

MARKETING OF PALM OIL IN IKWERRE AND ETICHE LOCAL GOVERNMENT AREAS OF RIVERS STATE, NIGERIA.

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ABSTRACT

This study examined the structure, conduct, channel and the price spread of palm oil marketing in Ikwerre and Etche Local Government Areas of Rivers State, Nigeria. The sample consists of ten producers, wholesalers and retailers from five markets in each local government area. The study utilized a sample of 261 palm oil marketers. Simple table frequency was used to determine the personal characteristics of the respondents. Gini coefficient was used to determine the market structure, spatial price spread model was used to determine producer – retail price spread. The research revealed that the age bracket between 41 and 50 years was dominant constituting 107 of the sample population. The male to female ratio in the enterprise was 6:4. The producer and wholesale markets were discovered to have oligopolistic structure. While the retail market was competitive in nature. The channel of distribution constituted mainly 4-level in Ikwerre, and 3-level traders were identified in Etche Local Government Area. The result also indicated a possessive price spread. The major strategies adopted by wholesalers in the study areas were bulk purchase during peak production period and periodic sales of the product in the non-palm oil producing states. The major constraints of marketers as observed include fluctuation of palm oil price, high transportation fares. Government should encourage marketers by provision of credit facilities to increase the size of their business. Marketers should discontinue with the use of unions to form collusion which distort marketing system.

Key Words: Marketing, Palm Oil, Ikwerre L.G.A, Etche L.G.A, Rivers State.

INTRODUCTION

Palm oil is produced from the fruit of *Elaeis guineensis* (oil palm) tree that originated in West Africa. After the fifteenth century, it was introduced to other parts of Africa, South-East Asia and Latin America along the equatorial belt (Ochse, et al. 1961). Further more (Rahman, 1998) stated that the natural distribution of the oil palm is tropical West Africa between 13°N and 12°S latitude and found between the rain forest and savannah region. The present centres of production in Africa stretch from Senegal along the coast to the Republic of Benin and Nigeria.

Palm oil has a distinctive colour which varies from an orange yellow to a fat-soluble carotenoids, which are also responsible for the high vitamin A content of palm oil (Apapa and Aba 1978). Palm oil and its products are used in numerous food and non-food application. They can be used for domestic cooking, frying, candle making, margarine, shortenings, soap, olechemicals and other products (Rahman, 1998). Marketing is the performance of all business activities involved in the flow of product from the point of production until the good gets to the hand of the final consumer (Kotler, 1980; Moro, 1999). Palm oil marketing includes processing, storage, grading, sorting, transportation and pricing. (Allot and Wong 1977). The structure of palm oil market is one of the most important aspects of the marketing segment in this study. The structure relates to the power of relationship between buyers and sellers and influences the competitive conduct of buyers and sellers in the market, the structure is used to determine how well the market performs (Moro, 1999). The structure of the producer, wholesale and retail markets in Ikwerre and Etche Local Government Areas is difficult to identify because of the conflicting nature of structural determinants which include

the degree of seller concentration, degree of product differentiation, condition of entry and exit in the business among other variables. These variables appear to be the same in all categories of the market and therefore pose a problem of ascertaining the exact structure of the different markets. Because of the conflicting nature of structural determinants of the producer, wholesale and retail market in Ikwerre and Etche Local Government Areas. There is a serious problem of ascertaining the exact category of the market whose business opportunities are yet to be fully exploited.

Marketing channels are intermediaries and markets through which products pass from producers to consumers and many people are engaged as marketing middlemen in most tropical Africa market (Moro, 1994). The palm oil processors rarely sell their product directly to consumer. Usually, there are several stages in the marketing process and it is generally characterized with different activities or functions carried out by middlemen, hence it is difficult to estimate the cost of value added of palm oil product. The general objective of the study is to identify the structure, conduct, channels and price spread of the palm oil market. This will help the investors and policy makers to have adequate information to execute policies that will improve the marketing system, which will enhance economic growth.

