

Effects of the Federal Government Special Rice Programme on Rice Yields and Farmers' Income in Oyo State

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Abstract: Rice has become a very important staple to most people in Nigeria and a large proportion of the commodity consumed in the country is imported; thus the federal government of Nigeria instituted a programme to promote the cultivation of this crop. This study sets out to assess the impact of the programme on the development of the crop and the profitability of the enterprise among the farmers. The study was carried out in Oyo State using stratified random sampling technique to select 120 respondents and structured interview schedule to collect data. The data were analysed with frequency counts, percentages and t- tests. The study reveals that rice production is dominated by males with only 5% of the respondents being females. Majority of the respondents had access to some of the inputs (rice seed, agrochemicals, sickles, fertilizers, herbicides and insecticides) distributed by the programme with the exception of milling machine, destoners and air driers the absence of which may have influence on the quality of their produce. Average yield of the farmers interviewed was 1.8 t/ha before their participation in the Special Rice programme and increased to 3.2 t/ha after the programme. The annual mean income of the respondents on rice production before participation in the programme was N35,366.67 and was increased to about N59, 875.00 per annum on rice production. Significant differences were noted in the productivity level of the rice farmers before and after the programme.

Keywords: Rice farmers, yields, federal, programme, income

INTRODUCTION

Rice has become a structural component of Nigerian diet with the share of rice in cereals consumption increasing from 15% in the 1970s to 26 % in the early 1990s (Akpokodje *et al*, 2001). It is also an important traditional basic food commodity for certain populations in sub-Saharan Africa and West Africa in particular. The FAO projects annual growth rate of rice consumption will be 4.5 % through the 2000s which will correspond to a 70 % increase in total

rice consumption in West Africa by the end of the decade. Even though, total rice production has increased over the last two decades, the increases fall short of the increasing demand from the rapidly growing population. Rice has contributed a significant proportion of the food requirements for Nigerian population. The average Nigerian now consumes 24.8 kg of rice per year, representing 9% of the total caloric intake (Rice web, 2001).

Rice is cultivated in almost all the agro-ecological zones in Nigeria. Despite this, the area cultivated to rice still appears small. In 2000, out of about 25 million hectares of land cultivated to various food crops, only 6.3% was cultivated to rice. In recent years rice production had been on increase but not sufficient to meet the demand of growing population and thus the need for importation of rice to make up for the short fall. For example, the value of rice imported into Nigeria was estimated at US \$300 million. Recent policies have placed emphasis on increasing local rice production in order to reverse import trends and free up limited foreign reserves for use in other sectors (WARDA, 2003).

The Special Rice Programme

The strategic position which rice has assumed among other commodities (cereals) had made the Nigerian government to intervene in the Nigerian rice economy in the last three decades. Among such interventions is the Special Rice Programme which is aimed at self-sufficiency in rice production. According to the reports from Federal Ministry of Agriculture and Rural Development the programme is aimed at self-sufficiency in rice production and a total of 7,400 farmers nationwide participated in the programme in 1999 and year 2000, while 3,700 hectares of rice was established. A total of 203 metric tonnes of improved rice seeds were procured and distributed to the participating farmers while 20,089 litres of assorted agro-chemicals, 296 units of knapsack sprayers, 111 units of fertilizer spreader, 74 units of rice reapers 3,700 units of sickles have been distributed to rice farmers.

The Japanese Government assisted Nigeria with a supply of 43 modern rice milling machineries; 165 rice destoners, 46 forced air driers, fertilisers and other inputs to facilitate the establishment of processing mills in the geo-political zones. Production of 3,700 metric tonnes of rice is expected from the quantity of the locally produced rice as a result of the technological production packages presently introduced (FMARD, 2002).

In view of the important role rice plays in the diet of Nigerians and its persistence deficit despite the successive programmes launched by the federal government to increase its production; the assessment of the present special rice programme therefore becomes imperative to ascertain whether it has really achieved its stated objectives.

Objectives of the Study

This study sets out to determine the extent to which the programme had contributed to rice production in the study area. The study further determines the factors influencing the adoption of production packages introduced in the programme. The significant difference in the level of production obtained before and after participation in the programme was also examined.

