Rice Market Structure, Conduct and Performance in Nigeria: A Survey of Akwa Ibom State Rice Marketers

Nsikan Edet Bassey[1], Otu William Ibok[2] and Aniekan Jim Akapaeti[3]

[1] Akwa Ibom State University,
Department of Agricultural Economics and Resources Management, Akwa Ibom State University,
Ikot Akpaden, Mkpat Enin, Akwa Ibom State, Nigeria

[2]Akwa Ibom State University,
Department of Agricultural Economics and Resources Management, Akwa Ibom State University,
Ikot Akpaden, Mkpat Enin, Akwa Ibom State, Nigeria

[3]Akwa Ibom State University,
Department of Agricultural Economics and Resources Management, Akwa Ibom State University,
Ikot Akpaden, Mkpat Enin, Akwa Ibom State, Nigeri

ABSTRACT─ *The study examined the structure, conduct and performance of rice marketing in Akwa Ibom State, Nigeria. Data sourced from sixty traders in four markets were analyzed using Gini coefficient, Herfindahl Index, Net returns and descriptive statistics. The result indicated that more of the imported brands of rice were sold in the two urban markets while more of the local brands of rice were sold in the rural markets. Average share of imported rice across the markets was more than local rice. Greater quantities of rice sold in the markets were in 5kg measure, followed by 12.5kg, the least being 50kg measures. Average Net margin of ₦1,894.5 and ₦1,852.6 were realized for imported and local rice. Also, the local rice margin as percentage of total marketing margin (32.23%) was greater than that of imported (27.65%). The study further revealed an average marketing efficiency of 392.9% and 405.1% for imported and local rice. The Gini Coefficient (GC) and Herfendahl Index (HHI) values of 0.683 and 0.295 showed that the rice markets were highly concentrated with non competitive practices showing disparity in earnings. The prevailing duration stocks were held in shops by traders and sources of obtaining market information were three weeks to one month and mobile phone (66.7%) respectively. The use of shared trucks to convey stocks prevailed in the study area and the prevalence promotion strategy was friendly attitude to customer. Furthermore, Aba market accounted for the major source of stock supply in the area. The study recommends the provision of storage facilities, improving the quality of our local rice as well as pursuing policies that would discourage importation as the way out.*

**Keywords*: Gini Coefficient, Rice marketing, Nigeria, Market performance.*

1. INTRODUCTION

One of the policy drives of the 2003 Presidential crop production initiative in Nigeria was that the scale of production of certain crops be increased to meet domestic consumption and foreign market demand. Rice was one of the priority crops in the scheme and is ranked after wheat and maize in terms of worldwide production. It is among the most important cereal grain crops grown and marketed in Nigeria (Akpan and Udo, 2009; Ismaila *et al*, 2010; Wudiri, 1992; Maxiya-Dixon *et al*, 2004). According to World Bank (1991), urban household derived 33 percent of their cereal based calories from rice and rice purchases represent a major part of cash expenditure on cereal. In West Africa, rice is gradually replacing other cereal and traditional food crops due to increased urbanization, taste, ease of cooking and storage (IRRI, 1981).

Production wise, Akande (1994) documented that Nigeria's rice production stood at 332,800 tons between 1961 and 1975, 806,222 tons between 1976 and 1983, 2306794 tons between 1984 and1995 and 3,189,833 tons between 1996 and 1999. Average production equals 1,658,912.25 tons within these periods. Inland Rice Research Institute (1995) reported that Nigeria produces 360,000 tons of rice in 1960, enough to meet domestic demand. Production, however, increased to 1.45 million tons in 1990 and was unable to meet up domestic demand forcing an importation of 657,000 tons in 1990. In 2004, Oyebanji (2005) reported that Nigeria produced 2,852,484 metric tons of rice representing about 9.8 percent

increase in output over the 2003 output. However, the last three decades saw the demand for rice soaring at a very fast rate. This increase in demand for rice has resulted in;

(i)   Widening of rice demand –supply gap
(ii)   High volume of importation resulting in huge import bills
(iii)   Rising prices of rice
(iv)   Flooding of our local rice markets with imported rice.

