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Credit Utilization and Poverty Status of Women Paddy Rice Farmers in Southwest, Nigeria

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Abstract: *The problem of poverty and non-availability of credit are part of the major challenge affecting Nigeria agriculture. The study examines credit utilization and poverty status of women paddy rice farmers in southwest Nigeria. Primary data were used to sample 300 women paddy rice farmers through multistage sampling procedure from the study area. Foster-Greer-Thorbecke (FGT) poverty measure and Endogenous Switching Regression Model (ESRM) were used to analyse the data. The study established that more than half (58%) of the households were credit constrained, while others were non-credit constrained (42%). 64.16% of the credit constrained respondents were poor while 35.84% were not poor; on the other hand 46.46% of the credit non-constrained respondents were poor while 53.54% were not poor in the area. Endogenous Switching Regression Model estimates that number of years spent in cooperative society, Educational status, saving culture were factors reducing the possibility of being credit constrained. Household size increases the probability of being credit constrained. The ESRM result also showed that, number of years spent in cooperative society, Educational status, household size and saving habit were positively related to increase in rice productivity of the respondents. Credit institutions, government and non-governmental should provide credit for women to boost their rice farming production.*

Keywords: *Credit utilization, poverty status, women paddy rice, credit constraint, productivity.*

I. INTRODUCTION

Credit is of great importance in agriculture production and its use cannot be overemphasized. Credit enables farmers to advantageously use inputs and factors of production, by granting farmers more access to resources through the removal of financial constraints. The traditional argument for the provision of agricultural credit is that additional capital can be temporarily used to enhance the level of household's productivity and physical capital (Kuwornu, 2012). Credit can be defined as a legal contract between the lender and the borrower, where the borrower receives resources or wealth with a promise to repay in the future (Tilahun, 2015). In Agriculture, access to credit is primarily seen as a tool to increase agricultural output and productivity, adoption of new technologies, stabilizing household's income, and improving farm's inputs such as fertilizer, increasing rural employment thus developing the countries (Kuwornu *et al*; 2013). It is an important tool for the expansion of farm business upon which rural farming households largely depend. Credit plays a key role in improving the productivity and rural living conditions in less developed countries; it also enhances income generation and high productivity (World Bank, 2015).

Rural women were facing the problem of overwork, low productivity, poverty, little access to credit, land, training, and the use of rudimentary technology (Etonihu, 2013). It was also reported by (Sabo (2015) that women farmers are disadvantaged in accessing financial assistance compared with their male counterparts. Women are particularly vulnerable to the incidence of poverty. They comprise the bulk of the poor groups within rural communities (Eadgerwood, 2017).

The key problem facing rice sector in Africa is that local rice production has not been able to keep pace with demand for rice, but Africa continue to rely on importation of rice to meet local demand for the crop (Akinbode, 2013). Osagie (2014) observed that Nigeria has been a major consumer and importer of rice in Africa spending about ₦356 billion yearly on the importation of rice, out of which ₦1 billion is spent per day (African Development Bank 2014). Unfortunately, consumption of rice per household has increased compared to its consumption in the 1970s while the cultivation has not increased in the same proportion (Kale, 2012). The local rice farmers have been in crisis since late 1970s till date due to hostile competition they have been facing from rice importing merchants (Mabuza, 2013). Empowering women farmers through availability of credit facilities will go a long way to increase productivity most especially among the paddy women rice farmers. The findings from this study will also reveal the scope of production of women paddy rice farmers, show the various credit opportunities available for them, thus, providing a way of reducing the unemployment rate and import bills.

United Nation (1995) defines poverty as the inability of getting choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society.

It means not having enough to feed and clothe a family, not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation (United Nations, 2010). World Bank (2016) defined Poverty as deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity.

The agricultural sector has the highest poverty incidence in the country (Omotoso et al., 2009); to reduce poverty, it is critical for households to earn more from their income generating activities.

