INFLUENCE OF ANCHOR BORROWERS' SCHEME ON RICE PRODUCTION IN NORTHERN AGRICULTURAL ZONE, CROSS RIVER STATE, NIGERIA

DAVID ADIE ALAWA AND JOHN BETIANG ADIE

Email: davealawa@yahoo.com

ABSTRACT

The study determined the influence of capacity utilization and poverty alleviation initiatives of Achor Borrowers' Sheme on rice production in Northern Agricultural Zone, Cross River State, Nigeria. Specifically, the study sought to determine the influence of capacity utilization and poverty alleviation initiatives of Anchor Borrowers' Scheme on rice production in the study area. Two null hypotheses were tested at .05 level of significance. Ex-post Facto research design was adopted for the study with a population of 3574 registered rice farmers and 30 RIFAN Coordinators in Northern Agricultural Zone, Cross River State with a sample of 381 respondents involved in the study. Capacity Utilization Initiative of Anchor Borrowers Scheme on Rice Production Questionnaire (CUIABSRPQ) was used for data collection and was face validated by three experts. The reliability of the instrument was determined using Cronbach Alpha method and a coefficient of .87 was obtained. Data collected was analyzed using means to answer the research questions and independent t-test statistic to test the null hypotheses. The results revealed that respondents agreed that the Anchor Borrowers Scheme influenced has influence their capacity utilization and poverty alleviation initiatives on rice production. Findings from the test of hypotheses revealed a no significant difference in the mean ratings of respondents on the influence of capacity utilization and poverty alleviation initiatives of Anchor Borrowers' Scheme on rice production in the study area (t=1.58; p-value 0.42) and (t=.84 p-value 0.40) respectively. It was concluded that Anchor Borrowers' Scheme builds capacity and poverty initiatives
 of farmers and influence their rice production abilities. It was recommended that federal Governments extend the Anchor Borrower's scheme to other invaluable crops such as maize and cocoa, groundnut among others because of the economic benefits accruable from the scheme to farmers

INTRODUCTION

Rice, (*Oryza sativa)* is an edible starchy cereal grain that belongs to the grass family *poaceae.* The seed of rice plant is of high economic value as it is consumed by man and livestock. It is a food crop and a major staple food around the globe.

Karnai, Omoigui, Kamara, and Ekelem, (2020) posited that, about one- half of the world's population is wholly dependent upon rice as a staple food. It is the most widely consumed staple food for a large part of the world's human population and it contributes significantly to feed formulation in livestock feeding. Food and Agriculture Organization FAO (2019)

David Adie Alawa, Department of Vocational Education, University of Calabar, Calabar, Nigeria
John Betiang Adie, Department of Vocational Education, University of Calabar, Calabar, Nigeria

maintained that rice is the agricultural commodity with the third–highest worldwide production rate. As one of the major staple in Nigeria, it is consumed across all geopolitical zones, religious and socioeconomic classes.

Rice production involves a systematic procedure of cultivation, growing, harvesting, processing and storage. Cultivation of rice has been a veritable source of food and income to farmers as well as an avenue for employment generation for the teaming youths. Food and Agriculture Organization Statistical database (FOASTAT, 2018) submitted that, rice has received widespread attention from international, regional and national bodies and it is the second highest worldwide produced grain crop after maize. Rice is said to be the most important grain with regards to human nutrition and calories intake. Significant proportion of the Nigerian population depends on rice for their dietary needs. Usman (2011) and Oyewole and Ebukiba (2010) similarly, pointed out that, rice provides more than one fifth of the calories consumed worldwide by human beings, though it is relatively lower in protein compared to other cereals, but contains a better balance of amino acids which is an essential source of vitamins needed by man.

