



**PROFITABILITY ANALYSIS OF PADDY RICE MARKETING IN
KANO STATE, NIGERIA**

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ABSTRACT

The Study analyzed the profitability of paddy rice marketing in Kano state. A purposively sampling technique was used in selecting 120 paddy rice marketers. Data were collected through the administration of structured questionnaire and analyzed using descriptive statistics and gross margin. The results revealed that paddy rice marketing was a male dominated business (97%) in the study area with majority of the marketers being literate and within the ages of 20-50 years. The results also showed that (28.33%) of the respondents were wholesalers while (49.17%) and (22.25%) were retailers and wholesaler-retailers. The results revealed that gross margins were N642,477.93, N57,355.09 and N485,050.35 for wholesalers, retailers and wholesaler-retailers respectively. Their individual marketing efficiency ratios were 1.06, 1.08 and 1.18 respectively. Insufficient funds for paddy rice marketing was ranked first as the major constraints by both the retailers and wholesalers, while seasonal supply was the first major constraints for the wholesalers. Paddy rice marketing in the study area was a profitable enterprise. It was recommended among others, that the paddy marketers should access formal loans through their cooperative associations to mitigate the problems of insufficient funds they were faced with.

Keywords: Paddy, Rice, Profitability, Marketing

INTRODUCTION

Agriculture occupies a strategic position in the Nigerian economy; providing primary means of employment generation, food sustenance and raw materials to agro-allied industries, and foreign exchange earnings for the country amongst others (Ejoha, 2020). Rice (*Oryza sativa L*) is considered as the third most important staple food in Nigeria in ranking order, maize first followed by wheat and accounting for roughly 60% of total energy consumption (FAO, 2015). The United States Agency for International Development, classified the crop as the most important food depended upon by over 50% of the world population for about 80% of their food needs (USAID, 2004; Dayyabu *et al.*, 2021). Rice is known to have been grown along the Niger for over 3000years (Imolehin and Wada, 2000; Yuan *et al.*, 2024). Rice provides ample opportunity for an increase in income, poverty eradication, alleviation and improvement of livelihood among rice producers if value chain and market participation are increased why because local and regional consumption of rice products is anticipated to expand with a rate of increase in population. Rice can be cultivated in all the different ecological zones of the country (Nwele, 2016). The FAO forecast that Nigeria will have 3 percent year-on-year increase. Nigerian rice is grown majorly in about 11 States, with small-holder farmers accounting for 80% of the country's annual harvest. These States are; Ebonyi, Kaduna, Niger, Kano, Kaduna, Kebbi, Cross-River, Enugu, Taraba, Borno, Benue (PWC, 2017). Nigeria has all it takes and the potential with suitable agro-ecologies (upland, rain-fed lowland, irrigated lowland, deep water and mangrove swamp) to attain the level self-sufficiency in rice production in the Country (Oikeh *et al.*, 2008; Ugalahi *et al.*, 2016).

Rice marketing encompasses all the activities in moving rice from the point of production to where it is needed by final consumers (Bassey *et al.*, 2013). Rice marketing encompasses all the activities involved in moving rice from the point of production to where it is needed by the final consumer (Bassey *et al.*, 2013), in the desired form and at the appropriate time (Abah *et al.*, 2015). Amidst these laudable government policies and different sets of agricultural programmes, the demand-supply gap for rice and rice products in Nigeria is on the increase, and it widens progressively (Anthony *et al.*, 2021). This emerging trend termed 'rice revolution' can only be beneficial and sustainable in an



atmosphere of efficient marketing system as pointed out by Nwele (2016). Ejoha (2020) and Idachaba (1987) argued that Nigeria's central problem in agriculture is not production but marketing and distribution. It is within the marketing system that prices, allocation of resources, income distribution and capital formation are determined. Rice is one of the most important cereal crops in Kano state. It has witnessed increased output, yet because of increased consumption demand due to increased population; the gap between domestic supply and demand is still wide in favor of demand (Habib, 2017). The rice marketing system in Nigeria is characterized by a myriad of problems which include; inadequate knowledge of postharvest handling, processing and marketing, harvesting skills, poor means of transportation, and lack of industrial drive. Others are poor government policy and high production cost, poor market information and inadequate credit facilities (Dauna *et al.*, 2018). Farm-level income, profitability and income growth are intimately tied to marketing system (Abdullahi *et al.*, 2018). This study was carried out therefore to analyze the profitability of paddy rice marketing in selected markets in Kano state of Nigeria.