A study by Dong *et.al* (2012) in China tried to show the impact of credit rationing on agricultural productivity and income by using a survey data from 511 households sampled in China. The study used a survey based elicitation approach to identify credit constrained households from unconstrained ones. Using an endogenous switching regression model, the study reported that credit constraints resulted in a huge agricultural productivity loss. It also showed that if all types of credit constraints would be eliminated there will be a 31.6% productivity gain for credit constrained households.

II. MATERIALS AND METHOD

A. Study Area

The study was carried out in Southwest Nigeria. Southwest is one of the six (6) geo-political zones in Nigeria and made up of six (6) States. The States are :Lagos, Ogun, Oyo, Ondo, Osun and Ekiti. The area lies between Longitudes $2^{\circ} 31^1$ and $6^{\circ} 00^1$ East and Latitudes $6^{\circ} 21^1$ and $8^{\circ} 37^1$ N (Ayoola, 2006). Primary data was collected and used to achieve the objectives of this study. The data were collected from women paddy rice farmers with the aid of a well-structured questionnaire, personal interview and Focus Group Discussion (FGD). A multi-stage sampling procedure was used for the selection of respondents that provided the primary data for the study. Stage one involved the purposive selection of two (2) States in South West Nigeria being the leading paddy rice producers in the area; Ogun and Ekiti States. The second stage also involved a purposive selection of three (3) Local Government Areas (LGAs) from Ogun State (Yewa South, Obafemi Owode and Ewekoro LGAs) and Ekiti state (Gbonyin, Ekiti West and Ifelodun/Irepodun LGAs) and based on their predominance in the production of paddy rice. In the third stage, five (5) communities were randomly selected from each LGA. Lastly, ten (10) paddy rice women farmers were randomly selected from each community, therefore making a total of 300 respondents.

In this research work only formal credit institutions, constrained and unconstrained rice farmers were identified in the following ways: if a farmer's credit request was fully granted or the farmer's is not willing to borrow she is not credit constrained. On the other hand, if the loan application of a farmer is rejected or not fully granted then the farmer is credit constrained, again if a farmer needs credit and refuses to apply due to risk phobia, she is constrained.

B. Construction of the Poverty Line and Foster–Greer–Thorbecke (FGT)

Poverty line is defined as the minimum or the cut-off standard of expenditure on food or per capita income below which an individual or household is described as poor (Anyanwu, 2013) There is consensus that there is no official poverty line in Nigeria and as such many earlier studies have used poverty lines which are proportions of the average per capita expenditure. However, in this study, per capita expenditure was considered. This is viewed as more appropriate in past studies because it is consistent and does not change over a period of time when compared to when income was adopted following Igbalajobi, Fatuase and Ajibefun (2013). Therefore, the poverty line was defined as the two-thirds (2/3) of the mean value of per capita consumption expenditure of the household in the study area. The farm households were categorized into poor and non-poor groups using the two-third mean per capita expenditure (Oluwatayo, 2009; Igbalajobi *et al.*, 2013) as the bench mark. Households whose mean consumption expenditure falls below the poverty line is regarded as being poor while those whose their mean consumption expenditure falls above the benchmark is considered as non-poor.

$$\text{Per-capita Consumption Expenditure (PCE)} = \frac{\text{Household Consumption Expenditure}}{\text{Household Size}} \quad (1)$$

$$\text{Total Per-capita Consumption Expenditure (TPCE)} = \text{Summation of PCE}$$

$$\text{Mean Total Per-capita Consumption Expenditure}$$

$$(\text{MTPCE}) = \frac{\text{TPCE}}{\text{Total Number of Households}} \quad (2)$$

$$\text{Poverty Line (PL)} = 2/3 * \text{MTPCE} \quad (3)$$

C. Endogenous Switching Regression Model (ESRM)

Assuming that the choice of a given women paddy rice farmer is dyadic such that farmers choose to either obtain credit or not, the decision-making process whether to seek and utilise credit or not and the effects of credit constraint on farm productivity of a household can be modelled in an optimization framework.

