

MARKETING EFFICIENCY ANALYSIS OF PADDY RICE MARKETERS IN TARKA LOCAL GOVERNMENT AREA OF BENUE STATE, NIGERIA

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ABSTRACT

The study assessed the marketing efficiency of paddy rice marketers in Tarka Local Government Area of Benue State. Simple random sampling technique was used to select 115 paddy rice marketers as respondents for the study. A structured questionnaire was used for the data collection. The result shows that the marketing margin varied between 1.24% to 14.0% with a mean of 7.22% and the marketing efficiency ranged from 30.0% to 350.0% with a mean of 162.68%. Marketing of paddy rice in the study area is constrained by price instability, inadequate capital, high transportation costs, seasonal of paddy rice supply, distance to market, and poor storage facilities. Measures should be put in place by the government to provide access to affordable and low-interest credits for paddy rice marketers, while ensuring provision of rural infrastructure and amenities such as motorable roads, portable water supply and electricity to enhance transportation and processing.

Keywords: Marketing Efficiency, Paddy rice, Marketing margin

INTRODUCTION

Rice is an important crop for economic growth and food security in Nigeria and remains one of the most widely consumed cereal crops in the country (Okello *et al.*, 2019). Its cultivation cuts across virtually all ecological zones due to its economic and nutritional importance. Fluctuations in its availability and price are strongly felt by many households, making rice not only a staple food but also a strategic commodity for national food security and rural livelihoods (Diagi *et al.*, 2021). Consequently, improving the performance of rice production and marketing systems has become a major policy concern in Nigeria.

Agricultural marketing refers to the performance of all business activities involved in moving agricultural products and related services from the point of production to the final consumers (Nebo and Ejionueme, 2017). It plays a significant role in promoting agricultural production and consumption while contributing to overall economic development (Alabi *et al.*, 2020). An effective marketing system ensures that agricultural commodities are transferred from producers to consumers in the right form, quantity, place, and time, thereby creating value for all participants along the supply chain.

Marketing efficiency is an important aspect of agribusiness performance and is generally categorized into operational efficiency and price efficiency (Kohls and Uhl, 2002; Fafchamps *et al.*, 2005). Operational efficiency focuses on the ability of marketing institutions to maximize output relative to input costs and is commonly assessed using indicators such as marketing margins, farmers' share, and profit-to-cost ratios. Price efficiency, on the other hand, emphasizes the effective allocation of resources and coordination of production and marketing activities to meet consumer demand.

An efficient marketing system is therefore expected to create added value, generate profits for market participants, improve consumer satisfaction, and ensure that farmers receive a fair share of the final consumer price (Kohls and Uhl, 2002; Fafchamps *et al.*, 2005; Panda and Sreekumar, 2012). Furthermore, it contributes to economic development by encouraging specialization and increasing output production (Tura *et al.*, 2010).

Despite the importance of efficient marketing system, several constraints continue to limit its effectiveness in developing countries. These challenges include limited access to market information, unreliable high-value markets, high transaction costs, long distances to markets, inadequate storage facilities, weak agricultural extension services, and insufficient financial support (Antwi and Seahlodi, 2011). In addition, poor road infrastructure, price instability and uncertainty, inadequate electricity supply, and weak communication systems further hinder effective agricultural marketing (Senyolo *et al.*, 2009). These constraints are particularly important in agricultural communities where market participants depend heavily on efficient exchange systems to maximize returns from their enterprises.

Most of the existing studies in Benue State, have examined rice marketing with emphasis on market structure, profitability, and marketing constraints. For example, Abah *et. al.* (2015) worked on the analysis of the structure and conduct of paddy rice marketing in Benue State, Nigeria; Ogah *et al.* (2019) analyzed the factors influencing the price of paddy rice in Benue State. While these studies have provided useful insights about rice markets in the State, relatively less attention has been given to the efficiency with which marketers utilize their resources and convert marketing costs into returns. Furthermore, the few studies related to marketing efficiency of rice in State have focused on other geographical areas, providing limited evidence on the specific conditions facing paddy rice marketers in Tarka Local Government Area. For example, in Abah *et al.*, (2015) titled Analysis of the performance of paddy rice marketing in Benue State, Nigeria, the price efficiency of the marketers in Kwande, Guma and Agatu Local Government Areas were determined. Given the strategic importance of Tarka LGA as an agricultural area in Benue State and the growing role of rice in household consumption and rural income generation, there is a need for location-specific evidence on the efficiency of paddy rice marketing operations.

