



Journal of Agricultural Extension

Vol. 27 (1) January 2023

ISSN(e): 24086851; ISSN(Print): 1119944X

Website: <http://journal.aesonnigeria.org>; <http://www.ajol.info/index.php/jae>

Email: editorinchief@aesonnigeria.org; agricultural.extension.nigeria@gmail.com

Creative Commons User License: CC BY-NC-ND



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/)

Contributions of Anchor Borrowers Programme to Rice Farmers' Productivity in Ekiti State

<https://dx.doi.org/10.4314/jae.v27i1.5>

Akinbile, Luqman A.

Department of Agricultural Extension and Rural Development,
University of Ibadan, Ibadan, Email: lakinbile@yahoo.com,
+2348023250454, <https://orcid.org/0000-0001-9630-038X>

Akingbade, Mubarak

Department of Agricultural Extension and Rural Development,
University of Ibadan, Ibadan, makingbade222@gmail.com,
+2347038903888 <https://orcid.org/0000-0002-9381-1720>

Salaudeen, Abdulrahman O.

Department of Agricultural Extension and Rural Development,
University of Ibadan, Ibadan, solahudeen59@gmail.com,
+2348063797954 <https://orcid.org/0000-0003-2455-2590>

Submitted: 13th October 2022

First Request for Revision: 25th October 2022

Revisions: 29th November, 3rd, 12th, 17th December 2022, 13th January 2023

Accepted: 18th January 2023

Published: 21st January 2022

Cite as: Akinbile, L. A., Akingbade, M., Salaudeen, A.O. (2023). Contributions of Anchor Borrowers Programme to Rice Farmers' Productivity in Ekiti State. *Journal of Agricultural Extension* 27(1) 49-60. <https://dx.doi.org/10.4314/jae.v27i1.5>

keywords: *Rice paddy processing under anchor borrower programme, anchor borrowers programme and rice productivity*

Conflict of interest: The authors declare that there is no conflict of interest of any kind in the study

Acknowledgements

The authors acknowledge the Rice farmers in Ekiti State for their cooperation during data collection exercise.

Funding: The study was self-funded.

Author's contribution

ALAA = 45% (Conceptualization, Analysis, Content review)

MA=35% (Data collection, Coding, Reporting)

SOA=20% (Reporting, Content review)

Abstract

Contributions of Anchor Borrowers Programme to rice farmers' productivity were investigated in Ekiti state. A simple random sampling technique was used to select 173 respondents and a structured questionnaire was used to obtain data on farmers' level of productivity before and during ABP. Data were analyzed using descriptive statistics, PPMC, paired t-test at $\alpha 0.05$ and Linear regression. The average farm size cultivated for rice was 3.22 ± 1.4 ha, and the majority (98.8%) used a combination of mechanical and manual methods to cultivate rice before and during ABP. Timely paddy off-take was 13.3% before and 62.4% during ABP. Land fragmentation and tenure system ($M=1.91$) and high cost of labour ($M=1.86$) were major constraints faced by the respondents. Farmers' rice productivity increased from 1.67 to 2.65 under ABP. Incentives provided during ABP that contributed significantly to rice farmers' productivity were rice seed use and timely use of herbicides and insecticides. The ABP contributed significantly to rice farmers' productivity in Ekiti state. Problems associated with extension contact and quality of extension delivery would be effectively addressed with the deployment of e-agricultural extension to improve farmers' productivity.

Introduction

Rice productivity in Nigeria is generally low and it is mainly as a result of low level of investment in the agricultural sector, as well as problems of financing, processing and marketing of the products among other challenges hindering farmers in rural areas to maximize rice productivity (Saheed et al., 2018). Rice is one of the major staple food and constitutes a large portion of the diet in most African countries especially Nigeria (Lu et. al., 2018, FAO, 2019). However, the high importation of rice hinders the ability of local rice productivity to cover the gap in the nation's daily rice demand (Durand-Morat et al., 2019). Productivity is generally defined as the level of output in relation to the levels of resources employed in a given period of time. Typically, it entails calculating land productivity (value of production per ha) or crop yield (amount of output per ha) for a single crop or a variety of crops (Rada et. al., 2019).