Assuming that respondents are credit constraint neutral, to evaluate the total benefit associated with credit constrained and credit non-constrained is denoted by G_{IS} and G_{IR} , respectively. Other assumption is that only the constraint status is known to the researcher, but the household net productivity and other preferences to credit are known to the women paddy rice farmer, while unobserved net benefits of the paddy rice farmer i is denoted by

$G_i^* = G_{IS} - G_{IR}$ The fundamental relationship employed here is that net productivity from credit constraint condition is expressed with respect to a vector of household explanatory variables (X_i) in a latent variable framework. This expressed as

$$G_i^* = X_i' \alpha + \varepsilon_i, G = 1[G_i^* > 0] \quad (4)$$

Where G_i is a binary variable, with 1 for women paddy rice farmers who are credit constrained, and 0 otherwise, X denotes all observable factors that can influence credit condition, such as saving culture, education and farm characteristics, α is a vector of parameters to be estimated, ε is the error term with mean zero, and variance σ_ε^2 , capturing measurement errors and unobserved factors.

This relationship is designed to examine the effects of credit constrained on farmers' rice productivity, it is assume that vector of outcome variables is a linear function of a vector of explanatory variables (X_i) and credit constrained condition which is a binary variable (G_i)

This relationship can be expressed as;

$$Y_i = N_i' \beta + G_i \gamma + \mu_i \quad (5)$$

Where variable Y_i represents a vector of outcome variables; N_i' is a vector of farm and household characteristics (such as, age, education level, numbers of years spent in cooperative, as well as saving culture); G_i as described is an indicator of household constrained condition; μ_i is a random error term; and β and γ are vector of parameters to be estimated.

D. Empirical specifications

1) Endogenous Switching Regression

ESRM was adopted; a two-stage estimation procedure was developed simultaneously to make two binary decision choices of women paddy rice farmers' credit constrained condition. The first stage involves estimating the selection equation (4) to determine the factors influencing credit constraint. In the second stage, the effect of credit constraint on the productivity variables is specified for two regimes of credit constrained and credit non-constrained.

This is expressed as follow:

$$\text{Regime 1(credit constrained): } Y_{IS} = H_{IS}' \beta + \mu_{iC} \text{ if } G_i = 1, \quad (6a)$$

$$\text{Regime 0(credit non-constrained): } Y_{IR} = H_{IR}' \beta + \mu_{iN} \text{ if } G_i = 0, \quad (6b)$$

Where Y_{IS} and Y_{IR} are productivity variables for credit constrained and credit non-constrained, respectively;

H is a vector of household and farm-level characteristics;

β is a vector of parameters to be estimated and μ is the error term.

The framework of the ESRM allows for an overlap of X in equation (4) and H of equation (6a) and (6b). But for identification purposes, at least one variable in X should not appear in H , hence the selection equation is estimated using the same variables in the productivity equation in addition to at least an identifying instrument. A concrete instrument is expected to influence credit constraint condition and not the productivity. Hence, collateral and interest rate were used as instruments in this study. These are considered to be valid and relevant instruments, because they help to decide credit constraint conditions because it helps to decide credit constraint conditions. In order to ascertain whether credit is easy to obtain with or without collateral availability, again if farmers are willing to obtain credit with interest rate and also account for selection bias.

According to Heckman 1979 which stated that inverse mills ratios or selectivity terms from the selection equation represented by λ_S for credit constrained and λ_R for credit non-constrained, and the covariance terms $\sigma_{S\varepsilon}$, $\sigma_{R\varepsilon}$ are included in (6a) and (6b) to obtain (7a) and (7b) and are expressed as

$$Y_{IS} = H_{IS}' \beta + \sigma_{S\varepsilon} \lambda_S + \theta_{iC} \text{ if } G_i = 1, \quad (7a)$$

$$Y_{IR} = H_{IR}' \beta + \sigma_{R\varepsilon} \lambda_R + \theta_{iN} \text{ if } G_i = 0, \quad (7b)$$

Where the selectivity terms λ_s and λ_r correct for selection bias from unobservable factors and θ_{ic} and θ_{in} are the error terms with conditional zero means. Full information maximum likelihood (FIML) method was adopted in this study which was developed by Lokshin and Sajaia, (2004), used by Abdulai (2016) and Oparinde (2019)

2) Average Treatment Effect (ATT)

The ATT of paddy rice women farmers was calculated given the following conditional expectations; the average effect of credit constraints on paddy rice productivity was computed as the difference between the value of paddy productivity by the unconstrained farming households and that of constrained households.