In Nigeria, rice is grown in all the States of the federation with variations in production systems. The various production systems in the country include but not limited to rain-fed upland, rain-fed lowland, irrigated lowland, deep water floating and mangrove swamp (Orefi, 2011). Historically, rice had been substantially produced in Nigeria to meet local consumption before the oil boom of the 1970s brought in huge foreign exchange, which diverted the disincentive to increase domestic production of rice (Erenstein, Frederic, Titilola, Akpokadje & Ogundele, 2013). The situation led to acute shortage of rice and increased demand for the commodity in the country. To address the demand-supply gap for rice in Nigeria, in recent past, government evolved different policies and programmes such as the Africa Rice Initiative 2012; Nigerian National Rice Development Strategy (NRDS), 2009- 2018; Growth Enhancement Support Scheme (GESS) for rice value chain under Presidential Transformation Agenda 2011 (Osuoha, 2014). The inconsistent policies reflected the predicament of securing cheap rice for consumers and fair price for the producer (Ogundele, 2014).

In meeting the rice consumption demand in Nigeria, Imolehin and Wada (2018) maintained that, in spite of all the lofty programmes of government with diverse nomenclatures, local rice production has not kept up with domestic consumption demands in the country. Nigeria tries to meets her demand deficit through importation of rice from other countries. Except strong measures are put in place to improve rice production in Nigeria, the increased consumption of rice will continue to place demand above supply on the food crop.

Most of the farmers who venture into the production of rice are rural dwellers faced with subsistence techniques of farming, utilizing crude farming implements and lack of funds to meet global best farming practices of agricultural mechanization and other emerging technologies (Ajala & Gana, 2015).

In order to assist farmers to solve some of these challenges and improve access and availability of inputs such as seeds, fertilizers, herbicides and to ensure food security and bridge the demand deficit gap of low production capacity of rice in the country, Central Bank of Nigeria (CBN) Newsletter (2018) in line with its developmental function established the Anchor Borrowers' Programme (ABP) with different scheme initiatives including rice production to cater for the welfare of Nigerians and boost the economy of the nation. The Programme, which was launched by President Muhammadu Buhari on November 17, 2015 aimed at creating a linkage between the Central of Bank Nigeria, anchor companies and farmers involved in the production and processing of required key agricultural commodities such as rice, wheat, sugarcane, cotton, fish and poultry products; the focus of the scheme is to provide farm inputs in kind and cash including farm labour services to farmers to boost production of such commodities and stabilize inputs supply to agro processors and address the country's negative balance of payments on food through foreign exchange on importation of food stuff. The procedure is such that, farmers supply the produce to the anchor companies who buy off the produce to encourage them to continue production and supply to consumers at request. The Programme evolved from consultations with stakeholders; comprising Federal Ministry of Agriculture and Rural Development, State Government, processors of agricultural produce, and farmers to boost agricultural production and non-oil exports in the face of unpredictable crude oil prices and its resultant effect on the revenue profile of Nigeria. This is tie to capacity utilization of resources CBN) Newsletter (2018).

Capacity utilization is the extent to which a nation employs its installed productivity capacity. Usman (2011) posited that it deals with the relationship between output that is produced with the installed equipment and the potential output could be produced with it. Capacity utilization is normally surveyed for goods producing industries at plant level; presented as average percentage rate of the installed production capacity otherwise known as operating rate of production. Utilization of processor initiative of the Rice Anchor Borrowers' Scheme (RABS) is targeted at linking farmers to private processors who have facilities for processing and storage of rice produce at a subsidized rate. Post-harvest loses hamper production, deflate farmers' interest and increase food scarcity. Basorun (2013) maintained that rice milling in Nigeria is a 'cottage industry'.

Still, substantial diversity exists within these relative small-scale operations. Rice mills are very diverse according to their milling capacity, ways of operation (purchase and selling), range of processing operations performed and so forth. Rice-milling business in Nigeria is dominated by medium size workshops with a processing capacity of 150 to 300 kg/hr – i.e. rather small- scale workshops that process less than 6 bags per hours. The largest mills, which have the largest capacity, do not hold a leading position on the market due to their inability to better utilize processing capacity. In the views of Agidi (2011), the solution to rice processing lies in the provision of incentives, machineries, and government policies to confront these challenges faced by rice processors. However, this challenge could be tackled through provision of modern processing and storage facilities which in a way alleviate poverty.

