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Economic Viability of Processing and Marketing of Rice in Uzouwani Local Government Area of Enugu State, Nigeria

Emeka Nzeh (Ph.D) Ugwu, J.N.
Department of Agricultural Economics & Extension,Enugu State University of Science and Technology (ESUT), Enugu

Abstract
The study determined the economic viability of processing and marketing of rice in Uzouwani Local Government Area of Enugu State, Nigeria. Multistage random sampling technique was used to select sixty (60) respondents for the study. Data were collected through structured questionnaire and interview schedule and they were analyzed using descriptive statistics and gross margin analysis. The result shows that the major form of processed rice that is marketed in the area is regular milled white rice. The gross margin obtained was ₦235, 600.00 showing that the processing and marketing of rice is profitable. From the study, the profitability ratio shows that it is viable with every ₦1.00 invested in rice processing and marketing giving a return of ₦2. This is the case in the study area not withstanding some critical predicaments like lack of adequate financial assistance, motorable roads, and lack of required assistance from extension agents among others.
Keywords: economic viability, gross margin, rice, marketing, and processing.

INTRODUCTION

Rice is an important food item and it forms the main part of the diet of over one third of the world's population. It is one of the most valued cereal crops of West African and has become increasingly used as a constituent of animal feed. Rice is rich protein and carbohydrate, the outside layer of the rice grain which is removed during polishing is known as rice bran. Bran is rich in protein and vitamins and is widely used in the formulation of poultry feed (Akinyosoye, 1991).

One of the most important issues in agricultural development economics is supply response of crops (Mushtaq and Dawson, 2002). It is reported that the world's stock of stored rice grain have been falling relative to each years use because consumption surpasses production (Roy et al 2010). Nigeria is the largest producer of rice producing an average of 3.2million tons of milled rice for the past 7 years (Daramola, 2005). Over the years the country has resorted to import to bridge the deficit. For instance, in 1999, the value of rice import was US$259 million and this increased to US$655million in 2001 and US$756million in 2002. In 2002 alone the country imported 1,882 million tones of rice (FAO, 2002). Rising bills of rice importation over the years have been depleting the country foreign reserves. Hence successive governments have introduced strategic trade policies to arrest the trend. Despite the import duty and unstable quantities, rice imports still remain positive (Liverpool, et al 2009). To minimize this trend, several efforts were made by the government to improve rice production in Nigeria. These include; the presidential initiative on rice (2004-2007) and the Agricultural Transformation Agenda (ATA) (2011). Efforts were also made to sustain production by developing effective marketing strategies through commercialization. Rice processing is a combination of several operations to covert paddy into well milled silky white rice which has superior cooking quality attributes. The resultant effect is various value added rice products such as rice bread.

Rice marketing covers the performance of all business activity in the flow of paddy and milled rice from the point of production to the consumer in the right place and form (Sambo, et al 2005). Despite the availability of such enabling environment as rice milling machine, most of the rice dealers seem not to make adequate profit from their marketing their output. It is therefore necessary to evaluate the economic viability of processing and marketing rice in the area. This can be addressed through the following objectives;

i. identify the socio-economic characteristics of the respondents;
ii. examine the methods of processing rice in the study area;
iii. determine the gross margin of processing and marketing of rice and;
iv. identify the challenges faced by the respondents.

MATERIALS AND METHOD

Uzouwani Local Government Area (LGA) is one of the LGAs in Enugu State of Nigeria that is well known for her agricultural production especially rice. The LGA is boundaries with Benue (North), Udi and Ezeagu (East), Kogi (South) and Anambra (West). It covers a land area of about 855 km with an estimated population 124,480 (NPC, 2006), It is situated between $6^{0}45^{1}$N and $7^{0}12^{1}$E coordinates. Multistage sampling technique was used to select the communities and the respondents. The processors and marketers of rice were identified with the assistance of extension personnel of Enugu State Agricultural Development Programme (ADP). The list of farmers obtained from ADP served as the sampling frame. Purposive sampling technique followed by

proportionate and random sampling were employed in the LGA to select the sample size which is made up of 60 processors and marketing of rice. Data were collected from primary and secondary sources. Primary data were obtained through the use of structured questionnaire and interview schedule. Secondary data were collected from relevant texts and journals. Data collected were analysis using descriptive statistics for objectives 1, 2, and 3. Objective 4 was analyzed using profitability model which is given as;

NF1 = TR - (TVC + TFC)

Where NFI = Net Farm Income

TR = Total Revenue

TFC = Total Fixed Cost

TVC = Total Variable Cost

RESULTS AND DISCUSSION

Socio- economic factors of the respondents

Table 1 showed that majority of the farmers were males (92%), probably because the tasks involved were energy demanding and requires huge finance. The issues of energy required by male farmers confirmed with the findings of Nzeh and Eboh, (2007) that any agricultural activities even rice farming required much energy which can easily be provided by male folks than the female folks especially in the rural areas.

The table also showed that the bulk of the respondent's are married (87%) and have a household size of above 5. This has strong implication in augmenting farm labour. It is also observed that most of the respondents fall amongst the middle aged group (41-60 years), have acquired the basic primary education (42%) and can earn not more than ₦167,999.00 (40%). The age ranges coupled with educational level seem to indicate that the respondents may not be easily amenable to innovations. This would result in low output and hence the low income status indicated.

