Analysis of Cost and Returns of Palm Oil Marketing

in Anambra State, Southeast, Nigeria.

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Abstract. The study analyzed the cost and returns of palm oil marketing in Anambra State, Nigeria. Specifically, it described the socioeconomic characteristics of the respondents, examined marketing strategies and profitability of palm oil marketing. A multistage sampling method was used to select 120 respondents for this study. Primary data were collected using a set of structured and pre – tested questionnaires. Statistical tools, including means, percentages, marketing margin and gross margin analysis. Results showed that majority 86% were females, 62% were within age range of 41 – 55, 67% were married, 100% had access to information, personal saving ranked as the highest source of finance, return on investment was 1.48 and profit was ₦1, 492,000. In spite of dominance of oil palm processing and marketing activities in the State, there are no existing research information on the profitability of oil palm marketing in the area hence this study was necessitated to fill the gap.

Key words : Economic growth, rural farmers, marketing, palm oil and income

Introduction

Palm oil marketing in Nigeria has always been concerned with all stages of operation that aid movement of the produce from producer to the final consumers. These include assemblage, storage, and transportation, grading and financial (Nwauwa 2012). Marketing of palm oil in Nigeria takes place in homes, road sides, local periodic market centers and stalls. These can be both whole sale and retailer types in both rural and urban markets. Palm oil is a very lucrative business. Nigeria has for a long time recognized the importance of agricultural marketing as a critical component and catalyst to promote viable agricultural production system and economic growth. The export oriented nature of palm oil has enabled many developing countries like Nigeria establish, marketing boards to regulate the price of palm oil in the early days such as Nigeria Palm Produce Market Board (NPPMB) in 1946. The board handles the purchase and export of other palm products. In 1977 NPPMB was scrapped and replaced with Nigeria Palm Produce Board (NPPB) and unlike the predecessor its national scope changed with responsibility for internal marketing exports, sales, shipment, and provision of information for research. Price of palm oil is legally affected by production output of the palm oil within the year and general inflation (fry, 2003). Price of palm oil is largely affected by production or output of the palm oil within the year and general inflation (fry, 2003). Past policy have aimed at increasing agricultural productivity through increased investment in agronomic and production system research. The discovery of petroleum in the late 50's and its

exploitation and export in the early 70's changed the economic scenario in favour of oil as the chief revenue earner of the nation. The global economic recession of the mid 80's however exposed the inherent structural weakness of import substitution as a strategy for industrialization with the coming of the structural adjustment programme (SAP) in 1986 and the concomitant devaluation of the naira. Nigeria manufacturers found it difficult to import the needed raw materials and machinery to produce profitably. P olicy formulation, has failed to make cognizance of the fact that production and marketing constitute a continuum and that the absence of the development in one retards progress in the other (Nwauwa,2012).

Previous studies on the marketing and pricing of food stuffs in different parts of Nigeria have concluded that the marketing and pricing information transmission mechanism are inefficient although there are many buyers and sellers in the market (Dittoh, 1994). The paucity of physical infrastructure such as storage facilities, transportation system, access to road, communication channel are some factors identified as source of inefficiency in marketing sector. Others include high erratic prices, which further depress the level of agricultural production (Okoh, 2005). Palm oil production and marketing are major income generating activities for small-holder oil palm development scheme and other related programmes in the state. In spite of numerous oil palm processing and marketing in the state, there seems to be no existing research information on the profitability and other salient issues related to palm oil marketing as a major economic activity in the area hence this study was carried out to fill this gap.

Objectives of the study.

The broad objective of the study is to evaluate the cost and returns of palm oil marketing in Anambra state.

The specific objectives were to:

i examine the socioeconomic characteristics of palm oil marketers;

ii examine the marketing strategies used by the marketers and;

iii estimate the profitability of palm oil marketing .