The major constraints to the domestic production of rice in Nigeria are connected to poor resource utilization and environmental and institutional factors while not getting maximum returns from the committed resources to rice farming (Aremu and Akinwamide, 2018). Furthermore, rice production is mainly in the hands of small-scale farmers who depend heavily on the practice of traditional technologies, leading to low productivity (Olayinka and Alfred, 2019). According to the United States Department of Agriculture-Foreign Agricultural Service (2019), Nigeria has seen 70% in production growth in the last few years, making it rank second in the list of Africa's largest rice producers. However, Kehinde et., al., (2022) claimed that Nigeria presently produces roughly 8 million tons annually, but with the right approach, it could produce 14 million tons annually. This indicates that Nigeria's potential for producing rice has not yet been completely realized.

Reportedly, rice consumption outpaces domestic production, making Nigeria, with an average annual import of 2.4 million tons, the second-largest rice importer behind China (OECD / FAO, 2019; Durand-Morat et al., 2019). According to Umar et. al., (2019), one of the Nigerian government's ongoing attempts to eradicate hunger and to lessen foreign exchange imbalances caused by rice imports is to achieve self-sufficiency in rice production. Abbas et. al., (2018) points out that this is only feasible through making appropriate investments in manufacturing, milling and grading, marketing, and provision of other infrastructures like good storage facilities and road.

However, the federal government has always been implementing various policies and programmes as solutions to the challenges of productivity in the agricultural sector of the economy but the problem still reoccurs. The known problems of past programmes with local rice are that after public disbursement, inputs are lost, mismanaged, redirected or disbursed at higher prices at the detriment of the farmers that are really in need of them (FMARD, 2018). This has forced the farmers to secure inputs at a higher interest rate, limited accessible credit and inconvenient demand for collateral among others. Another area of concern not covered the past policies and programmes is the post-harvest handling of rice. Ekiti rice farmers lack reliable storage facilities for their rice and the majority of the rice is processed manually while they still undergo the stress of marketing the rice and suffer loss when the sale is poor or the rice spoils during storage (Okunola et. al., 2019). Some processors also the rice at a very low price to complement the inputs wasted on production (Aremu and Akinwamide 2018).

Different regions in Nigeria had introduced various policies and programmes to boost productivity in the agricultural sector. In 2015, actions taken by the government to proliferate rice production were to enact a ban on the importation of rice and boost local rice production by introducing the Anchor Borrowers Programme (ABP) to create linkage between anchor companies involved in the processing of rice and smallholder farmers (SHFs) of rice (CBN, 2016). As of December 2017, about 55 billion Naira had been invested in the rice industry through the Anchor Borrowers Programme (Saheed et al., 2018). Anchor Borrowers Programme has provided succour to rice farmers in order to meet up some challenges associated with rice productivity. In 2018, Ekiti State rice farmers got an 80-million-naira loan which was shared among 194 rice farmers under the Anchor Borrowers Programme (Leadership, 2018). To encourage farmers' productivity, the government provided a link between anchor companies involved in the processing of agricultural products and small-scale rice farmers through the indenture of the ABP. The ABP is created to ensure a win-win concept for all stakeholders in the rice value chain while tackling poverty and lack of job opportunities (CBN, 2016).

Ekiti state is known as an agrarian state with over 70% of the indigenes participating in farming either on part-time or full-time basis (Kehinde et. al., 2022). The state is acclaimed for its indigenous rice industry which is the primary economic activity in some communities though at a subsistence level. An estimated 70% of the adult population is actively engaged in rice production in Igbemo Ekiti (Aremu and Akinwamide, 2018). This rising interest in rice cultivation is on account of high demand which is partly the result of increasing population growth, income levels and rapid urbanization. Local rice in Ekiti state is mostly consumed as a staple food and is a significant source of daily calories and protein (Aremu and Akinwamide, 2018). It is valuable as a fast food and a time-saving food item especially in urban areas since milled rice required little heating before it is ready for consumption. Local rice has really promoted food security in Ekiti state and Nigeria at large. Given the above scenario, it is essential to examine how the ABP contributed to the improvement of Ekiti State rice farmers' productivity to a commercial level.

