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Full Length Research Paper

The Significance of Special Rice Project on Constraints of Rice Production in Kwara State, Nigeria

[1]Akangbe J.A, I.F. [2]Ayanda and [3]Achem, B.

[1]Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ilorin, P. M. B. 1515 Ilorin, Kwara State, Nigeria

[2]Department of Agricultural Economiocs and Extension Services, College of Agriculture, Kwara State University, P. M. B. 1530, Malete, Kwara State, Nigeria

[3]National Centre for Agricultural Mechanization, P. M. B. 1525, Ilorin, Kwara State, Nigeria

Abstract

Rice farmers are confronted with myriads of production constraints. These created a gap between the local rice demand (3.5 million metric tones) and local rice supply (500,000 metric tones). The short fall of which are compulsorily met by importation. However, the Federal Government of Nigeria introduced the Special Rice Project which supplied improved seeds and other requisite inputs to increase farmers' output in order to bridge the gap of the shortfall. The study examined the significance of Special Rice Project (SRP) on constraints associated with rice production in Kwara State. Specifically the study identified the constraints facing rice farmers, determined the extent to which rice farmers were faced with the constraints on rice production and examined the significance of (SRP) on the constraints. The study was carried out in Edu and Patigi Local Government Areas (LGAs) of Kwara State. Through multistage random sampling 140 (70 SRP participating and 70 non-participating) rice farmers were selected from 6 circles in Patigi LGA and another 64 (32 SRP participating and 32 non-participating) rice farmers were similarly selected from three extension circles in Edu LGA, making a total of 204 respondents. Data collected by means of interview schedule were subjected to descriptive and inferential statistical analyses. Results showed that the mean age of SRP participating farmers and non-participating farmers was 40.6 and 44.3 years respectively. Majority 67.7% of the participating farmers were literate while only 41.2% of the non-participating farmers were literate. The average farm size for participating and non-participating farmers in SRP is 2.6 and 1.8 hectares respectively. The results further indicate that the participants and non-participants were confronted with almost similar constraints but at different magnitudes and they include incidence of disease, storage facilities, finance, access to irrigation, access to quality seeds, processing equipment, government policies especially implementation of ban placed on rice importation, market price and market availability. The non-participating SRP farmers' had severity score of constraints on finance as 93.1% while the participating farmers had it as 70%. In the same manner, the ban placed on rice importation showed 92.1% severity score for non-participating farmers as against 81% for participating farmers. Furthermore the market availability has a severity score of 91.5% and 54% for non-participating and participating farmers respectively. The severity score for land preparation is 75% for non-participating farmers while SRP participating farmers records 44.4%. The results of the t-test analysis indicate that a significance difference exists between the constraints facing participating and non-participating farmers in SRP ($t=-.365$, $p< 0.05$). Also Pearson Correlation result shows positive, linear and significant relationship between constraints and socio-economic status of rice farmers where ($r=.032$, $P< 0.05$). Based on the empirical evidence of this study, Special Rice Project had significantly reduced the constraints of rice production of the participating farmers and has increased their production capacity whereby farmers made more income and were able to improve their socio-economic status. It is therefore recommended that SRP be expanded to cut across all rice producers and that policy makers and donors alike should address the constraints' in its totality.

Keywords: *Significance, Special Rice, Constraints and Production.*

Introduction

Rice is one of the staple foods that are important in the Nigeria diet. In the sixties rice was eaten only during festive periods and did not feature prominently as a daily Nigerian dietary crop comparable with the likes of yams, cassava, sorghums, millet, maize or even beans. Rice has not only become an important political grain but Nigerians have acquired an unprecedented taste particularly for imported rice. Today it is one of the most widely and commonly consumed staple with per capital consumption of 24.8 kilograms. It has also become means of generating income by farmers. Indeed, in Nigeria rice is one of the few food items whose consumption had no cultural, religious, ethnic or geographical boundary. It is available in five-star hotel in the cities and town as well as in the most local of the eating places in the remotest villages throughout the country. Unfortunately the cultivation and production this highly priced and very important crop is dwindling.