Akanji (1995) attributed this huge demand to population, increase in income levels following oil discovery, rapid urbanization and associated changes in family occupational structure. To meet up with increase demand, successive government of Nigeria resorted to massive importation of rice. According to United State Department of Agriculture (2003), approximately 50 percent of Nigeria's rice requirement is satisfied through import with the rice market being dominated by parboiled long grain rice. Thailand and India are the leading suppliers to the market and account for 60 percent and 30 percent respectively while US account for 0.8 percent, others 9.2 percent in May, 2002. As documented by Akande (1995), Nigeria rice imports value increase from US$0.1 million in 1970 to US$259 million in 1999. Between 1961 and 1991, Nigeria spent US$ 4 billion on rice import alone with average import value of US$102 million within this period. Also, Food and Agricultural Organization (2002) report placed Nigeria import value at US$259 million, US$655 million and US$ 756 million in 1999, 2001 and 2002 respectively, representing an average of US$ 1,883,553 million between 1990 and 2002.

In attempt to reduce the volume of rice importation, Nigerian government had often times formulated and used various policy instruments and interventionist approaches to boost local production. Some of these measures ranged from tariff imposition, import restriction, inauguration of the Presidential Task Force (PTF) on rice in 1980, input subsidies to the launching of the rice Presidential production initiatives in 2003. However, most of the aforementioned initiatives seem to concentrate on boosting production with little emphasis on its marketing system which guarantees access. Policies such as tariffs and outright ban on importation are often bewildered by enforcement problems. As pointed out by Okoh and Akintola (2005), production and marketing constitute a continuum and the absence of development in one retards progress in the other. Studies such as Olukosi and Isitor (1990); FAO (1996); Lawal et al (2010), Enete (2009) have highlighted the importance of efficient marketing system.

In spite of these lofty efforts, the Nigerian rice markets continue to be dominated by imported rice. The marketing system is poorly funded and characterized by imperfect competition. These, couple with poor market conduct and structure translates itself into poor performance. Against this backdrop, the study examined the structure, conduct and performance of the Nigerian rice market, with view to ascertaining its challenges and evolving strategies to improve upon its efficiency.

1.1 Market Structure, Conduct and Performance Hypothesis

The causal linkage between market structure, conduct and performance was first formalized by Mason (1930), later modified by Bain (1951) and termed the SCP hypothesis. The SCP theory holds that performance is determined by the conduct of the firm, which invariably is determined by the market structure (Ferguson and Ferguson, 1994). According to Aleksandrova and Lubys (2004), SCP hypothesis states that certain market characteristics like concentration and barrier to entry affects firm's profitability within the relevant market. This theory is guided by two competing hypothesis viz the efficient structure hypothesis and the structure- performance hypothesis. While the structure-performance hypothesis holds that the degree of market concentration is inversely related to the degree of competition, the efficient structure hypothesis holds that the performance of the firm is positively related to efficiency.

Market structure refers to those characteristics of the market organization that are likely to affect the behavior and performance of firms such as the number of sellers, the extent of knowledge about each other's action, the degree of freedom of entry and the degree of product differentiation (Lipsey and Steiner, 1981).

Conduct implies the behavior of the firms whether competitive or collusive (Anonymous, 2006). It refers to the behavior of the firms in a market; to the decision firm make and the way in which such decisions are taken (Ferguson and Ferguson, 1994). It can be measured in terms of volume of sales, access to marketing practices including prices, source of marketing information, sources of product procurement etc. Performance according to Ferguson (opp cit) entails how well firms satisfy consumer requirements in the current time period. It can be measured using variables like commodity prices, market efficiency, level of profit earned as well as cost. All these factors interact together to determine the free flow of market information on prices, which invariably affects the marketing margin of traders.