Understanding marketing margins alone may not be sufficient for assessing market performance because a high or low margin does not necessarily indicate whether marketers are utilizing resources efficiently. Therefore, examining both market margins and marketing efficiency is essential for determining the extent to which marketing services add value relative to the costs incurred. In addition, identifying the constraints faced by marketers is necessary for explaining variations in marketing performance and for designing interventions that can improve market outcomes. Improving rice marketing performance requires effective planning and decision-making based on adequate empirical knowledge of market structure and the behaviour of participants within the marketing system (Ejoha, 2019).

Specific Objectives:

- i. determines the market margin of paddy rice marketers in the study area;
- ii. evaluates the marketing efficiency of paddy rice marketers in the study area; and
- iii. identifies the constraints faced by paddy rice marketers in the study area.

METHODOLOGY

The study area is Tarka Local Government Area of Benue State, Nigeria. Primary data was used for this study. The data collected reflected information for the harvest season of year 2021. The sample for this study was made of paddy rice marketers, who were retailers. Four (4) major markets which deals in paddy rice marketing were purposively selected from the study area. These markets include Wannune, Tyootyu, Asukunya and Tarhembe markets. Using a sampling proportion of 10%, applied to the sampling frame for each of the selected markets (373 marketers in Wannune, 225 marketers in Asukunya and 211 marketers in Tarhembe), a total number of 115 marketers were randomly selected from the markets. Marketing margin analysis, Marketing efficiency analysis and frequency distribution table were used to analyze the objectives.

Marketing Margin

$$\text{Marketing margin} = \frac{\text{Selling price} - \text{buying price}}{\text{Selling price}} \times \frac{100}{1}$$

Note: Both buying and selling price refers to the price per 100kg bag of paddy rice.

Marketing Efficiency

$$\text{Marketing efficiency} = \frac{\text{Value added by marketing}}{\text{Total cost of marketing}} \times \frac{100}{1}$$

Where,

Value added by marketing (per 100kg bag of paddy rice) = selling price – buying price

Total cost of marketing (per 100kg bag of paddy rice) = Transport cost + Storage cost + Tax + Loading cost + offloading cost

RESULTS AND DISCUSSION

Socio-economic Characteristics of Paddy Rice Marketers

The socioeconomic characteristics of paddy rice marketers in the study area (Table 1) revealed that the enterprise was predominantly dominated by male, with 63.48% of the respondents being male, a finding consistent with Abah *et al.* (2015), who stated that male dominated the paddy rice marketing enterprise in Benue State. This suggests that men might not be discouraged in venturing in paddy rice marketing as they are naturally able to withstand any stress involved in the marketing process.

Also, the majority of the marketers (49.57%) were between 31 and 40 years of age, with a mean age of 35.45 years, indicating that most participants were within their active and productive years, which is advantageous for the physically demanding nature of rice marketing. Most respondents (56.52%) were married, suggesting that they had family responsibilities that may enhance their commitment to economic activities. These findings agree with the result of Olorunsanya *et al.* (2019), who stated that most rice marketers in Niger State were young and married.

Furthermore, in terms of educational attainment, 56.52% had tertiary education, while the average years of schooling was 12.92 years, implying that the marketers were relatively well educated. The majority of respondents (67.83%) had household sizes of 10 persons or less, with a mean household size of 9 persons, indicating the availability of family labour for marketing activities. Moreso, 66.96% of the marketers had marketing experience of 10 years or less, with an average of 9.35 years of experience, suggesting that most respondents possessed considerable knowledge and skills in the business. These findings are in line with Toluwase *et al.*, (2019) who stated that rice marketers in in Ekiti State were relatively literate and experienced.

Marketing Margin of Paddy Rice Marketers

Table 2 shows that the distribution marketing margin of paddy rice marketing in the study area. The result reveals that the majority of marketers (57.39%) earned margins ranging from 5.1% to 9.0%, while 20.00% recorded margins between 1.0% and 5.0%. Another 20.00% earned margins within the range of 9.1% to 13.0%, whereas only 2.61% of the marketers realized margins above 13.0%. The mean marketing margin of 7.22% indicates that, on average, marketers earned a margin of about 7.22% on their marketing activities, while producers received about 92.78% of the retail price. This suggests a relatively small price spread between producers and consumers and implies that a substantial proportion of the retail price accrued to producers. The result also reflects a competitive marketing system with limited intermediary mark-ups, as marketers are not charging excessively high prices above their purchase costs. This result agrees with that of Olorunsanya *et al.* (2019) who determined the market margin of local assemblers of paddy rice in Niger State as 8.7%.