The current national rice production level is estimated at 500,000 metric tones of grains while demand now stands at approximately 3.5 million metric tones per annum. Official estimates indicates that rice imports represent more than 25 percent of agricultural imports and over 40 percent of domestic consumption. Nigeria has thus become a major rice importer in the world market and only second to Indonesia in the last five years (Adamu, 2004). Ingawa (2008) reported that there is a legal importation of over 500,000 metric tonnes of rice and smuggling of over 1.5 million metric tonnes. The Federal Government committed over 1.3 trillion to Rice importation in 2007 alone (Sayyaid, 2008).

Nigerian rice has many advantages over imported rice because it is attractive, delicious, nutritious and prepared in many forms to suit local dishes that the imported rice do not permits. Nigerians who have eaten locally grown rice can testify to the fact that the local Nigerian rice has very good aroma and tastes better than foreign or imported rice. These beautiful characteristics are however marred by improper handling during threshing; par boiling, drying and milling that introduce foreign bodies or particles particularly sand and stone into our local rice. In order to reduce our dependency on imported rice and to encourage local rice production, the Special Rice Project (SRP) was one of the initiatives of the government to encourage local rice production. The Special Rice Project was designed to specifically to promote rice production in the areas where the crops are most suitable. The general objectives include the promotion of cultivation of improved upland and lowland varieties of rice, creation of wealth generate employment, reduce poverty. Specify objectives include exhibit the potential of improved seed utilization, exposed farmers to seed production technology assisted in land preparation, encourage use of herbicides to overcome drudgery and making farm expansion easy with subsequent attainment of high yield, use of pesticide, training for skill improvement, encourage timely planting of rice provision of credit, among others will assists to manage constraints facing rice production in Nigeria.

Rice production in Nigeria is the major good security impact point that cannot be neglected (Ingawa, 2008). The recent world food crisis was triggered off by banning of rice exports by the rice producing countries (Usman 2008).

An unprecedented food riot occurred in Haiti, Togo, Cote D'ivore, Gabon, Senega, Egypt et cetera over the increasing cost of food commodities. Rice specifically selected by the Federal Government of Nigeria for massive production. Therefore this study is timely as it will assist to confirm the extent to which SRP addressed constraints facing the farmers and make recommendations that will assist to manage constraints facing rice production in Nigeria.

Problems statement

Rice, a staple food across the country, is already out of the reach of many Nigerians as the escalating price of the commodity is expected to skyrocket further in the days ahead. The world's producers and exporters of rice have raised alarm that they are running out of stock (Usman, 2008). Accordingly global food prices based on United Nations records rose by 65 percent. Rice has doubled since the start of this year.

The local rice demand is 3.5 million metric tones while the local rice supply is about 500,000 metric tonnes with the effects that enormous resources had to be expended on importation at the detriment of locally produced rice. Nigeria has 74 million hectares of arable land but only 34 million hectares are being utilized. That is an average farm size of 0.57 hectares per farmer. In addition the country has not fully utilized its potentials in irrigation farming. The country has 2.5 million hectares of irrigation land of which 220,000 hectares are covered. There are only 30,000 tractors operating in Nigeria currently serving about 14 million farm families (Sayyadi, 2008). In 2006, the yield per hectare of rice was 2.37 tons. The recorded national average yield is 1.3 tons/hectare. These average yields are generally lower than the achievable average yield of 5.4 tons/hectare (USAID, 2005). The low yield and small farm size operated by farmers suggest that there exist constraints militating against rice production in the country. The Federal Government of Nigeria therefore initiated and implemented the Special Rice Project in all the 36 states of the country and the Federal Capital Territory (FCT). The initiative is to assist the farmers boost local rice production. However, the farmers were faced with a lot of constraints in the production process. There is need therefore, to analyze the constraints facing rice farmers in the study area.
In view of this, the research is intended to provide answers to the following questions.

i. What are the constraints facing the rice farmers in Kwara State?
ii. To what extent has the Special Rice Project assisted farmers in Kwara State to overcome the constraints?
iii. What is the significance of Special Rice Project on constraints of rice production in Kwara State?

