

# Impact of Anchor Borrowers Programme on Livelihood of Rice Farmers in Anambra State, Nigeria

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## ABSTRACT

The study assessed the impact of Anchor Borrowers Programme (ABP) on rice farmers among beneficiaries in Anambra State, Nigeria. Specifically, the objectives were to: examine performance of the Programme in respect to rice production; and assess the impact of the Programme on the livelihood of beneficiaries, before and after the Programme in Anambra State. A multi-stage procedure, involving purposive and simple random sampling techniques was used to select one hundred and fifty (150) respondents. Data were collected from primary source using a questionnaire, while percentage, standard deviation, mean score, paired sample T-test and Chi-square were used for data analysis. The Anchor Borrowers' Programme had highest level of achievement in the provision of loans to the farmers with mean ( $\bar{x} = 5.00$ ). The ABP made significant positive effect on hectares of land cultivated ( $t = 12.134$ ), total quantity of rice produced (metric tonne) ( $t = 10.635$ ), estimated annual income from rice ( $t = 70.611$ ), access to agro-input ( $\chi^2 = 25.431$ ), access to credit ( $\chi^2 = 35.075$ ), ease of marketing rice produce ( $\chi^2 = 14.883$ ), knowledge of rice production practices ( $\chi^2 = 76.309$ ) and attitude toward rice production ( $\chi^2 = 75.075$ ). It was recommended that government should broaden extension service and contact in the area by engaging more extension agents for more coverage. By this, the extension agents will create adequate awareness through sensitization to enable rice farmers have foreknowledge on the aims, objectives and implementation strategies of the Programme. Also adequate training on implementation strategies of the ABP should be given to the beneficiaries by the management of ABP.

**Keywords;** Anchor Borrowers Programme, Rice Production and Farmers

## INTRODUCTION

Successive governments in Nigeria have implemented several programmes targeted at increasing agricultural productivity and self-sufficiency, most especially rice production and other staples such as maize, sorghum, millet and wheat through the adoption of improved packages of production technology and extensive cultivation of crops (Aiyede, 2021). However, Osabohien et al. (2020) noted that efficient and effective credit provision and access is a veritable tool for enhancing the agricultural productivity in developing countries like Nigeria. Elum and Enemali (2023), further affirmed that credit efficient provision of credit facilities is needed to enhance the productivity of small-scale farms. Aiyedum et al. (2021) however lamented that the Anchor Borrowers Programme which was initiated to foster partnerships between farmers, financial and other anchor institutions, is yet to achieve the desired result in the rice value-chain, although the Programme has contributed to linking about 120,000 rice farmers with millers and industrial off-takers.

Alawa and Adie (2024) reported that rice cultivation, harvesting and distribution are mainly characterized by a weak system arising from late arrival of inputs to farmers, scarcity of high-yielding varieties, inadequate supplies of inputs, high cost of inputs, poor infrastructural development, huge government taxes, importation, price fluctuations, unstable income, inadequate storage facilities, inefficient pricing of the commodity, poor grain quality, inability to access credit, lack of industrial drive and low profit margins owing to inefficient pricing as well as low competitiveness.

In an attempt to address the challenges faced by rice farmers and re-awaken the agricultural sector in Nigeria, the Federal government in 2015 launched the Anchor Borrowers Programme (ABP). The ABP was part of the Federal Government's effort to ensure food security, job creation and diversification of economy (Agboola et al., 2021). The Programme provided farm inputs in kind and cash to increase the production of key agricultural commodities (including rice), stabilize the supply of inputs to agro-processors and address the country negative balance of payment on food. At harvest time, farmers exchange with the agro-processor (i.e. the Anchor) their production for a cash equivalent. Also ABP was initiated to, among other things, increase bank's financing to the agricultural sector, reduce agricultural commodity importation and conserve foreign external reserves, increase capacity utilization of agricultural firms, create new generation of farmer's / entrepreneur and employment, assist rural smallholder farmers to grow from subsistence to commercial production levels, deepen the cashless policy and financial inclusion and reduce the level of poverty among smallholder farmers (Onoja, et al., 2024). It is therefore imperative to assess the impact of Anchor Borrowers' Programme on rice production among rice farmers beneficiaries in Anambra State, Nigeria, after about six-years (2016-2021) in operation. Specifically, the study:

- i. examined the performance of the Programme in respect to rice production; and
- ii. assessed the impact of the Programme on livelihood of the beneficiaries.