2. MATERIAL AND METHOD

2.1 Study Area

The study was conducted in Akwa Ibom State, Nigeria. The State lies between Latitude $4^0\ 32^1$ and $5^0\ 33^1$ North and Longitude $7^0\ 25^1$ and $8^0\ 25^1$ East. It has a total population of 3,920,208 people out of which 2,044,510 are male and 1,875,698 female (NPoC, 2006). The state is an agrarian and is well suited for the production of both permanent and arable crops due to her favorable climatic condition.

2.2 Sampling and Data Collection Method

Data used for the study were collected through a multistage sampling for 50 weeks spanning from January, 2012 to February, 2013. The first stage involve selecting four Local Government Areas from the existing 31; these were Uyo, Itu, Uruan and Mbo . Next, one market each was taken from each of the Local Government Area for the study, making a total of four markets. Akpan Andem market was chosen in Uyo, Itam in Itu, while Ekpene Ukim and Ibaka markets were chosen in Uruan and Mbo Local Government Area respectively. The next stage involves selection of fifteen respondents in each of the market making a total of sixty respondents through which structured questionnaires were administered.

2.3 Methods of Data Analysis

Data were analyzed using both descriptive and inferential statistics. Apart from the descriptive statistics, other analytical tools used were;

2.3.1 Gini Coefficient

The formula for computing the Gini Coefficient is expressed as GC= 1- $\sum XY$.

Where,

GC = Gini Coefficient,

X= Proportion of seller and

Y= Cumulative proportion of sellers

$\sum$ = Summation sign (Iheanacho, 2005). The value of GC varies from zero to one and the higher the coefficient, the higher the concentration, hence, the higher the inefficiency in the market structure. GC values greater than 0.5 indicated inequalities while 0.2 to 0.35 show equitable distribution.

2.3.2 Herfindahl Hirschman Index (HHI)

This index is used to measure and compare market concentration within firms. It is computed by squaring the market share of each seller competing in the market and then summing their resulting numbers. It increases as the number of firms in the market decreases. HHI above 0.18 implies high concentration, below 0.01 indicates a highly competitive market.

In computing HHI, we assumed that our selected respondents were the only sellers in each market. For each seller, let Qo be the quantity of rice sold by each of our respondent. Total quantity sold in the market by the 15 respondents will equal q=Qo+Q1+Q2…Q15

Let the market share of each seller be denoted by Sa = Qo/q

Therefore, Herfindahl Index (HHI) = $Sa^2 + Sb^2 + Sc^2$….$S15^2$. The higher the index value, the more concentrated the market is (see Hanekom et al, 2010).

2.3.3 Marketing margin Analysis.

This is the difference between the selling and buying prices expressed in absolute terms.

MMA = USP- UBP, MMR = $\dfrac{USP - UBP}{USP}$ X 100   Where MMA= Absolute marketing margin, MMR= Relative

marketing margin, USP= Unit selling price of rice, UBP = Unit buying price of rice

(iv)Marketing Efficiency. This is computed based on the work of Olukosi and Isitor (1990).

$$ME = \frac{Value\ added\ by\ marketing\ activities}{Marketing\ Cost} \times 100 = \frac{Net\ M\arg in}{Marketing\ Cost}$$

3.   FINDINGS AND DISCUSSION

3.1   Analysis of Rice Market Structure

This was computed using the Gini- Coefficient. The result in Table 1 which shows the degree of seller's concentration revealed a Gini Coefficient value of 0.683. Its closeness to one shows the existence of non-competitive behavior such as disparity in earnings. This is the case in these markets because entry into the markets was regulated by unions.

Table 1: Result of Gini- Coefficient Analysis

No of 50kg bags sold	No of sellers	Proportion of sellers (X)	Cum. Prop. of sellers	Average annual sales	Cum. Prop of sales (Y)	XY
>500	30	0.50	0.50	3,850,600	0.418	0.209
500-1000	16	0.26	0.76	2,221,500	0.241	0.062
1001-1500	10	0.17	0.93	2,055,100	0.223	0.038
<1500	4	0.07	1.00	1,085,850	0.118	0.008
Total	60			9,213,050		0.317

GC= 1- $\sum XY$ = 1-0.317 = 0.683.

