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**EFFECTS OF SPECIAL RICE PROJECT ON RICE PRODUCTION IN KWARA STATE, NIGERIA****<sup>1</sup>AYANDA, I.F., <sup>1</sup>AKANGBE, J.A., <sup>1</sup>ACHEM, B.A. and <sup>2</sup>ANIMASHAUN, J.O.**<sup>1</sup> Department of Agricultural Extension and Rural Sociology, University of Ilorin, Nigeria<sup>2</sup>Department of Agricultural Economics and Farm Management, University of Ilorin, Nigeria

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**Abstract:** *The study was carried out to evaluate the impact of the Special Rice Project (SRP) on rice production in Kwara state, Nigeria. Specifically, Edu and Patigi Local Government Areas of Kwara State were purposively selected because of the predominance of rice farming activities in the two local governments in the study area. A stratified random sampling technique of 204 rice farmers was used, where 140 farmers were selected from 6 circles in Patigi LGA comprising 70 participating SRP farmers and another 70 non-participating SRP. Also in Edu LGA, another 64 rice farmers were similarly selected from three extension circle comprising 32 SRP participating farmers and 32 non-participating SRP farmers. The data analyses reveals that SRP participating farmers accessed major rice production inputs at a relatively subsidized price while; non-participating SRP farmers accessed these inputs at higher prices. The result also shows that participating farmers in SRP cultivated on the average, more farm size, recorded higher yields/hectare and had higher average income/annum than non-participating SRP farmers. The result of t-test analysis indicates a significant difference in the cost of farm inputs used by participating and non-participating farmers in SRP ( $t=4.537$ ,  $p<0.05$ ). Also Pearson Correlation result shows significant relationship between farm inputs used and socio-economic status of rice farmers ( $r=0.223$ ,  $P<0.05$ ). This study concludes that SRP significantly reduced the cost of farm operation, increased the yield and income of participating farmers. It subsequently recommends the expansion of SRP to cover all categories of rice farmers in the study area.*

**Keywords:** Rice farmers, Farm Inputs and Production

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**INTRODUCTION**

The National target for rice Production is 3.5million metric tones of milled rice per annum. This will require production of 6.3 million metric tones of paddy rice. However records of rice output (Federal Office of Statistics 2001) show a national rice production of 2.96million of paddy rice cultivated on an area of 1,595,840 hectares, this established a yield of 1.82 tons/hectare with a total milled rice of 1,480,168 metric tones. This gave a recovery rate of 51 percent. In the same year the national demand of milled rice is estimated at 3.0 million metric tones per annum. There is therefore a deficit of 1,519, 832 metric tones of milled rice. Nigeria has thus become a major importer in the world market and second only to Indonesia for a period of five years (2000-2005). Currently the value of rice importation was put at ₦1.3 trillion annually (Sayyaid, 2008). The reliance on food importation is dangerous for the nation and the United Nations Population Fund (2002) reported that farm output for grains (rice inclusive) must increase by 40% in order to reduce food importation.

Likewise, quality of farm inputs affects output and by implication, the level of income of the farmer is in danger (Tiwari *et al.*, 2005; Sharada, 2000). The rice farmers are faced with

many problems including operating small farm size (Ingawa, 2005), low application of fertilizer and other farm inputs (Nwanze, 2005) arising from high cost and availability. Thus rice yield is below the recommended achievable output of 5.4 tons/hectare provided improved seeds and other recommended production recommendations are strictly adhered to. Eco-System Development Organisation (EDO, 2003) gave a breakdown of requirements from the government by the farmers to increase rice production as percentage by state to include tractors and equipment (5.9%), credit (5.9%), subsidy on herbicide (23.5%), subsidy on pesticide (23.5%), subsidy on fertilizer (5.9%), intensified research (11.8%) establishment of destoner mills (11.8%).

This invited the Federal Government of Nigeria to introduce the Special Rice Project (SRP), which supplied improved seeds and other requisite inputs at affordable prices to increase farm output and income.

### **Problem Statement**

Rice farmers in Nigeria are generally poor primarily because the production resources are expensive and inadequately available to support rice production in commercial quantity. Consequently, the farmers operate small farm sizes (0.59 hectares/farmer and are unable to apply optimally farm inputs as recommended by research institutes. Many farmers in Nigeria apply 10 kilograms of fertilizer per hectare as against 200 kilograms (Nwaze, 2005). This results into low yield and low returns on investment. In addition most commercial banks charged two digits interest rates and emphasized provision of collateral security before the farmers could access agricultural loan. A condition many farmers could not satisfy. In Nigeria the dearth of tractors make the cost of land preparation to be expensive and beyond the reach of the farmers. In Nigeria, there are 30,000 functional tractors compared with over 4 million tractors available to farmers in India (Usman, 2008). The inability of the farmers to access tractors, credit and other requisite farm inputs at affordable prices make them to be perpetually poor as farm size and yield remain stagnated. Consequently, the nation fails to attain Set targets of rice production in 2005 (15million metric tones of paddy rice).