## METHODOLOGY

### Study Area

The study was carried out in Anambra State, Nigeria. Anambra State is made up of twenty-one (21) Local Government Areas and one hundred and seventy-seven (177) communities spread across the four Agricultural Zones (AZ) in the State, namely, Awka, Anambra, Aguata, and Onitsha and its capital situated in Awka. It is an inland state located between longitude  $6^{\circ}36'$  and  $7^{\circ}21'E$  and latitude  $5^{\circ}38'$  and  $6^{\circ}47' N$  and occupies an area of  $4,416\text{km}^2$ , 70% of which is arable land. Anambra State has an estimated population of 5.5 million people who are 98% and 2% of Igbo and Igala ethnicities, respectively (National Bureau of Statistics (NBS), 2023). Major economic activities in the State are trading and farming (crops such as yam, cocoyam, okro, rice, maize, cassava vegetable and tree crops, especially, citrus oil palm, mango and bread fruit). The climate of the State is comparatively good and favourable for crop production and majority of the farmers operates at the small-scale level.

### Population and Sampling Technique

The population for the study comprised all the registered rice farmers in Anambra State who engaged themselves under Anchor Borrowers' Programme (ABP) with the assistance of Nigeria Incentives-Based Risk Sharing System for Agricultural Lending (NIRSAL). A multi-stage procedure involving purposive and simple random sampling techniques was used to select 150 respondents. Stage I involved purposive selection of three LGAs from Anambra State, based on high concentration of rice cultivation and processing beneficiaries of the ABP. The selected 3 LGAs include Ayamelum, Anambra East and Orumba South LGAs in Anambra State. Stage II involved purposive selection of two communities from the selected LGAs due to the predominance of rice production activities in the area. The selected 6 communities in both States include Ayamelum LGA (Omor & Ifite-Ogwari communities), Anambra East LGAs (Aguleri & Igbariam) and Orumba South (Umuomaku & Ezira). Stage III involved simple random selection of 25 rice beneficiaries of Anchor Borrowers Programme from the selected communities. This gave a total of 150 respondents/beneficiaries that served as the sample size of the study.

### Methods of Data Collection

Data for the study were collected from primary source through the use of structured questionnaire, administered to the respondents through personal interview with the help of research assistants. The questionnaire was validated by three senior academic staff in the Department of Agricultural Economics and Extension, Chukwuemeka Odumegwu Ojukwu University (COOU). One hundred and fifty copies of the

instrument were administered to all the selected 150 respondents which were retrieved and data collected were used for the analyses.

### Measurement of Variables

To examine performance of the Programme in respect to rice production in the study area as indicated in Objective 1, the beneficiaries were asked to indicate on a 5 point-Likert type scale the extent the Programme had achieved its predestined objectives in rice production, especially under the three segment of out-grower support programme, training of farmers, extension worker, banks and risk mitigation. These also include input supply which includes rice seeds, fertilizers, agro-chemicals; farming equipment, training on rice farming, advisory services from the programme and other forms of benefit from the programme like irrigation etc. Their response categories were rated as follows: Very High Extent (VHE)=5, High Extent (HE)=4, Moderate Extent (ME)= 3, Low Extent (LE)=2, and Very Low Extent (VLE)=1. These values were added to obtain a value of 15 which was divided by 5 to get a critical mean score of 3.0. Decision: Any mean score  $\geq 3.0$  was regarded as high level achievement, while any mean score  $< 3.0$  was regarded as low level achievement.

To assess the perceived impact of the Programme on the socio-economic life of the beneficiaries as shown in Objective 2, the project participants' model was used to compare farmers' livelihood before and after the project life as adopted by Nwalieji (2014). To achieve this, the changes in rice production and socio-economic variables of the rice farmers were compared in two different periods (before 2015 and after 2021). The livelihood variables of the respondents that were measured include: access to information, total hectare of rice land cultivated (ha), total quantity of rice produced (kg), estimated annual income from rice production (₦) and degree of accessibility to agro-input and credit, ease of marketing produce, ease of transportation of produce and agro-inputs, cost of transportation and extension contact, among others.