Source: Computed using market survey data, 20121/2013

Further analysis of the market structure presented in Table 2 using the Herfindahl Index revealed an HHI value of 0.2949 across the markets. This indicated a higher market concentration in the selected markets implying that rice trade is in the hands of relatively few traders.

Table 2: Herfindahl Index Result for the Selected Markets

Market	Computed Herfindahl Index
Akpan Andem	0.0699
Ibaka	0.0742
Itam	0.0733
Ekpene Ukim	0.0775
Total	**0.2949**

Source: Computed using market survey data, 2012/2013

3.2   Analysis of market performance

This was analyzed in terms of the volume of sales, net sales as well as marketing margin.

3.2.1   Volume of Sales in the Selected Markets

Table 3 presents the mean monthly quantity of rice (imported and local) bought in the individual markets as a percentage of the total quantity of rice bought in the selected market. From the Table, of the mean quantity of 17,650.28 units of 50kg measure of rice bought in Akpan Andem market, 10,36071 (58.7%) represented imported rice while 7, 289.57 (41.35%) represented local rice i supposed. In Itam market, 5,222.10 quantity of rice was bought for sale. Of this, 4,400 representing about 84.25 was imported while the remaining 822.10 (21.15) was local rice. Also in Ekpene Ukim market,

of the total quantity of 1,524.21 of rice sold, about 600.21 (39.38%) were imported while 924 representing 60.62 were local rice.

With respect to Ibaka market, of the total quantity of 4,291.53 quantity of 50kg measure of rice that was sold, 1,437.57 bags representing 33.50% were imported while 2,853.57 bags (66.50%) were local rice. Across the market, Akpan Andem dominated in terms of sale volume (17,650.28), followed by Itam (5222.10) before Ibaka (4,291.53) and Ekpene Ukim (1,524.21). The higher sales volume in Akpan Andem and Ibaka was because both markets are daily markets. Apart from being a daily market, most of the traders in the selected rural markets at times ordered their stock through the major distributors located at Akpan Andem market. This justifies the higher sales volume at Akpan Andem compared to other markets. Beside, even though a section of Itam market is sold as a daily market, the wholesale rice traders selected for the study only sold on the proper weekly market days. The reason for this is that most of them have their warehouses at Akpan Andem market and as such prefer to sale there since the market is a renowned daily market in the study area.

From the result, more of the imported rice was sold in the two urban markets while more of the local rice was sold in the two rural markets. This finding support the theory of economic development by Meier (1973) that as development takes place, per capita income increases, and people would move for high quality foods. This forms the rationale behind the prevalence of imported brands of rice in the two urban markets of Akwa Ibom State. The result further showed that the average share of imported rice across the markets is relatively higher (53.96%) than that of local rice (46.04%). This implies dependency on imported rice. Hence, average consumer would continue to measure the quality of our local rice with that of imported rice.

Table 3: Mean Monthly Market Share of Foreign to Local Rice in the Selected Markets.

Market	Total Mean Qty of rice bought (Imported and local)	Mean Qty of rice bought		% of total rice bought	
		Imported	Local	Imported	Local
Akpan Andem	17,650.28 (2872.61)	10,360.71 (1692.41)	7289.57 (1080.21)	58.70	41.30
Itam	5222.1 (2314.6)	4400.00 (102.7)	822.10 (303.1)	84.25	15.75
Ekpene Ukim	1524.21 (1117.25)	600.21 (321.40)	924.00 (433.4)	39.38	60.62
Ibaka	4,291.53 (1430.81)	1437.66 (587.5)	2853.87 (863.31)	33.50	66.50
Total across markets	28,688.12	16,798.58	11,889.54	215.83	184.17
Average across mkts	7172.03	4199.65	2972.85	53.96	46.04

Source: computed from market survey data, 2012/2013. Values in brackets are standard errors.