The main objective was to analyze the profitability of paddy rice marketing in Kano state. The specific objectives were to:

- i. describe the socio-economic characteristics of rice marketers in the Study area;
- ii. determine the profitability of paddy rice marketing; and;
- iii. identify the constraints to rice marketing in the study area.

METHODOLOGY

The Study Area

Kano state is one of 36 states that constitute the Federal Republic of Nigeria. It is situated in the North-western part of the country between latitude 10.33 and 12.37N and longitudes 9.34 and 8.42E. It has a land area of about 20,400sqkm with 44 local government areas. Katsina state lies to the North-west, Jigawa state to the East, Kaduna is to the South-west of the state. The projected population of Kano state is 19,783,201 based on the 2006 census at a projected annual growth rate of 2% (Census, 2006). The annual rainfall varies from 600mm-1200mm in the Guinea savanna to 300-600mm in the Sudan savannah which starts from May and ends around September. The length of the growing season ranges from 90 to 180 days in the Sudan savannah zone and 180 to 200 days in the Guinea savannah zone. This allows crops like sorghum, maize, groundnut, cowpea, millet, cassava, sweet potato to flourish well under rain fed agriculture (KNSG, 1997).

Sampling Techniques

The sample for this study was drawn from rice marketers within Kano state. Four (4) markets within three (3) local government areas of Kano were purposively selected. The three local governments were purposively selected based on the predominance of rice production and marketing in the areas. They were: Bunkure market under Bunkure L.G.A, Dawanau Market under Ungogo L.G.A, Kura and Karfi markets both in Kura L.G.A of Kano state. From each of the selected markets, thirty (30) rice marketers were randomly selected. A total number of 120 respondents were enlisted for this study.

Method of Data Collection

The study employed the use of structured questionnaires in collecting data for the study. The data collected concentrated on socio-economic characteristics information, cost and returns as well as factors that inhibit rice marketing in the area.

Analytical Technique

Descriptive statistics such as mean, frequency distribution, percentages, etc was used to examine the socio-economic characteristics of the rice marketers as well as the major marketing problems associated with rice. Descriptive statistics are concerned with scientific methods for summarizing, presenting and analyzing data as well as drawing valid conclusion and making reasonable decision on the basis of such analysis (Adamu and Tinuke, 1997)

To determine the profitability of paddy rice marketing in Kano State, the gross margin model was employed. The gross margin (GM) is the difference between the total revenue (TR) and the total variable cost (TVC). The total revenue is the product of paddy rice quantity per 100kg-bag (Q) and the price of paddy rice per 100kg-bag (P).



Mathematically, in line with Ben-Chendo *et al.*, (2017) and Nwele (2016), the gross margin analysis is stated thus;

$$GM = TR - TVC \text{ ----- Eqn. 1}$$

Where,

G.M = Gross Margin (Naira),

TR = Total Revenue (price per 100 Kg bag of rice X number of bags sold) (Naira),

TVC = Total Variable Cost (Naira).

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

The socioeconomic characteristics of the rice marketers include their age, sex, marital status, household size, marketing experience and level of education. The results in Table 1 showed that the wholesalers had an average age of 33years, with a standard deviation of 5 years, a minimum age of 20years and a maximum of 45years. The retailers on the average were 32 years with a standard deviation of 6 years, a minimum age of 25years and an age ceiling of 51years. The respondents who partake in both wholesale and retail were 38 years old on the average with and age range of 25 to 48years years and a standard deviation of 6 years. Similarly, Ejoha (2020) in an economics of paddy rice marketing in Nasarawa state Nigeria found that 79.17% of the marketers are between the ages of 30-50 years and were in their active ages.