Materials and methods

The study was conducted in the rural setting of Anambra State, Southeast Nigeria. The state is located between latitudes 60 45N and 50 44E and longitudes 60 36N and 7o 29E. It has two distinct seasons – rainy and dry seasons. The rainy season lasts between April and October, while the dry season is from November to March. The temperature of the area is clement with a mean of 300C during the hottest period of February to April and 210 C during the coldest period of December to January. The soil of the area consists of clay, clay loam and sandy loam soils and classified as hydromorphic (Anambra State, 1991). The annual average rainfall is between 1800mm and 2000mm and distributed through March to November. The 2006 estimated population of 4,182032 for the State (Federal Republic of Nigeria {FGN}, 2006) makes it one of the most populous states in the south eastern geo – political zone. The male population of 50.9% is slightly above that of the female (49.1%). It occupies an area of 4,416 square kilometers. Seventy percent is arable land which is under cultivation. The number of farm families is 338, 721 with an average size of eight persons per farm family or household (ASADEP, 2003). There are 21 L.G.A's in the State, 177 autonomous communities, and four Agricultural zones. The state is situated in a fairly flat land with tropical vegetation. It has a weak soil that is easily eroded, thus accounts for over 500 erosion sites of varying depths and length (SEEDS, 2006). Agriculture is the predominant occupation in the rural areas of the state engaging more than 70% of the rural population. The major crops cultivated in the state are cassava, yam, rice, maize,

cocoyam, oil palm, plantain/banana, beans and leafy vegetables. The farming system is root crop – based and characterized by inter – crops. An important feature of the farming system in the upland areas, where there is pressure on land, is compound and homestead farms. Compound farms integrate not only arable crops and tree crops but also livestock and at times fisheries (Ugbajah, 2011). The dominant criterion for selecting Anambra State is the prevalence of oil palm and milling in most rural areas in Anambra State.

 A multistage sampling technique was used to select respondents for the study. Stage 1 involved random selection of   one agricultural zone. Stage 11 was random selection of four local Government areas. Two communities were selected from the four LGA's by random sampling in stage 111. Stage iv was the random selection of eight towns and 15 palm oil marketers to arrive at 120 respondent used for the study. Primary data were collected with a set of pre – tested structured questionnaires administered to the respondents. Primary data were collected on socioeconomic characteristics and marketing variables. This included age, gender, educational level, and marital status, years of experience, access to market information and source of finance. Analyses of data were by descriptive statistics, marketing margin and gross margin analyses.

Gross margin and net income were given as;

$$GM = TR - TVC,$$

$$NFI = GM - TFC \text{ or } TR - TC$$

$$NROI = NFI/TC$$

Where:

GM = gross margin

TR = total revenue

TVC = total variable cost

TFC = Total fixed cost

NFI = Net farm income (profit)

NROI = net return on investment

TC = total cost = TFC+TVC

Results and Discussion.

The results are presented in Tables 1, 2, 3 and 4. Majority (67%) of the respondent were married, 72% had household size of 9 – 12 persons, large household size implied readily available labour in marketing of palm oil. 62% were within the age range of 41 – 55 years. This implied that palm oil marketing is dominated by the active productive age, strong and energetic to carry out the strenuous work in the marketing process. About (63%) had both secondary and tertiary education. This corroborates the findings of Agbamu and Atoma (2010). that level of education influences participation in productive activities, marketing information, adoption, transfer and application of innovations. Majority 100% had access to marketing information. This implied that palm oil marketing in the study area was efficient and information based. Majority 63% of the respondents had both secondary and tertiary education. This implied that most of the marketers were literate and possesses the necessary skills and exposure for easy adoption of current marketing strategies. This supported the findings by (Njoku and Nnamani, 2016 and Adelye, 2011 who also observed that education enable acquisition of skills and adoption of strategies through access to marketing information.

Furthermore personal savings was the major source of capital for palm oil trade. This implies there is need to increase the capital of the marketers in the study area. The success and stability of any business is dependent on the skill and experience of the managers (Anzanku, Abimiku, Azagaku and Yohana, 2006). The more the experience acquired on

the job, the greater the efficiency of the workers. Majority 78% of the palm oil marketer had more than 4 years experience in palm oil marketing. This result implied that the marketers were conversant with the marketing strategies involved in palm oil trade also, were better equipped to manage the business in terms of volume and turnover per unit period.

