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Challenges of Rice Production in Nigeria: A Case Study of Kogi State

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Abstract
This study identifies the challenges faced by rice farmers in kogi state, Nigeria. A sample of 120 farmers selected using the multi-stage stratified random sampling techniques were used to generate primary data with structured and validated questionnaire. Primary data were used for this study. These were collected with the aid of structured Questionnaire administered to rice farmers in the state A simple random sampling was employed to select rice Farmers from the study area. A total of 120 rice farmers were selected for the study. Results showed that factors that affected the output of rice farmers were Land, labour, capital, inadequate fertilizers, pest and diseases, lack of storage and processing facilities among others. Low capital for investment and poor access to credit were the major factors that affect rice production in Kogi State.
Keywords: Rice production, challenges

Introduction

In Nigeria, Agriculture is the mainstay of the economy and employs 75% of the work force. Rice forms a significant portion of food consumed in most households in Nigeria. In some countries, the per capita consumption of rice is estimated at more than 100kg / year. Demand for rice production is increasing and greater production is needed to feed more people and reduce the costly imports. Rice is important cereal for human consumption, as it provides 23% of global human per capita energy and 16% of per capita protein (Juliano, 1985). Rice protein contains high lysine and contains amino acid, it is important in making beer, rice-wine, and vinegar. Rice oil extracted from the bran is rich in vitamin E (Ezekiel, et al, 2009).

Despite the importance of petroleum as a major contributor to gross domestic product (GDP), the role of agriculture remains most significant in Nigerian economic since independence. Agriculture provides employment for most rural dwellers and it accounts for more than one third of total gross domestic product (GDP) and labour force for the majority of rural Nigerians, Akinyemi (2009). Agriculture also provides about 90% of the nation‟s total food requirements and merits priority attention from policy makers not only because of its economic significance but also because of its importance in the war against hunger and poverty, and its significant role in rural development, Ega (2010).

Agriculture also provides about 90% of the nation's total food requirements and merits priority attention from policy makers not only because of its economic significance but also because of its importance in the war against hunger and poverty, and its significant role in rural development, Ega (2010). Rice is an important staple crop in Nigeria. Its cultivation, processing and marketing offer employment opportunities for farm and non-farming households. Since the early 1960s, the West Africa Rice Development Association (WARDA) has made several efforts focused on achieving self-sufficiency in rice production in West Africa, and thus, eliminating dependence on rice imports from outside the region. Nonetheless, a wide gap continues to exist between domestic rice supply and demand in the region, and more particularly, in Nigeria. As a consequence, imported rice has continued to be sourced yearly to supplement domestic production. The Nigerian rice sub-sector has witnessed some remarkable improvement in output given rise to position of prominence in the past years (Akande, 2001).

Since the mid 1970s, the rice consumption in Nigeria has risen tremendously at about 10 % per annum due to changing in consumer preferences. However, production has never been able to meet demand, leading to considerable imports which today stood at about 1 million metric tonnes yearly. The imports are procured in the world market with Nigeria spending annually over 300 million United States dollar on rice import only (Akande, 2001).

Statement of the Problem

Out of 6.1 million tons of rice needed to feed Nigerians, Kebbi State farmers alone produced over one million tons. The amount spent on rice importation in Nigeria has risen to 365 billion annually (CBN, 2013). In an attempt to address the nation rice demand-supply gap, the Nigeria government has interfered in the rice sub-sector over the past few decades through the adoption of new cultivars. However, the public policy has neither been consistent nor appropriate and domestic production has continued to lag behind demand (Akande, 2001).

The inability of Nigeria rice sub-sector to meet the domestic demand could be attributed to low productivity, inefficiency in the use of resources, little or no access to improved seeds, disincentives from macro-economic environment and production in the hand of small scale out growers who use traditional technologies (Federal

Ministry of Agriculture, 1995). Nigeria has experienced falling yield of rice from 2069.54kg/ha in 1990 to 1754.40kg in 2008 (FAO, 2010). The problem therefore identified centres on the low accessibility of farmers to improved seeds and productivity and efficiency levels at which farmers use resources on these rice farms. It also borders on how the various factors that explain seed production and efficiency in these rice systems can be examined so as to improve rice production in the country. Based on these the following research questions are put forward

i. What are the socioeconomic characteristics of rice farmers in Kogi State?
ii What are the constraints faced by rice farmers in Kogi State?
iii What are the solutions to the problem of rice production in Kogi State?

Objectives of the Study

The broad objective of this study was to carry out an economic evaluation on rice production in Kebbi State, Nigeria. The specific objectives were to:

i. Describe the socioeconomic characteristics of rice farmers in Kogi State;
i. Identify the constraints faced by rice farmers in the study area; and
ii. Determine solutions to the problems faced by rice farmers in the study area.

Conceptual Clarification/ Literature Review

Economic Importance of Rice in Nigeria

Rice cultivation, processing and marketing offer employment opportunities for farm and non-farming households. Since the early 1960s, the West Africa Rice Development Association (WARDA) has made several efforts focused on achieving self-sufficiency in rice production in West Africa, and thus, eliminating dependence on rice imports from outside the region. Nonetheless, a wide gap continues to exist between domestic rice supplies and demand in the region, and more particularly, in Nigeria. As a consequence, imported rice has continued to be sourced yearly to supplement domestic production.

