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ASSESSMENT OF CREDIT AND FARM INPUT UTILIZATION AMONG RICE FARMING HOUSEHOLDS IN NIGER STATE NIGERIA

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Abstract

This study assessed credit loan accessibility and its utilization among rice farming households in Niger State, Nigeria. A three-stage random sampling procedure was used to select a total of 160 rice farmers. A structured questionnaire was designed and administered to the sampled farmers. Data collected were analysed with frequency count, percentages, mean, standard deviation, Pearson Product Moment Correlation, and Chi-Square. The findings showed that personal savings (mean=2.66) were the most important source of credit/loans. The mean amount accessed was ₦ 686,400.00 (USD 404). The primary input procured or farm operations performed with financial credits accessed were: hiring man labour or machinery such as tractors (61.9%) and procuring fertilizer (66.3%). The main constraint facing rice farmers was the inability to access credit (mean=1.88). The result showed that farm size ($r=0.623$, $p<0.01$), years of experience ($r = 0.805$, $p<0.01$), and level of

education ($\chi 2=15.078$, $p<0.05$) were significantly related to loan utilization by farmers. This study recommends the importance of empowering the extension service providers on loan sources and acquisition methods for rice farmers as well as encouraging financial institutions to provide low-interest loans to farmers using less cumbersome application processes.

Keywords: Rice farmers, Credit, Utilization, Farm Inputs.

تقييم الائتمان واستخدام المدخلات الزراعية بين الأسر التي تزرع الأرز في ولاية النيجر، نيجيريا

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الخلاصة

قامت الدراسة بتقييم إمكانية الحصول على قروض الائتمان واستخدامها بين أسر مزارعي الأرز في ولاية النيجر، نيجيريا، حيث جمعت عينات عشوائية من ثلاث مراحل لاختيار 160 مزارع أرز. صمم استبيان منظم وتم تطبيقه على المزارعين الذين تم أخذ عينات منهم. حللت البيانات باستخدام عدد التكرارات والنسب المئوية والمتوسط والانحراف المعياري ومعامل ارتباط بيرسون ومربع كاي. أظهرت النتائج أن المدخرات الشخصية (المتوسط = 2.66) كانت أهم مصدر للائتمان/القروض. كان متوسط المبلغ الذي تم الوصول إليه هو 686,400.00 نيرة نيجيرية (404 دولار أمريكي). كانت المدخلات الأساسية التي تم شراؤها أو العمليات الزراعية التي أجريت باستخدام الائتمانات المالية التي تم الوصول إليها هي توظيف العمالة البشرية أو الآلات مثل الجرارات (61.9٪) وشراء الأسمدة (66.3٪). كان القيد الرئيسي الذي يواجه مزارعي الأرز هو عدم القدرة على الحصول على الائتمان (المتوسط = 1.88). أظهرت النتيجة أن حجم المزرعة ($r=0.623$، $p<0.01$)، وسنوات الخبرة ($r=0.805$، $p<0.01$)، ومستوى التعليم ($\chi 2=15.078$، $p<0.05$) ارتبطت بشكل كبير باستخدام المزارعين

للقروض. توصي هذه الدراسة بتمكين مقدمي خدمات الإرشاد الزراعي من تحديد مصادر القروض وطرق الحصول عليها لمزارعي الأرز، وتشجيع المؤسسات المالية على تقديم قروض منخفضة الفائدة للمزارعين من خلال إجراءات تقديم طلبات أقل تعقيدًا.

كلمات مفتاحية: مزارعو الأرز، قروض الائتمان، الاستخدام، مدخلات المزرعة.

Introduction

Rice is essential foods and the third most-consumed food item (18). As well as major source of livelihood (18). According to (3 and 19), Rice production in Nigeria was estimated at 5,040,000 million tons in the 2023/24 planting season. Rice is an important staple food and major source of livelihood for many in the country (2 and 4). Rice cultivation has been increasing at about 5% annually in Nigeria (15). This might be due to the high demand for rice as a result of the high population and government ban on rice importation in Nigeria.

Access to credit is important for agricultural production in Nigeria as this would enhance the farmers' productivity and livelihoods. Credit plays an important role in improving farm efficiency because most agricultural products, such as paddy rice, require financial inputs to cover operating expenses during the growing season (13). Although one may have access to a credit source, it may be unobtainable if the maximum credit limit is zero (13). Access to credit facilitates farming households in adopting more advanced farming technologies, leading to higher production and incomes (1 and 18). The two most important times for credit are during the pre-planting and harvest seasons (5), hence, the loan requests occur at different stages of the growing season. Additionally, credit is not only required for agriculture but also for consumption.