3.2.2 *Mean monthly quantities of rice sold across the market in 50kg, 12.5kg and 5kg measure*

As evidenced in Table 4, of the total mean quantity of 28,688.12 units of 50kg measure of rice that was bought for sale, 3123.7, 9455.99 and 16108.43 bags were sold in 50kg, 12.5kg and 5kg measures representing 10.89%, 32.96% and 56.15% respectively. This implies that a greater percentage of rice was sold in 5kg units, followed by 12.5kg , the least being 50kg. The possible explanation for this is that higher margins were realized from selling in smaller units. Also, consumers finds the smaller units affordable than the 50kg measure. This finding support the assertion of Kohl and Uhls (1985) that the marketing margin of retail products is usually higher than the wholesale margin of the same product.

Table 4: Mean monthly quantity of rice sold across the in 50kg, 12.5kg and 5kg units

Units bought/ Sold	Quantity of imported Rice	Quantity of local Rice	Total mean quantity of rice (imported and local)
50kg	16,798.58 (2112.11)	11,889.54 (1108.81)	28,688.12 (3471.22)
50kg unit sold	2,088.32 (403.40)	1035.38 (212.41)	3123.7 (774.54)
% of 50kg sold	12.43	8.71	10.89
12.5kg units sold	5,032.83 (216.41)	4423.16 (132.11)	9455.99 (413.10)
% of 12.5kg sold	29.96	37.20	32.96
5kg units sold	9677.43 (1123.84)	6431.00 (787.56)	16,108.43 (2295.58)
% of 5kg units sold	57.61	54.09	56.15

Source: Computed using market survey data, 20121/2013. Figures in brackets are standard errors

4.   MEASUREMENT OF MARKET PERFORMANCE

4.1 Net Marketing Margin and Pricing Efficiency of Rice in the Selected Markets

From Table 5 which presents the result of marketing margin and pricing efficiency, the average net margin of imported and local rice sold across the markets were ₦1,894.5 and ₦1,852.6 higher than #791 reported by Ibezim (1985) for each ton of rice sold in Nsukka. Of these, Ibaka market had the highest net margin of ₦2,382.1 and ₦2504.5 for imported and local brands respectively. The least net margin of ₦1532.8 for imported and ₦1,390.4 for local were recorded by Itam and Akpan Andem markets. Also, local rice margin as a percentage of total marketing margin was 32.23 % and greater than that of imported rice (27.65%). These margins were higher than the 16% reported by Iheme (1996) in his study in Enugu State as well as the prevailing interest rate which lies between 5-10%. This implies that rice marketing in the study area was profitable.In terms of marketing cost structure, average marketing cost across the markets was ₦485.5 for both brands. Ibaka market had the highest marketing cost of ₦617.9 followed by Ekpene Ukim (₦537.5), the least being Itam (₦377.20). The high marketing cost at Ibaka can be attributed to transportation cost, since the market is located about seven kilometers away from the two urban markets and about five kilometer away from Ekpene Ukim market. Kohls (1985) asserted that the contribution of transportation to a commodity's final monetary value varies with distance shipped, perishability and volume. This finding also support those of Whetham (1972) and Dahl and Hammond (1977), who reported separately that prices of farm produce at alternative locations in supply areas increases with increase in distance from consuming markets.

4.2 Distribution of Marketing Efficiency across the Selected Markets

From Table 5, the average marketing efficiency across the markets was 392.9% and 408.05% for imported and local rice. With respect to imported rice, Akpan Andem market had the highest marketing efficiency (412.7%), followed by Itam (406.4%). The least marketing efficiency (366.90%) was recorded by Ekpene Ukim market. This implies that Akpan Andem market was more efficient in terms of pricing for imported rice.With respect to local rice marketing, Ibaka market was found to be more efficient (515.9%) than Itam (411.7%) followed by Ekpene Ukim (365.0%) before Ekpene Ukim market which recorded the least marketing efficiency of 339.5%.

Table 5: Distribution of marketing margin and marketing efficiency per 50kg unit of rice in the study area.