RESEARCH METHODOLOGY

The study was carried out in Ikwerre and Etche Local Government Areas of Rivers State, Nigeria. Oil palm is found both in the wild grooves and plantation in the study area. There is also high concentration of palm oil mills in the two LGAs. Palm oil processing and marketing form the major economic activities of the people.

Secondary data was collected from the participants on the weekly market days monthly for a period of one year.

Sampling Procedure

A multi-stage sampling process was used in the study. The first stage was purposive selection of ten agricultural extension blocks in Ikwerre and Etche areas in zone 3 (Ahoada, Ikwerre and Etche) of Rivers State Agricultural Development Programme. The blocks in Ikwerre Local Government Area include Isiokpo, Elele, Ubima, Omerelu and Apani. The blocks in Etche Local Government Area were Egwi block, Igbo block, (Igbodo) in Okehi block, Umucchem block and Olakwo block. 10 producers, 10 wholesalers and 10 retailers were selected from each market of the block making 150 respondents from each Local Government Area. The total number of respondents in the two Local Government Areas was 300. Out of 300 questionnaires distributed, a total of 261 questionnaires were retrieved and data analysis based on this number.

Method of Data Analysis

Data analysis involved the use of Gini Coefficient to determine the market structure. It also involved the use descriptive statistics to identify the channel of distribution and conducts of the market, while spatial and price spread model was used to determine the producer share of consumer price.

Model Specification

Gini coefficient represents the sum of the product of the percentage of distribution and cumulative percentage of their sales revenue and subtracting it from one gives Gini Coefficient. It ranges from zero to one (0-1). A Gini Coefficient of 0 implies perfect equality (everyone has the same) while a coefficient of 1 means perfect inequality (one person has all the income, everyone else earns nothing) (Morgan, 1965; Rycroft, 1997).

Spatial Price Spread Model

$$PP_{ij} = P_i - (HC_{ij} + TC_{ij} + AS_{ij})$$

Where:

PP_{ij} = The calculated parity price of one tonne of palm oil in i th market in relation to the j th market.

P_i = The actual retail price of one tonne of palm oil at the i th market

HC_{ij} = Handling cost involved in moving one tonne of palm oil from j th to the i th market.

TC_{ij} = Transport cost for moving one tonne of palm oil from the j th to the i th market.

AS_{ij} = The charge for the assembler's service in moving one tonne of palm oil from the j th to the i th market.

The Price Spread

$PS_{ij} = PP_{ij} - P_j$

PS_{ij} = the price spread for one tonne of palm oil between the i th and j th market.

P_j = the actual retail price of one tonne of palm oil in the j th market.

The model assumes that if the market is perfectly competitive, then traders in each market would know market prices in all markets, so that inter-market price differential would reflect only transport and handling costs of spatial transfer, the price differential which is given as $PS_{ij} = PP_{ij} - P_j$, (Moro, 1999). In perfectly competitive market, PP_{ij} would always be equal to P_j and therefore the actual price spread would be zero.

RESULTS AND DISCUSSIONS

The socio-economic characteristics included in the frequency table in the analysis are age of the respondents, sex, marital status, household size and educational qualification. The results of the tabulation of percentage of these variables are given in the Table 1.

The age distribution in between 31-40 years and 50 years and above were dominant in the palm oil producers market and each having with 31.3% of 48 producers in Ikwerre Local Government Area, while in Etche Local Government Area, the dominant age bracket of palm oil producers was the age bracket of 41-50 years with 53.3%. In the wholesale market, the dominant group was the age bracket between 31-40 years with 65% in Ikwerre Local Government Area while in Etche Local Government Area the dominant age bracket between 41-50 years were identified in wholesale market. The dominant age bracket of retailers that were involved in palm oil marketing in Ikwerre Local Government Area was the age between 21-30 years with 67.4%, while the dominant age limit in Etche Local Government Area that were involved in retail market was the age bracket between 41-50 years with 70.5% of retailers. The result showed that young and energetic market participants dominated the producers market, the likely reasons could be mainly because of the tedious nature of the processing which requires a lot of physical strength in carrying out the operations. The youths between the ages of 21-30 were not actively involved in the processing of palm oil. The reason was mainly because of non-prestigious nature of the business.

