



Analysis of Palm Oil Marketing in Ikwerre Local Government Area, Rivers State

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Abstract

This study examined the analysis of palm oil marketing in Ikwerre Local Government Area, Nigeria. Specifically, the study examined the socio-economic characteristics of the palm oil marketers in the study area; marketing channels; determined the marketing costs and return incurred by palm oil marketers in the study area; determined the Factors that Affect the Marketing of Palm oil in the area and to determine the constraints experienced by palm oil marketers in the study area. Data was collected through the administration of a questionnaire and was analyzed with the use of descriptive statistics such as frequency, and percentages and determined multiple regression. The result showed that palm oil marketing is a women-dominated business as revealed by (92.7%) of the respondents were female. The results also indicated that people from the ages of 40–49 are more interested in palm oil marketing as they formed the majority with about 50%. The majority of (66.67%) of the marketers were married which showed that there were more married people involved in the marketing of palm oil in Ikwerre Local Government Area. Also, a greater percentage (53.33%) of the marketers have been in the palm oil business for 1 to 5 years. The results further showed that all respondents had formal education. The majority (60%) of palm oil marketers have household sizes of 1–5 persons, with N 21,000–N 30,000 being the income of the majority of the marketers. Also, the result showed that the total variable cost incurred was N26,000 while fixed cost amounted to N300, on the return side the average total revenue amounted to N26,300, the gross margin of the marketers was estimated to be N2,800, the profit of N2,500 while the net return on investment was 0.10% per gallon per day. The constraints affecting palm oil marketers were High cost of transportation, Price fluctuation, inadequate capital, Poor marketing channel, High market levy, Bad road network, Competition and Lack of storage facilities while the factor affecting palm oil marketing are Transportation cost, Competition, Production cost, low patronage, poor access to market price information, substitution by other oil, lack of access to credit facilities, unstable measurement, unfavourable government policy and poor quality of the product. The study concluded that palm oil marketing was profitable and solvent with a return on investment of 0.10 and a profit of N2,500 per gallon per day and recommends that there should be an improvement in the transportation system to reduce the high cost of palm oil transportation.

Keywords: Marketing, Constraints, Palm Oil

Introduction

Palm oil is an esculent vegetable oil produced from the fruit (*Elaeis guineensis*), Oil palm originated from the West African region. The main belt runs through the southern latitudes of Cameroon, Côte d'Ivoire, Ghana, Liberia, Nigeria, Sierra Leone, and Togo and into the equatorial region of Angola and the Congo. During the 14th to 17th Centuries some palm fruits were taken to the

Americas and from there to the Far East. The plant appears to have thrived better in the Far East, thus providing the largest commercial production of an economic crop far removed from its centre of origin. Nigeria can boast of 1.7% of palm oil production which is insufficient to meet its domestic consumption which is about 2.7% (Adetola *et al.*, 2016). Palm oil is the world's second major vegetable oil, after soybean with world

annual production of fresh fruit bunches approaching 100 million metric tons per year (Ada-Okunmgbowa *et al.*, 2013). Ibekwe (2008) stated that palm oil is currently the second-largest traded edible oil and accounts for about one-quarter of the world's fats and oil supply.

According to Ibitoye (2014), world production of palm oil has increased tremendously during the last 30 years as a result of the rapid expansion of oil palm planting in Southeast Asian countries, spearheaded by Malaysia and Indonesia. He further reiterated that it is thus, by far, the most widely produced tropical oil and constitutes thirty per cent (30%) of the total edible oil production worldwide. He also reported that in Nigeria, 80% of production comes from dispersed smallholders who harvest semi-wild plants and use manual processing techniques. The estimate for oil palm plantations in Nigeria ranges from 169,000 to 360,000 hectares of plantations (Carrere, 2010). Two kinds of oil are obtained from the oil palm; red palm oil extracted from the fibrous layer and palm kernel oil which is obtained from the kernel beneath the fibrous layer of the fruit. Palm oil has a special feature which is its color that varies from orange-yellow to red to a fat-soluble carotenoid which is responsible for the vitamin A content of palm oil. Processing the oil palm fruit into palm oil was done by harvesting the fruit from the bunch and then processed into palm oil by women, through a time-consuming and labour-intensive process involving repetitively boiling and filtering the fresh fruits with water, similar methods are still largely used throughout West Africa.