The low productivity challenge of Nigerian farmers could be linked to a number of factors of which agricultural credit facility (loan) remains dominant (Saheed et al., 2018). Most of the farmers in rural areas engage in subsistence agriculture and lack sufficient funds to operate, expand their business, or even practice mechanized farming. Hence, they are constrained from producing enough food to feed the ever-growing population of Nigeria. In fact, there is an insufficient and limited source from which funds can be obtained by farmers in rural areas to improve their productivity (Saheed et al., 2018). It has been over five years since the inception of the ABP, and enough period based on the contractual arrangement for the rice farmers' productivity to be assessed in order to determine the contribution of the programme to farmers' return, as well as examine the socio-economic impact of the programme on Ekiti State rice farmers. Dori (2018) observed that since the Central Bank of Nigeria's Credit Schemes increased the level of credit inflow, there should be an increased level of productivity, employment generation and agricultural output.

This study assessed if the implementation of the ABP had contributed to the productivity of Ekiti rice farmers. The research specifically:

1. determined the methods used for cultivation, processing and marketing of Ekiti rice before and after the implementation of ABP;
 2. examined farmers' perception of the ABP in increasing rice productivity;
 3. examined the level of rice productivity before and after the implementation of the ABP; and
 4. identified the constraints faced by farmers during ABP
- The research hypothesis was:**

H₀₁ There is no significant contribution of incentives derived from the ABP to rice farmers' productivity

Methodology

The study was carried out in Ekiti State, Nigeria. The state lies between Latitude 7° 36' 59.99"N and Longitude 5° 12' 60.00" E. Ekiti State is an agrarian state with a total land mass of 580,460km² and a population density of 280 people per square kilometre. The climate is a tropical rainforest with distinct wet and dry seasons. The wet season starts in the middle of March and ends in early November. The dry season is from November to early March. The mean annual rainfall ranges between 1,000mm to 1,500mm with high humidity of about 75%. The population of the study consists of rice farmers involved in ABP. There were a total of 575 registered rice farmers under ABP at the time of the study. A simple random sampling technique was used to select 30% of the farmers. This gave a total of 173 respondents selected for the study.

Data were obtained using an interview schedule based on the objectives of the study. Methods used for cultivation, processing and marketing were assessed. Farmers' perception of the contribution of ABP to rice productivity was measured on a five-point scale of strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1) for positively worded statements and the scores were reversed for negatively worded statements. Based on the mean cut-off of 4.48, respondents were categorized as either having a favourable (\geq mean) or unfavourable ($<$ mean) perception of ABP. Constraints faced during ABP was measured on a three-point scale of severe (2), mild (1) and not a constraint (0). Using the mean of each item with the cut-off being 1.4, constraint was ranked in order of severity. The level of productivity before and after the implementation of ABP in the study area was measured using Total Factor Productivity (TFP).

The TFP captures the output and input used in the production and is converted to monetary value. The productivity of farmers was determined in terms of their Total Factor Productivity (TFP). The TFP was obtained by dividing the naira value of gross output by the total amount spent on inputs. When the TFP is greater than 1, there is increase in productivity. When the TFP equals 1, there is neither increase nor decrease in productivity. When TFP is less than 1, there is decrease in productivity. Each farmer's productivity was computed and the mean calculated. Using the mean cut off of 10,398.84, farmers were categorized as either having high (\geq) or low (\leq) level of productivity. Linear regression was used to test for contribution of incentives derived from the ABP to rice farmers' productivity.

Model specification

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_9X_9$$

Where Y = productivity, a = constant, b_1 = rice seed utilised, b_2 = fertilizer, b_3 = herbicides/insecticides, b_4 = sprayer, b_5 = mechanised input, b_6 = credit, b_7 = extension service, b_8 = farming infrastructure and b_9 = guaranteed market $X_1 \dots X_9$ are coefficients.