The expected values of the productivity Y on credit constrained and credit non-constrained was expressed as follow:

$$E(Y_{ic} / C = 1) = H'_{ic} \beta - \sigma_{c\varepsilon} \lambda_c \quad (8a)$$

$$E(Y_{ir} / C = 1) = H'_{in} \beta - \sigma_{n\varepsilon} \lambda_c \quad (8b)$$

As developed by Lokshin and Sajaia, 2004 a change in the productivity level as a result of credit condition which is termed as the Average Treatment Effect on the treated (ATT), is expressed in the equation below, which is the differences in the expected productivity of the two groups.

$$ATT = E(Y_{ic} / C = 1) - E(Y_{ir} / C = 1) \quad (9a)$$

$$H(\beta'_{ic} - \beta'_{in}) + \lambda_c (\sigma_{c\varepsilon} - \sigma_{n\varepsilon}) \quad (9b)$$

Where

σ represents the covariance of the error terms and

λ the inverse mills ratios or selectivity term.

III. RESULTS AND DISCUSSION

The study revealed among others that 58% of the respondents are credit constrained while 42% are credit non-constrained. The mean age for both constrained and unconstrained respondents is 48 years meaning that the respondents are still in their productive age. This is in line with Fatunbi (2013) who stated that, for farmers to be productive in farm chores, they must be young and active in order to contribute meaningfully to labour input in all stages of production for efficient output realization. The result also revealed that married women are dominant among women paddy rice farmers in the study area.

The mean of the year of farming experience for the credit constrained and credit non-constrained respondents are 24.8 years and 27.8 years respectively. This indicated that the credit constrained and credit non-constrained women paddy rice farmers had quite appreciable years of farming experience. The result of analysis on saving culture of the respondents revealed that 22% of the credit constrained respondents used to save part of their resources while 78% do not have saving culture. About, 27.6% of the credit non-constrained women paddy rice farmers have saving habit while 72.4% had not been saving at all. The shows that majority of the farmers have no saving culture. The result showed that 32.3% of credit non-constrained respondents are not members of cooperative societies while 67.7% are full-fledged members of cooperative societies, 67.9% of the credit constrained women paddy rice producers did not belong to cooperative society while 23.1% are members of cooperative society.

The result shows that 83.8% of the credit constrained respondents' inherited their land, 9.8% got their land on lease, 2.4% purchased their farm land and 4.1% borrowed the land they are using. On the other hand 81.9% of the credit non-constrained got their farm land through inheritance, 5.5% got their own through leasing, 5.5% purchased theirs and 7.1% borrowed the farmland for rice cultivation. This may be part of the reasons why most of the respondents are small scale farmers, because inherited lands are characterised with land fragmentation. Result also revealed the responses and outcome of the loan applied for by the women paddy rice farmers in the study area. About 15.7% of women paddy rice farmers who applied for credit received the full amount they requested for, 26.7% of the respondents did not request for loan. The outcome of those who requested for loan and was not given at all was 21.6%, while 36% of the women paddy rice farmers' credit application were partially granted. This denotes that credit conditions in the study were not uniform and women paddy rice farmers are not treated in the same way.

The result revealed that 71.7% of the credit constrained respondents actually applied for credit, while 28.3% did not apply, meaning that majority of the credit constrained respondents need credit assistance. This implies most of the credit constrained households sampled need credit and sought for credit. For the credit non-constrained respondents, about 64.6% of them applied for loan, while 35.4% did not apply for credit. The set of non-constrained respondents that applied may want to use the credit assistance to boost their production capacity or to meet other pressing needs. Also those who did not apply for credit at all may either be contented with what they have or having phobia for loan.