Objectives of the study

The general objective of the study is the significance of Special Rice Project on constraints associated with rice production in Kwara State. The specific objectives are to:-

i. identify the constraints facing rice farmers in Kwara State.
ii. determine the extent to which rice farmers were faced with the constraints on rice production.
iii. examine the significance of Special Rice Project on the constraints facing participants and non-participants in Special Rice Project.

Hypotheses

i. There is no significant difference between the constraints experienced by participants and non-participants in Special Rice Project.
ii. There is no significant relationship between the constraints and socio-economic status of participants and non-participants in Special Rice Project.

Methodology

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 study area was responsible for 11 percent and 5 percent of the Nigeria's total rice produced in 1996/97 and 1997/98 planting season (FOS, 2000). Rice production is the major means of livelihood of the people in the North East axis of Kwara State, which comprised Edu and Patigi LGAs, inhabited by Nupe tribe. Massive rice production is much favoured in the North Eastern part of the state as a result of the naturally fertile land in the flood plains of River Niger and its tributaries that stretched from Jebba/Bacita through Shonga in Edu Local Government Area to Tsakpon in Patigi LGA of Kwara State (Kwara MANR, 2004).

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-participants that the respondents were selected. Through multistage random sampling 140 (70 SRP participating and 70 non-SRP participating) rice farmers were selected from six extension circles in Patigi LGA. Another 64 (32 SRP Participating and 32 SRP non-participating) rice farmers were similarly selected from three extension circles in Edu LGA making a total of 204 respondents. Data which were collected by means of interview schedule were analysed with descriptive, Pearson correlation and t-test statistics.

Result and Discussion

The socio-economic characteristics are vital for gaining insight into the kind of persons involved in rice production. The study reveals that the means age of farmers involved in Special Rice Project (SRP) is 40.6 years and 44.3 years for non-participating farmers. The analysis shows that participating respondents in SRP are a lot younger than non-predicating respondents in the study area. It is concluded that this age difference between the two groups is responsible for the quick response of the participating farmers to accept the Special Rice Project initiative. Youth, generally are more venturesome.

The result also indicates that on the whole participating farmers are more literate with 67.7% of them possessed formal education while only 41.2% of non-participating farmers possessed the same. On the average participating and non-participating farmers in SRP spent 20.3 and 22.05 years in rice production respectively. The average farm size for participating and non-participating farmers in SRP is 2.6 and 1.8 hectares respectively. Majority (89%) of the rice farmers own rice farms through inheritance. Rice yield is 3.34 and 2.4 tons/hectare for participants and non-participants in SRP respectively.

Table 1 depicts the constraint elements relevant to the participating farmers in Special Rice Project along with the magnitude (percentage severity score) of the problems. The result therefore reveals that incidence of disease (84.3%) government policy especially the ban placed on importation (81%) storage facilities (74.5%) finance (70.9%), access to irrigation facilities (67.97%), all fall in the category of highly severed percentage Likewise, timeliness of seed supply (63.72%) market price (63.07%), seed quality (62.09%), processing equipment (61.1%), herbicide (62.09%), fertilizer supply (60.01%), pesticide supply (56.86%), have severe percentage score while land preparation (44.44%) and incidence of pest (40.6%) come under less severe percentage score.

Tale 2 equally exhibits the constraints that are relevant to the non-participating farmers in SRP. The table reveals that the non-participating farmers had finance (93.1%), ban place on rice importation (92.1%), market availability (91.5%), Incidence of disease (88.7%), market price (88.2%), seed quality (82.3%), processing equipment (82.3%), storage facilities (79%), incidence of pest (77.45%), land preparation (75.8%) and fertilizer supply (70.9%) as highly severed percentage scores of constraints while the severe constraints are pesticide supply (56.5%) and herbicide supply (56.5%).