In most African countries including Nigeria palm oil grows naturally in the rainforest zones where annual rainfall is between 125- 660 centimeters and annual temperature ranges from 20-34°C. Palm oil is the world's second-largest major vegetable oil after soya bean it is not only used as a domestically edible oil it is also used for the production of varieties of products like soaps, margarine and several others. This indicates that there is a high demand for the products and consequently need to increase production. Palm oil marketing is concerned with all stages of operation that aid the movement of the produce from the producer to the final consumer. These include: assemblage, storage, transportation, grading and financing. Marketing of palm oil in Nigeria takes place in homes, roadsides, local/periodic market centres and stalls. These can be both wholesale and retail types in both rural and urban centres. Generally, palm oil is transported from the supply regions of Southern Nigeria to the demand regions of Northern Nigeria. Lagos, the centre of economic activities of Nigeria receives most of the palm oil shipped from the supply regions for onward delivery for export activities. The price of palm oil is largely affected by the production or output of palm oil within the year and the general inflation rate in the country Omoti (2001).

Several factors affects the efficient marketing of palm

oil and they need to be addressed because the potential of the sector is too enormous to be overlooked. One of the functions of agricultural marketing is to bring items of trade from surplus to deficit areas (Joshua, 2015). Therefore, it is important to examine the marketing of palm oil in Ikwerre Local Government Area, of Rivers State, the specific objectives were to;

- i. examine the socio-economic characteristics of palm oil marketers in the study area
- ii. determine the marketing channel of palm oil in the study area
- iii. analyze the marketing costs and return incurred by palm oil marketers
- iv. determine the factors that affect the marketing of Palm oil
- v. determine the constraints experienced by palm oil marketers

Methodology

Study Area

Ikwerre Local Government Area is located in the town of Isiokpo and consists of the districts of Aluu, Elele, Igwuruta, Isiokpo, Omogwa, Omademe, Omerelu, Ozuoha, Ubima and Umuanwa. Ikwerre Local Government Area is the most influential local government area of Rivers State with its administrative headquarters situated in the town of Isiokpo, Ikwerre local government area is in Rivers state, South-south geopolitical zone of Nigeria. The headquarters of the LGA are in the town of Isiokpo with the LGA comprising several towns and villages such as Omesiobi, Akpabu, Omuchetu, Umukpu, Omuoparaaga, Ogbasara, Mgbuhie, and Ekuche. The estimated population of Ikwerre LGA is put at 211,081 inhabitants with the majority of the area's dwellers being members of the Ikwerre ethnic affiliation. The Ikwerre dialect of the Igbo language is commonly spoken in the LGA while Christianity is the most practiced religion in the area. Several popular festivals are held in Ikwerre LGA and these include the New Yam and those Ikwerre wrestling festivals. Ikwerre LGA sits on a total area of 1,380 square kilometres and has an average temperature of 26 degrees centigrade. The average humidity level of the LGA is 90 percent with the area witnessing two distinct seasons which are the dry and the rainy seasons. The rainy seasons in Ikwerre LGA last longer than the dry seasons and are usually characterized by heavy showers. Ikwerre LGA has a viable agricultural sector with a variety of crops such as yam, cassava, plantain, banana and most especially oil palm grown in the area. Also, the area has a booming trade sector with several markets being hosted in the LGA including the AhiaIzor market. Ikwerre LGA is also rich in mineral deposits which include crude oil and natural gas. Other important economic activities in Ikwerre LGA include fishing, hunting and woodwork.

Sampling Procedure and Sample Size

Multistage sampling was used. In the first stage, five (5) major markets were purposively chosen from the major markets in the local government, which were the

Igwuruta market, Isiokpo market, Omagwa market, Ubima market and Aluu market, in the second stage, fifteen (15) palm oil wholesalers and fifteen (15) retailers were randomly chosen from each of the selected markets. In all, a total of 150 respondents formed the sample size of the study.