Results and Discussion

Methods of Cultivation, Processing and Marketing of Rice

As can be seen from Table 1, most (98.8%) of the farmers used a combination of mechanical and manual methods for cultivating rice before and during ABP in the study area. The farmers thus do not have the means to mechanise all the operations involved in cultivation as they are still involved in some manual operations. The majority of the farmers also use hired labour for rice cultivation before (96.5%) and during (97.1%) ABP. This implies that the farmers relied majorly on hired labour for the cultivation of rice, The use of hired labour for rice production served as source of employment to other individuals. Most of the farmers are thus involved in commercial production. The result also showed that 70.5% and 96% of the farmers used combination of different sources of labour for rice processing before and during ABP respectively. This revealed that most of the farmers usually combine various sources of labour for rice processing. This is in line with Aremu and Akinwamide (2018) that the new trend for labour in Ekiti rice production is no longer based on numbers of wives and children a farmer had but based on combination of labours. Surprisingly, the percentage of respondents that explored the national market went up from 66% before ABP to 98% during ABP. This is a remarkable outcome as the national market seems to generate more profit for both the farmers and the anchors. Another important finding was that most of the farmers (73.4%) used the self-marketing method for marketing their processed rice before ABP, while most (94.5%) of the respondents used both self-marketing and anchor processor marketing for their processed rice during ABP. This implies an improvement in the marketing strategy of the farmers which could be attributed to their participation in ABP as found out during the course of the field survey. Based on the findings above, it can be deduced that most of the farmers now explore anchor processors in addition to selling by themselves as against the situation before the programme. Also, more of them explore national markets than they do before the ABP. In summary, the farmers enjoy a more reliable marketing channel as a result of involvement in the ABP.

Table 1: Cultivation processing and marketing methods explored by farmers

Variables	Before ABP Percentage	During ABP Percentage
Type of labour used for cultivation of rice		
Mechanical	1.2	1.2
Manual	0	0
Both	98.8	98.8
Sources of labour for rice cultivation		
Self	21.2	21.7
Family	1.8	1.2
Friends	0.6	0
Hired	96.5	97.1
Method used for rice processing		
Manual	0	0
Mechanical	1.2	1.2
Both	98.8	98.8
Labour source for rice processing		
Self	0	0
Family	12.9	11.2
Friends	0	0
Hired	26.6	2.8
Combination of sources	70.5	96
Marketing strategy for processed rice		
Self-marketing	73.4	0
Anchor processors	0	5.2
Both	26.6	94.8
Market explored for rice		
Local community	0.6	0
LGA	1.2	0
State	31.8	0
Regional	0	0
National	66.5	98.8
International	0	1.2

Source: Field Survey, 2019

Perception of ABP

Table 2 shows the perception of the respondents about ABP. It can be seen from Table 2 that respondents agreed that improved quality of seeds ($\bar{x}=4.77$), anchors marketing strategy ($\bar{x} =4.83$) and credit accessibility ($\bar{x} =4.83$) from ABP contributed to increase in rice productivity. An implication of this is the possibility that the provision of improved rice seed from ABP has led to improved productivity, and that ABP has created an easier modality for farmers to access credit. This finding is consistent with that of Aremu and Akinwamide (2018) who stated that farmers' timely access to seeds and credit is vital to their sustainable rice production. Access to improved seeds will ensure that farmers have good yields that are of good quality. Access to credit facilitates the purchase of other inputs that are required for quality and quantity enhancement. Interestingly, the timely release of proceeds under ABP contributed to an increase in rice productivity through prompt payment ($\bar{x} =4.46$). It can be suggested that the farmers were paid early for their products and so would be able to offset their debts and focus on the next planting season. Access to credit and effective marketing as provided by the ABP were perceived as strong reasons why they value their involvement in ABP. Another important finding was that the majority of the respondents

disagree that the reduction in collateral for ABP credit had decreased rice productivity (\bar{x} =4.52). Collateral has been the major hindrance to farmers' access to credit and loans. Most of the respondents agreed that increase contact with ABP extension staff increased rice productivity (\bar{x} =4.36). This is because increased contact with extension staff gives farmers more access to information on how to improve their cultivation and increased their rice productivity. This finding is consistent with that of Ayinde et, al., (2018) who stressed the importance of extension service to productivity. Effective marketing is an important motivating factor for efficient returns and a better level of living. Closer introspection of the table shows that respondents perceived ABP as not providing fair prices for their products (\bar{x} =3.32). This finding was unexpected and suggests that the anchor companies may be exploiting the farmers through the pricing when off-taking their produce. This may be corroborated by the finding of Ayinde *et al.* (2018) that over 80% of the beneficiaries of ABP in Kwara State breached the agreement by side-selling their rice products to bypass exploitation. One unanticipated finding was that some of the respondents were undecided about the notion that fair prices for products under ABP contributed to increasing rice productivity (\bar{x} =4.36). Although the findings showed that the anchors buy the farmers' produce at a fair price during the field survey, some farmers still believe the programme could still pay them more.

