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## Effects of Participation of Women Rice Farmers in the Anchor Borrowers' Programme on Rice Production in Ekiti and Ogun States

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### Abstract

*The study examined the effects of the participation of women rice farmers in the Anchor Borrowers' Programme (ABP) on rice production in Ekiti and Ogun States. A multistage sampling procedure was used to select 143 respondents. Data were collected using a questionnaire and interview schedule to obtain the enterprise characteristics, and level of rice production of women rice farmers while percentage, mean, Chi-square and Pearson Product Moment Correlation ( $\alpha=0.05$ ) were used to analyse the data. Average farm size, years of experience and rice yield were  $2.2\pm 1.3$  acres,  $17.4\pm 6.8$  years and  $1.73\pm 0.23$  tons, respectively. Unfavourable attitude (61.5%) towards ABP due to inadequate credit facilities ( $\bar{x}=1.89$ ), delay in input supply ( $\bar{x}=1.89$ ) and other rice production incentives ( $\bar{x}=1.66$ ) explained the low level of women participation (55.2%) in ABP. The production efficiency of respondents decreased from 0.69 to 0.37, likewise, the profitability index from 40.0% to 36.8% after participation in ABP. Women rice farmers' participation in ABP did not affect the level of rice production in the study area. Increasing loan access and other production incentives by the Government and stakeholders in subsequent agricultural intervention programmes will improve women's participation and rice production.*

**Keywords:** Anchor borrowers' programme, women rice farmers, participation.

### Introduction

Rice is a major staple food crop consumed across all parts of Nigeria. The demand for rice in the country had been soaring and the rising demand was partly a result of increased income levels, rapid urbanisation, and the associated change in occupational structure (Kolawole & Michael, 2021). Emenekwe et al., (2022) asserted that the country's per capita annual rice consumption level has been on the increase over the years and that the ever-increasing demand for the commodity across the

country has transformed it into a cash crop, especially in the areas where the crop is produced.

In a bid to sustain domestic rice production in Nigeria and decrease dependence on imports, numerous programmes and policies have been introduced, some of the policies are; the Presidential Initiative on Increased Rice Production (2002-2007), the Nigerian National Rice Development Strategy (2009-2018), the Agricultural Transformation Agenda (2011- 2015), the Agricultural Promotion Policy, the CBN Anchor Borrowers' Programme (2015 to date), CBN Foreign exchange policy excluding 41 items, including rice, from assessing official window for foreign exchange.

The activities involved in rice production contribute immensely to creating employment opportunities in the communities concerned (Aitaa, 2023). In almost all rice-growing areas in Nigeria, men traditionally undertake such activities as land preparation, ploughing, irrigation and field-levelling. Women, on the other hand, are responsible for sowing, transplanting, weeding and crop processing (Sallawu et al., 2022). According to Adeola (2020), women's participation in most of the activities is usually undertaken in post-harvesting and processing crops. However, rural women, in some parts of Nigeria worked side by side with men in rice production with some marked division of labour among them. The role that women play, however, is greatly marked by gross production challenges such as inadequate institutional support (no access to credit, research and extension), inappropriate production systems, inadequate basic infrastructures, production risk and inefficiency on the part of the farmers. In line with this, Adegbite & Machethe, (2020); Mukaila et al., (2022) reported that men have access to resources needed in agricultural production but women agriculturalists face several challenges which include the absence of formal title to land, limited access to credit, lack of access to markets, and cultural restrictions and biases. These obstacles may preclude them from participation in more capital-intensive *women rice farmers* with low productivity.

Amid these challenges, federal and state ministries of agriculture as well as some donor agencies have partnered to outline projections to double rice cultivation to reduce importation using intervention programmes such as Anchor Borrowers' and Fadama programmes (Akingbile et al., 2023).