Table1: Socioeconomic Characteristics of the Respondents

Age Range In year	Credit Constrained		Credit Unconstrained	
	Frequency	Percentage	Frequency	Percentage
20 – 30	8	4.6	10	7.9
31 – 40	37	21.4	52	40.9
41 – 50	48	27.7	29	22.9
51 – 60	60	27.7	14	11.0
61 – 70	20	11.6	22	17.3
Total	173	100	127	100
Mean	48.1		48.4	
Marital Status				
Married	160	92.4	113	88.9
Single	4	2.4	1	0.8
Widow	5	2.8	11	8.7
Divorce	4	2.4	2	1.6
Total	173	100	127	100
Farming Experience				
1 – 10	8	4.6	7	5.5
11 – 20	35	20.2	22	17.3
21 – 30	93	53.8	34	26.8
31 – 40	35	20.2	63	49.6
41 – 50	2	1.2	1	0.8
Total	173	100	127	100
Mean	24.8		27.8	
Membership of Cooperative Society				
Yes	143	67.9	41	32.3
No	40	23.1	86	67.7
Total	173	100	127	100
Method of Land Ownership				
Inheritance	145	83.8	104	81.9
Lease	17	9.8	7	5.5
Purchase	4	2.3	7	5.5
Borrow	7	4.1	9	7.1
Total	173	100	127	100
Agricultural Credit application Outcome				
Fully granted	47	15.7		
No Request	80	26.7		
Fully rejected	65	21.6		
Partially granted	108	36.0		
Total	300	100		
Application Status	Constraint	Condition		
Applied	143	82.7	82	64.6
Not Applied	30	17.3	45	35.4
Total	173	100	127	100

Source: Computed from Field Survey, 2021.

3) Poverty Line Construction

In the analysis of poverty status, poverty line must be determined. The Total Mean Per-Capita Household Expenditure (TMPCHE) was calculated as ₦157, 479. Poverty line for the study is two third of TMPCHE (₦104,986.40), any household spending below this amount per year is termed as poor, household with expenditure above this per annum is classified as non-poor.

The household were classified into two groups: poor and non-poor using the estimated poverty line. For the credit constrained respondents, 64.16% of the respondents were classified as poor while 35.84% of them were non-poor in the area. This implies that majority of the credit constrained group are poor. For the credit non-constrained respondents about 46.46% of them are poor while 53.54% are non-poor.

4) Poverty Analysis

The FGT result indicated that, incidence of poverty among the constrained respondents in the study area was 0.6416 indicating 64.16% of the respondents were poor, that is they fell below the poverty line. (P_0) of 0.6416. The depth of poverty is 0.3862 showing that the poor constrained respondents need 38.7% to get out of poverty and the severity of poverty is 0.2766, hence poverty severity among the credit constrained households is 27.7%.

5) Factors Influencing Credit Constraint

The result revealed that the coefficient of educational level, saving culture, number of years spent in cooperative society were negatively significant related to the probability of being credit constrained, which means increase in the level of education; saving culture, number of years spent in cooperative society will cause reduction in the likelihood of a respondent being credit constrained. This implies that education and saving is important in farming operations. Household size and marital status are positive and statistically significant coefficient at 5% level of significance. This shows that any change in any of these variables will cause an increase in likelihood of a respondent to be credit constrained.

Table 2: Factors Influencing Credit Constraint

Criterion Equation			
Variables	Coeff	Std. Err.	Z
Age	0.0006	0.0075	0.080
FRMSZ	-0.1085	0.1627	-0.67
NYRCOOP	-0.0777**	0.0337	-2.30
EDUCL	-0.1626**	0.0575	2.83
FMEXP	0.0058	0.0108	0.53
RCOKP	0.0072	0.0110	0.65
HHSZ	0.0002***	6.62e-1	-4.24
EXTENC	0.1949**	0.0799	2.44
MASTA	0.1896**	0.0826	2.29
SAVCUL	-0.6173***	0.0351	17.59
CONS	-9.2982***	1.2310	-7.55
COL	0.2573**	0.0649	3.97
INTR	0.3638***	0.0492	7.40

Log likelihood = -536.22 LR: $\chi^2(9) = 213.32$ Prob > $\chi^2 = 0.0000$ **, *** signify significant level at 10% and 5%, respectively.