Poverty alleviation is central in the objectives of the Rice Anchor Borrowers' Scheme (RABS). Akujuru, (2019) holds that in relation to people, the basic concept of poverty refers to a serious inadequacy of economic condition, a situation of individual, group or regional lack or deprivation of what are considered the necessities for acceptable living standards or not having access to a conducive environment, facilities, and opportunities for decent living standards. Kalu, Nnaemeka, Omeje and Mba (2018) buttressed that those with income below the poverty line are ones who lack access to basic services, practical contacts and other forms of supports. Obadan (2017) asserted that irrespective of how poverty is defined, the poor have been described as those who could not obtain adequate income, find stable job, own property or maintain healthy condition among other social lacks and material possession. Poverty is said to exist when people lack the means to satisfy their basic needs.

Poverty alleviation involves the approaches used to improve the living conditions of people who are already poor; an aid in scientific areas which is essential in providing better lives. Obadan, (2017) posited that, because agriculture has become the mainstay on many global economies, the prevalence of poverty among farmers reflects the poor management and performance of the nation's economy. Policies and programmes of government such as Anchor Borrower Scheme focuses on ameliorating the impact of poverty through commitment to farmers' physical, social, economic, cultural and political wellbeing. Central Bank of Nigeria (2016) noted that the activities of the agricultural programmes such as ADPs have made it possible for more people to be employed in relative terms in the rural areas than in the urban centers.

In spite of lofty programmes of successive administrations in Nigeria to enhance local rice production, none has been able to meet up with domestic consumption demands in the country as the county meets it demand deficit through importation of rice from other countries. Except strong measures are put in place to improve rice production in Nigeria, the increased consumption of rice will continue to place demand above supply of the food crop. It has been observed that current food crisis may be caused by a web of interconnected forces involving agriculture, energy, climate change, trade and new market demands from emerging markets which has grave implications for economic growth and development. Food insecurity in the county has been attributed to low productivity in the agricultural sector, necessitating huge food imports. Rice being a major staple food is of vital concern to agricultural policy decision.

According to Anoh (2021), Rice farmers in Cross River State are confronted with many challenges including outdated land tenure system that constrains access to land, low level of irrigation development practice in rice cultivation, high cost of farm inputs, poor access to credit, insufficient fertilizer procurement and application, poor processing and storage facilities among other challenges. The stronger force of demand for rice relative to supply is evidenced in frequent rise in the price of rice which has great implication for the food security status and economic development of the economy.

Anchor Borrower Scheme as one of the agricultural programmes initiated by government through the Central Bank of Nigeria to cushion the challenges of lack of credit facilities and inputs and triggered sustainable food crop production has been widely embraced by rice farmers. Meanwhile the effectiveness of this programme in meeting the needs of rice farmers and fostering production is yet to be ascertained as rice is still smuggled by merchants to the country. It is against this background that the researcher seeks to investigate the influence of Anchor Borrowers' Scheme on rice production in Northern Agricultural Zone, Cross River State, Nigeria.

Objectives of the study
The main objective of the study was to determine the influence of Anchor Borrowers' Scheme on rice production in Northern Agricultural Zone, Cross River State. Specifically, the study sought to determine the influence of:
1.   capacity utilization initiative of Anchor Borrowers' Scheme on rice production in Northern Agricultural Zone, Cross River State.
2.   poverty alleviation initiative of Anchor Borrowers' Scheme on rice production in Northern Agricultural Zone, Cross River State.