Market	Buying Price	Selling Price	Handling Cost	Marketing Margin	Net margin Margin	Marketing Efficiency	Marketing Margin	
Imported Rice								
Akpan Andem	6100	8200	409.60	2100	1690.4	412.7	25.6	
Itam	6210	8120	377.20	1910	1532.8	406.4	23.5	
Ekpene Ukim	6330	8840	537.5	2510	1972.5	366.9	28.4	
Ibaka	6050	9050	617.9	3000	2382.1	385.5	33.1	
Across markets	6172	8852.5	485.5	2380	1894.5	392.9	27.65	
Local Rice								
Akpan Andem	4620	6420	409.60	1800	1390.4	339.5	28.03	
Itam	4800	6730	377.20	1930	1552.8	411.7	28.67	
Ekpene Ukim	4750	7250	537.50	2500	1962.5	365.1	34.48	
Ibaka	4910	7900	617.9	2990	2504.5	515.9	37.84	
Across Markets	4770	7075	485.5	2305	1852.6	408.05	32.33	

Source: Computed from field survey data 2012/2013.

5. ANALYSIS OF MARKET CONDUCT

This was done by examining source of stock supply, duration of stock held, means of obtaining price information, means of transportation, sources of rice purchases as well as sales or promotional strategies.

5.1   *Stock duration in the warehouse*

Table 6 shows a remarkable variation in the length of rice storage by respondents. A greater percentage (48.3%) store their products between three weeks and month, about 21.7% store between two to three weeks, 16.7% store above one month while only about 13.3% store theirs between one and two weeks. None of the respondents was able to sell off their products in less than one week. This finding reveals the high financial cost associated with rice storage.

Table 6: Distribution of respondents based on duration of product storage

Duration of Stock	Number of Respondents	Percentage
Less than 1 week	0	0.0
1 – 2 weeks	8	13.3
>2< 3 weeks	13	21.7
3weeks – 1month	29	48.3
Above I Month	10	16.7
Total	60	100

Source: Computed from Market survey data, 2012/2013

5.2: *Means of obtaining Price Information*

As presented in Table 7, a greater part of respondents (66.7%) made us of their mobile phone to obtain information regarding stock order and other price related information, 25% acquired their through their fellow traders while 8.3% received their price information from market Association. None of the respondents made use of mass media. The high use of mobile phone shows the impact of information technology on rice marketing in Nigeria

Table 7: Distribution of Respondents based on means of obtaining price information

Source of price information	Frequency	Percentage
Mass media	0.0	0.0
Market Association	5.0	8.3
Use of mobile phone to call supplier	40	66.7
Asking fellow traders	15	16.7
Total	60	100

Source: Computed from Market survey data, 2012/2013

5.3 Means of transporting stocks

Table 8 present the various means of transporting stock in the selected markets. As observed in the study area, large scale individual traders hire heavy duty trucks with carrying capacity of 6 to 40 metric tons with view of reducing transportation cost. Because of distance of purchase, majority of them prefer to procure large volume of rice per trip. A breakdown of their various means of transportation as shown below indicated that about 61.7% use shared hired trucks, 255 hired their trucks individually while 13.3% owned their trucks.

Table 8: Distribution of respondents based on means of transporting stocks

Means of transportation	frequency	percentage
Individual hired truck	15	25.0
Shared hired trucks	37	61.7
Respondent owned trucks	08	13.3
Total	60	100

Source: Computed from Market survey data, 2012/2013

5.4: Promotional strategies embarked upon by respondents

From Table 9, the most prevailing promotional strategies in the study area were friendly attitude to customers (45%), followed by credit sales (33.4%). About 13.3% of respondents ensure that they sold only good quality rice while 8.3% made use of trade discount.

