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COMPARATIVE ANALYSIS OF PROFITABILITY OF NERICA RICE AND LOCAL RICE VARIETIES PRODUCTION IN CHUKUN LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA

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ABSTRACT

This study examines the costs and returns and the problems confronting rice production. One hundred and eighty (180) farmers were randomly selected from one thousand two hundred rice producers from two districts, namely Kujama and Kakau of Chukun LGA of Kaduna State. Data collection was done using structured questionnaires. Descriptive statistic and budgeting technique were used to analyse the data. The costs and returns analysis show that labour and fertilizers inputs accounted for greater parts of the total variable costs incurred in both NERICA rice and local rice varieties and were represented by 73.99 and 52.75 percent respectively. The farm gate price of paddy rice (₦ 80/kg) for NERICA and ₦ 50/kg for local rice were used in estimating the revenue and comparing with the total variable costs to obtain the gross margin which measured the economic performance of the two rice varieties. The gross margin analysis shows that from one hectare of land cultivated, the total cost of production for NERICA rice and local rice were ₦116,638.10 and ₦85,803.45 and gross revenue of ₦351,280.00 and ₦157,500.00/ha respectively. Thus making a gross of margin of ₦234,641.90, and ₦71,699.00/ha respectively. The gross margin analysis shows that with adequate management, NERICA rice production is a more profitable venture. The major problems identified in rice production were inadequate improved seed varieties, bad road network,pests and diseases, lack of capital and storage facilities. This paper recommends that intensification of NERICA rice production will generate more returns to farmers than local rice. Therefore, farmers should be encouraged to invest their resources in the improved (NERICA rice) production for increase rice productivity which in turn will increase the farmers' income and improve their standard of living..

Keywords: Profitability, NERICA ,Local, rice, varieties, production, analysis

INTRODUCTION

Rice is a staple food for about 2.6billion people in the world (Spore, 2005).The global output shows that the Asian continent account for about 92 percent, while American and Caribbean account for 5 percent and 3 percent for Africa (Spore, 2005). Nigeria is one of the major rice producing countries in West Africa ranking side by side with Sierra Leone and Ivory Cost (Adeniyi, 1987). The production of rice rose from 2.5million tonnes in 1990 to about 4million tonnes in 2008, representing about 37 percent rise in domestic production (FOSTAT, 2010). However, despite the numerous government policies and programmes on rice and rise in domestic production, the demand/consumption exceeds the local production resulting in rice importation. In the pasted three decades, rice has become one of the Nigeria's most important foods. Domestic consumption has grown so rapidly that rice import bills rose from N0.14 million in 1970 to N12.72 million by mid 1979 (Mijindadi and Njoku

1985). Singh et al (1997) and FAO (2007) reported that Nigeria is the largest producer of rice in West Africa producing over 46% of the regions total production.
According to the report of FAO (2007) in the last 30 years, production has increased 6 folds with Nigeria producing 3.6 million tons of paddy rice in 2000 and 2005 respectively. Nigeria is equally the largest importer of rice and its importation figure stood at 1 million tons costing over $300 million by 1998, which is one third of sub-region total (Fashola, 2007).

During the last five years, Nigeria has become one of the largest importers of rice, second to Indonesia. Its importer bill of rice has increased from 1million United State dollar in 1970s to as high as 800million United State Dollar in 2005 (FAO, 2007). The short fall in supply of rice in Nigeria has been attributed to continuous rise in per capita consumption brought about by increased population and rapid urbanization (Akande *op cit*, 2001, Fabusoro and Agbonlahor, 2002). This paper identified the various varieties of Nerica and local rice cultivated, determine the costs and returns and problems confronting rice production in the study area..

METHODOLOGY

The study was conducted in Chikun Local Government Area of Kaduna State. Chikun Local Government Area is located between latitude 10^{o} 30 North and Longitude 7^{o} 30 East of the prime meridian. Chikun Local Government Area shares a common boundary in the North with Igabi and Kaduna North, Local Government in the North West with Birnin Gwari and South West with Niger State, Kajuru and Kachia Local Government Area respectively. The field survey covered two districts, namely Kujama and Kakau of Chukun Local Government Area (L.G.A) of Kaduna State. Chukun LGA was selected purposively on the basis of being a prominent rice producing Area in the State. Random sampling method was used in selecting the farmers, from a population of 1200 rice producers a total of 180 producers were selected. Data analysis was done using descriptive statistics and budgeting technique. For this study the Gross Margin analysis was used as the tool for budgeting technique. Gross margin analysis was used to compare the profitability of both NERICA and local rice varieties. This was used to measure the profitability of farming enterprises.