The results in Table 1 indicated a household size of 5 persons on the average for both wholesalers and retailers. The standard deviation for the wholesalers however is 4 and a range of 1-14 persons per household, while retailers have a standard deviation of about 5, a minimum of 1 and a maximum of 30 persons. The table further revealed a household size of 8, minimum of 1 and maximum of 18 persons with a standard deviation of 4 for those wholesalers who were also into retailing of paddy rice. These results are similar to that of Ojoet *al.* (2015), who in their work on marketing efficiency of rice marketing in Kwara state found that the mean household size was 5 persons.

Table 1: Age, Household Size, Marketing Experience and Number of Workers of the Respondents

Marketer Type	Variables	Frequency	Mean	Std. Dev.	Min.	Max.
Wholesaler	Age (Years)	34	33.03	5.32	20	45
	Household size	34	4.94	3.50	1	14
	Marketing experience	34	5.03	4.67	1	20
	Number of workers	34	2.88	1.94		
Retailer	Age (Years)	59	32.53	5.58	25	51
	Household size	59	5.42	4.74	1	30
	Marketing experience	59	8.20	5.19	2	25
	Number of workers	59	3.93	2.16		
Wholesaler-Retailer	Age (Years)	27	37.93	6.01	25	48
	Household size	27	8.22	4.21	1	18
	Marketing experience	27	13.74	6.60	5	30
	Number of workers	27	6.41	2.59		

Source: Field Survey, 2025

In addition, the results revealed a marketing experience of 5 years, minimum of 1 and maximum of 20years, standard deviation of 5years for wholesalers. The retailers had a marketing experience of 8 years, a minimum of 2years and a maximum of 25years with a standard deviation of 5 years. For the wholesalers-retailers, the marketing experience was 14 years with a minimum of 5years and a maximum of 30years and a standard deviation of 4 years. This indicated that the marketers are relatively experienced. However, a joint mean experience of 9 years falls short of findings such as that of Segun and Adegoke (2014) who reported a 78% of rice marketers with a marketing experience of 11-26 years.

Similarly, the results also revealed that the wholesalers had an average of 3 people who worked for them while the retailers had an average of 4 workers. On the other hand the wholesaler-retailers had an average of 6 workers with a mean household of five persons. This implies that family labour can substitute hired labour where the latter is relatively scarce and the family members are willing to participate in the marketing of paddy.

Table 2: Respondents Sex, Marital Status and Educational Level

	Wholesaler		Retailer		Wholesaler-Retailer	
	Frequency	%	Frequency	%	Frequency	%
Sex						
Male	34	100	59	100	27	100
Female	0	0	0	0	0	0
Total	34	100	59	100	27	100
Marital status						
Single	7	20.59	12	20.34	3	11.11
Married	27	79.41	47	79.66	24	88.89
Total	34	100	59	100	27	100
Education level						
Primary	2	5.88	21	35.59	8	29.63
Secondary	21	61.77	27	45.76	10	37.04
Tertiary	9	26.47	3	5.09	0	0.00
Non-Formal	2	5.88	8	13.56	9	33.33
Total	34	100	59	100	27	100

Source: Field Survey, 2025

The distribution of respondents according to sex, marital status and educational level is presented in Table 2. It revealed an exclusively male dominated business for wholesalers, retailers and wholesaler-retailer categories. Ebukiba and Ogbole (2020) in their research on profitability of paddy rice marketing in the FCT discovered that 97% were males indicating a predominantly male venture. The results also showed that 79.41% of wholesalers were married and only 20.59% were single. For the retailers, 79.66% were married and 20.34% were single. Furthermore, 88.89% of wholesalers-retailers were married with only 11.11% of them being single. This is similar to the findings of Anthony and Anyalor (2019) who in a marketing analysis of locally produced rice in Ebonyi state discovered that majority of the marketers were married.