In response, the Anchor Borrowers' Programme (ABP) was established by the Central Bank of Nigeria to support small-scale farmers including women. This programme aims to empower subsistence and small-scale rice farmers to transition into efficient-driven agricultural enterprises. Under this programme, the Central Bank provides collateral-free loans to registered farmers with the government as guarantors. This provides financing for small-scale agricultural endeavours and subsidies to purchase agricultural inputs, such as seedlings and fertilisers (Umeh & Adejo, 2019). Additionally, the programme creates a platform to connect small-scale farmers to financial services, input suppliers, and markets. The programme not only helps to ensure that the monetary benefit of agriculture is increased but also gives the farmers a chance to empower themselves and take control of their lives (Soom, et al. 2023). Rice farmers in Ekiti and Ogun states of Nigeria have benefitted from this scheme. However, there is limited information and research on the effect of the participation of women rice farmers on rice production in these states. Thus, this study filled this research gap by assessing the effect of the involvement of women rice farmers in the Anchor Borrowers' Programme on rice production in Ekiti and Ogun states of Nigeria.

It is against this background that the study provided answers to the following research questions:

1. What are the enterprise characteristics of women rice farmers?
2. What is the level of rice production before and after the implementation of the Anchor Borrowers' Programme?
3. What is the attitude of women rice farmers towards the Anchor Borrowers' Programme?
4. What is the level of women rice farmers' participation in the Anchor Borrowers' Programme?
5. What are the constraints faced by women rice farmers?

## **Methodology**

The study was conducted in Ogun and Ekiti States. Ogun State lies at longitudes 3.2583E and 3.1530E and latitudes of 6.9098N and 6.5435E. Ogun State is noted for being the almost exclusive site of *Ofada* rice production as it was named after a community called *Ofada*. Farmers in Ogun State cultivate the following rice varieties: FUNNABO, OFADA, NERICA 8, FARO 52, FARO 44 and FARO 17 rice varieties. Ekiti State is also a state in Southwestern Nigeria cultivating the most popular local variety of rice called *Igbemo* rice. The population of the study comprised all women rice farmers who are beneficiaries of the Anchor Borrowers programme in both states. A multistage sampling procedure was used to select the respondents. The first stage involved the purposive selection of two states in Southwestern Nigeria that are involved in rice production namely Ogun and Ekiti States, with their indigenous rice varieties *Ofada* and *Igbemo* respectively. Eight out of the twenty Local Government Areas (LGAs) in Ogun State are major LGAs involved in rice production. These are: Abeokuta North, Yewa north, Ewekoro, Ifo, Ijebu-North, Ikenne, Obafemi Owode, and Ogun Waterside. Likewise, in Ekiti State, ten out of the sixteen LGAs are involved in rice production. These include Irepodun/ Ifelodun, Efon, Ido/ Osi, Aiyekire (Gbonyin), Oye, Ikole, Emure, Ekiti-West, Ekiti-East, Ise/Orun. The second stage involved random selection of one LGA in each of the two states selected, namely Obafemi Owode LGA in Ogun state and Irepodun LGA in Ekiti state. In the third stage, three communities were purposively selected from the LGA based on the hectares of rice cultivated in the area. The fourth stage involved the stratified selection of respondents based on their sex (male/female) from the list of anchor borrowers' beneficiaries. The fifth stage involved selection by proportionate sample to the size of 15% of women rice farmers per community that were Anchor Borrowers' Beneficiaries randomly. A total of 150 respondents constituted the sample size for the study.

The study employed structured questionnaire administered in the form of an interview schedule to collect quantitative data and a Focus Group Discussion (FGD) for qualitative data. Data were analysed using percentages, mean, Chi-square, PPMC, t-Test, profitability index and productivity efficiency.

## **Results and Discussion**

### **Enterprise characteristics of women of rice farmers**

Table 1 presents the relevant enterprise characteristics of the women rice farmers. It shows that 16.7% of respondents reported having less than six years of farming

experience, 48.3% reported having between six and fifteen years, and 35.0% reported having more than fifteen years of farming experience. The average years of farming experience was 14.4 years. It could be inferred from the result that the vast majority of respondents are seasoned farmers with a variety of experience in rice farming. This might increase their knowledge of rice growing and related techniques. Kolawole, & Michael (2021) noted that female farmers tend to be more technically efficient with more years of farming experience.