Table 9: Distribution of respondents based on the nature of promotional strategies adopted

Promotional strategies	frequency	percentage
Trade discount	5	8.5
Credit sales	20	33.4
Sales of quality products	8	13.3
Friendly attitude to customers	27	45.0
Total	60	100

Source: Computed from Market survey data 2012/2013

5.5 Sources of stock procurement

A survey of respondents based on sources of rice purchase as presented in Table 10 revealed that a greater percentage (41.7%) purchase their local stock from Aba, 33.4% go as far as Abakiliki in Ebonyi State, while about 13.3% source theirs from Nassarawa State. Also, 8.3% acquire theirs from Benue State while 3.3% acquire from other sources. With respect to imported rice, about 70 percent of respondent purchases their rice from Aba, while 30% acquire from other sources. On the average, Aba account for 55.85 %, Abakiliki (16.7%), Nassarawa (6.65%), Benue State (4.15%) and

other sources (16.65%) of the total rice supply in the study area. The implication of this long procurement distance account for why transportation cost impacted severely on marketing cost in the study area.

Table 10: Distribution of respondents based on sources of rice purchases

Source of purchase	Local frequency	percentage of respondents	Imported frequency	percentage of respondents	Average across the markets
Aba	25	41.7	42	70	55.85
Abakiliki	20	33.4	0	0	16.70
Nassarawa	8	13.3	0	0	6.65
Benue State	5	8.3	0	0	4.15
Other sources	2	3.3	18	30	16.65
Total	60	100	60	100	100

Source: Computed from Market survey data 2012/2013

6. CONCLUSION

The study had revealed that the rice markets were highly concentrated and hence, not competitive enough with absence of competitive practices. More of the imported brands of rice were sold in the two urban markets while more of the local brands were sold in the two rural markets. Average share of imported rice across the markets was relatively higher than local rice, implying dependence on imported rice. As indicated, a greater percentage of rice sold across the markets were in 5kg, followed by 12.5kg before 50kg, reason being that the marketing margin was higher in 5kg than 12.5kg. The study further showed that rice marketing was profitable in the study area. Local rice margin as a percentage of total marketing margin was greater than that of imported rice. Also, the average marketing efficiency across the markets was higher for local r that imported rice. In terms of market conduct, a greater proportion of respondents stored their stocks between 3 weeks and one month depicting the huge costs incurred in storage. Mobile phone constituted the major source of obtaining prices and other marketing information while the use of shared hired trucks to convey their stocks prevailed in the study area. Majority uses friendly attitude to customers as well as credit sales as their promotional strategies. Also, Aba market accounted for the major source of rice supply in the study market.

7. RECOMMENDATIONS

The following recommendations emanate from the study;

(i)   The study revealed the huge cost associated with rice storage and marketing in the study area; hence, effort should be directed towards providing storage facilities and reducing marketing costs. This can be achieved through building of warehouses, subsidizing cost of storage and transportation.

(ii)   Effort should also be directed towards improving upon the quality of our local rice to compete effectively with their imported counterpart. This can be achieved by subsidizing cost of milling as well as setting up a monitoring body to inspect the processing and bagging of our locally produced rice at every stage in the marketing chain.

(iii)   Trade policies such as outright ban that would discourage the importation of rice into the country should be pursued. Apart from strengthening our border security network, such policies if accompanied by stiffer penalties and sanctions can serve as a deterrent to contraveners.

8. REFERENCES

[1]   Akande, T.. "An overview of the Nigerian rice economy. A pilot Project report, the Nigerian rice economy in a Competitive world: Constraints, opportunities and strategic choices", WARDA, UP. .2001

[2]   Akande, S.O. "Inter- Regional Economics Competitiveness in the Production of food Grains in Nigeria, ii-20, University of Ibadan . 1994.

[3]   Akanji, B. O . "Hedonic- Price analysis of the demand for grain crops in Nigeria. The case of rice and cowpew. Unpublished Ph.D Thesis, faculty of Agriculture, University of Ibadan, Nigeria. 1995.

[4]   Akpan, S.B and Udoh, E.J. "Estimating grain relative price variability and inflation rate movement in Different Agricultural regimes in Nigeria". Humanity and Social Sciences Journal 4(2),107-113. 2009.

[5]   Aleksandrova, A. and Lubys, J." Application of the structure- Conduct- Performance paradigm in a Transition Economy: explaining Profitability of the largest Latvian Firms". SSE Riga Working Paper, 8(63). 2004.