### Method of Data Analysis

The Version 23.0 IBM-SPSS Statistics was used for all the data analysis. Objective i (examine performance of the project in respect to rice production) was achieved using mean and standard deviation, while data collected in Objective ii ( assess the perceived impact of the Programme on the livelihood of the beneficiaries) were analysed using percentage, mean score, paired sample T-test and Chi-square.

## RESULTS AND DISCUSSION

### Performance of Anchor Borrowers' Programme (ABP) in Rice Production

Table 1 shows distribution of the beneficiaries according to their perceptions on the extent of achievement of the Programme in rice production in Anambra State. According to the table, the Programme had highest level of achievement in provision of loans (in kind or cash) to smallholders' farmers to boost agricultural production ( $\bar{x} = 5.00$ ). This was followed by training on rice farming technologies ( $\bar{x} = 4.83$ ); followed by linking rice farmers with millers and industrial off-takers ( $\bar{x} = 4.05$ ); and then provision of farm inputs in kind and cash with mean of 3.86. Also, the Programme made high level of achievement on advisory services ( $\bar{x} = 3.54$ ). However, provision of irrigation schemes/facilities was at very low level of achievement. Table 1 also reveals that the grand mean achievements was 3.72, signifying high level of general achievements in the perceived rice production variable in the State. The findings imply that the Programme provided the beneficiaries with loans in cash form or in kind in order to boost agricultural production, hence the high mean value obtained in the State, meaning that all beneficiaries agreed that they benefited from the loan. Also, the beneficiaries were trained on rice farming technologies, linked with millers and industrial off-takers, and provided with farm inputs in kind and cash such as certified improved rice seeds and agrochemical. High level of achievement on advisory services such as extension contacts and training was made in the State, meaning that Programme participants in the State benefited more in extension services. Irrigation schemes/facilities with very low mean value recorded very low achievement thereby not provided to the beneficiaries by the Programme in the State.

However, the high value of grand mean achievements according to the beneficiaries’ perception is an indication that the Programme generally achieved its predestined objectives in rice production of the farmers in Anambra State. The finding is in line with Agboola et al. (2021) that farmers benefited from input supply, farming equipment and training, which in turn increased the farmers’ yield and improve the economy of their environment either directly or indirectly. Also, FAO (2020) noted that the project made tangible progress in achieving more efficient, sustainable and productive rice systems in Africa especially in terms of promotion of Systems of Rice Intensification (SRI) and adoption of good practices and technologies to improve productivity and rice processing, reduction of post-harvest losses and improvement of grain quality.

Table 1: Distribution of respondents according to their perceptions on the extent of achievement of ABP in Anambra State (n=150)

Programme activities	Mean ( $\bar{x}$ )	S.D
Provision of loans (in kind or cash) to smallholders farmers to boost agricultural production	5.00*	0.000
Training on rice farming technologies	4.83*	0.267
Linking rice farmers with millers and industrial off-takers	4.05*	0.366
Provision of farm inputs in kind and cash	3.86*	0.543
Advisory services	3.54*	0.872
Provision of irrigation schemes/facilities	1.05	0.997
<b>Total</b>	<b>2,233</b>	
<b>Grand Mean</b>	<b>3.72*</b>	

\*=  $\bar{x} \geq 3.00$  = high level achievement; SD= standard deviation.

Source: Field Survey, 2024.

### Impacts of Anchor Borrowers’ Programme on the Livelihood of the Beneficiaries

Table 2 shows the impact of ABP on the livelihood of the beneficiaries in Anambra State. The impact of ABP on the livelihood of the rice farmers’ beneficiaries relates to the changes in the living conditions before and after the Programme among the beneficiaries. The changes in the livelihood of the rice farmers’ beneficiaries were compared in two different periods, before (2015) and after (2021).