Several initiatives such as the Structural Adjustment Programme (SAP) and the Nigerian Agricultural and Cooperative Bank (NACB) now Bank of Agriculture (BOA) set up in 1988 have special credit schemes to boost rice production. These initiatives were implemented by successive governments and demonstrate the importance of targeted programmes to improve farmers' access to production factors, particularly credit, to achieve sustainable economic growth (13). In Nigeria, the agricultural sector has underperformed due to the current financial system's lack of support. Most formal credit institutions are not accessible to rural farmers, and there is little awareness of formal agricultural credit among the rural farming community.

This discourages most rural farmers from using the formal credit sector, leading to an over-reliance on informal credit (14). In addition, official credit institutions set limits for various transactions without knowing the details of the transactions. These limits create an imbalance in the supply of credit during the agricultural season which makes farmers vulnerable to credit restriction conditions. As a result, smallholder rice farmers tend to have large families to meet their farm labour requirements, which leads to a higher household dependency ratio because they have to pay more for family consumption. This increase in family consumption hurts their ability to access formal credit facilities due to high default rates. The fact that many rice farms in Nigeria are

very small also affects their ability to access the credit market. Although informal suppliers of credit are more accessible to farmers, short-term seasonal loans limit the number of projects that farmers can undertake, and most rice farmers face credit constraints at the start of the planting season (10).

This study is important as it provides the latest information on rice farmers' access to credit in Niger state, Nigeria and also helps policy makers in planning and implementing favourable policies on rice production and credit acquisition. In addition, a review of the available sources of formal and non-formal credit reveals that although it is essential for sustainable agricultural growth, there is a gap in its demand and supply and in its utilization for rice production purposes in the study area. There is a lack of information and data on access to credit and its utilization by rice farmers in the study area which this study attempts to fill. Therefore, this study analyzed access to credit and its utilization by rice farmers in Niger state, Nigeria.

The general objective of the study was to assess credit loan accessibility and its utilization among rice farming households in Niger state, Nigeria. The specific objectives of the study were to:

1. Assess the socioeconomic characteristics of respondents.
2. Identify the sources of access credit loans for rice farming,
3. Assess the amount of loans accessed by respondents,
4. Describe the nature of inputs procured or farm operations mainly performed with financial credits.
5. Determine the severity of constraints faced by rice farmers in accessing credit loans.

Hypothesis of the study:

HO_1: There is no significant relationship between the socio-economic characteristics of respondents and the utilization of financial loans accessed.

Materials and Methods

This study was conducted in Niger state, Nigeria. It is located in Central Nigeria and is the largest state in the country by land mass. The state capital is Minna and other major cities are Bida, Kontagora and Suleja. This state lies between latitude 3.20' east and longitude of 11.3' north. The population for the study comprised all rice farmers in the state. A three-stage sampling procedure was used to select a total of 160 rice farmers. The first stage involved a purposive selection of four local government areas (LGAs) known for rice production, namely Mokwa, Lavu, Borgu and Magma. The second stage involved a random selection of four rice producing communities per LGA and the third was a random selection of ten rice farmers per community from the list of rice farmers.

A structured questionnaire was designed and administered to the sampled farmers. Data collected were analysed with frequency count, percentages, mean, standard deviation, Pearson product moment correlation (PPMC) and Pearson chi-square. The PPMC was used to analyse the relationship between utilization of accessed loans and continuous variables such as age, years of experience, income, etc. while the chi-square analysed categorised variables like marital status, gender, etc.

Results and Discussion

Socioeconomic characteristics of respondents: As seen in Table 1, more than half (76.9%) of the farmers were males. This implies that rice farming activities in Niger state are dominated by males. This may be connected to the rigorous activities involved in the cultivation of rice. According to (10), male dominancy in rice production is due to the labourious nature of rice farming operations, while females were involved in other less stressful activities such as processing and marketing. The mean age of the respondents was 42.2 years meaning that rice farmers in Niger state are within the economically active age bracket. This finding concurred with (3) who stated that the rice farmers are young and active. Also, above half of the respondents (51.9%) were married while an appreciable percentage (23.8%) were single. The mean household size of the respondents was 6 persons. This indicates that the rice farmers have household responsibilities as well as access to family labour (3 and 12) and will require more loans to increase farm size and sustain their families (8).

In terms of education levels, 15.6% had attended secondary school, 46.3% had primary education, and 1.3% had tertiary education, while a substantial number (36.9%) had no formal education, as also noted by (11). The result implies that a greater number of rice farmers in the study area are literate and able to understand the benefits of obtaining loans for their farms.

The mean years of experience in rice farming was 12. This infers that rice farmers have some years of experience. The average farm size was 3.6 hectares. This infers that the rice farmers cultivate vast lands for rice production which may have a part in influencing their decision to obtain loans, as also noted by (5). As shown in Table 1, only 40.0% of the farmers had access to extension services implying that linkages between them and financial or other loan lending institutions is low. The mean annual income of the rice farmers was ₦ 4941437.61 Naira (USD 291). This infers that the rice farming in the study is a lucrative commercial venture, and that the provision of credits would enhance the output, incomes, and livelihood of the farmers.