Table 1: Distribution of the Socio-economic Characteristics of Paddy Rice Marketers

Variables	Frequency	Percentage	Mean
Sex			
Male	73	63.48	
Female	42	36.52	
Total	115	100.0	
Age			
≤ 30	35	30.43	
31-40	57	49.57	35.45
41-50	18	15.65	
≥ 51	5	4.35	
Total	115	100.0	
Marital status			
Single	1	0.87	
Married	65	56.52	
Divorced	33	28.70	
Widowed	16	13.91	
Total	115	100.0	
Household size			
≤ 10	78	67.83	
11-20	34	29.57	9.0
≥ 21	3	2.61	
Total	115	100.0	
Educational level			
No education	2	1.75	
Primary	12	10.43	12.92
Secondary	36	31.30	
Tertiary	65	56.52	
Total	115	100.0	
Marketing experience			
≤ 10	77	66.96	
11-20	27	23.48	9.35
≥ 21	11	9.67	
Total	115	100.0	

Source: Field survey, 2021

Table 2: Distribution of Marketing Margin of Paddy Rice Marketers

Marketing Margin (%)	Frequency	Percentage
1.0 – 5.0	23	20.0
5.1 – 9.0	66	57.39
9.1 – 13.0	23	20.0
≥ 13.1	3	2.61
Minimum		1.24
Maximum		14.0
Mean		7.22

Source: Field Survey, 2021

Marketing Efficiency of Paddy Rice Marketers

The distribution of marketing efficiency among paddy rice marketers (Table 3) indicates that most marketers operated at moderate to high levels of efficiency. Specifically, 36.52% of the marketers recorded marketing efficiency values between 101% and 171%, while 26.96% fell within the range of 172% to 242%. Together, these categories account for 63.48% of the respondents, suggesting that a majority of marketers were able to generate substantial returns relative to their marketing costs. Only 19.13% of the marketers had efficiency values between 30% and 100%, indicating relatively lower efficiency levels, while a small proportion (3.48%) recorded very high efficiency values above 313%.

The mean marketing efficiency of 162.68% further confirms that paddy rice marketing was generally efficient in the study area. This implies that for every ₦1 spent on marketing activities, marketers generated approximately ₦1.63 worth of marketed output. The relatively high efficiency levels observed may be attributed to effective utilization of marketing resources, favorable market conditions, and the ability of marketers to recover marketing costs while earning reasonable returns. However, the existence of marketers with lower efficiency scores suggests that some participants may still face challenges such as high transportation costs, inadequate storage facilities, limited access to credit, and other transaction costs that reduce marketing performance. This result is higher compared to the market efficiencies of rice marketers in Ado (93%), Ikole (90%) and Ijero (82%) Local Government Areas of Ekiti State reported by Toluwase *et. al.*, (2019). But Olurunsanya *et. al.*, (2019) reported a higher marketing efficiency of 500.9% for local assemblers of paddy rice in Niger State as they spend little on marketing cost compared to other participants in the channel.

Table 3: Distribution of Marketing Efficiency of Paddy Rice Marketers

Marketing Efficiency (%)	Frequency	Percentage
30.0 – 100.0	22	19.13
100.1 – 171.0	42	36.52
171.1 – 242.0	31	26.96
242.1 – 313.0	16	13.91
≥ 313.1	4	3.48
Minimum		30.0
Maximum		350.0
Mean		162.68

Source: Field Survey, 2021

Constraints faced by Paddy Rice Marketers

Table 4 reveals several constraints militating against paddy rice marketing in the study area. The constraints include price instability (99.1%), inadequate capital (98.3%), high cost of transportation (93.9%), seasonality of paddy rice supplies (93.0%), distance to market (92.2%), storage problem (91.3%) affected paddy rice marketing in the study area. These constraints have also been shown by several studies (Agada, 2014; Biam and Tsue, 2013; Nwalem *et al.*, 2016) as common in agricultural marketing.

Table 4: Constraints faced by Paddy Rice Marketers in the Study area

Constraints	Frequency*	Percentage	Rank
Price instability	114	99.1	1 st
Inadequate capital	113	98.3	2 nd
High cost of transportation	108	93.9	3 rd
Seasonality of paddy rice supply	107	93.0	4 th
Distance to market	106	92.2	5 th
Storage problem	105	91.3	6 th

*multiple responses

Source: Field Survey, 2021

CONCLUSION

Paddy rice marketing in the study area is efficient with low marketing margin, which shows a competitive market and the marketers earning relatively favourable return. Some of the major constraints affecting paddy rice marketing in the area include price instability, inadequate capital, high transportation costs, seasonality of paddy rice supply, distance to the market, and storage problems. Government should ensure that measures are put in place to control the prices of commodities in the market. Also, access to affordable and low interest credits should be made available to marketers to solve the problem of inadequate capital. Furthermore, motorable roads should be provided for seamless movement.