Table 2: Perception of anchor borrower's programme

Farmers' perception	Mean	Sd
Improved quality of seeds	4.77	0.10
Increased credit	4.66	0.53
Accessibility to credit	4.83	1.42
Reduction in collateral	4.52	0.71
Increased contact with extension contact	4.36	2.37
Improved quality of extension service	3.87	0.16
Anchor marketing strategy	4.83	0.23
Fair price for products	3.32	0.25
Timely release of proceeds	4.46	0.22
Access to mechanized input	4.46	3.10
Access to improved quality of fertilizers	4.54	0.29
Access to improved quality of sprayers	4.58	0.32
Provision of processing facility	4.77	0.72
Improved quality of herbicides and insecticides	4.86	0.92

Sd = Standard deviation

Source: Field Survey, 2019

Productivity of Rice Farmers

The Output of Farmers Before and After Participation in ABP

Table 3.1 reveals that while more of the farmers (46.8%) produced between 1000 and 5000kg, and 79.2% produced between 1000 and 10000 kg before ABP, the situation during involvement in ABP reduced to 20.0% and 55.3%b respectively. Respondents that produced between 10000 and 25000 during ABP increased to 44.6% from the 20.8% that produce within that range before ABP. This shows a marked increase in

the quantity of rice paddy produced as a result of involvement in the anchor borrowers programme. The average quantity of rice produced before ABP was 7,981.50 *plus* 5,984.15 kg, while the average quantity of rice produced during ABP was 10,983.84 *plus* 7,027.88 kg. This result indicates that farmers' level of production significantly increased during ABP compared to before ABP. This increase in production during ABP could be attributed to increased access to credit to purchase needed inputs for rice cultivation. This thus agrees with the postulation of Saheed et al., (2018) that the ABP would increase the level of production achieved by farmers as a result of increased access to inputs and the market. The result also supports the claim of Kehinde et. al., (2022) that farmers will get maximum returns from the resources committed to rice farming if access to inputs is facilitated.

Table 3.1: Output in kg

Output (KG)	Before ABP		After ABP	
		%		%
1,000 – 5,000		46.8		20.2
5,001 – 10,000		32.4		35.3
10,001 – 15,000		8.7		27.7
15,001 – 20,000		4.6		5.2
> 20,000	13	7.5	20	11.6
Min Output	1,500.00		2,500.00	
Max output	26,000.00		30,000.00	
Mean	7,981.50		10,398.8	

Source: Field survey, 2019

Level of Productivity

According to the result in Table 3.2, the TFP of all the respondents (100.00%) before ABP was above 1 (TFP>1) with the minimum and maximum TFP being 1.52 and 2.63. Also, the TFP of all the respondents (100%) during ABP was above 1 (TFP>1) with minimum and maximum TFP being 1.67 and 2.65. Farmers with high productivity before ABP were 44.5%, while those with high productivity during ABP increased to 56.6%. The average total productivity before and during ABP were 2.08 and 2.31 respectively. It can therefore be assumed that rice farmers had been productive before ABP and improved their productivity during ABP and that farmers' productivity increased as a result of their involvement in ABP. This finding was also reported by Olarewaju et. al., (2020) and Abdulmumini (2021). These results further support the claim of CBN (2016) that ability to create a linkage between anchor companies involved in processing of rice and small holder rice farmers (SHFs) has potential to improve quality of rice, rice marketability and improve farmers' productivity.

Table 3.2: Productivity of rice

Rice productivity	Percentage	Percentage
	Before ABP	After ABP
TFP<1	0.0	0.0
TFP=0	0.0	0.0
TFP>1	100.0	100.0
High (\geq mean)	44.5	56.6
Low (< mean)	55.5	43.4

Source: Field Survey, 2019

Constraints Faced during ABP

Results in Table 4 show that land fragmentation and tenure system was the major constraint ($\bar{x} = 1.91$) encountered by respondents in participating in ABP. This is as a result of the programme specification of the minimum hectareage farmers can have before being involved in the programme. Furthermore, attacks by pests and diseases ranked second with $\bar{x} = 1.87$. This is in line with findings from Aremu and Akinwamide (2018) where land fragmentation and tenure system with constant pest and disease attacks are found out to be major constraints facing farmers' ability to increase their productivity at the commercial level. The attack from pests and diseases could render the whole exercise a loss for farmers and they accrue more costs on insecticide and herbicide application. High cost of labour ($\bar{x} = 1.86$), not having a fair price for produce ($\bar{x} = 1.74$) and poor quality of input ($\bar{x} = 1.62$) were major constraints faced in participating in ABP. Obih and Baiyegunhi (2018) revealed that the high cost of labour applies to various stages of rice cultivation and hinders farmers' productivity.