Table 1 further shows that most (51.7%) of the respondents had between 1 and 3 acres of farmland, 32.2% of the respondents had between 4 and 6 acres, and 16.7% had between 7 and 9 acres of farmland. The average farm size was  $2.2 \pm 1.3$  acres. This suggests that the majority of the female rice farmers who participated in the Anchor Borrowers Programme in the study area have relatively small farm sizes. This indicates that the programme is likely to have a positive impact on those smallholder farmers, as it provides them with access to finance and other resources to help them improve the productivity of these farmers. This supports the findings of Ogunjinmi, et al. (2022) that female farmers in Southwestern Nigeria are small-scale farmers. Table 1 also shows that the majority (73.4%) of the respondents engaged in the services of both families and hired labour, 20.3% of the respondents engaged in the services of hired labour only, while few (6.3%) of the respondents engaged the services of family labour only. From this result, it can be inferred that female rice farmers participating in the Anchor Borrower's Programme prefer a combination of both family and hired labour to cultivate their farms to maximize productivity and efficiency. This suggests that female farmers understand the advantages of outsourcing labour, particularly for activities that require more technical expertise. Additionally, the use of family labour in combination with hired labour may also be a result of financial constraints, as the services of hired labour may be costly.

The result in Table 1 also shows that most (69.2%) of the respondents' farmlands were self-owned, 13.3% of the respondents got their farmlands through lease, 11.2% of the respondent's farmlands were jointly owned, while 6.3% of the respondents inherited their farmlands. From this result, it can be deduced that most female rice farmers participating in the Anchor Borrowers Programme own their farmlands, which suggests that they have made significant investments in their agricultural businesses. This indicates a strong commitment to the agricultural sector and an ambition to increase their income through farming. The result in Table 1 shows respondents obtain information on rice production through a variety of media. The result shows that 61.5% of respondents obtained information on rice production through extension agents, 58.7% sourced information on rice production from farmers' associations, and 35.0% and 21.7% of the respondents obtained information on rice production through family and radio, respectively. From this result, it can be inferred that extension agents and farmers' associations are the two most commonly used sources of information on rice production. This result indicates that these two sources are seen as reliable and trustworthy by the respondents. The result in Table 1 indicates that a majority (95.8%) of the respondents had access to extension services, while 4.2% of the respondents had no access to extension services. This suggests that the Anchor Borrower's Programme has been successful in providing access to extension services to female rice farmers. Additionally, this suggests that the programme is helping to empower women and promote their involvement in agricultural production. This result is in tandem with Nasiru (2022) that farmers who participated in the Anchor Borrowers Programme had access to extension services.

The majority (70.6%) of the respondents do not have access to irrigation facilities, this could be due to limited resources or a lack of access to irrigation infrastructure. This could be an obstacle to the success of the Anchor Borrowers' Programme and may limit the potential of these female rice farmers to cultivate 2 to 3 cycles, to increase their yield and income. Therefore, providing access to irrigation facilities to these farmers should be a priority for the government and other stakeholders. This agrees with the findings of Abubakar, Danjuma & Mustapha (2017) that women farmers in Nigeria do not have access to irrigation facilities due to their limited access to resources.

**Table 1: Distribution of respondents by enterprise characteristics**

<b>Enterprise characteristics</b>	<b>Percentage</b>	<b>Mean</b>
Years of experience		
<6 years	16.7	17.4±6.8 years
6-10 years	22.4	
11-15 years	25.9	
16-20 years	18.9	
>20 years	16.1	
Farm size		
1-3 acres	51.7	2.2±1.3 acres
4-6 acres	32.2	
7-9 acres	16.1	
Source of labour		
Family	6.3	
Hired	20.3	
Both	73.4	
Ownership structure of farm		
Sole	69.2	
Joint	11.2	
Leased	13.3	
Inherited	6.3	
Sources of information		
Family and friends	35.0	
Agricultural association	58.7	
Radio	21.7	
Extension	61.5	
Access to extension services within the communities		
Yes	95.8	
Access to irrigation		
Yes	29.4	