The Special Rice Project (SRP) was initiated and implemented by the Federal Government of Nigeria in all the 36 states of the Federation including the Federal Capital Territory (FCT) to assist the farmers to access farm inputs at affordable prices and to expose them to the technology of seed production. These are calculated attempts to reduce cost of farm operations. It is in view of these that the study revolves around the effects of the SRP on rice production in Kwara State.

The research was intended therefore to provide answers to the following questions.

- i. What are existing prices of major farm inputs for rice production in Kwara State?
- ii. To what extent has the Special Rice Project assisted farmers to access farm inputs at economic/affordable prices?
- iii. What is the effect of the SRP on rice farmers yield and average annual income

### **Objectives of the Study**

The general objective of the study is the effects of Special Rice Project on cost of farm operation for rice production in Kwara State, Nigeria. The specific objectives are to.

- i. investigate the prevailing prices of major rice production inputs in Kwara State.

- ii. determine extent to which Special Rice Project assisted farmers to access farm inputs.
- iii. examine the impact of SRP participation on farmers yield and average annual income

### Hypotheses

- i. There is no significant difference in the farm inputs used between participating and non-participating farmers in Special Rice Project.
- ii. There is no significant relationship between farm inputs used and socio-economic status of rice farmers.
- iii. There is no significant relationship between rice yield and average annual income of participating and non-participating farmers

### METHODOLOGY

This study was carried out in Kwara state, Nigeria. Specifically, Edu and Patigi Local Government Areas (LGAs) of Kwara State were chosen for this study because the two LGAs accounted for over 90 percent of the rice produced in Kwara State. The target population for the study is the 487 participants in the Special Rice Project in the two LGAs in year 2006 planting season. It is from the list of the participants and their equivalent number of non-participant in the Special Rice Project (SRP) that the respondents were selected.

The sampling procedure involved a two-stage sampling technique. The first stage involved the stratification of the respondents into SRP participants and non-participants and the second stage involved sampling of 102 SRP participating and 102 non-SRP participating rice farmers making a total of 204 respondents. Data were collected by means of interview schedule and analysed with descriptive and inferential statistics (t-test and Pearson Correlation Moment)

### RESULT AND DISCUSSION

Table 1 summarized the list of major farm inputs available to the participating farmers through the Special Rice Project along with cost. The table also reveals the quantity of inputs along with cost used by the non-participating farmers in Special Rice Project. The list of the farm inputs includes improved rice seeds (Faro 43, Faro 44, and Faro 52), fertilizer, herbicide, pesticide, sickle, storage bags, sprayers and tractors (possessed or hired).

The Table reveals that the participating farmers accessed improved seeds at ₦100.0/kilogram (kg) while the non-participating farmers accessed same at ₦130.00/kilogram. Thus the non-participating farmers accessed improved seed at a price which is 30% above that of the participating farmers.

**Table1: Sources and Quantities of Inputs Provided and Utilized by Respondents for Rice Production in the Study Area**

INPUTS	PARTICIPANTS				NON PARTICIPANTS			
	No. of farmers that used inputs	Unit price ₦	Quantity received (kgs)	Quantity required (kgs)	No. of framers that used inputs	Unit price N	Quantity received	Quantity required
Improved seeds				-				
Faro 43:					3(2.9)	N130.00	105(kgs)	
<30								
31-60	60(58.8)*			-	8(7.8)		400(kgs)	

61-90		N100.00/kg	3,000(kgs)					
Faro 44: <30 31-60 61-90 91 and above	- 50(49)* - 42(41.2)	- N100.00/kg -	- 2500(kgs) - 5200(kgs)	- -	10(9.8) 10(9.8) - -	N140.	160 500 - -	
Faro 52: <30 31-60 61-90 91and above	- 40(39.2) - -	- N100.00/kg -	- 2000(kgs) - -	- -	- 10(9.8) 5(4.9) -	- N130.00	- 120 150 -	
Local varieties 31-60 61-90 91and above	Participants do not use local				- 70(68.6) 50(49)	N40.00	3000(kgs) 3750(kgs)	
<b>Total</b>			12,700(99.6 )	12,750 (kgs)			8,285(81. 2)(kgs)	10,200k gs
Fertilizer (bags) 1-5 6-10	102(100)	1750.00/bag	764(71.9) bags	1060.8(ba gs)-	102	N2,191.6 (average)	385(52)	734bags
Herbicide (Litres) 1-5 6-10 11-15	102(100) 30(29.4) 2(1.9)	N800.00/itre	840(65) litre	At 5 Litres/ hectares	90(88.2) 12(11.8)	N1,150/lt		
<b>Total</b>			840 litres (63.3)	1326 litres			370 (40.3) litre (40.3)	918 litre
Pesticide (litres) 1-5 6-10	102(100) -	N950 -	510 (38.4) litre -	1326 litre	40 (39.2) -	N1100 (average) -	200 (21.8) litre	918 litre -
Sickle (number) 1-4 5-8	- 102	- 250.00	- 612	- -	40(39.2) 62(60.8)	N275	492	-
Harvestin g machine	-	-	-	-	-	-	-	-
Storage bags 1-50 51-100	40(39.2) 62(60.8)	N60.00	1500 5400		70(68.6) 32(31.4)	N70.00	2100 1800	
<b>Total</b>			69000(84.6 %)					3420(70 .34%)
Sprayers (litres capacity) 15 litres 20 litres	102(100) -	N9,000 -	102 -	102 -	30(29.4) -	N11,500 -	30 -	102 -
Tractors							-	-