METHODOLOGY

The study was conducted in Oyo state. The state is bounded in the north by Kwara State, in the east by Osun State, in the south by Ogun State and partly in the west by both Ogun State and Republic of Benin. The State covers an area of approximately 27,249 square kilometres and made up of 33 Local Government councils. The

climate is equatorial, notably with dry and wet seasons with relatively high humidity. The dry season lasts from November to March while the wet season starts from April and ends in October. Average daily temperature ranges between 25⁰C and 35⁰C almost through-out the year round (Oyo state website, 2008). The climate is conducive for the growth of a variety of food and cash crops. Among the food crops are yam, maize, cassava, millet, plantain, banana, rice and wheat; while, cash crops include cocoa, cashew and palm produce.

Sampling procedure - The study sample was selected using a three-stage stratified sampling procedure. The three levels of stratification were zone, the local government area (LGA), the village at the rice farmer level. The study sites were purposively selected to represent rice producing areas in the State. The sites were chosen along the agricultural zones of Oyo State Agricultural Development Programme (OYSADEP). Ogbomoso and Oyo zones were purposively selected for the study. Orire and Surulere LGAs were selected from Ogbomoso zone and Atiba LGA was selected from Oyo zone. The selection of the LGAs was based on the fact that they are important rice producing areas as well as selected areas for Special Rice Project. Four villages were purposively selected from each of the three LGAs and 10 rice farmers were randomly selected from each village to arrive at a total of 120 respondents.

A structured interview schedule was used to solicit information on rice production on special rice programme from the respondents. The validated and pre-tested instrument was administered to the respondents. The questions

were drawn in English and translated into local language (Yoruba) during administration. Descriptive statistics such as the frequent counts and percentage were used to describe the personal characteristics of the respondents while t-test was also employed in the analysis.

RESULTS AND DISCUSSION

Personal characteristics of the respondents

Rice producing farmers in the study area are in their active years of farming with majority (80%) falling within the age range of 35-50 years and the mean age being 46 years. This implies that the respondents are still in their active years of farming and this likely to enhance productivity. Rice production in the study area is dominated by male farmers with only 5% female farmers engaged in rice production. This agrees with findings of Kebbeh *et al* (2003) that rice producing households are predominantly male-headed and women are mainly involved in seedling uprooting, transplanting and winnowing. Most of the respondents had one form of education or the other with only 28.3% having no formal education. This is likely to have positive influence on their ability to comprehend and use technical information relevant to rice production. Rice farming experience for majority (66.6%) of the respondents ranged between 5 – 10 years. This shorter experience in rice production might make them to be more responsive to new techniques of rice management probably due to their eagerness to try new things Family and hired labour are predominantly used by the rice farmers in the study area. The mean size of cultivated land for rice production is 2.1 ha with the majority (50%)

of the rice farmers cultivating between 1.5 and 2.5 ha of land in a season. This shows that the respondents are small scale farmers who undertake rainfed lowland rice production.

Table 1: Personal Characteristics of the Respondents (n=120)

Category	Frequency	Percentage
Age (years)		
35 – 45	43	35.8
45 – 50	53	44.2
55 – 60	18	15
> 60	6	5
Gender		
Male	114	95
Female	6	5
Education		
No formal education	34	28.3
Primary education	65	54.2
Secondary Education	21	17.5
Farming Experience		
< 5	32	26.7
5 -10	80	66.6
> 10	8	6.7
Farm Size (Ha)		
0 -1	39	32.5
1.5 – 2.5	60	50
3.5 – 4.5	13	10.8
> 4.5	8	6.7
Type of Labour		
Family	21	17.5
Hired	46	38.3
Family and Hired	53	44.2

Field survey, 2006

Access to project inputs

All the participating farmers claimed to have access to the following input distributed by the project. These include rice seeds (65 %), assorted agrochemicals (12.5 %), sickles (33.3 %), fertilizers (79.5 %), herbicides (43.3 %) and insecticides (37.5 %) (Table 2).. However the

following items namely; milling machine, rice destoners, reapers and air driers were not distributed to the participants in the study area. The implication of this is that majority of the farmers will continue to employ the services of commercial millers before milling their produce an exercise that may not be cost effective. Absence of equipment like rice destoners and air driers may also affect the quality of the rice produced by the farmers.