On the educational level attained by the paddy rice marketers, 61.77% attained secondary school level for wholesalers, while 26.47%, 5.88% and 5.88% attained Tertiary, Primary and non-formal education, respectively. The results also showed that retailers who attained secondary education were 45.76%, while 35.59%, 13.56% and 5.09% attained primary, non-formal and tertiary education, respectively. For those who double as wholesalers and retailers, 37.04% had secondary education while 33.33 and 29.63 had non-formal and primary education respectively. None of the wholesaler-retailers had any tertiary education. The results for all the categories showed that majority of paddy marketers had undergone one form of education or the other. This means they are relatively educated to handle consumers' demands especially in terms of communication. This is in conformity with the findings of Zalkuwi (2019) who in an economics analysis of rice marketing in Mubi Nigeria found that majority (74%) had primary or secondary education.

Profitability Analysis

Table 3 presents the average gross margin and marketing efficiency of wholesalers per month. The average gross margin was N642,477.93 from an average total revenue of N12,417,352.94 and average total variable cost of N11,774,875.01. The average cost of paddy accounted for 96.23% of the



total variable cost. Average cost of transportation accounted for 2.85%, while the remaining cost components were negligible proportions of the average total variable cost.

Table 3: Gross Margin, Average Gross Margin, Marketing Efficiency of Wholesalers per Month

Item	Amount (N)/marketer/Month	Percentage (%)
Variable costs		
Average cost of paddy/month	11,330,735.29	96.23
Av. Cost of transportation	335,720.59	2.85
Av. Cost of empty bags	64,264.71	0.55
Av. Cost of loading/offloading	29,367.65	0.25
Av. Cost of market tax	8,514.71	0.07
Av. Cost of labour	6,161.77	0.05
Av. Cost of commissions	110.29	0.00
Av. Variable Cost	11,774,875.01	100.00
Cost of storage (Fixed cost)	95.59	100.00
Av. Total Cost	11,774,970.60	
Av. Total Revenue/month	12,417,352.94	
Gross margin	642,477.93	
Marketing Efficiency	1.06	

Source: Field Survey, 2025

The marketing efficiency of the wholesalers was 1.06 indicating the wholesalers are efficient in the marketing of paddy since they were able to offset the cost incurred and gain some profits for themselves.

Gross Margin and Marketing Efficiency of Retailers per Month

Table 4 presents the average gross margin and marketing efficiency of retailers per month. The average gross margin was N57,355.09 from an average total revenue of N769474.58 and average total variable cost of N712,119.49. The average cost of paddy accounted for 94.06% of the total variable cost. Average cost of transportation accounted for 3%, average cost of empty bags was 1.52% and the remaining cost components were negligible proportions of the average total variable cost. The marketing efficiency of the wholesalers was 1.08 which means that marketing of paddy was efficient for the retailers as well. This result agrees with that of Ejoha (2020) where it was found that wholesalers have higher revenue from paddy rice marketing in Nasarawa state than retailers or producers.

Table 4: Gross Margin and Marketing Efficiency of Retailers per Month

Item	Amount (N)/marketer/Month	Percentage (%)
Variable costs		
Average cost of paddy/month	669,813.56	94.06
Av. Cost of transportation	21,372.88	3.00
Av. Cost of empty bags	10,788.14	1.52
Av. Cost of loading/offloading	3,862.71	0.54
Av. Cost of market tax	2,762.71	0.39
Av. Cost of labour	2,800	0.39
Av. Cost of commissions	719.49	0.10
Av. Variable Cost	712,119.49	100
Cost of storage (Fixed cost)	450	
Av. Total Cost	712,569.49	
Av. Total Revenue/month	769,474.58	
Gross margin	57,355.09	
Marketing Efficiency	1.08	