Source: Field survey, 2023

## **Level of rice production**

The result in Table 2 shows that the average farm size and output both saw a slight increase after the implementation of the Anchor Borrowers' Programme, with the average farm size increasing from 1.8 acres (0.73 hectares) to 2.2 acres (0.89 hectares), and the average output increasing from 1.63 tons to 1.84 tons. This is an indication that the ABP did not have much impact on the output of rice farmers. Table 2 also reveals that before the Anchor Borrowers' Programme, the percentage of total variable cost about the total cost was 92.4%, whereas, after the programme, it increased to 93.4%. This indicates that women rice farmers incurred higher costs for farm inputs that varied with production output after ABP. Some factors identified to buttress the findings during the focus group discussion include a lack of access to quality inputs such as improved seed varieties, fertilizers, and mechanized farming tools and a lack of access to finance. All of these could make it difficult for women rice farmers to reduce their costs and increase their profits. The result in Table 2 further indicates that the profitability index of rice production among women farmers decreased from 40.7% to 36.8% after the participation of the Anchor Borrowers' Programme. Conversely, before the implementation of the Anchor Borrowers Programme, the production efficiency of female rice farmers was 0.69, but this decreased to 0.37 after the programme. This implies that the Anchor Borrowers Programme, which was intended to support women rice farmers, had a detrimental effect on their productivity and profitability. The decrease in profits could be attributed to a lack of access to necessary agricultural inputs such as fertilizers and pesticides to effectively implement the programme. Moreover, the lack of adequate support from the government, including financial incentives, could have also contributed to the decline in profitability. This negates the finding of Ayuba, Abba, Isaiah, Abubakar & Yahaya (2020) where beneficiaries of ABP recorded a higher profitability index than non-participants.

**Table 2: Rice production before and after Anchor Borrowers' Programme**

	Before ABP	% of TC	After ABP	% of TC
Variable cost				
Tractor hiring	47,288.73	18.9	50,867.13	17.6
Seed	23,072.72	9.2	33,191.54	11.5
Labour	23,633.84	9.4	24,846.15	8.6
Fertilizer	44,166.43	17.6	50,846.15	17.6
Herbicides	14,488.81	5.8	15,448.25	5.3
Insecticides	10,419.58	4.2	11,584.62	4.0
Harvesting	34,458.54	13.7	38,020.98	13.2
Threshing	18,890.65	7.5	20,726.62	8.4
Transportation	15,330.07	6.1	17,633.57	7.2
Total variable cost	231,749.37	92.4	263,165.01	93.4
Cost of hired land	16,800.70	6.7	21,979.02	7.6
Depreciation cost on fixed assets	2,347.95	0.9	3,982.40	1.4
Total fixed cost	19,148.65	7.6	25,961.42	9.0
Total cost (TVC +TFC)	250,898.02	100.0	289,126.43	100.0
Total revenue				
Value of sales	422, 972.03		457,804.17	
Gross margin (TR-TVC)	191,222.66		194,639.16	
Net margin (TR-TC)	172,074.01		168,677.74	
Profitability index: (NM/TR) x100%	40.7		36.8	
Productivity efficiency (NM/TC) x100%	0.69		0.37	
Mean farm size cultivated in acre	1.82±1.5acres		2.2±1.3 acres	
Average Yield	1.62±0.21 tons		1.73±0.23 tons	

Source: Field survey, 2023

N.B: TC = TOTAL COST, TVC = TOTAL VARIABLE COST, TFC =TOTAL FIXED COST, TR =TOTAL REVENUE, NM = NET MARGIN.