Rice is an increasingly important crop in Nigeria and has been found to thrive under four main ecologies suitable for different rice varieties. These are: rain-fed upland, shallow swamps and inland valley swamps (rain-fed lowland), irrigated lowland and mangrove or tidal swamp ecology (Imolehin and Wada, 2005).

Concept of Efficiency in Agriculture

Production Efficiency

Production efficiency is defined as the ability of making use of implement or mechanical skills to bring about measure of a farm success in producing maximum output for a given set of inputs. It is evident that small scale farmers have consistently remained the major producers of rice in Nigeria, producing over 80 percent of the total rice output (Ohajianya and Onyenweaku, 2002).

Technical efficiency

This is a major component of productivity being used in measuring farm performance. It is used to measure the ability of a farm to obtain maximum output from a given set of inputs. A technically efficient farm operates on the production frontier while a technically inefficient farm operates below the frontier and could be made efficient by increasing its output with the same input level or using fewer inputs to produce the same level of output. As such, the closer a farm gets to the frontier the more technically efficient it becomes (Ogunyinka and Ajibefun, 2003).

Allocative efficiency

This reflects the ability of a farm to use inputs in optimal proportions given their respective prices and the production technology (Chirwa, 2003). Under competitive conditions, a farm is said to be allocatively efficient if it equates the marginal returns of factor inputs to the market price of output (Fan, 1999). Allocative efficiency deals with the extent to which outgrowers make efficient decisions by using inputs up to the level at which their marginal contribution to production value is equal to the factor cost (Akinwumi and Djato, 1996).

Economic efficiency

Economic efficiency is derived from product of the technical and allocative efficiency. Economic efficiency is concerned with the realization of maximum output in monetary term with the minimum available resources. It occurs when a farm chooses resources and enterprises in such a way to attain economic optimum (Ellis, 1988; Akinwumi and Djato, 1997).

Study Area

This study was carried out in Kogi State, Nigeria. Kogi State was created on August 27, 1991 with Lokoja as its capital. It has a total land area of 29833 square kilometers and is located between latitudes 60 42'N and longitudes 70 30'E. The State shares borders with Niger, Nassarawa and FCT Abuja to the North, with Benue to the East and Enugu, Edo, Ondo, Ekiti and Kwara States to the South and West. 70% of these populations live in the rural areas and are engaged in agricultural production. In Kogi State, rice production is encouraged in the

flood plains of the rivers, with the river Niger drainage system acting as a major rice-growing environment and about 38000ha of rice cultivable area and yield of 79890 metric tons in 2004 for wet season rice production (ADP, 2005)

Sampling Technique

A simple random sampling was employed to select rice Farmers from the study area. A total of 120 rice farmers were selected for the study. The sample frame of the respondents was obtained from Constraints of rice production in the study area.

Data Collection

Primary data were used for this study. These were collected with the aid of structured
Questionnaire administered to rice farmers in the state.

Socio-economic Characteristics of Rice Farmers in Kebbi State

The study shows that 90% of the rice farmers were males while only 10% of the rice farmers were females. The larger proportion of respondents was male, indicating that rice production was dominated by males in the study area. Majority (75%) of rice farmers fell in the age bracket of 31-50 years, which could be classified as the active and productive age. Also 50% of rice farmers had household sizes of 8-15 persons, which implies that most of the labour force would be supplied by the household members. Educationally, 60% of the rice farmers spent at least 10 years in formal education, which implies that the rate of adoption of innovation is expected to be high in the study area. Also, 45% of the rice farmers have been in rice production for at least 12 years, which implies that many of the farmers have acquired enough experience in rice production to enable them, earn higher profit and allocate resources more efficiently in rice production. On extension contact, 60% of the rice farmers had atlesast 1 visits per annum, which implies that extension visits to the rice farmers were poor in the study area. It was found that 80% of the rice farmers were married, which indicates how responsible the farmers were to their various households.

Constraints faced by Rice farmers in the Study Area

(60%) of the respondents identified low level of income, 20% identified inadequate storage facilities, 30% identified government regulations, 10% of the respondents identified lack of irrigation facilities as one of the major problem and 5% identified inadequate marketing channels. High cost of fertilizer was perceived to be the most serious constraint by about 40% of the farmers. Marketing is another constraints identified by 30% of the respondents. About 20% of the rice farmer indicates short of labour as constraints in the study area. About 10% of the rice farmers indicated that pest and disease were the most serious constraint reducing the quality and quantity of rice output in the study area. The reason behind higher percentage of low level income could be due to the fact that most of the respondents that engaged in rice farming are living below poverty line,

Solution to the problems of Rice Farming in Kogi State

The Study further revealed that 60% of the respondents identified the provision of enough fund for rice farmers by government and non-governmental organizations, 20% of the respondents identified provision of adequate processing and storage facilities by government, 20% identified provision of land and removal of strict regulations on the use of land for agricultural purposes in the cities by government, 10% of the respondents identified provision of agricultural inputs and 10% of them. The result implies that provision of enough funds, land, removal of strict regulations on land use, marketing channels, processing and storage facilities will make the urban farmers to produce enough food for household consumption and more for market sales.