METHODOLOGY

This study employed ex-post facto design to obtain data from the sample because the phenomena investigated had already occurred. The design is appropriate for the study since data was obtained from registered rice farmers with structured questionnaire on anchor borrowers' scheme initiative in rice production. The study was conducted in Northern Agricultural Zone, Cross River State. The area currently comprises five local government areas namely: Ogoja, Yala, Obudu, Bekwarra and Obanliku under which are several tribes and languages. The area is chosen for this study on the basis that it is located within the rain forest vegetation zone of Nigeria which provides ideal climatic and edaphic conditions for the cultivation of a variety of arable crops including rice. More so, rice is one of the crops grown by many rural farmers in the area as an invaluable staple to many households. The target population for the study was 3,574 Registered Rice Farmers and 30 Rice Farmers Association of Nigeria (RIFAN) Coordinators as certified by Cross River State Ministry of Agriculture. A sample of 381 (comprising of 351 registered rice farmers being 9.82% of the farmer's population and 30 RIFAN coordinators) was used for the study. The choice of 351 registered rice farmers for the study was determined based on the principle set forth by Meryer in Surya (2014) for the determination of sample size, which states that for population between 3,501 and 4,000, the sample size of 351 is most suitable. The entire RIFAN coordinators were used for the study on the basis that the population of the coordinators was manageable. Simple random sampling technique based on Meryer Model of sample size determination was adopted in this study. Meryer Model of sample size determination provides that 9.82% of finite population is suitable for a study. Thus, 9.82% of rice farmers was proportionately selected from each of the five Local Government Areas that constitute the Northern Agricultural Zone, Cross River State with the following registered farmers according to local government areas: Bekwarra, 624, Obanliku, 856, Obudu 520, Ogoja, 757 and Yala, 817. Data for the study was sourced for using a researcher-made instrument titled: Capacity Utilization Initiative of Anchor Borrowers Scheme on Rice Production Questionnaire (CUIABSRPQ).

The questionnaire instrument was scrutinized and face-validated by three research experts, from the Department of Agricultural Education, University of Uyo. The experts' comment on the suitability of language, coverage and adequacy of items was used to draft the final copy of the instrument for data collection. In order to establish reliability estimate, Capacity Utilization Initiative of Anchor Borrowers Scheme on Rice Production Questionnaire was administered to 30 registered farmers who were not part of the main study but equivalent in all aspects to the registered farmers in the main study. The scores obtained from the respondents were analyzed to determine the internal consistency of the instrument. Cronbach Alpha coefficient was used for the single scores obtained from the farmers. The result yielded 0.97 coefficient. The questionnaire was administered to the respondents by the researcher with the help of three research assistants who were briefed on the modalities for administering and retrieving the instrument. Three hundred and eighty-one (381) copies of the questionnaire were administered to 351 registered rice farmers and 30 RIFAN Coordinators upon introduction and obtaining of permission from the chairman of Rice Farmers' Association of Nigeria, Cross River State chapter to conduct the study with the farmers. The questionnaires were retrieved on the spot. Research questions were analyzed using means. Independent t-test statistical tool was used to test the null hypotheses at .05 level of significance. In answering the research questions, mean difference between 0.1 to 0.5 was remarked 'low influence' while mean difference between 0.6 to 1 was remarked strong influence. In answering the research questions in which the instrument employed was a four-point rating scale, the upper and the lower class limits of the four points scale was employed because of variation in responses. Any of the items that had mean responses within the range shown was considered to be so.

In testing the null hypotheses, when the calculated p-values were less than or equal to the alpha level of 0.05, the null hypotheses were rejected in favour of the alternative hypotheses. On the other hand, when the calculated p-values were greater than or equal to the significant level of 0.05, the null hypotheses were retained.

Class Limit	Options	Nominal Values
3.50 to 4.00	Very Strong Influence (VSI)	4
2.50 to 3.49	Strong Influence (SI)	3
1.50 to 2.49	Weak Influence (WI)	2
0.00 to 1.49	Very Weak Influence (VWI)	1

RESULTS.

The results of this study are based on the research questions and hypotheses that guided the study

Research question 1

What is the influence of capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone of Cross River State? Data for answering research question 1 is presented in Table 1

TABLE 1: Mean and Standard Deviation of capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone, Cross River State.