Analytical Techniques

Objective 1, 2, 4 Objectives and 5 were analyzed using descriptive statistics such as frequency distribution, percentages and means while Objective 3 was estimated using a gross margin model.

Model Specification

Marketing Cost

The marketing cost was estimated using the formula:

$$MC = QM(CL + CT + RS + TX) \dots (1)$$

Where;

MC= Marketing Cost

QM= Quantity of Commodity Marketed

CL=Rate of loading

RS= Cost of Storage

TX= Tax

Gross Margin Analysis

This model is used to determine cost and returns, it is mathematically stated as;

$$GM = TR - TVC \dots (2)$$

Where;

GM=Gross Margin (N)

TR=Total Revenue (N)

TVC=Total Variable Cost (N)

TFC= Total fixed cost

Results and Discussion

Results

Table 1 shows the socioeconomic characteristics of palm oil marketers. From Table 1, the results indicate that 7.3% of palm oil marketers were men while 92.7% of palm oil marketers were females. The study indicates that 5.33% of respondents were between the ages 20 – 29, 14.00% were of age 30 – 39, 28% of the respondents were aged 50 – 59, the majority of the marketers (50%) were aged 40 – 49 and a minority of the respondents (2.6%) were of ages 60 and above. It shows that all the respondents in the study area have obtained at least a primary school education while the majority had a secondary school education. It further shows that 66.67% of the respondents were married 20.67% of the respondents were widows/widowers, 7.33% were single and 5.33% were separated. It also shows that 53.33% of the respondents have experience of about 1- 5 years, 30% of the respondents have experience of between 6 – 10 years and 16.67% of the respondents have experience of about 11 and above years. The result from Table 1 further shows that a minority (5.33%) of the palm oil marketers are of income level of N41,000 –N 50,000, 18% of palm oil marketers earn from N31,000 – N40,000 as their monthly income, 32% of the respondents have N21,000 – N30,000 as monthly income, 28.67% of palm oil marketers earned from N41,000 – N50,000 as their monthly income and 16% of

palm oil marketers earned from N50,000 and above as their monthly income. The majority (60%) of palm oil marketers have household sizes of 1 – 5 persons. About 32.67% of palm oil marketers have household sizes of 6 – 10 persons, followed by 7.33% of palm oil marketers who have household sizes of 10 – 15 persons. Finally, 67.33% of palm oil marketers have secondary education and they are the majority while 28.67% of the respondents had primary education with only 4% having tertiary education.

Marketing channels

Table 2 shows the percentage distribution of palm oil marketing channels in the study area. According to the responses of the respondents, sixty per cent (60%) of marketers get palm oil from the producer side. These are wholesalers who sell to retailers and retailers sell to the consumers, while (40%) purchase from the producer and then retail to the consumer.

Marketing Costs and Return of Palm Oil Marketing

Table 3 shows the marketing costs and returns in palm oil marketing. The analysis of costs and returns of palm oil marketing in Table 2 showed that the total variable cost incurred was ₦26,000 while fixed cost amounted to N 300. Similarly, on the return side, the average total revenue amounted to N28,800 based on the costs and return analysis in the table, the profit was N2,500 while the net return on investment was 0.10% per gallon per day and they sell an average of 1-2 gallons per day.

Factors Affecting Palm Oil Marketing

Table 4 shows the various factors affecting palm oil marketing in the area. The problems faced by palm oil marketers in the study area were ranked as shown in Table 4 above. Ten (10) items in the questionnaire were used to address the factors affecting palm oil marketing. All 10 items were agreed by the respondents (having had a mean score greater than the criterion mean score which is 2.50) indicating that transportation cost, Competition, Production cost, Low patronage, Poor access to market price information, Substitution by other oil, Lack of access to credit facilities, Unstable measurement system, Unfavorable government policy, Poor quality of product were all the factors affecting palm oil marketing in the study area. It is therefore evident that most marketers lack access to loans and other credit facilities.