Source: Field Survey, 2025



Gross Margin and Marketing Efficiency of Wholesaler-Retailers per Month

Table 5 presents the average gross margin and marketing efficiency of wholesaler-retailers per month. The average gross margin was N485,050.35 from an average total revenue of N3,110,259.26 and average total variable cost of N2,625,208.91. The average cost of paddy accounted for 95.26% of the total variable cost. Average cost of transportation accounted for 2.72%, average cost of bags was 1.19%, while the remaining cost components were negligible proportions of the average total variable cost. The marketing efficiency of the wholesaler-retailers was 1.18 indicating that marketing of paddy for the wholesaler-retailers was both profitable and efficient. Of the three categories of marketers, the wholesaler-retailers have the highest return per N invested in the marketing of paddy.

Table 5: Gross Margin and Marketing Efficiency of Wholesaler-Retailers per Month

Item	Amount (N)/marketer/Month	Percentage (%)
Variable costs		
Average cost of paddy/month	2,500,777.78	95.26
Av. Cost of transportation	71,518.52	2.72
Av. Cost of empty bags	31,296.30	1.19
Av. Cost of loading/offloading	9,407.41	0.36
Av. Cost of market tax	3,735.19	0.14
Av. Cost of labour	5,125.93	0.20
Av. Cost of commissions	3,347.78	0.13
Av. Variable Cost	2,625,208.91	100
Cost of storage (Fixed cost)	977.78	
Av. Total Cost	2,626,186.69	
Av. Total Revenue/month	3,110,259.26	
Gross margin	485,050.35	
Marketing Efficiency	1.18	

Source: Field Survey, 2025

Constraints to Paddy Marketing

The major constraints to paddy marketing were presented in Table 6. from the results, high transportation cost was the major constraints to 11.76% of wholesalers, 11.86% of retailers and 22.22% of wholesaler-retailers. Insufficient storage facility was indicated was not a major constraint at all to both the wholesalers and wholesaler-retailers, but it was to 1.7% of the retailers. Seasonality is supply was cited selected as a major constraint by 44.12% of wholesalers, 28.81% of retailers and 25.93% of wholesaler-retailers. Lack of a standard unit for measurement was a major constraint to 14.71% of wholesalers, 10.17% of retailers and 14.81% of wholesalers-retailers. Lastly, lack of market information was a major constraint to only 1.7% of the retailers but it was neither a constraint to the wholesalers nor the wholesaler-retailers.



Table 6: Constraints to Rice Marketing

Constraints	Wholesalers			Retailers			Wholesaler-Retailer		
	Frequency	%	Rank	Frequency	%	Rank	Frequency	%	Rank
High Transportation cost	4	11.76	4	7	11.86	3	6	22.22	3
Insufficient Storage facilities	0	0.00	5	1	1.70	6	0	0.00	5
Seasonality in Supply	15	44.12	1	17	28.81	2	7	25.93	2
Insufficient funds	10	29.41	2	27	45.76	1	10	37.04	1
Unstandardized measurement unit	5	14.71	3	6	10.17	4	4	14.81	4
Lack of Market information	0	0.00	6	1	1.70	5	0	0.00	6
Total	34	100		59	100		27	100	

Source: Field Survey, 2025

CONCLUSION AND RECOMMENDATIONS

The study concluded that paddy marketing is a profitable venture in the study area. The marketers were also very competitive and efficient in carrying out their marketing activities even though there were room for improvements among the categories. Also insufficient fund for marketing was ranked as the major constraint by both retailers and wholesaler-retailers and it still ranked second only to seasonal supply of paddy for the wholesalers.

The following recommendations were made based on the findings of the study

- i. The paddy marketers should access formal loans through their cooperative associations. This will help mitigate the problems of insufficient funds they were faced with.
- ii. The marketers can employ the services of transporters who use Compressed Natural Gas (CNG) enabled vehicles as a relatively cheaper form of energy for transporting their paddy. This might reduce the cost of transportation.
- iii. The government should buy of surplus paddy and store to be resold during offseason. This will ensure even supply of paddy rice and maintain price.

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