6) Effect of Credit Constraint on Productivity

The result of the estimate of coefficients of the second stage of Endogenous Switching Regression model for paddy rice productivity is also presented in the columns on Table 2. The dependent variable in the switching regression model is productivity.

For credit constrained respondents, result shows that number of years a respondent spent in cooperative society, household size and household size are positive and statistically significant at 5% in explaining the variations in paddy rice productivity among the women farmers who are credit constrained, meaning that a unit increase in any of the variables will cause a unit increase in productivity.

The result revealed the coefficient of number of years spent in cooperative for the non-credit constrained farmers is statistically significant at 10%, this implies that numbers of years spent in cooperative society has significant effect on their productivity. The coefficient of household size for non-credit constrained is negative and significant at 5%. This shows that a unit increase in household size will cause a reduction in production capacity of the credit constrained household. This is in line with work of Awotide (2015) stated that, the larger the household size the greater the probability of being poor and the lesser the availability of resources for agricultural production and hence there is more likelihood of reduced productivity.

The coefficient of educational level for the credit constrained and non-credit constrained respondents is positive and statistically significant at 5%. This indicates that a unit increase in level of education of a farmer will lead to increase in productivity of such farmer. This shows that a unit increase in level of education will lead to increase in paddy rice productivity. This is in line with Amaza *et al*, (2005) who stated clearly in their findings that farmers are more productive when educated than when otherwise.

Farm size is not statistically significant for the credit constrained respondents while the coefficient for non-credit constrained respondents is positive and significant at 10%. This implies that largeness of farm size has no effect on the productivity of the credit constrained respondents, but for non-credit constrained farmers a percentage increase in farm size will lead to increase in production of paddy rice. Also, coefficient of extension contact is not significant for the credit constrained respondents. .

For the credit non-constrained group, the coefficient of extension contact is positive and significant at 5% level of significance, this show that increase in extension worker visit will cause an increase in productivity. Alfred (2015) found that extension is a strong determinant of technology adoption which can improve productivity.

Saving culture is statistically significant for both credit constrained and credit non-constrained households. The coefficient for the two households is positive, meaning that having good savings culture will lead to an increase in their productivity. Fengxia (2015) stated in his work that savings help to improve productivity.

The correlation coefficients rho_1 is significant while rho_2 is not significant. The sign for rho_1 is positive while rho_2 is negative. The fact that rho_1 is positive and statistically significant indicated that respondents who are credit constrained had lower productivity than the farmers who were not credit constrained.

The likelihood test ratio (LRT) for joint independence of the three equations is statistically significant at 1%. This shows that the three equations are not jointly independent; therefore they should not be estimated separately.

Table: 3 FMLI of Endogenous Switching Regression Model

Criterion Equation	Credit Constrained			Credit Unconstrained		
Variables	Coeff	Std. Err.	Z	Coeff	Std. Err	Z
Age	-0.0036	0.0105	-0.34	-0.0042	0.0103	-0.41
FRMSZ	0.1631	0.1901	0.86	0.3470**	0.1683	2.06
NYRCOOP	0.12011**	0.0471	2.55	0.0834**	0.0425	1.96
EDUCL	0.5410***	0.0780	6.93	0.6420***	0.0790	8.13
FMEXP	-0.0988	0.1110	-0.89	0.2249**	0.1095	2.05
RCOKP	-0.0095	0.0140	-0.68	-0.0079	0.0155	-0.51
HHSZ	0.0530***	0.0149	-3.76	-0.1330***	0.0153	8.69
EXTENC	-1.93e-1	8.64e-1	-0.02	0.0001***	9.14e-1	-6.97
MASTA	-0.2119**	0.0928	-2.28	0.0801	0.0978	0.8
SAVCUL	7.8267***	1.1712	6.68	3.6244**	1.1407	3.18
CONS	3.6244***	1.1407	3.18	7.8267***	1.1712	6.68
COL						
INTR						
sigma_1	1.2935***	0.0839				
sigma_2				1.4388*	0.0707	
rho_1	-0.9636***	0.0103				
rho_2				-1	5.67e-08	
Likelihood Ratio of independence						
			(X ²)=213.32			