The result showed that the mean total hectareage of rice land cultivated by the beneficiaries before commencement of the Programme was 1.04 hectares, while after the Programme , the mean total hectareage was 1.64 hectares. The findings show that there are increments in mean total hectareage of rice land cultivated, and the rice farmers in the area are still small smallholders. Further results of the analysis reveal that there was significant difference ( $t= 11.641, p=0.00$ ) between the mean score of total hectareage of rice land cultivated by beneficiaries before and after the Programme. These findings imply that there were significant increase in the total hectareages of rice land cultivated by the beneficiaries in Anambra State before and after the programme. The increase in total hectareage of rice land cultivated is attributable to the Programme intervention. It is therefore concluded that the Programme had made an appreciable impact on hectareages of rice land cultivated by the beneficiaries. This result is in agreement with the findings of Ojo et al. (2023) that noted significant increase in total hectareage of rice land cultivated by the Fadama Project beneficiaries in 2019.

Table 2 also revealed that the mean score of total quantity of rice produced by the beneficiaries in Anambra State before commencement of the Programme was 4.53 metric tonnes, while after the Programme, the mean total quantity of rice produced was 6.52 tonnes. Further entries in the table reveal that there was significant difference ( $t= 26.53, p=0.00$ ) between the mean scores of total quantities of rice produced by beneficiaries in Anambra before and after the Programme. The findings imply that there was significant increments in the total quantities of rice produced in the State under study, and that the Programme was very successful.

It is evident from Table 2 that the mean score of the estimated annual income from rice by the beneficiaries before the Programme was ₦105, 468 while after the Programme, it was ₦497, 800. Also, the table shows that there was significant difference ( $t= 66.199, p\leq 0.05$ ) between the mean scores of the estimated annual incomes realized by the beneficiaries, before and after the commencement of the Programme. This finding implies the existence of significant increase in income realized by the beneficiaries, after the programme. Therefore, it is concluded that the Programme made a positive impact on the estimated annual income of the rice farmers, among the beneficiaries in Anambra State. This is attributable to the implementation strategies adopted by the Programme in the provision of necessary inputs required by the beneficiaries.

Table 2: Impact of the ABP intervention on revenue generation from rice production among beneficiaries in Anambra State (n=150)

Variable	Before Mean	After Mean	T-value
Total hectarage of rice cultivated (ha)	1.04	1.64	11.641* (0.00)
Total quantity of rice produce (M/T)	4.53	6.52	26.153* (0.00)
Annual income from rice (₦)	105,468	497,800	66.199* (0.00)

Figure in parenthesis= p-value; \*= significant,  $p\leq 0.05$

Source: Field survey, 2024.

Table 3 shows the result of analysis of qualitative data using Chi-square analysis to assess the changes in some livelihood variables. The table reveals that there was significant increase ( $\chi^2= 25.431, p\leq 0.05$ ) in the proportion of rice beneficiaries that had access to agro-inputs such as fertilizer, herbicide, insecticide and improved rice varieties, before and after the end of the Programme intervention. This implies that there is significant change in access to agro-inputs from no access to full access by the Programme beneficiaries. The result of the study is in line with Agboola, et al. (2021) that the majority (90.0%) of the rice farmers indicated that they received benefits of inputs supply from the Anchor Borrowers Programme.

Entries in Table 3 show that there was significant increase ( $\chi^2= 35.075, p\leq 0.05$ ) in the proportion of rice beneficiaries that had access to credit, at the end of the Programme intervention in the study area. This implies that the intervention of the ABP led to increased access to credit by the beneficiaries. This finding agrees with Okunola (2022) that Credit is important in reducing poverty and increasing farm output and livelihoods of small-holder farmers.

Table 3 also indicates that there was significant increase ( $\chi^2= 14.883$ ) in the ease of marketing rice by rice beneficiaries, at the end of the Programme intervention. This result implies that beneficiaries had easier/increased access to market for rice with the introduction of off-taker by the ABP intervention. This thus agrees with the postulation of Akinbile et al. (2023) that ABP would increase the level of production achieved by farmers as a result of exposing them to the market to relate with the off takers.

Table 3 further shows that there was significant change ( $\chi^2= 76.309$ ) between the knowledge of improved rice production practices by the beneficiaries, before and after the commencement of the Programme in Anambra State. This is in line with Abdaulummini (2021) who stated that exposing farmers to an innovation with a view of increasing their financial inclusion help to increase their knowledge of practice.