Table 1: **Demographics of rice farmers in Niger state.**

Variables	Frequency (n=160)	Percentage (%)	Mean±SD
Sex			
Male	123	76.9	
Female	37	23.1	
Age (years)			
30	43	26.9	
31 – 40	49	30.6	42.26±15.42
41 – 50	34	21.3	
51and above	34	21.3	
Marital status			
Single	38	23.8	
Married	83	51.9	
Divorced	14	8.8	
Widowed/widower	25	15.6	
Level of education			
No formal	59	36.9	
Primary	74	46.3	
Secondary	25	15.6	
Tertiary	2	1.3	
Household size (persons)			
≤ 5	64	40.0	
6 – 10	85	53.1	6 persons ±2.68
11 and above	11	6.9	
Rice farm size (hectares)			
1.1 – 2.0	20	12.5	
2.1 – 3.0	52	32.5	3.6 hectares ±2.13
3.1 – 4.0	29	18.1	
4.0 and above	59	36.9	
Experience in rice farming (years)			
≤ 10	91	56.9	
11 – 20	48	30.0	12.03±7.50
21 and above	21	13.1	
Access to extension agents			
Yes	64	40.0	
No	96	60.0	
Frequency of extension contact			
Frequent	20	12.5	
Occasional	44	27.5	
Annual Income (Naira)			
≤ 500,000	108	67.5	494437.61 Naira (USD 291)±
500,001 – 1000,000	47	29.4	380189.01
1000,001 and above	5	3.1	

Source: Field survey, 2023.

Sources/Access to Financial Credit for Rice Farming: As shown in Table 2, the main sources of financing for the farmers were personal savings (mean=2.66), cooperative groups (mean=1.38), and friends and relatives (mean=1.34), as similarly noted in studies for Nigeria by (5 and 6).

Table 2: Sources of financing for rice farming.

Sources	Always (%)	Sometimes (%)	Rarely (%)	Never (%)	Mean±SD	Rank
Personal savings	105(65.6)	46(28.7)	0	0	2.66±0.47	1st
Cooperative group	48(28.7)	14(8.8)	55(34.4)	45(28.1)	1.38±1.17	2nd
Friends and Relative	0	55(34.4)	105(65.6)	0	1.34±0.47	3rd
Contract organization	38(23.8)	14(8.8)	59(36.9)	49(30.6)	1.26±1.13	4th
Commercial Bank	31(19.4)	15(9.4)	68(42.5)	46(28.7)	1.19±1.06	5th
Bank of Agriculture	23(14.4)	17(10.6)	56(35.0)	64(40.0)	0.99±1.04	6th
NGOs	23(14.4)	17(10.6)	56(35.0)	64(40.0)	0.99±1.04	7th
Government Loan	23(14.4)	24(15.0)	35(21.9)	78(48.8)	0.95±1.10	8th
Money Lenders	0	13(8.1)	95(59.4)	52(32.5)	0.76±0.59	9th
Religious group	0	18(11.3)	54(33.8)	88(55.0)	0.56±0.68	10th

Source: Field survey, 2023.

Loan Amounts Accessed by Rice Farmers: In terms of loan size, 31.9% accessed ₦500, 000 and less, 29.4% accessed between ₦500, 001 to 1000,000 while 38.8% accessed ₦1000,001 and above (Table 3). The mean loan amount accessed was ₦ 686,400.00 (USD404). Considering the high cost of rice farming inputs in Nigeria (13), the loan amounts currently accessible to rice farmers will not support large-scale farming. This may contribute to the cultivation of only small plots of land and consequently limit rice production in the state (18).

Table 3: Loan amounts accessed by respondents.

Loan Amounts (Naira)	Frequency	Percentage
≤ 500,000	51	31.9
500,001 – 1,000,000	47	29.4
1,000,001 and above	62	38.8
Mean	686,400.00	
Std. Dev.	44615.64	

Source: Field survey, 2023.

Utilization of Financial Credit for Rice Farming: Table 4 illustrates the nature of inputs procured or the main types of farm operations conducted using the financial credits. More than half of the respondents' utilized credit to procure fertilizers (66.3%) and to hire workers or equipment such as tractors for farm operations (land clearing, planting, etc) (61.9%). Some used the credit to purchase farm equipment (40.0%), agrochemicals and seeds (29.4%), and land purchase/payment of land rent (13.8%). This finding is in line with (6 and 16) who noted that most farmers used loans for the purchase of fertilizers and to hire farm machinery.

Table 4: Use of financial credit by the farmers.