Log likelihood = -536.22 LR: 12.2** $\chi^2(9) = 213.32$ Prob > $\chi^2 = 0.0000$ **, *** signify significant level at 10% and 5%, respectively. **Key:** FRMZ: Farm Size, NYRCOOP: numbers of year spent in Cooperative, EDUCL: Educational Level, RCOKP: Record Keeping, HHSZ: Household size, EXTENC: Extension Contact, MASTA: Marital Status, SAVCUL: Saving Culture, COL: Collateral, INTR: Interest Rate

7) Average Treatment Effect of Credit Constraint on Paddy Rice Productivity

The impact of credit constraint on household productivity is examined by the average treatment effects (ATT) on the expected outcomes that are estimated. Table 4 presents the ATT estimates of the ESRM specification for output, The results revealed that credit constrained respondents had lower productivity; yield per hectare of 6.51tons while that of the credit non-constrained counterparts is 7.67tons.

Table: 4 Impact of Credit Constraint on Paddy Rice Productivity

Variable	Credit Constrained	Credit Unconstrained	ATT.	t-value
Yield/hectare (kg)	6.51	7.67	-1.16	-2.9619

Source: Computed From Field Survey, 2021.

IV. CONCLUSION

The study examined credit utilization and poverty status among the women paddy rice farmers in southwest Nigeria. The study established that more than half (58%) of the households is credit constrained, living in poverty while others are not credit constrained (42%). For the credit constrained respondents, 64.16% of the respondents were classified as poor while 35.84% as non-poor; on the other hand 46.46% of the credit non-constrained respondents were poor while 53.54% were non-poor in the area. This implies that majority of the credit constrained group were poor. The analysis of socioeconomic characteristics of the farmers showed that the largest percentages (88.4% and 82.7%) of the credit constrained and credit non-constrained respondents are still in their active productive age. Also, it was discovered that rice farming is profitable in the study area. The result of the first stage of the ESRM that is the Probit model shows that educational level, numbers of years spent in cooperative, household size and saving culture are the major factors influencing credit constraint condition in the study area. Again, the results of the second stage of the ESRM showed that, numbers of years spent in cooperative, educational level, household size, saving culture and extension contacts are statistically significant in explaining the variations in rice productivity among the farmers who are credit constrained, while educational level, farm size, household size, saving culture and extension contacts are statistically significant in explaining the variation in rice productivity among the farmers who are not credit constrained. Also, the result showed that farmers who are not credit constrained had higher productivity levels (7.67kg/hectare) than those who are credit constrained (6.51 kg/hectare).