### Women rice farmers' attitude towards Anchor Borrowers' Programme (ABP)

Table 3 reveals that respondents showed an unfavourable attitude towards 12 items and a favourable attitude towards eight items. Respondents exhibited unfavourable attitudes towards profitability of ABP ( $\bar{x}$ =1.82), women rice farmers as non-victims of policies exclusion ( $\bar{x}$ =2.81), women in rice production are respected ( $\bar{x}$ =2.13), non-difficulty in accessing ABP ( $\bar{x}$ =2.77), ABP does not provide sufficient resources for producing rice has desired ( $\bar{x}$ =2.70), agro-processors linkage with ABP do not pay rice farmers well after harvest ( $\bar{x}$ =3.62), ABP boosts production of rice ( $\bar{x}$ =2.13), quality of locally produced rice has improved due to ABP ( $\bar{x}$ =2.42) ABP provides farm inputs in kind and cash for rice farmers ( $\bar{x}$ =2.51), new women rice farmers are not encouraged to join ABP ( $\bar{x}$ =2.57), ABP has failed to link rice farmers and agro-processors ( $\bar{x}$ =2.57), ABP is a waste of time ( $\bar{x}$ =2.58).The disposition of women rice farmers towards participation in the Anchor Borrowers' Programme raises serious

gender issues. Their input and expertise in this critical sector of agriculture are not only being undervalued but discouraged. Without women's meaningful inclusion, the sector may be harmed or compromised. This finding aligns with the study of Adegbite & Machethe (2020) that women farmers are often marginalized in their access to economic, political, and social resources.



**Table 3: Women rice farmers' attitude towards Anchor Borrowers' Programme**

Statements	Mean	SD
ABP provide farm inputs in kind and cash for rice farming	2.51	15.1
ABP boosted the production of rice	2.41	13.3
The production level of rice farming increased from subsistence to commercial level since the commencement of ABP	2.72	4.2
ABP reduced the level of poverty among rice farmers	2.79	4.9
ABP enhanced the financial inclusion of women rice beneficiaries	2.78	2.1
Anchor borrowers programme is not profitable	1.82	1.4
Employment has not been created due to the presence of ABP	2.73	13.3
New women rice farmers are not encouraged to join ABP	2.57	18.9
Women Rice Farmers victims of policy exclusion	1.98	3.5
ABP a waste of time	2.58	19.6
The importation of rice is reduced because of ABP.	3.31	3.5
The quality of locally produced rice has improved due to ABP	2.42	9.8
Accessing an ABP loan is difficult.	2.21	9.1
Women in rice production are respected.	2.13	0
ABP does not provide sufficient resources for producing rice as desired	2.37	7.0
Agro-processors linkage with ABP do not pay rice farmers well after harvest	2.38	9.1
ABP a life-changing programme	2.85	7.7
Planning is an essential part of ABP.	3.90	4.2
Expectation of participant financial contribution is a good policy	2.87	8.4
<b>Unfavourable(47-56)</b>	<b>57±3.7</b>	
<b>Favourable (57-72)</b>		

Grand mean = 2.60, U = Unfavourable (< 2.60), F = Favourable (≥ 2.60);  
Source: Field survey, 2023

### Participation of women rice farmers in Anchor Borrowers' Programme

The result in Table 4 reveals that the grand mean of women rice farmers' participation in ABP was 1.31. The Table result indicates that women rice farmers participated more in account opening ( $\bar{x}$ =1.81), producing to buy up at agreed price ( $\bar{x}$ =1.80), formation

of cooperatives by beneficiaries ( $\bar{x}=1.79$ ), verification of farm size ( $\bar{x}=1.73$ ), and participation in town hall meeting to agree on off-take price and economics of production ( $\bar{x}=1.69$ ). However, respondents demonstrated less participation in the signing of tripartite agreements involving Participating Financial Institutions (PFIs), Anchor and farmers ( $\bar{x}=1.41$ ), repaying loans as at when due ( $\bar{x}=0.70$ ), demonstrating evidence of farm ownership lease/rent and agreement to work with extension persons ( $\bar{x}=0.77$ ), and provision of equity contribution in cash of minimum of 5% loan ( $\bar{x}=0.78$ ). This implies that respondents may not be as involved in some of the more administrative and financial aspects of the programme as they are in other activities. This could be due to low education, lack of resources (such as access to capital), corrupt practices or poor communication between farmers and the administrators of the programme. This is consistent with the finding of Ojediran, Adeola, Ogunleye & Rahman (2020) that weak communication linkage between farmers and government, and corruption tends to reduce farmers' participation in agricultural intervention programmes.