Loan Use	Frequency	Percentage
Land purchase/payment of land rent	22	13.8
Hiring labour or machinery such as tractors for farm operations (land clearing, planting, etc)	99	61.9
Purchase of equipment	64	40.0
Purchase of seeds	47	29.4
Purchase of agrochemicals	47	29.4
Purchase of fertilizer	106	66.3

Multiple responses.

Credit Constraints Faced by the Rice Farmers: Rice farmers in Niger state faced severe constraints in accessing credit loans with the inability to access credit sources (mean=1.88) ranking highest followed by complicated credit processing procedures (mean=1.87), and high interest rates (mean=1.76) (Table 5). This finding parallels what was noted by (9 and 16) for Nigeria as a whole.

Table 5: Constraints in access to credit among rice farmers.

Constraints	Very severe (%)	Severe (%)	Less severe (%)	Not a constraint (%)	Mean	Rank
Inability to access credit source	46 (28.7)	51 (31.9)	61 (38.1)	2 (1.3)	1.88±0.84	1st
Complicated procedures to process credit	65 (40.6)	9 (5.6)	86 (53.8)	0	1.87±0.96	2nd
High interest rates	55 (34.4)	17 (10.6)	83 (51.9)	5 (3.1)	1.76±0.96	3rd
Illiteracy (no formal education)	13 (8.1)	86 (53.8)	59 (36.9)	2 (1.3)	1.69±0.63	4th
Fear of inability to repay	8 (5.0)	93 (58.1)	59 (36.9)	0	1.68±0.56	5th
Lack of guarantors	51 (31.9)	21 (13.1)	56 (35.0)	32 (20.0)	1.57±1.13	6th
Lack of awareness of credit sources	16 (10.0)	56 (35.0)	86 (53.8)	2 (1.3)	1.54±0.69	7th
Long distance to credit source	39 (24.4)	34 (21.3)	56 (35.0)	31 (19.4)	1.51±1.06	8th
Lack of collateral	31 (19.4)	43 (26.9)	59 (36.9)	27 (16.9)	1.49±0.99	9th
Gender (female)	11 (6.9)	34 (21.3)	112 (70.0)	3 (1.9)	1.33±0.63	10th
Age (too young to apply)	12 (7.5)	54 (33.8)	67 (41.9)	27 (16.9)	1.32±0.84	11th

Source: Field survey, 2023.

HO_1: There is no significant relationship between the socio-economic characteristics of respondents and utilization of loans.

Relationship between Respondent Demographics and Loan Utilization: The relationship between respondent demographics and loan utilization is presented in Table 6. The findings show that farm size ($r=0.623$, $p<0.01$), years of experience ($r = 0.805$, $p<0.01$), and education level ($\chi 2=15.078$, $p<0.05$) have a significant relationship

with loan utilization. This indicates that larger farm size, greater experience, and higher formal education attainment relate positively to improved loan utilization for rice farming in Niger state. These findings are similar to those reported by (7 and 16) on the utilization of farming loans.

Table 6: Relationship between respondent demographics and loan utilization.

Loan utilization for rice production	Pearson (r)	p-value
Age	-0.044	0.577
Household size	0.039	0.625
Farm size	0.623*	0.000
Years of experience	0.805*	0.001
Annual income	0.154	0.052
	Chi-square ($\chi 2$)	
Sex	8.674	0.123
Marital status	11.813	0.693
Level of education	15.078*	0.043
Access to extension agents	1.622	0.899

*Implies significance at $p \leq 0.05$ level.

Conclusions

This study assessed credit loan accessibility and its utilization among rice farming households in Niger state, Nigeria. The main findings show that personal savings, cooperative groups, and friends/relatives were the main sources of financial credit/loans for the rice farmers who borrowed an average of ₦ 686,400.00 for that purpose. The loans were mainly used to hire tractors for farm operations (land clearing, planting, etc) and purchase fertilizer. Farm size, years of experience, and level of education were significant factors influencing the utilization of credit loans among the farmers. Additionally, the inability to access credit sources, complicated loan processing procedures, and high interest rates were the main constraints that they faced. Based on the above findings, it is recommended that:

1. There is a need to empower extension service providers on loan sources for rice farmers and the means for acquiring them.
2. Federal/state governments, lending/financial institutions, and NGOs should take cognizance of the farmers' education levels, farming experience, farm sizes, and interest rates when designing credit schemes for the rice farmers. These variables should also be a factor in the effort to encourage them to apply for such loan schemes.

A deliberate policy should be implemented to encourage financial institutions to provide rice farmers with the exact amount of loans they need at low interest rates using less complicated processes and procedures.

Supplementary Materials:

No Supplementary Materials.

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All the authors contributed equally to this research.

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Informed Consent Statement:

No Informed Consent Statement.

Data Availability Statement:

The study was based on primary data collected from the respondents.

Conflicts of Interest:

The authors assert no conflicts of interest during the information-gathering phase in completing this research.

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