S/N	Items	Mean	SD	Remarks
1	Soaking the paddy in cold water for two to	3.73	.445	VSI
2	Heating the rice grain for it to split open	3.72	.451	VSI
3	Removing glums from the harvested grains by hulling	3.74	.437	VSI
4	Moving the dry rice to the mills for de-husking by huller	3.75	.434	VSI
5	Converting paddy rice into well milled silky-White	3.76	.429	VSI
6	De-stoning the rice by the de-stoner	3.71	.455	VSI
7	Processing well milled rice with no bran remaining on the endosperm	3.66	3.74	VSI
8	Polishing the grains of rice by the polishing machine	3.71	.456	VSI
9	Packaging the rice for short-term storage	3.68	.466	VSI
	Heat-sealing the polythene for longer-term storage	3.64	.480	VSI

Note: VSI = very strong influence

The results on Table1 show the mean and standard deviation points of the respondents on capacity utilization initiative of Anchor Borrowers Scheme on rice production among farmers in Northern Agricultural zone, Cross River state. The results show that all the ten items had mean responses between the real limits of 3.64-3.76 indicating very strong influence of farm capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern agricultural zone, Cross River State. Data on standard deviation ranged from 0.429-0.480 which indicated that respondents were not too far from each other in their responses. This added value to reliability of the mean responses of respondents that guided the decision making for answering the research question.

Research question 2

What is the influence of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone, Cross River State? Data for answering research question 2 is presented on Table 2.

TABLE 2: Mean and Standard Deviation of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone Cross River State. N=381

S/N	Items	Mean	SD	Remarks
1	Widening the home market for the nation's local Rice production	3.66	.474	VSI
2.	Decreasing demand for imported rice	3.68	.467	VSI
3.	Providing huge investment processing technique	3.66	.473	VSI
4.	Activating modern rice schemes among farmers' in Rural areas	3.67	.470	VSI
5.	Processing rice with available local materials	3.70	.459	VSI
6.	More activities of central bank of Nigeria on Agricultural programmes	3.72	.452	VSI
7.	Employing worker from the rural areas than in urban centers	3.73	.445	VSI
8.	Widening the home base production for the nation's local rice	3.74	.437	VSI

Note: VSI= very strong influence

The results on Table 2 show the mean and standard deviation points of the respondents on poverty alleviation initiative of Anchor Borrowers Scheme on rice production among farmers in Northern Agricultural zone, Cross River state. The result shows that all the eight items had mean responses between the real limits of 3.66-3.74 indicating very strong influence of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone, Cross River State. The standard deviation ranged from 0.373-0.474 which shows that respondents were not too far from each other in their responses.

Research hypothesis1
There is no significant difference in the mean ratings of rice farmers and RIFAN coordinators on the influence of capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone, Cross River State.

TABLE 3: Independent t-test to compare the differences in the responses of rice farmers and RIFAN on the influence of Capacity Utilization Initiative of Anchor Borrowers' Scheme and Rice Production in Northern Agricultural Zone, Cross River State. N = 381

Variables	N	Mean	SD	Df	t-cal	P-value	Decision P<05
Rice Farmers	351	23.46	4.58	379	1.58	.42	NS
RIFAN Coordinator	30	30.90	4.34				

S=NotSignificantat.05 alpha level.

Table 3 indicates that the calculated t-value is 1.58 and the p-value is 0.42. With this result, the null hypothesis was retained. This implies that there is no significant difference in the mean ratings of rice farmers and RIFAN Coordinators on the influence of capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone, Cross River State. The indifference exhibited by the two groups of respondents showed objectivity and actual involvement of the two groups of stakeholders in the Anchors borrowers' scheme in the agricultural zone.

Hypothesis 2

There is no significant difference in the mean ratings of rice farmers and RIFAN coordinators on the influence of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone of Cross River State**.** The result of the test of hypothesis 2 is presented on Table 4

TABLE 4: Independent t-test analysis to compare the difference in the response of rice farmers and RIFAN on the influence of Poverty Alleviation Initiative of Anchor Borrowers' Scheme and Rice Production in Northern Agricultural Zone, Cross River State.