Table 1: Rice Production Constraints: Participants Assessment

Constraints	Highly Severe (3) Freq. (%)	Severe (2) Freq. (%)	Less severe (1) Freq. (%)	Total severity score	Maximum Severity Score	% Severity Score	Level of severity
Seed:							
- Timeliness of seed supply	38(32.2)	17(16.7)	47(46.1)	195	306	63.72	Severe

-Seed Quality (germination)	31(30.4)	36(35.3)	35(34.3)	190	306	62.09	Severe
Fertilizer (adulteration)	15(14.7)	52(50.1)	35(34.3)	184	306	60.01	Severe
Herbicide	20(19.4)	48(47)	34(33.3)	190	306	62.09	Severe
Pesticide	21(20.6)	30(29.4)	51(50)	174	306	56.86	Severe
Market price	33(32.3)	25(24.5)	44(43.1)	193	306	63.07	Highly severe
Market availability	40(39.2)	25(24.5)	37(36.3)	168	306	54.9	Severe
Land preparation	27(26.5)	13(12.7)	62(60.8)	136	306	44.44	Less severe
Access to irrigation facilities	9(8.)	16(15.7)	77(75.5)	208	306	67.97	Highly severe
Processing equipment	43(42.1)	20(19.6)	39(38.2)	187	306	61.1	Severe
Storage facilities	25(24.5)	35(34.3)	42(41.2)	228	306	74.5	Highly severe
Pest	45(44.1)	30(29.4)	27(26.5)	152	306	40.6	Less severe
Disease	20(19.6)	10(9.8)	72(70.6)	258	306	84.3	Highly severe
Government Police (Ban Imposed On Rice importation)	70(68.6)	12	20	254	306	81	Highly severe
Finance credit	40(39.2)	35(34.3)	27(26.5)	217	306	70.9	Highly severe
Total severity score	477	404	649				
Maximum severity score	1530	1530	1530				
Percentage(%) severity score	31.2	26.4	42.2				

Source: Field Survey, (2007).
Key
35-49% Less severe
50-65%-Severe
66% and above-Highly severe

However from the analysis of the results in Tables 1 and 2, it is inferred that the involvement of participating farmers in Special Rice Project (SRP) assisted them to overcome to some extent the effects of these constraints compared with non-participating farmers in the SRP initiative.

For instance the percentage severity score (PSC) recorded by non-participating farmers for finance is 93.1% as against 70% for participating farmers. Likewise the percentage severity score for ban placed on rice importation for non-participating farmers in SRP is 92.1% as against 81% for the participants in SRP. In addition the severity score for market availability for non-participants is 91.5% as against 54.9% for the participating farmers. The result of the analysis also reveals that severity score for management of pest is higher for non-participating farmers (77.45%) than participating farmers (40.6%). The severity score of for market price for non-participating and participating Farmer is 88.2% and 63.07% respectively. The severity score of quality seed for non-participating farmer (82.3%) is higher than that of participating farmers (62.09) in SRP. The result also reveals that land preparation is a highly severed constraint for non-participating farmers with 75.8% severity score as against 44.44% for the participants in SRP. While the seventy score of fertilizer for non-participating and participating farmers is 70.9% and 60.1% respectively. Furthermore the severity score for processing equipment 82.3% for non-participating and 61.1% for participating were also revealed by the analysis of results. The results also indicate that the severity score of storage facilities for non-participating farmers is 79% as against 74.5% for non-participating farmers. It is therefore inferred that the involvement of participating farmers in SRP assisted them to overcome, to some extent, the effects of these constraints. It is therefore concluded that the magnitude of constraints facing the non-participating farmers are held responsible for the generally lower performance of this group when compared with the participating farmers'. The finding is supported by Ingawa (2005), Nwanze (2005) and USAID (2005) who severally reported that planting of quality seeds, optimum application of fertilizer (200 Kilograms/hectare) can increase rice yield up to 5.4 tons/hectare.

