aging [14].

Access to credit has positive coefficient and significant at 1%. This implies that for every unit increase in access to credit there will be an increase of 87.3% in the output of the farmer.

Household size has negative coefficient being significant at 5%. This implies that for every unit increase in household size, there will be a decrease of 8.32% in the output of the farmers. This means that farmers will spend more money in taking care of household members.

CONCLUSIONS

The result showed that 78.3% of rice farmers were in their productive ages (30-59) and 50.5% were male. In the study there is a reasonable level of literacy among the rice farmers. Sixty four percent have between 2-3.99 hectares of land. 53.5%, 31.7% of credit users got their credit from formal and informal sources while 14.9% of them got their credit from both sources. The Ordinary Least Square (OLS) regression analysis was used to determine the effect of credit utilization on productivity and farmers'age and household size had a negative coefficient with an R- squared value of 0.524. Also, access to credit has a positive coefficient and significant at 1 percent, implying that for every unit increase in access to credit there will be an increase of 87.3 percent in the output of the farmer. Rural farmers examined have low level of education.

Based on the findings from this study, the following were recommended:

-Farmers' age has negative coefficient implying that for every unit increase in farmers' age, there will be a decrease of 0.846 percentf in the output of the farmer, thus farming should be made more attractive so that more youths will venture into farming increasing the availability of labour.

-Access and utilization of credit has a positive coefficient and significant at 1 percent, implying that for every unit increase in access to credit there will be an increase of 87.3 percent in the output of the farmer credit should made more accessible to the farmers thus increasing their productivity.

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