Gender is one of the important determinant factor in selection of the type of job an individual should be engaged in. Generally, men seem to be more involved in high energy task demanding jobs while more women accept less strenuous jobs. The result revealed that male dominated the producer and wholesale markets with (95.8%) and (87.5%) respectively while the retail market was dominated by female with 38(82.6%) in Ikwerre Local Government Area, while in Etche Local Government Area, male also dominated the producer and wholesale markets with (88.9%) and (47.7%) respectively while females were greater in number in retail market with (86.4%). The reason why males dominated the producer and wholesale markets in both Ikwerre and Etche Local Government Areas could be likely due to the physical strength required in the processing unit, which was strenuous in nature. Female dominated the retail market because of small capital requirement for the take off of the business.

Table 1: Socio-economic Characteristics of Palm Oil Marketers in Ikwerre and Etche Local Government Areas

| Age | Ikwerre Local Government Area | | | Etche Local Government Area | | |
|----------------------------------|-------------------------------|-----------------------------|-----------------------|-----------------------------|-----------------------------|-----------------------|
| | Producers (n = 48) | Wholesale rs (n = 40) | Retailers (n = 40) | Producers (n = 45) | Wholesale rs (n = 38) | Retailers (n = 44) |
| 15-20 | - | - | - | - | - | - |
| 21-30 | 7(14.6) | - | 31(67.4) | 3(6.7) | - | - |
| 31-40 | 15(31.3) | 26(65) | - | 3(6.7) | 12(31.6) | 9(20.5) |
| 41-50 | 11(29.9) | 2(5) | 15(32.6) | 24(53.3) | 24(63.2) | 31(70.5) |
| 51 & above | 15(31.3) | 12(30) | - | 15(33.3) | 2(5.3) | 4(9.0) |
| Gender | | | | | | |
| Male | 46(95.8) | 35(87.5) | 8(17.4) | 40(88.9) | 21(55.3) | 6(13.6) |
| Female | 2(4.2) | 5(12.5) | 38(82.6) | 5(11.1) | 17(44.7) | 38(86.4) |
| Marital Status | | | | | | |
| Single | 7(14.6) | 12(30) | 4(8.7) | 4(8.9) | 3(7.9) | 3(6.8) |
| Married | 30(62.5) | 23(57.5) | 36(78.3) | 28(62.2) | 30(78.9) | 34(77.3) |
| Divorced | 4(8.3) | 2(5) | 1(2.2) | 2(4.4) | 1(2.6) | 2(4.5) |
| Separated | 1(2.1) | 2(5) | 1(2.2) | 1(2.2) | 1(2.6) | 1(2.3) |
| Household Size | | | | | | |
| 0-5 | 17(35.4) | 36(90) | 26(56.5) | 21(46.7) | 26(68.4) | 31(70.5) |
| 6-10 | 28(58.3) | 4(10) | 20(43.5) | 19(42.2) | 12(31.6) | 13(29.5) |
| 11-15 | 1(2.1) | - | - | 3(6.7) | - | - |
| 16-20 | 2(4.2) | - | - | 2(4.4) | - | - |
| 20 & above | - | - | - | - | - | - |
| Educational Qualification | | | | | | |
| Higher Degree | 11(29.9) | - | - | 4(8.8) | - | - |
| First Degree | 7(14.6) | 5(12.5) | - | 4(8.8) | - | 1(2.3) |
| OND | 4(8.3) | 2(5) | - | - | 2(5.3) | 13(29.5) |
| WASC | 19(39.6) | 32(80) | 4(8.7) | 23(51.1) | 17(44.7) | 2(4.5) |
| FSLC | 7(14.6) | - | 17(37) | 5(11.1) | 17(44.7) | 22(50) |
| Below FSLC | - | 1(2.5) | 13(28.3) | 9(20) | 2(5.3) | 7(15.9) |
| Illiterate | - | - | 12(26.1) | - | - | 2(4.5) |

Source: Field Survey, 2002

Marital status plays an important role in acquisition of capital. Married individuals are likely to acquire and save more money to enable them embark on available business opportunity unlike the single individuals. Married people dominated the three categories of the markets in the two local government areas of the state. It can be concluded that marriage had a positive effect in participation of individuals in palm oil marketing in the local government areas.