Table 2: Rice Production Constraints: Non-Participants Assessment

Constraints	Participants score						
	Highly Severe (3)	Severe (2)	Less severe (1)	Total severity score	Maximum Severity Score	% Severity Score	Level of severity
Seed:							
- Timeliness of seed supply	1(0.9)	3(2.9	98(96.1)	107	306	34.9	Less Severe
-Seed Quality (germination)	60(58.8)	30(29.4)	12(11.7)	252	306	82.3	Highly severe
Fertilizer (adulteration)	41(40.2)	34(33.3)	26(25.5)	217	306	70.9	Highly severe
Herbicide	23(22.5)	25(24.5)	54(52.9)	173	306	56.5	Severe

Pesticide	22(21.6)	27(26.5)	53(51.9)	173	306	56.5	Severe
Market price	80(78.4)	12(11.7)	10(9.8)	270	306	88.2	Highly severe
Market availability	82(80.4)	14(13.7)	6(5.9)	280	306	91.5	Highly severe
Land preparation	45(44.1)	40(39.2)	17(16.7)	232	306	75.8	Highly severe
Access to irrigation facilities	24(23.5)	50(49)	29(28.4)	201	306	65.7	Highly severe
Processing equipment	60(58.8)	30(29.4)	12(11.7)	252	306	82.3	Highly
Storage facilities	60(58.8)	20(19.6)	22(21.6)	242	306	79.0	Highly severe
Pest	50(50)	35(34.3)	17(16.7)	237	306	77.45	Highly severe
Disease	40(39.2)	25(24.5)	37(36.3)	247	306	88.7	Highly severe
Government Police (Ban Imposed On Rice importation)	80(78.4)	20(19.6)	2(1.9)	282	306	92.1	Highly severe
Finance credit	84(82.4)	15(14.7)	3(2.9)		285	93.1	Highly severe
Total severity score	752	380	398				
Maximum severity score	1530	1530	1530				
Percentage(%) severity score	46.2	24.8	26.0				

Source: Field Survey, (2007).
KEY
35-49% Less severe
50-64%-Severe
65% and above-Highly severe

The result of the hypotheses tested and shown on Table 3 revealed that there is a significant difference between the constraints facing the participants and non-participants in Special Rice Project ($t=-.365$, $p<0.05$). The implication is that the myriads of highly severed constraints facing the non-participants in SRP worked against them and these are held responsible for reduced farm size and low farm output. Pearson Correlation statistic result established positive, linear significant relationship between constraints and Socio-Economic Status of farmers (where $r=.032$, $p<0.05$). Thus the Special Rice Project initiative has positive effects on the socio-economic status of the rice farmers.

Conclusion

The Special Rice Project initiative led to operation of larger farm sizes, higher yield, higher income and improved socio-economic status for the participating farmers in the project. Most of the identified constraints in rice production; quality seeds, credit, market price, market availability, storage facilities, irrigation facilities were found to the highly severed for the rice producers. However the level of severity are generally lower for participants than non-participants in SRP. It is therefore conclude that the SRP initiative has the potential of reducing and eliminating the constraints in rice production. Though there is a need to improve the scope of the facilities available to the participants so as to ameliorate the level of severity of the constraints. In addition, the scope of the SRP has to be expanded to cover all categories of farmers if the nation's rice requirement is to be met.

Table 3: Sample T-Test Analysis For Significance Of Variables Between Participants And Non-Participants

Variables	**T**	**Df**	**F(ss)**	**Remarks**
Constraint	-365	202	000	Significant difference exists between participants and non-participant
Information sources	-6.748	202	000	Significant difference exists between
Quality of inputs service	-1228	202	-222	No significant difference exist
Economic possession	3.545	202	000	Significant difference exists.
Cultural possession	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	Significant difference exists.
Total relevance and frequency of SRP activities	3.005	202	003	Significant difference exists ($P\leq.05$)

Source Filed Survey, (2007)
**Correlation significant at p<0.05 level (2 tailed)*

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