REFERENCES

- Abah A., Abu, G. A. and Ater, P. I. (2015). Analysis of the Structure and Conduct of Paddy Rice Marketing in Benue State, Nigeria. *American Journal of Marketing Research*, 1(2):70-78
- Abah A., Abu, G. A. and Ater, P. I. (2015). Analysis of the Performance of Paddy Rice Marketing in Benue State, Nigeria. *Journal of Agricultural Science and Engineering*, 1(3):143-152.
- Agada, M. O. (2014). Constraints to Increased Soybeans Production and Productivity in Benue State, Nigeria. *Asian Journal of Agricultural Extension and sociology*. 4(4): 277-284.
- Alabi, O. O., Oladele, A. O., & Maharazu, I. (2022). Economies of scale and technical efficiency of smallholder pepper (*Capsicum* species) production in Abuja, Nigeria. *Journal of Agricultural Sciences, Belgrade*, 67(1): 63–82.

- Antwi, M., & Seahlodi, P. (2011). Marketing constraints facing emerging small-scale pig farmers in Gauteng province, South Africa. *Journal of Human Ecology*, 36(1), 37-42.
- Biam, C. K. and Tsue, P. T. (2013). Profitability of Soybeans Production by Small Holder Farmers in Nigeria: A Guide for Sustainable Food Security. *European Journal of Business Management*. 5(30): 89-96.
- Diagi, B. E., Edokpa, D. O. and Suzan, A. (2021). Rice and Climate: It's Significance towards Achieving Food Security in Nigeria: A Review. *Journal of Geographical Research*, 4(1): 18-27
- Ejoha, O. A. (2019). *Economics of paddy rice marketing in Nasarawa State, Nigeria* (Unpublished MSc Thesis). Department of Agricultural Economics, University of Abuja, Nigeria.
- Fafchamps, M., Gabre-Madhin, E. and Minten, B. (2005). Increasing returns and market efficiency in agricultural trade. *Journal of Development Economics*, 78:406–442.
- Kohls, R.L. and Uhl, J.N. (2002). *Marketing of Agricultural Products*, (9th Ed.). Macmillan Publishing Company, New York.
- Nebo, G. N. and Ejionueme, N. (2017). Adopting Agricultural Marketing Approach for Improving Agricultural Sector Performance in Nigeria. *IOSR Journal of Business and Management*, 19(4):4-17.
- Nwalem, M. P., Ukpe, U. H., Djomo, R. F. and Dzever, D. (2016). Factors Influencing Market Participation Among Sesame Producers in Benue State Nigeria. *International Journal of Research Studies in Agricultural Science*. 2(5): 1-5.
- Ogah, O. M., Tyo, I. and Abiyong, P. A. (2019). Analysing of Factors Influencing the Price of Paddy Rice in Benue State, Nigeria. *Asian Journal of Agricultural Extension, Economics & Sociology*, 33(4):1-6
- Okello, D. M., Bonabana-Wabbi, J. and Mugonola, B. (2019). Farm level allocative efficiency of rice production in Gulu and amuru districts, Northern Uganda. *Agricultural and Food Economics*, 7(1): 19.
- Olorunsanya, E. O, Auna, Y. M., Olorunsanya, A. O., Kolawole, A. and Lawal, A. F. (2019). Food security status of rice markets' households in Niger state, Nigeria: a gender-based analysis. *Invited paper presented at the 6th African Conference of Agricultural Economists*, September 23-26, Abuja, 21pp.
- Panda, R.K. and Sreekumar, R. (2012). Marketing channel choice and marketing efficiency assessment in agribusiness. *Journal of International Food & Agribusiness Marketing*, 24: 213–230. <https://doi.org/10.1080/08974438.2012.691812>
- Senyolo, G. M., Chaminuka, P., Makhura, M. N., & Belete, A. (2009). Patterns of access and utilization of output markets by emerging farmers in South Africa: Factor analysis approach. *African Journal of Agricultural Research*, 4(3), 208-214.
- Toluwase, S. O. W., Osundare, F. O. and Adekunmi, A. O. (2019). Economic Analysis of Rice Marketing in some selected Local Government Areas of Ekiti State, Nigeria. *European Journal of Food Science and Technology*, 7(4): 9-23.
- Tura, V. B., Jonathan, A. and Lawal, H. (2010). Structural Analysis of Paddy Rice Markets in Southern Part of Taraba State, Nigeria. *Journal of Agriculture and Social Sciences*, 6(4):110 -112.