The household size between 0-5 persons dominated the wholesale and retail markets in Ikwerre and Etche Local Government Areas. The dominant respondents in the producers market in Ikwerre Local Government Area were the household size between 6-10 person with 58.3%. The small size of household of the respondents is an indication of less financial demands and less family responsibility, which contributed on the participation of the individuals in palm oil marketing in the study area. Majority of the market participants in producer and wholesale markets in both Ikwerre and Etche Local Government Areas of the state were West Africa School Certificate (WASC) holders with the 80% as the highest in wholesale market in Ikwerre Local Government Area while the retail markets in the two local government areas were dominated by holders of First School Leaving Certificate (FSLC). The level of education of market participants may have influenced the marketing system in use, which is mainly traditional methods that does not require modern marketing techniques.

Table 2: Gini Coefficient in the three Categories of the Marketers

| | Ikwerre Local Government Area | Etche Local Government Area |
|-------------------------|-------------------------------|-----------------------------|
| Categories of Marketers | | |
| Producer | 0.525 | 0.492 |
| Wholesale | 0.561 | 0.557 |
| Retail | 0.399 | 0.368 |

Source: Field Survey, 2002.

Table 3: The Calculated Parity Price and Price Spread of per Tonne Palm Oil in Ikwerre and Etche Local Government Areas.

| Ikwerre Local Government Area | | | Etche Local Government Area | | |
|-------------------------------|-------------------------|--------------------|-----------------------------|-------------------------|---------------------------|
| Market | Parity Price (PPij (₦)) | Price Spread, PSij | Market | Parity Price (PPij (₦)) | Parity Price Spread, PSij |
| Elele ith | 143,000.00 | - | Igbodo ith | 138,000.00 | - |
| Isiokpo jth | 142,200.00 | 2,200.00 | Olakwo jth | 134,200.00 | 1,700.00 |
| Ubima jth | 140,900.00 | 900,00 | Egwi jth | 134,150.00 | 1,650.00 |
| Omerelu jth | 141,500.00 | | Umuechem jth | 133,700.00 | 3,700.00 |
| Apani jth | 140,200 | 1,500 5,200 | Igbo jth | 133,900.00 | 3,900.00 |

Source: Field Survey, 2002.

Table 4: Producers – Retail Price Spread of 1 Tonne of Palm Oil in Ikwerre and Etche Local Government Areas.

| | Average retail price/tonne | Farm price/tonne | Farm-retail spread | Producer's share of consumer price % |
|---------|----------------------------|------------------|--------------------|--------------------------------------|
| Ikwerre | 140,000 | 100,000 | 40,000.00 | 71.4 |
| Etche | 135,000 | 90,000 | 45,000.00 | 66.7 |

Source: Field Survey, 2002

Market Structure: The market structure of the Producer and Wholesale markets in both Ikwerre and Etche Local Government Areas of the state was oligopoly while the structure of retail market in the two local government areas was competitive. A Gini coefficient of 0.525 in Ikwerre Local Government Area indicated an oligopolistic market structure. This implies that greater portion of market revenue is concentrated in the hands of few market participants and it is an indication of available business opportunity with high-expected revenue. Producer market in Etche Local Government Area, showed a Gini coefficient of 0.492 which implied an oligopolistic market structure. The structure of wholesale market in Ikwerre Local Government Area as shown in Table 2 indicated a Gini coefficient of 0.561 which is oligopolistic market. Also, in Etche Local Government Area, a Gini coefficient of 0.557 in the wholesale market indicates an oligopolistic structure. Gini coefficient of 0.399 and 0.367 were analyzed in retail market in both Ikwerre and Etche Local Government Areas respectively. This shows that the markets were competitive in nature and the market revenue was unconcentrated, therefore higher revenue can only be achieved by adopted or introducing a new marketing strategy.