(numbers) possessed	4(3.9)							
Hired	98(96.1)	N3.5million N6000/h.	12 tractors		- 57(56.8)	N7,500/he ctare		

**Source: field study, 2007**

**Kgs=Kilogram**

**\* figures in parenthesis are percentages**

The implication is that participating farmers in SRP is in a better position to buy and plant high yielding varieties of rice seed than the non-participating farmers. In the same manner, participating farmers accessed fertilizer at ₦1750.00/bag while the non-participating farmers accessed fertilizer at an average price of ₦2,191.60/bag. This is ₦441.60 (25.2%) higher than the participants' price. Likewise the participating farmers accessed herbicide and pesticide of ₦800./litter and ₦950.00/litter respectively. The non-participating farmers accessed herbicide at ₦1,150 that is ₦350.00 (43.75%) higher than non participants' price. While the nonpartisans in SRP purchased pesticide at ₦1.100, that is ₦150.00 (15.8%) higher than participants' in SRP.

Furthermore, the participants in SRP purchased sprayers of 15 liters capacity at ₦9000.00/unit while the non-participating farmers purchased same at ₦11,500 that is ₦2500.00 (27.8%) higher than participants' price. In the same manner, the table reveals that 3.9% of the participating farmers in SRP possessed their own tractors at ₦3.5million/tractor. None of the non-participating farmers in SRP possessed tractors. The participants in SRP hired tractors through SRP arrangement at ₦6000/hectare while non-participating farmers hired the tractor at ₦7,500.00/hectare, that is ₦1500.00 (25%) higher than participating farmers.

In effect non-participating farmers in SRP are operating their farms on higher prices. The implication is that their capacity to expand their farm, adopt new farming innovations are hindered. The result of the analyses shows that participating farmers operate larger farm size 2.6 hectares as against 1.8 hectares by non-participating farmers. Participants average yield is 3.34 tons/hectare as against 2.4 tons/hectare by non-participating farmers. Participating farmers and non-participating farmers average income from rice production is ₦334,700.00 and ₦129,100.00 per annum respectively.

**TABLE 2**

**Sample t-test Analysis for Significance of Variables Between Participants and Non-participants**

<b>Variables</b>	<b>T</b>	<b>Df</b>	<b>F(ss)</b>	<b>Remarks</b>
Constraint	-0.365	202	.000	Significant difference exists between participant.
Information sources	-6.748	202	.000	Significant difference exists between participants and non-participants.
Quality of inputs service	-1.228	202	-.222	No significant difference exist
Economic possession	3.545	202	.000	Significant difference exists.
Cultural passions	3.401	202	0.01	Significant difference exists.

Cost of operation for rice production	4.537	202	.000	Significant difference exists.
Relevance of SRP activities	3.743	202	000	Significant difference exists.
Social participation	1.853	202	.065	No significant difference exists.
Total relevance and frequency of SRP activities	3.005	202	.003	Significant difference exists ( $P \leq .05$ ).

**Source: Field Survey, (2007).**

The result of the hypotheses tested and shown in Table 2 revealed that there is a significant difference in the farm inputs used between participating farmers and non-participating farmers in SRP ( $t=4.53$ ,  $p<0.05$ ). In effect, non-participating farmers in SRP are operating their farms at a higher cost. The implication is that their capacity to expand their farm to increase output is hindered. Therefore the return on investment is low. This in turn will affect their capacity to accept innovations/technologies aimed at increasing their farm output. Furthermore, the Pearson Correlation Moment statistic result established positive, linear and significant relationship between cost of farm operation and socio-economic status of participating farmers in special Rice project ( $r = .223$ ,  $p < 0.05$ ). The implication is that any attempt to improve the cost of farm operation (price reduction) will have a corresponding increase in the socio- economic status of the farmers. The special Rice project initiative reduced cost of farm operation; hence it has positive effects on the socio-economic status of the participants in SRP.

## CONCLUSION

The special Rice project initiative led to operation of larger farm sizes, higher yield and higher income for the participating farmers in the project. This is partly caused by participating farmers' access to farm inputs at comparatively lower prices than non-participating farmers in SRP. It is therefore concluded that SRP initiative has the potential of reducing cost of farm operations.

In addition, the scope of SRP has to be expanded so that all categories of farmers benefit from the activities of the project especially those having bearing with subsidy of farm inputs and activities that will encourage farmers to produce farm inputs (for example quality seeds) and bulk purchase of farm inputs. These are condition essential for the improvement in the local rice production if the nation's rice requirement is to be met.

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