Constraints Encountered by Palm Oil Marketers

Table 5 below shows the various constraints encountered by palm oil marketers

The result in Table 5 revealed that inadequate capital is the major problem as most of them obtained their initial capital outlay from their saving. Followed by poor marketing channels among others were the major constraints to palm oil marketing in the study area.

Discussion

The result indicated that the majority of palm oil marketers were females. This showed that the palm oil

marketing business involves more females than males. This result agreed with that of Okidim *et al.* (2019) that the majority of palm oil marketers were females. The majority of the marketers (50%) were aged 40 – 49 years. This implied that the majority of the marketers were adults. The result agreed with that of Akintunde and Adeoti (2014) that the majority of the palm oil marketers were below 50 years old with an average age of 45 years. The majority of the respondents in the study area obtained secondary school education. This is in line with the finding of Nse-Nelson *et al.* (2021) where they discovered that the majority of the palm marketers acquired formal education. Also, 66.67% of the respondents were married. This implied that there are more married people involved in the marketing of palm oil in the Ikwerre Local Government Area which is in line with Nwauwa (2011) who pointed out that there are more married than single people in the palm oil marketing business. Most of the respondents had the experience of about 1- 5 years. This result implies that marketers had a good experience in palm oil marketing. This is about the study carried out by (Nse-Nelson *et al.* 2021) who stated that the experience of marketers is a major factor in the profitability of palm oil marketing. It further reflects a minority (5.33%) of the palm oil marketers earn N41,000 – N50,000 naira. The implication of this result is that the income level of marketers significantly affects the number of participation in palm oil, the more the income level the more the participation. This study is in line with the recommendation of (Nse-Nelson *et al.* 2021) who recommended that palm oil marketers should form a cooperative body to take advantage of economies of scale. The household size results showed that the majority (60%) of palm oil marketers had household sizes of 1 – 5 persons. The result supported Nse-Nelson *et al.* (2021) which stated that the household size of palm oil marketers is moderate. The marketing channel used majorly by marketers is from the producer to the wholesaler to the retailer and to the final consumer. This study agreed with the observation of Bassey *et al.* (2015) and Ekine *et al.* (2006) which stated that the majority use the first channel of marketing and a 4-level distribution with 3-level traders. The marketing costs and revenue from the result showed that palm oil marketing is a profitable venture with a lower fixed cost. This result agreed with Simpa and Nmadu (2015) who revealed that palm oil marketing was highly profitable having a lower fixed cost. Also, the return on investment was 0.10 which is in line with Nse-Nelson *et al.* (2021) which obtained a return on investment of 0.16. The palm oil marketers encountered several constraints in the study area which agreed with that of (Ekine *et al.*, 2006), which highlighted poor transportation systems and inadequate credit facilities as the major problem of palm oil marketing. Also, Nwibo and Odoh (2014) reported inadequate capital as the greatest constraint of palm oil marketers.

Conclusion

Despite the constraints encountered by the marketers, the study concluded that palm oil marketing in Ikwerre

Local Government Area of Rivers State is a profitable venture and economically viable means of earning a livelihood with a rate of return on investment of 0.10 and profit of N2,500 per gallon per day. Based on the findings of this study, the following recommendations were made:

- i. Governmental and Non-Governmental Organizations should set programmes that would assist to providing credit facilities to palm oil marketers.
- ii. Stakeholders should improve the transportation system in order to reduce transportation costs.
- iii. More supply of palm oil should be encouraged to bridge the gap between supply and demand of the commodity thereby reducing the purchase price.