Market conduct deals with the behaviour of the traders in palm oil marketing. The common conducts of the three market segments as identified in the study was collusion through formation of association. The associations were mainly used to control the market price of the palm oil product. They were more organized and effective in the wholesale segment, hence they could control producer and retail price by their bulk purchases. It was also discovered that wholesalers used future purchase to make unusual profit. The wholesale also made bulk purchase from the remote neighbouring villages and sell to the retailers to make greater margin. The palm oil was usually packed in white 20 litre jerry can for wholesale and retail market participants. Retailers used 1 litre bottles for bit sales to final consumers. The price paid by final consumer was usually prevailing market price and that was the retail price.

The palm oil marketing channel in the two Local Government Areas was almost the same. There were intermediaries through which palm oil product passed before getting to the hands of the final consumers. The channel was thus producers → commission agents → wholesales → retailers → final consumer or producer → final consumer. Although the activities of commission agents were not popular in Etche Local Government Area.

Parity Price: The parity price in the markets in Ikwerre Local Government Area as shown in table 3 using Elele as ith (central) market and having inter commodity transfer in other markets in the Local Government Area chosen as jth markets. The inter market price differentials which reflected transports, handling and assembling cost of spatial transfer showed a positive spread which is an indication of excess profit. In Etche Local Government Area, Igbodo market was chosen as ith (central) markets while other markets were used as jth market. The commodity price did not only reflect the transport, handling and assembling cost that is parity price minus the actual retail price in the jth market was not zero.

Producer-retail price spread: The producer share of the consumer price for 1 tonne of palm oil produced in Ikwerre Local Government was 71.4% while in Etche Local Government, the producer share of 1 tonne of palm oil price paid by consumer is 66.7%. This percentage is an indication that the producers were adequately compensated for the production of palm oil.

CONCLUSION

On the basis of the study, the following conclusions were made. The market structure in producer, and wholesale markets in both Ikwerre and Etche Local Government Areas of Rivers was oligopoly, while the structure of retail market was competitive. The production of palm oil was mainly handled by male while women dominated the retail market. The

educational qualification of the majority of the palm oil marketers in both Ikwerre and Etche Local Government Areas was West African School Certificate (WASC). The channel of distribution of palm oil in Ikwerre Local Government Area was about 3-level channel in both Ikwerre and Etche Local Government Areas of Rivers State. The producer's share of consumer prices per tonne of palm oil was 71.5% in Ikwerre Local Government Area while the share in Etche Local Government Area was 66.7% share of the consumer's price. Price variation, hike in transportation fare, high initial capital outlay required to start the business and high wages demanded by human labour were the major problems faced by the producers and other marketers.

RECOMMENDATIONS

The policy makers should exploit the business opportunities in palm oil processing and marketing enterprise and make it attractive to the rural dwellers as an alternative to oil mineral revenue. This can be achieved by reactivating closed palm oil mills and subsidizing the procurement of modern processing equipment in place of obsolete machine that require much of human energy.

Co-operatives should be formed by all categories of traders and old ones reactivated to become more effective. Public enlightenment programmes such as seminars, public lecture and workshop should be organized for the producers and traders to enable them improve in their marketing system. Producers should be encouraged to increase their scale of production, package and label their products for proper identification and to encourage quality competition. Government should encourage the producers by construction of roads and maintenance of bad ones to reduce cost of transportation. The marketers should embark on backward integration to establish own oil plantation to gain higher revenue. Marketers should discontinue with the use of unions to form collusion to get higher revenue, therefore efforts should be geared towards removing all kinds of bye laws that distort the normal marketing system.

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