Table 3 reveals that there was significant positive change in the attitude of the beneficiaries towards rice production in Anambra ( $\chi^2= 75.075$ ). This implies that the ABP’s intervention brought a positive change in the attitude of the beneficiaries towards rice production, which more likely led to the significant increase in the productivity, output, hence income of the beneficiaries. This finding agrees with Okoroh et al. (2021) which stated that farmers who engage themselves as a member of Anchor has a lots of benefits as it help to sharp their production for better living.

Table 3 indicates that there was significant increase ( $\chi^2= 42.641$ ) in the proportion of the beneficiaries that had aspiration to invest more money into rice production in the study area, before and after the commencement of the Programme. This implies that there are significant increase in the proportion of the categories of farmers from no aspiration in 2015 to strong aspiration to invest more money into rice production in 2021. The Programme however made a positive impact on the rice farmers in terms of raising their aspiration to invest more money into rice production.

It is evident from Table 3 that there were significant increase ( $\chi^2= 35.659$ ) in the proportion of the beneficiaries that had skill in improved rice production practices, before and after the commencement of the Programme. These imply that there is significant increase in the proportion of the beneficiaries that had adequate skills in improved rice production practices, hence the project is said to have positive impact on the acquisition of skill in rice production practices by the beneficiaries.

Table 3: Impact of ABP on the livelihood of the beneficiaries in Anambra State

Variable	Anambra (n=150)		
	Before %	After %	$\chi^2$ -value
<b>Access to agro-input</b>			
No access	48.1	8.1	25.431* (0.00)
Little access	28.1	16.6	
Full access	23.8	75.3	
<b>Access to credit</b>			
No access	48.8	7.5	35.075* (0.00)
Little access	43.7	35.0	
Full access	7.5	57.5	
<b>Ease of marketing rice produce</b>			
Not easy	35.6	9.4	14.883* (0.01)
Easy	53.8	20.0	
Very easy	10.6	70.6	
<b>Knowledge of rice production practices</b>			
No knowledge	34.4	5.6	76.309* (0.00)
Poor knowledge	26.9	10.7	
	23.7	23.1	

Fair knowledge	15.0	60.6	
Adequate knowledge			
<b>Attitude toward rice production</b>			
Positive	42.5	94.5	
Negative	37.5	1.9	75.075* (0.00)
Do not know	20.0	3.6	
<b>Aspiration for business</b>			
No aspiration	76.9	0.9	
Weak/low aspiration	8.1	16.6	42.641* (0.00)
Strong aspiration	15.0	82.5	
<b>Skill in improved practice</b>			
No skill (0 score)	17.5	1.9	
Poor skill (1-3 scores)	68.1	11.9	35.659* (0.00)
Fair skill (4-6 scores)	10.6	20.6	
Adequate skill (7-10 score)	3.8	65.6	

Figure in parenthesis= p-value; \*= significant,  $p \leq 0.05$

Source: Field survey, 2024

## CONCLUSION AND RECOMMENDATIONS

The Anchor Borrowers' Programme had high level of achievements in provision of loans and farm inputs to smallholders' farmers to boost agricultural production in the study area. The beneficiaries of the Programme were also given adequate training on rice farming technologies and equally linked with millers and industrial off-takers. The ABP intervention brought positive changes in the livelihood of the rice farmers' beneficiaries in hectares of rice land cultivated, total quantity of rice produced, estimated annual income from rice, access to agro-input, access to credit, ease of marketing rice produce, knowledge of rice production practices, attitude toward rice production, skills in rice production practices and aspiration to investment in rice production.

It was recommended that government should broaden extension service and contact in the area by engaging more extension agents for more coverage. By this, the extension agents will create adequate awareness through sensitization to enable rice farmers have foreknowledge on the aims, objectives and implementation strategies of the Programme. Training on implementation strategies of the ABP should be given to the beneficiaries by the management of ABP. Also, there should be timely, complete and quality disbursement of allocated agro-inputs and proposed amount to beneficiaries by the service providers and designated institutions of the ABP management. This would enable the beneficiaries utilize the said inputs maximally and efficiently.

\* **Ethical Considerations:** Include ethical approval and conflict of interest statements.

We hereby state that we the authors have no conflict of interest of any kind.

\***Data Availability:** State data availability.

Very much available.

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