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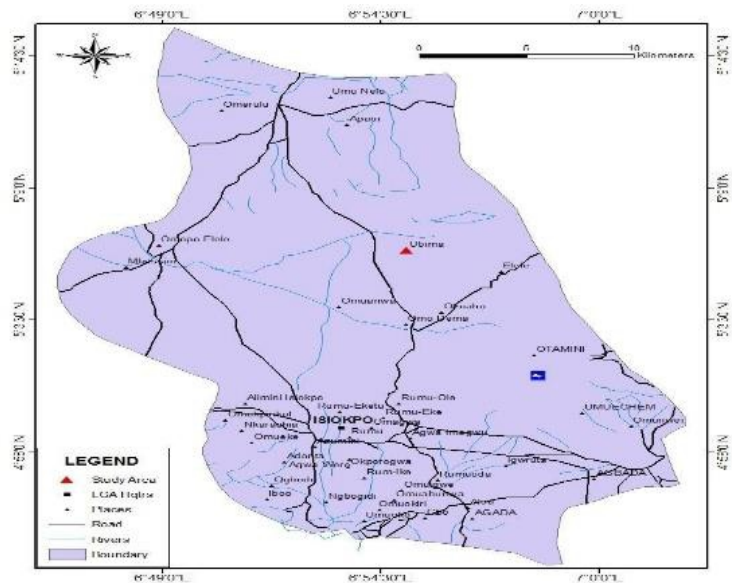
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Source: Research gate

Table 1: Socio-economic Characteristics of Palm Oil Marketers

Variables	Category	Frequency	Percentage
Sex of Respondents	Male	11	7.3
	Female	139	92.7
Age of Respondents	20 – 29	8	5.2
	30 – 39	21	14.0
	40 – 49	75	50.0
	50 – 59	42	28.0
	60 and above	4	2.7
Type of Education Acquired	Formal	150	100
Marital Status of Respondents	Single	11	7.3
	Married	100	66.7
	Widow/widower	31	20.7
	Separated	8	5.3
Marketing Experience	1 – 5	80	53.3
	6 – 10	45	30.0
	11 and above	25	16.7
Income of Respondents	11,000 – 20,000	43	28.7
	21,000 – 30,000	48	32.0
	31,000 – 40,000	27	18.0
	41,000 – 50,000	8	5.3
	51,000 and above	24	16.0
Education of Respondents	Primary	43	28.7
	Secondary	101	67.3
	Tertiary	6	4.0
	Total	150	100
Size of family	1 – 5	90	60.0
	6 – 10	49	32.7
	11 – 15	11	7.3
	Total	150	100

Source: Field Survey, 2022

Table 2: Percentage Distribution of palm oil marketing channels in the study area

Channels	Frequency (n=150)	Percentage (%)
Producer→Wholesaler→Retailer →Consumer	85	60
Producer→Retailer →Consumer	65	40
Total	150	100

Source: Field Survey, 2022

Table 3: Average marketing costs and return analysis of palm oil marketing in naira per gallon per day

Item	Amount (₦)
Total Revenue (TR)	28,800.00
Buying price	25,000.00
Cost of packaging materials	250.00
Transportation cost	500.00
Labour cost	150.00
Tax	100.00
Total Variable Cost (TVC)	26,000.00
Rent	200.00
Cost of furniture	100.00
Total Fixed Cost (TFC)	300.00
Total Cost (TC)	26,300.00
Profit	2,500.00
Rate of return on investment	0.10%

Source: Field Data Analysis, 2022

Table 4: Factors Affecting Palm Oil Marketing

Items	Mean	Remark
Transportation cost	3.34	Agreed
Competition	3.40	Agreed
Production cost	3.16	Agreed
Low patronage	3.69	Agreed
Poor access to market price information	3.78	Agreed
Substitution by other oil	3.88	Agreed
Lack of access to credit facilities	3.50	Agreed
Unstable measurement system	2.97	Agreed
Unfavourable government policy	3.36	Agreed
Poor quality of product	3.34	Agreed

Criterion mean ≤ 2.50

Source: Field Survey, 2022

Table 5: Constraints encountered by palm oil marketers

Items	Mean	Remark
High cost of transportation	3.35	Agreed
Price fluctuation	3.40	Agreed
Inadequate capital	3.74	Agreed
Poor marketing channel	3.64	Agreed
High market levy	3.41	Agreed
Bad road network	3.16	Agreed
Competition	3.26	Agreed
Lack of storage facilities	3.16	Agreed

Criterion mean ≤ 2.50

Source: Field Survey, 2022