Variables	N	Mean	SD	Df	t-cal	P-value	Decision P<05
Rice Farmers	351	24.71	2.46	379	.84	.402	NS
RIFAN Coordinators	30	25.1	2.22				

NS=Not Significant at.05 alpha level.

Table 4 presents a calculated t-value of .84 and the p-value of .402. With this result, the null hypothesis was retained. This implies that there is no significant difference in the mean ratings of rice farmers and RIFAN coordinators on the influence of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural Zone of Cross River State. Respondents were very committed and objective in their responses.

DISCUSSION
The summary of the results on Table 3 reveals that there is a very strong influence of capacity utilization initiative of Anchor Borrowers Scheme on rice production among farmers in Northern Agricultural zone, Cross River State. More so, there is no significant difference in the mean rating of rice farmers and RIFAN on the influence of capacity utilization initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural zone of Cross River State. Respondents did not differ in their responses which points to the fact that their involvement in Anchor Borrowers' Scheme has built capacity in them to perform certain tasks in rice production at maximum proficiency. The result of the study supports that of Basorun (2013) who posited that rice milling business in Nigeria is dominated by medium size workshop with a capacity of 150 to 300 kg/hrs. The largest mill, which has the largest capacity, do not hold a leading position on the market due to their inability to better utilize processing capacity. The finding was also supported by Agidi (2011) who opined that the solution to high rice production lies in the provision of incentive, machineries and government policies to confront the challenges faced by rice processors. He added that the Anchor Borrowers Programme was initiated to bridge this gap by providing small-scale rice farmers linkage to the services of rice processors who have modern processing facilities at low cost. This was expected to reduce post-harvest losses and trigger increased production among rice farmers in Nigeria and Cross-River State in Particular (Agidi, 2011).

Furthermore, the summary of the result on Table 4 reveal that there is a very strong influence of poverty alleviation initiative of Anchor Borrowers Scheme on rice production among farmers in Northern Agricultural zone, Cross River State. More so, there is no significant difference in the mean rating of rice farmers and RIFAN on the influence of poverty alleviation initiative of Anchor Borrowers' Scheme on rice production among farmers in Northern Agricultural zone, Cross River State. The implication of this result is that poverty remains a major setback in the

productivity of agricultural goods and services. Poverty alleviation programmes have a potential of generating additional income and employment through food stability with time. Farmers' involvement in the anchor borrowers' programme would reduce poverty through its additional income to invest into rice cultivation. This is because poverty is aligned with the inability of an individual to access income for relevant purposes. This result supports that of Obadan (2017) who posited that irrespective of how poverty is defined, the poor have been described as those who could not obtain adequate income, find stable job, own property or maintain healthy condition. This was also supported by Kalu, Nnaemeka, Omeje and Mba (2018) who buttressed that those with incomes below the poverty line are ones who lack access to basic services, practical contacts and other forms of support. Therefore, it is on this note that the Central Bank of Nigeria (2016) noted that the activities of the anchor borrowers' initiative made it possible for more people to be assisted to increase their productivity.

CONCLUSION

Based on the findings of the study, it was concluded that Anchor Borrowers Scheme of the Central bank of Nigeria greatly influenced rice production in Northern Agricultural Zone Cross River State, Nigeria. It was equally concluded that capacity utilization initiative and poverty alleviation initiative, have very high influence on rice production hence, the need for rice farmers to take advantage of the government Anchor Borrowers' Scheme Initiative to improve on rice production in the area.

RECOMMENDATIONS

The following recommendations were made based on the finding**s** of the study

(i)   Federal Government of Nigeria should extend the Anchor Borrower's Scheme to other invaluable crops like maize and cocoa, groundnut among others because of the economic benefits accruable from the scheme to farmers.

(ii)   Farmers on their part should committedly utilized the support extended to them by government their farm business to ensure that full benefits are taped thereof from the Scheme.

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