Furthermore, the lack of fair price discourages farmers from commercial cultivation of rice, thereby reducing the general productivity under ABP. Also, poor contact with extension staff ($\bar{x} = 1.54$) and inadequate quality of extension service delivery ($\bar{x} = 1.20$) were other notable constraints encountered by beneficiaries of the Anchor Borrowers Programme. Reliance on contacts with frontline extension agents has not enhanced farmers' access to information as the extension agent-farmer ratio has dwindled over time. This may lead to farmers not having sufficient and accurate information for them to make an informed decision. The need to depend on a non-contact form of extension delivery with wider reach is therefore desirable to ensure that farmers have meaningful access to information. The need to focus on electronic forms of delivery, therefore, becomes expedient. There is therefore the need to incorporate e-agricultural extension in the ABP to further enhance the productivity of farmers engaged in the programme.

Table 4: Constraints encountered by beneficiaries of Anchor Borrowers Programme

Constraints	Mean	Standard deviation
High cost of inputs	1.55	0.02
Poor quality of inputs	1.62	0.27
Untimely delivery of inputs	1.31	0.31
The rigorous process of accessing inputs	1.46	0.04
Late distribution of credit	1.45	0.05
Insufficiency of credit	1.58	0.03
Poor extension contact	1.54	0.61
Inadequate number of extension staff	1.18	0.18
Inadequate quality of extension staff	1.20	0.63
The poor market for rice	1.30	0.07
Lack of rice storage facility	1.34	0.19
Poor training on sustainable rice production practices	1.12	0.32
Limited farmland	1.29	0.47
Land fragmentation and tenure system	1.91	0.82
Lack of fair prices for products	1.74	1.03
Delay in release of proceed	1.30	0.07
Pest and diseases attack	1.87	0.29
Low access to mechanized inputs	1.50	0.32
Poor drainage system (flooding)	0.44	0.16
Lack of irrigation facilities	0.86	0.02
Rigorous access to labour	1.50	0.31
High cost of labour	1.86	0.38
Poor processing facility	1.32	0.16
Poor storage facility	1.24	0.31
Government policy	1.47	0.40

Source: Field Survey, 2019

Contributions of Incentives Derived from the ABP to Rice Farmers' Productivity

Table 5 reveals that the F value of 1.602 was significant. This is evident in the R² value of 0.081 obtained and it implies that 8.1% of the productivity experienced by farmers can be explained by the independent variables in the linear regression model. The Table further shows that incentives significantly contributing to farmers' rice productivity were rice seed ($\beta = 0.226$) as well as timely use of herbicides and insecticides ($\beta = 0.193$). Rice seed contributed 22.06% to farmers' rice productivity, while timely use of herbicides and insecticides contributed 19.3% to farmers' rice productivity. Hence, rice seeds and herbicides and insecticides were major predictors of rice productivity.

Table 5: Contribution of ABP incentives to rice farmers' productivity

Incentives	Beta	T
Constant		12.995
Rice seed	0.226	2.343*
Fertilizer	-0.003	-0.031
Herbicide and insecticides	0.193	2.274*
Sprayer	-0.016	-0.176
Mechanized input	-0.126	-1.478
Credit	-0.108	-1.033
Extension services	-0.040	-0.401
Farming infrastructure	-0.103	-0.124
Guaranteed market	0,091	1.099
Diagnostics statistics		
F value		1.602
R		0.285
R Square		0.081
Adjusted R Square		0.031
Std. Error of the estimate		0.203