Table 2. Distribution of respondents according to access to project input (n 120)

Input	*Frequency	Percentage
Rice seed	78	65
Knapsack sprayer	9	7.5
Agrochemicals	15	12.5
sickles	40	33.3
Fertilizer	95	79.2
Herbicides	52	43.3
Insecticides	45	37.5

Field survey, 2006

*Multiple Responses

Use of Recommended Packages

Manual preparation of land is very common among the participating farmers. Only 20.8% of them adopted ploughing and 10 % use harrowing in land preparation (Table 3.). This may be due to non-availability of tractors to use on their farms. Direct seeding in form of broadcasting and drilling was the main establishment technique while, 37.5% adopted transplanting technique. Majority (63.3%) of the rice farmers use pre-emergence herbicides in weed control while only 26.7% make use of post emergence herbicides. All the respondents apply chemical fertilizers to their rice plots. However, there are differences in the quantity of the fertilizer applied owing to differences in their

abilities to purchase the input. This action may greatly influence their yields.

Table 3. Distribution of respondents according to use of recommended production packages for rice

Recommendations	Frequency	Percentage
Ploughing	25	20.8
Harrowing	12	10.0
Direct seeding	90	75.0
Transplanting	45	37.5
Pre-emergence herbicide for weed control	76	63.3
Post emergence use of herbicide for weed control	32	26.7
Chemical fertilizer	120	100

Field survey, 2006

Rice yield performance before and after the programme

Farmers' yields per hectare were between 1.0 – 2.0 t/ha with a mean yield of 1.8 t/ha before participating in the project. However, the mean yield increased from 1.8 t/ha to 3.2 t/ha after participation in the project (Table 4). This yield increase accounts for an increase of 77.8% in rice production on hectare basis.

Table 4. Respondents' Yields of Rice before and After the Programme

Before t/ha	Frequency	Percentage
> 1.5	51	40.5
1.5 -2.0	69	57.5
Mean 1.8 t/ha		
After (t /ha)		
2.0 -2.5	67	55.7
3.0 -3.5	53	44.3

Field survey, 2006

Annual income on rice production before and after participating in the special rice programme

Before participating in the programme, the annual mean income of the respondents on rice production was N35,366.67 while the mean

income after their participation in the programme was N59,875.00 t/ha (Table5).

Table 5. Distribution of respondents according to annual income made on rice production before and after participating in the programme (n=120)

Before (N /ha)	Frequency	Percentage
N 24,000-N 27,000	45	37.5
N 32,000- N 36,000	35	29.2
N 40,000- N 56,000	40	33.3
Mean = N59,875.00 t/ha		
After (N /ha)		
N 45,000- N 56,000	36	30
N 56,000- N 65,000	41	34.2
N 66,000- N 81,000	43	35.8
Mean = N 35,366.67 t/ha		

Field survey, 2006

Results of t-tests showed significant differences in the yields of rice and income of the rice producers before and after the programme (Table 6). This significant increase noted in the productivity level of the respondents indicated positive impact of special rice programme among them.

Table 6. Summary of the results of T-test analysis of the differences in the level of production before and after participating in the programme

Variable	Before	After	T value	Remark
Production (ton/ha)	1.80	3.20	- 11.367	Significant
Income (Naira)	35,366.67	59,875.00	- 19.581	Significant

Level of significant=0.05

CONCLUSION AND RECOMMENDATIONS

The study concludes that rice farmers' participation in the study area had a positive influence on level of production and income. However, in view of the important roles farmers in the rural area played in food production government should intensify effort at sustaining

the gains of the programme by making the necessary inputs affordable to the farmers. Farmers should also form themselves into formidable groups and co-operatives societies to be able to purchase the necessary equipment to enhance productivity.

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