Table 1. Distribution of respondents according to socioeconomic factors. N=60

Factor	Frequency	Percentage
Age		
≤ 40	15	25
41-60	37	62
61-80	6	10
≥ 80	2	3
Level of Education (yrs)		
No formal Education	19	32
Primary education	25	42
Secondary education	11	18
Tertiary education	5	8
Household size		
≤1	18	13
2-5	15	25
6-9	30	50
≥ 10	7	12
Income level		
≤119,999	23	38
120,000-167,999	13	22
≥ 168,000	24	40
Gender		
Male	55	92
Female	5	8
Marital status		
Married	52	87
Single	8	13

Field Survey, 2013

Methods of processing rice and types of processed rice available for marketing.

Table 2.1 indicates that the major method of processing rice is by polishing (50%) because of higher market demand for the well polished grain. Some respondents prefer parboiling (42%) because a greater percentage of the nutrient is retained. However, the dominant rice marketed in the area is the regular milled white rice or polished rice as shown in Table 2.2.

Table 2.1: Frequency distribution of methods of processing rice

Methods	Frequency	Percentage
Pounding	5	8
Parboiling	20	42
Polishing	30	50

Field Survey, 2013

Table 2.2: Frequency distribution of types of processed rice available in the market

Type	Frequency	Percentage
Parboiled	53	5
Brewers	2	3
Regular milled white rice	45	75
Rice meal and flour	10	16

Field Survey, 2013

Profitability of processing and marketing rice.

Table 3 comprises the estimated total cost of ₦113, 010.00; a Total revenue of 339,040 with a net revenue of ₦226, 030.00 and a Gross margin of 235,690. The profitability ratio of 2.00 suggests that every 1 invested in rice processing and marketing is a viable venture.

Table 3: Gross margin of rice processing and marketing (per annum)

ITEM	Amount (₦)
Total revenue	339,040
Variable cost	
Seedling	30,500
Fertilizer	10,250
Labour	25,100
Herbicide	10,000
Pesticide	14,000
Transportation	13,500
Total variable cost	103,350
Fixed cost	
Bushel	3,600
Mat	1,920
Shovel	840
Rake	720
Basine	1,500
Basket	1,080
Total fixed cost	9,660
Total cost (TFC + TVC)	113,010
Gross margin (TR – TVC)	235,690
Net farm income (TR – TC)	226,030
Net return on investment (NFI / TC)	2.00

Field Survey, 2013

Challenges of processing and marketing rice

Table 4 showed that the major challenges facing the respondents are inadequate storage (100%) and processing (100%) facilities.

Table 4. Frequency distribution of respondents according to the challenges involved in processing and marketing rice

Challenges	Frequency	Percentage
Transportation	30	50
Credit facilities	50	83
Inadequate storage facilities	60	100
Inadequate processing facilities	60	100

Field Survey, 2013

CONCLUSION

Rice is a major staple crop in Uzouwani Local Government Area, even in Enugu State and Nigeria at large. Although different policies have been formulated to enhance its production, the marketing of processed forms seem not to have been given adequate recognition especially in the areas across Enugu State with particular reference to Uzouwani Local Government Area which is one of the local government area in Enugu State.

In spite of the major challenges of adequate storage and processing facilities the profitability analysis shows that the marketing of processed rice is a viable venture. This is because every ₦1 invested will yield ₦2. Therefore, there is need for more research into adequate storage and processing methods of rice that is within the financial ability of the rural marketers especially in the study area.

References

Akinyosoye, V.O. (1991). *Tropical Agriculture.* Macmillan Publishers Limited, Ibadan, pp: 65-68. AOAC, 1995. Official Methods of Analysis. 13th Edn. Washington, D.C.

Daramola, B. (2005). Government polices and Competitiveness of Nigeria rice economy. Paper presented at the workshop on rice policy and food security in sub-saharan Africa organized by African Rice Centre (WARDA) Cotonou, Republic of Benin, November 7-9, 2005.

Falusl, O.A. (2009). Rice Genetic Research, Development and Prospect In Nigeria. *Journal of Science, Education and Technology*. Vol. 2 No.l 389-392

Fashola O.O; O.I Oladele, M.O Alabi, D. Tologbonse and T. Wakatsuki (2007). Socioeconomics factors influencing the adoption of sawah rice production technology in Nigeria. *Journal of Food Agric. Environment*. 5 (1): 239 – 242.

Hamad M.Y and A.A.U. Jongur (2010). Economic Analysis of small scale Rice mill operators in Adamawa State, Nigeria. Proceedings of the 11th Annual National conference of the National Association of Agricultural Economics (AAE) held at Federal University of Technology, Mina 30th November- 3rd December pp147-151.

Liverpool L.S.O, Apolo G.B and Oyelete R.O (2009). Enhancing competitiveness of agricultural commodity chains in Nigeria: identifying opportunities with cassava, rice and maize using a policy Analysis matrix (PAM) framework Nigeria strategy support programme (NSSP) Background paper N0. NSSP013. December 2009.

Mishear, K and P.J. Dawson, (2002). Acreage Response in Pakistan: A Co-integration Approach. *Agric. Econs*. 27. 111-121.

NAMIS (2004). Nigeria Agricultural marketing News Bulletin N0. 4: www.afmin.net Accessed 03/07/2013.

Nzeh, C.E.P. and E.C. Eboh, (2007). Analysis of Income Effects of forest Products Activities among rural households in Enugu state Nigeria, Journal of Agriculture and Social Research (JASR), Vol. 7, No. 1, 2007, ISSN 1595-7470. Pages 23-33. www.ajol.info/journals/jasr

Roy, A., Kucukural, A., and Zha. I-TASSER: a unified platform for automated protein structure and function prediction. Nat. Protoc. 5,725-738. Sali, A., and Blundell, T.L. (1993). Comparative protein modeling by satisfaction of spatial restraints. J. Mol. Biol. 234, 779-815.

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