This statement corroborated with Bosschaert (2007) who reports that urban agriculture expands the economic bases of the city through production, processing, packaging, and marketing of consumable products, which enhances reduction in food cost and production of better quality foods and fibres.

Conclusion

Based on the findings of this study, it could be concluded that rice production in Nigeria can be improved on by providing adequate storage and processing facilities to rice farmers in the study area and also provision of pesticides and fertilizers to farmers will also improve rice production in Nigeria as the major challenges of rice production in Nigeria identified include Pest and Disease, inadequate storage facilities and inadequate funding.

Recommendations

Based on the findings of this study, the following recommendations were made:
The government should ensure that agricultural loan facilities are accessible to Rice farmers in Kogi State
Extension service should be intensified by the government
Farmers to adopt modern irrigation methods
Farmers in the study area need to form and also join viable cooperative societies to enable them access improved seed varieties fertilizers and herbicide.
Efforts should be made by the State and Federal Government as well as donor institutions to make farming less labour intensive through introduction of mechanization to avert inefficiencies resulting from use of labour in the

state.

References

Adeyemo, R. J., Oke, T. O. and Akinola, A. A. 2010. "Economic Efficiency of Small Scale Farmers in Ogun State, Nigeria." Tropicultura 28(2).

Africa Rice Center (WARDA), FAO and SAA (2008). NERICA: The new rice for Africa a compendium. Somado, E.A, Guei, R.G and Keya, S.O (Eds) Cotonou, Benin: Africa Rice center (West Africa rice development Association, WARDA); Rome, Italy: FAO; Tokyo, Japan: Sasakawa Africa Association. Pp.210

Ajani, O. I. Y. (2000) Resource productivity in food farming in northern area of Oyo State, Nigeria. Unpublished PhD thesis, Department of Agricultural. Economics, University of Ibadan.Pp.167

Ajayi A. R. (2002). Changes in behaviour and social status as perceived by participating farmers in Agricultural Development Projects in Ondo and Enugu States, Nigeria. Agro-Science Journal of Tropical Agriculture, food, Environment and Extension. 3(1): 47-54.

Ajibefun, I. A. and Abdulkadri , A. O. (2004) Impact of farm size operation on resource use efficiency in small scale farming: Evidence from south western Nigeria. Journal of Food, Agriculture and Environment, 2(1): 359-364.

Akande, T. (2001). An Overview of the Nigerian Rice Economy, Research paper published by the Nigerian Institute of Social and Economic Research (NISER), Ibadan, 11pp.

Akinwumi, A and Djato, K.K. (1996). Farm Size, Relative Efficiency and Agrarian Policy in Cote d'Ivoire: Profit Function Analysis of Rice Farms. Agricultural Economics, 14:93-102

Akinwunmi, A. and Djato, K.K. (1997). Relative Efficiency of Women as Farm Managers: Profit Function Analysis in Cote d"Ivoire. Agricultural Economics, 16:47-53

Akinyemi, S. D. (2009). Economics of Irrigation Farming in Nigeria: "The journey so far": A paper delivered at the national workshop on farmer participation in development and management organized by institute for Agricultural Research, Ahmadu Bello University, Zaria.

Bosschaert T (2007). "Large scale Urban Agriculture Essay". http:www.except.nl/consult/Largescale urbanagriculture/largescaleurbanagriculture

Central Bank of Nigeria, Statistical Bulletin, 10 (2006)

Ega, L. A (2010) "Land holding patterns and related problems of Agriculture and related problems of agricultural development in Zaria villages. Samaru Journal of Agricultural Research, 14 (1&2)

Ezekiel, A.A; Adedapo, K.D and F. Olapade (2009). Technical efficiency of rice farmers in Ilesa agricultural zone in Osun State, Nigeria. Food production in a developing economy. Vol.1, Pp. 220-204

Imolehin, E.D. and Wada, A.C. (2005). Meeting the rice production and consumption demand of Nigeria with improved technologies. International rice commission newsletter vol 49 FAO, Rome.

Juliano, O. (1985). Rice chemistry and technology; published by the American Association for Cereal Chemist, Inc. St. Paul Minnesota

Onyenweaku, C.E (1997). Impact of Technological change on output, income, employment and factor shares in rice production in south eastern Nigeria. Journal of Rural development, 2(1), Pp. 39-49

UNEP (2005). Integrated Assessment of the Impact of Trade Liberalization: A Country Study on the Nigerian Rice Sector. 107pp. United Nations environment programme. Retrieved February 16th, 2009 from www.unep.org.USAID Project report on the Nigerian rice economy in a competitive world: Constraints, opportunities and strategic choices. West Africa Rice Development Association (WARDA), Bouake, Cote d'Ivoire.