[6]   Bain, J.S., "Relation of Profit Rate to Industry Concentration: American Manufacturing".Quaterly Journal of Economics. Vol. 65, no.1951 Pp.293-324. 1951.

[7]   Dahl, D. C and Hammond, J. W. "Market and Price Analysis: The Agricultural Industries". New York: McGraw-Hill. .1977.

[8]   Enete, A. A. "Middlemen and small holders Farmers in Cassava marketing in Africa". Tropicultura Vol.27

        no.1, pp.40-44, 2009.

[9]   Ferjuson. P. R and Ferguson, G.J. "Industrial Economics: Issues and Perspective (2nd ed.)". London. The Macmillan Press Ltd,38. 1994.

[10]   FAO . "Technical Background Document for the World Food Summit", Rome, Italy. 1996.

        Food and Agricultural Organization . "FAOSTAT Database", Italy,Rome, 2002.

[11]   Hanekom, J.W, Willemse, B.J and Strydom, D. B "Structure, Conduct and Performance in the South African Potato Processing Industry". A paper submitted as a contributed paper at the AEASA African Conference, 2010, Cape Town, 2010.

[12]   Ibezim, U. M "Production and marketing of rice and maize by small holder farmers in Uzo-Uwani and Nsukka Local Government Areas of Anambra State". Unpublished M.Sc Thesis, Faculty of Agriculture, University of Nigeria, Nsukka, Nigeria, 1985.

[13]   Iheme, D. A. "The marketing of staple crops in Enugu State, Nigeria: A case study of rice, maize and beans". Unpublished M.Sc Thesis, Faculty of Agriculture, University of Nigeria, Nsukka, Nigeria,1996.

[14]   Inland Rice Research Institute . "Research Notes". Manilla, Phillipines,pp.26, 1981.

        Inland Rice Research Institute . "World Rice Status", Pp 34-42, 1995.

[15]   Ismaila, U. Gana, A. S, Twanya, N. and Dogara, D . "Cereal Production in Nigeria: Problems, Constraints and Opportunities for betterment". African Journal of Agricultural Research, Vol. 5, no.12 pp.1341-1350, 2010.

[16]   Kohls and Uhls ." Marketing of Agricultural Products. Newyork". Macmillan Publishing Company, 1990.

[17]   Lipsey, R. G and Steiner, P. O . "Economics (6th ed.)". New York: Harper and Row Publishers, 1981.

        Maziya- Dixon, B.I, Akinyele, O., Oguntona, E. B, Nokoe, S., Sanusi, R. A and Harris, E. "Nigeria Food Consumption and Nutrition Survey 2001-2003 Summary". IITA, Ibadan, 2004.

[18]   Okoh, R. N and Akintola, J.O . "Oligopolistic Pricing and market Integration of cassava roots and products in Delta and Edo States". Nigerian Journal of Economics and Rural Development, Vol. 14 no.2 pp. 21-54, 2005.

[19]   Olukosi, J.O. and Isitor, S. V. "Introduction to Agricultural Market and Price; Principles and Applications".

        Agitab Publishers, Zaria, Pp 34, 1990.

[20]   Oyebanjo, O.O . "Food Security Situation in Nigeria". CAFSTON-Dubar Hotel, kano, 26-27th ,May 2005.

[21]   Tura, V. B, Johnathan, A. and Lawal, H. "Structural Analysis of paddy rice markets in Southern part of

        Taraba State, Nigeria". Journal of Agriculture and Social Sciences. Vol. 6, no.4 pp. 110-112, 2010.

[22]   United State Department of Agriculture. "Nigeria Product Brief". A USDA global agricultural Information Network, Washington D.C. 2003.

[23]   WARDA. "Upland Breeding Task-Force workshop", Bouake, Cote d' Ivoire,4th October,1991.

[24]   Whetham, E.H ." Agricultural Marketing in Africa". London: Oxford University Press, 1972.

[25]   Wudiri, B.B . "Recent development in cereal production in Nigeria". IITA, Ibadan, pp. 13-15, 1992.