Source: Field study, 2019

* = Significant at $p \leq 0.05$ **Conclusion and Recommendations**

Farmers' rice productivity increased with participation in ABP. The availability of incentives such as seeds and herbicides/insecticides contributed to the increased productivity of farmers. The importance of quality seeds and herbicides/ insecticides availability in the right quantity and at the right time to attain increased rice productivity is therefore emphasised. Land fragmentation and tenure system, attack by pests and diseases, high cost of labour, lack of fair price for products, poor quality of input, high cost of input and poor extension contact were major constraints faced during ABP. Improved quality of seeds, anchors marketing strategy, accessibility to credit, timely release of proceeds and access to improved quality of herbicides and insecticides were perceived by respondents to increase their productivity under ABP. Governments and other concerned agencies like farmers' organizations should ensure a timely supply of incentives needed by farmers to avoid any form of delay in various stages of rice cultivation. Researchers can help develop new and improved mechanized tools appropriate for farm activities and this will go a long way to increase farmers' rice productivity. The provision of improved facilities for processing and storage of the paddy by the governments and other agencies would ensure improved quality of rice for the nation's consumption. The need to enhance extension contact with the deployment of e-agricultural extension would help improve the productivity attained by farmers. This is important as access to information is an important tool in attaining improved productivity.

References

- Abdulmumini, A. B. (2021). Assessment of Anchor Borrowers Financial Scheme on Rice Farmers Productivity in Lavun Local Government Area of Niger State. *FUDMA Journal of Management Sciences*, 1(1), 111-123.
- Aremu, J. O., & Akinwamide, B. (2018). Prospects and challenges of sustainable rice production in Igbemo Ekiti, Southwest Nigeria. *European Journal of Educational and Social Sciences*, 3(2), 125-143.
- Ayinde, O. E., Fatigun, O., Ogunbiyi, K., Ayinde, K., & Ambali, Y. O. (2018). *Assessment of Central Bank Intervention on Rice Production in Kwara State, Nigeria: A Case-study of Anchor Borrower's Program* (No. 277429). International Association of Agricultural Economists.
- Central Bank of Nigeria – CBN (2016). Anchor Borrowers' Programme Guidelines. Development Finance Department, Central Bank of Nigeria, Abuja, Nigeria. 97-109
- Dori, N. A. (2018). The Impact of Central Bank of Nigeria's Agricultural Credit Guarantee Scheme Fund on Agricultural and Economic Development of Nigeria. *International journal of political science and Development*, 4(3), 63-74.
- Federal Ministry of Agriculture and Rural Development (FMARD) (2018). Unpublished document on Anchor Borrowers Programme Register for Ekiti State. FMARD Ekiti Area Office, Ado-Ekiti, Ekiti State. 77-184
- Food and Agriculture Organization (FAO)., (2019). FAOSTAT. <http://www.fao.org/faostat/en/#home>, Accessed date: 9 April 2019.
- Kehinde, A. D., Tijani, A. A., & Ogundeji, A. A. (2022). The effects of farmers' organization and access to credit on farmers' preference for attributes of improved rice varieties in Ekiti state, Nigeria. *Tropical and Subtropical Agroecosystems*, 25(1).
- Leadership Newspaper (2018). Impact of Anchor Borrowers' Programme on Kebbi Rice Production: March 14, 2018
- Lu, H. P., Luo, T., Fu, H. W., Wang, L., Tan, Y. Y., Huang, J. Z., ... & Shu, Q. Y. (2018). Resistance of rice to insect pests mediated by suppression of serotonin biosynthesis. *Nature Plants*, 4(6), 338-344.
- Obih, U., & Baiyegunhi, L. (2018). Financing Smallholder Rice Farmers: A Field-Based Evidence Review of Anchor Borrowers Programme (ABP) Model in Nigeria. *Journal of Economics and Behavioral Studies*, 10(6 (J)), 229-239.
- Olanrewaju, O., Osabohien, R., & Fasakin, J. (2020). The Anchor Borrowers Programme and youth rice farmers in Northern Nigeria. *Agricultural Finance Review*.
- Rada, N., Helfand, S., & Magalhães, M. (2019). Agricultural productivity growth in Brazil: Large and small farms excel. *Food policy*, 84, 176-185.
- Saheed, Z., Alexander, A., Isa, A., and Adeneye, O. (2018). Anchor Borrower Programme on Agricultural Commodity Price and Employment Generation in Kebbi State, Nigeria. *European Scientific Journal*, 14(13): 213-256