The Gross Margin is expressed as follows:

GM = GR - TVC

Where,

GM = Gross Margin (₦/ha)
GR = Gross revenue (₦/ha)
TVC = Total Variable Cost (₦/ha)

RESULTS AND DISCUSSION

Costs and Returns analysis of NERICA Rice and Local Rice Varieties

The variable cost components considered in the analysis include seeds, fertilizers, fungicides, bags (sacks), land preparation/ridging, planting, weeding, fertilizer application, harvesting and threshing. In Table1 the differences in the total variable cost of production between NERICA rice and local rice varieties was as a result of the differences in the costs of bags (sacks), transportation and labour cost, and seeds. The costs and returns analysis in the Table show that labour and fertilizers inputs accounted for greater parts of the total variable costs incurred in both NERICA rice and local rice and were represented by 73.99 and 52.75 percent respectively. Fertilizers were 26.75 and 36.36 percent for NERICA rice and local rice respectively. The farm gate price of paddy rice (₦ 80/kg) for NERICA and ₦ 50/kg for local rice were used in estimating the revenue and comparing with the total variable costs to obtain the gross margin which measured the economic performance of the two rice varieties. The

gross margin analysis shows that from one hectare of land cultivated, the total cost of production for NERICA rice and local rice were ₦116,638.10 and ₦85,803.45 and gross revenue of ₦351,280.00 and ₦157,500.00/ha respectively. Thus making a gross of margin of ₦234,641.90, and ₦71,699.00/ha respectively. The gross margin analysis shows that with adequate management, NERICA rice production is a more profitable venture.

In terms of the returns per Naira invested, in NERICA rice production for every one naira invested a net gain of N2.01kobo is earned, while for local rice a net gain of 80kobo was obtained. Thus intensification of NERICA rice production will generate more returns to farmers than local rice. Therefore, farmers should be encouraged to invest their resources in the improved (NERICA rice) production for increase rice productivity which in turn will increase the farmers' income and improve their standard of living.

Table1: Costs and Returns Analysis of NERICA Rice and Local Rice

Costs/Returns Items	**Nerica Rice**	%	**Local Rice**	%
(1) COSTS/Ha				
Seed	10,000.00	8.57	5,00.00	5.83
Fertilizer	31,200.00	26.75	31,200.00	36.36
Fungicide	1,250.00	1.01	1,250.00	1.46
Bag (Sacks)	3,940.00	3.38	1,690.00	1.97
Land Preparation	25,412.50	21.79	5,066.67	5.90
Planting	12,781.82	10.96	6,216.67	7.25
Fertilizer Application	12,413.04	10.64	10,150.00	11.83
Weeding	20,413.33	17.50	14,100.00	16.43
Harvesting	9,295.45	7.97	5,180.00	6.04
Threshing	7,145.00	6.13	4,550.00	5.30
Transportation	3200.00	2.74	1,400.00	1.6
Total Variable Cost (TVC)(₦)	**₦116,638.10**		**₦85,803.34**	
(2) RETURNS				
Average yield (kg/ha)	4391		3,150	
Average Price (kg/ha)	80.00		50.00	
Gross Revenue (**₦** /ha)	**351,280.00**		**157,500.00**	
Gross Margin (GR - TVC)(**₦**) /ha	**234,641.90**		**71,696.60**	
Return/Naira Invested	2.01		0.84	

Problems Encountered in Rice Production

The result in Table 2 shows that 99.4 percent of the respondents considered non availability of improved seed varieties as their major problem that militates against their ability to meeting their rice production, while 71.7 percent of respondents responded that bad road was their main problem, 66.7 percent of the respondents reported that pest and diseases were their main problems, 45.0and 36.7 percent of the respondents indicates lack of capital and storage facilities as their problems militating against rice production in the study area.

Table 2: Distribution of Respondents according to the Problems Encountered in Rice Production

Problems	Frequency	Percentage
Lack of capital	81	45.00
Lack of improved seeds	179	99.44

Storage facilities	66	36.7
Pest/diseases	120	66.7
Bad road	129	71.7

CONCLUSION AND RECOMMENDATIONS

The gross margin analysis shows that with adequate management, NERICA rice production is a more profitable venture than local. In terms of the returns per Naira invested, in NERICA rice production for every one naira invested a net gain of N2.01kobo is earned, while for local rice a net gain of 80kobo was obtained. Thus intensification of NERICA rice production will generate more returns to farmers than local rice. Therefore, farmers should be encouraged to invest their resources in the improved (NERICA rice) production for increase rice productivity which in turn will increase the farmers' income and improve their standard of living.

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