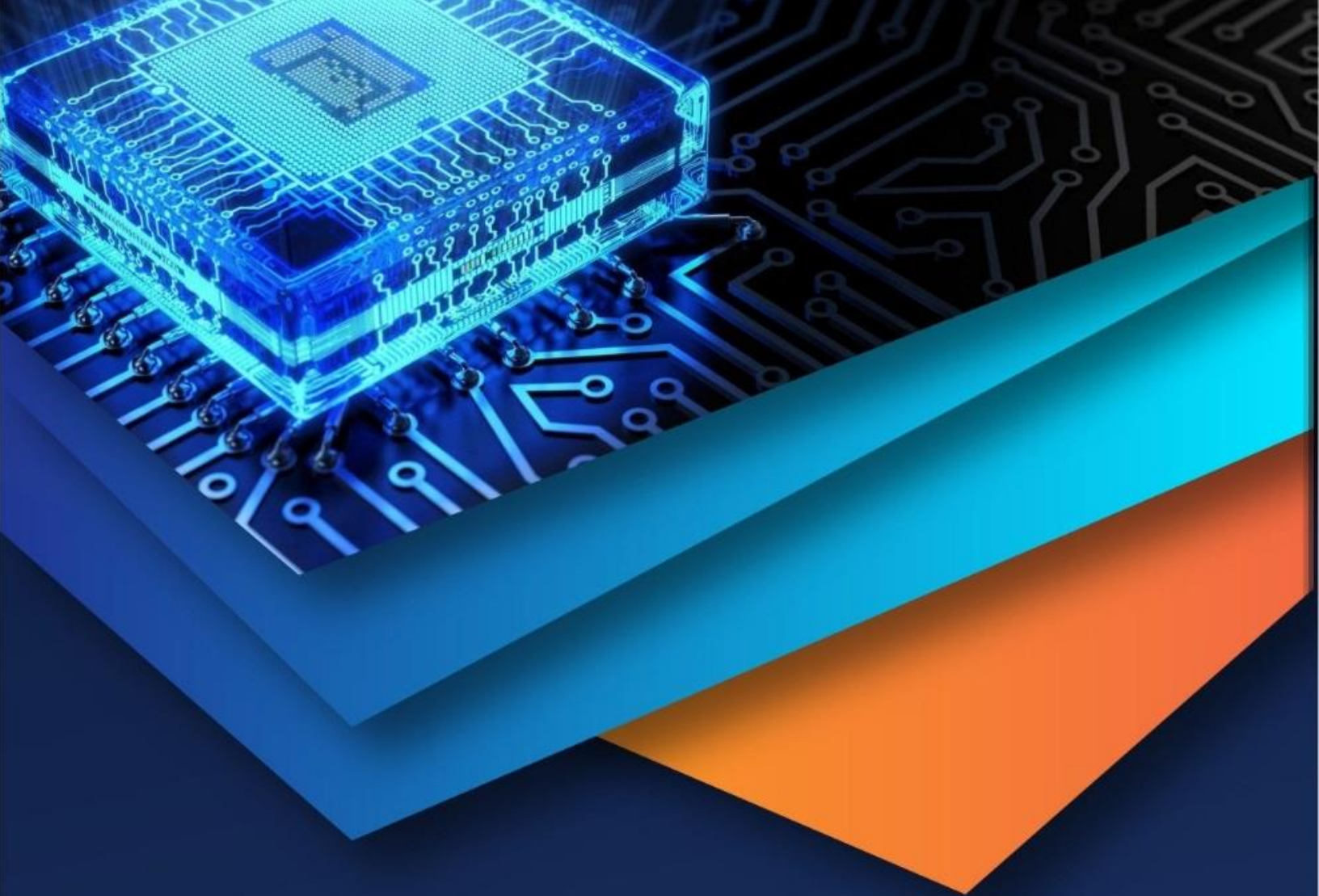
V. RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made in order to improve credit accessibility and reduce women poverty status. Credit institutions such as Bank of Agriculture, Commercial Banks, Microfinance Banks and Cooperative Societies should give a better preference to women as far as credit allocation is concerned; in order to make funds available for farming operation, because capital is an important instrument in production process in increasing productivity and improving poverty status. Government and Non-Governmental Organizations should proffer solution to the problem of poor road network to rice farming communities by constructing new roads and rehabilitation of old ones leading to rice communities, in order to reduce the activities of middle men and low price of rice. The youths should be encouraged by government and Non-Governmental Organizations to embrace farming as occupation through the provision of social amenities and financial incentives, in order to find solution to the problem of shortage of labour in rice farming settlements. Governmental and Non-governmental organizations should provide enough land and modern equipment to promote large scale production of paddy rice, the equipment should be readily affordable, available and locally fabricated. Commercial, Banks of Industry and Bank of Agriculture should be encouraged in Nigeria to increase loan disbursement into agricultural sector of the economy to increase credit accessibility by women farmers.

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