**Table 4: Women rice farmers' participation in Anchor Borrowers' Programme**

Statements	Mean
Formation of co-operative by beneficiaries	1.79
Verification of farm size	1.73
Participation in town hall meetings to agree on off-take price and economics of production	1.69
The signing of a tripartite agreement involving PFI, Anchor and farmers	1.14
Capacity building training	0.87
Account opening	1.81
Demonstrating evidence of farm ownership lease/rent and agreement to work with extension persons	0.77
Provision of equity contribution in cash of a minimum of 5% loan	0.78
Produce to buy up at an agreed price	1.80
Repaying loan as at when due	0.70
Low (5-12)	55.2% 13.1+2.2
High (13-200)	44.8%

**Grand mean = 1.31**

Source: Field survey, 2023

### Constraints faced by women rice farmers in Anchor Borrowers' Programme

The result in Table 5 shows that inadequate credit facilities and delay in input supply ( $\bar{x}=1.89$ ), ranked highest among the constraints faced by women rice farmers participating in ABP in the study area. This could pose a major challenge to the success of the ABP since inadequate credit facilities and delays in input supply can lead to decreased productivity and reduced crop yields. This can also lead to higher costs for farmers due to the need to purchase inputs at higher prices or the need to borrow funds from informal sources at higher interest rates. Furthermore, climate change ranked third with a mean  $\bar{x}$  score of 1.80. Climate change is a major challenge faced by rice farmers in Southwestern Nigeria since most farmers practice rain-fed cultivation. Climate change may lead to unpredictable weather patterns which could cause crop failure or reduced yields.

This could lead to reduced income for the farmers, which would make it more difficult for them to repay the loans collected through the Anchor Borrowers' Programme. Inadequate agricultural incentives ( $\bar{x}=1.66$ ), unfulfilled promises ( $\bar{x}=1.59$ ), security challenges ( $\bar{x}=1.56$ ) and problems of rice pests ( $\bar{x}=1.44$ ) were other notable constraints faced by women rice farmers in the study area. These constraints could lead to a decrease in the production and quality of rice and a decrease in the participation of women rice farmers in the programme. In addition, this could result in a decrease in the overall effectiveness of the programme. However, poor communication among farmers and processors ( $\bar{x}=0.72$ ), and poor extension services ( $\bar{x}=0.75$ ) were the least constraints faced by women rice farmers. In addition, with access to more comprehensive and effective extension services, women rice farmers may be more likely to adopt agricultural innovations, which could in turn lead to increased productivity and income. This negates the findings of Akinbile, Salaudeen & Akingbade (2023) who identified poor extension contact as a major constraint faced by beneficiaries of anchor borrower's programme in Ekiti state.

**Table 5: Constraints facing respondents in Anchor Borrowers' Programme**

Constraints faced by women farmers	Mean
Inadequate credit facilities	1.89
Delay in input supply	1.89
Climate change	1.80
Inadequate agricultural incentives	1.66
Unfulfilled promise	1.59
Security challenges	1.56
The problem of rice pest	1.44
Lack of entrepreneurial skills	1.23
Government policies	1.22
Inadequate labour	1.05
Inadequate information on post-harvest handling of rice	0.90
Off-takers related problem	0.76
Poor extension services	0.75
Poor communication among farmers and processors	0.72

Source: Field survey, 2023

## Conclusion and Recommendations

Women's participation in the Anchor Borrowers' Programme was low and had no observable effect on the level of rice production among women rice farmers. Women rice farmers demonstrated an unfavourable attitude towards the programme. However, inadequate credit facilities, delays in input supply, climate change, and inadequate agricultural incentives were the major constraints faced by women rice farmers in the study area. To increase the participation of women rice farmers in the Anchor Borrowers' Programme, the government should provide adequate credit facilities, ensure timely delivery of inputs, and provide incentives for women rice farmers. Efforts should be made by the government and other stakeholders to increase the participation of women in decision-making and policy formulation to ensure their needs are adequately addressed in subsequent agricultural intervention programmes. There is a need to increase transparency and accountability within the Anchor Borrowers' Programme stakeholders by providing regular updates on the progress of the programme and making the data publicly available.

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