The marketing strategies of the respondents

Three marketing strategies were identified, total sale of palm oil at harvest (peak season), partial storage; sale of part of output at harvest, storage of the rest of palm oil at peak production seasons, and the total storage of palm oil output at harvest. About 56% of the marketers sold all their palm oil output at harvest, 10% engaged in partial storage of palm oil while 33.3% practiced total storage of palm oil at harvest to sell later during the lean production season. The large percentage of marketers who engage in total sale of their output of palm oil during the peak season, implied that the marketers cannot afford the financial commitment of waiting for the scarcity season to market their palm oil to realize more profit

Peak and Lean production margin analysis

Temporal price differentials were recorded in all the market, at all market levels (table 3) price of palm oil was higher during the lean production season than the peak production season. Highest season price differential was recorded in Ose and Ochanja market, in Onitsha North Local Government Area. Where palm oil cost ₦13,000 at peak period and ₦15,500 at lean production period, the price variations implied that the level of palm oil storage in Anambra State is not significantly large enough toestablish a fairly stable all season price condition.

The difference in palm oil price of 20 liter jerry can between markets was not significant at 5% level. The observed differences in the markets were negligible. This implied that marketers were well informed on existing palm oil prices in other markets. Palm oil marketing in Anambra State was efficient because, price of the commodity was relatively same at different markets for each production season. Kim and Blade (2005) highlighted the importance of information in marketing as an important tool for efficient markets. This is because the knowledge of expected levels of supply and demand is useful in determining the price to be paid for a commodity.

Analysis of cost and return

The cost items identified in palm oil marketing were transportation cost, association dues, marketing charges (tax, ticket etc), cost price of empty 20litre jerry can, cost of palm oil and store rent. The mean gross margin was ₦13,183; mean net marketing income (NMI) was 8288 and return on investment of 1.48. This implied that an increase in investment will result to increase in returns in palm oil marketing in the study area.

Conclusion

Palm oil marketing is profitable in the study area. The positive values of the mean gross margin, mean net marketing income and return on investment of 1.48 implied that palm oil marketing is a profitable venture. Returns on cost can be achieved when measures are applied that can expand their business frontier. The rural subsistence/ small holder must market some of their produce to have cash that will enable them pay for inputs and services that will improve their output and standard of living. In other words an efficient marketing sector is the most important multiplier of economic development.

Recommendations

Provision of infrastructures such as good road network to reduce cost of marketing and improve efficiency and effective storage facilities to eliminate/reduce price fluctuation of palm oil

 Government and financial institutions should assist the marketers' access credit facilities through Bank of agriculture and other credit schemes.

The marketers should form cooperatives to enable assess credits and other infrastructures from the government and other non governmental agencies

Improved high palm oil yielding species/varieties should be provided to the small scale palm oil producers

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Table I. Distribution of respondents according to socio-economic characteristics

VARIABLE AGE (YEARS)	FREQUENCY	PERCENTAGE

25 – 40	25	20.8
41 – 55	74	61.7
56 – 70	21	17.5
GENDER		
Male	34	28.3
Female	86	71.7
EDUCATIONAL LEVEL		
Primary	44	36.7
Secondary	64	53.3
Tertiary	12	10
MARITAL STATUS		
Single	40	33.3
Married	80	66.7
YEARS OF EXPERIENCE		
1 – 4	41	34.2
5 – 8	55	45.8
Above 8	24	20
ACCESS TO MARKET INFORMATION		
Access	120	100
No access	0	0
SOURCE OF CAPITAL		
Personal savings	64	53.33
Friends	32	26.7
Bank	24	20.0

Source: Field survey data 2016

Table 2: **Distribution of respondents according to marketing strategy**

SALES STRATEGY	FREQUENCY	PERCENTAGE
Total sales at harvest	68	56%
Partial storage	12	10%
Total storage	40	33.3

Table 3: Peak/lean season marketing margins (₦) for palm oil sales per 20litre can.

Source: Field survey data 2016

		PEAK SEASON		LEAN SEASON		MEAN	
L.G.A	TOWN	COST	SELLING	COST PRICE	SELLING	C	S
Aguta	Igboukwu	12,500	14,000	14,500	16,000	13,500	15,000
	Ekwulobia	12,000	14,500	14,000	16,500	13,000	15,500
Idemili south	Nnobi	12,300	14,000	14,000	16,500	13,200	15,250
	Oba	12,000	14,500	14,500	17,000	13,250	15,750
Oyi	Awkuzu	12,100	14,500	14,500	16,000	13,300	15,250
	Nkwelle	12,800	14,300	14,200	16,200	13,500	15,350
Onitsha North	Ose	13,500	15,000	15,200	17,500	14,350	16,250
	Ochanja	13,000	15,500	15,000	17,200	14,000	16,350
Total		**100,200**	**116,300**	**115,900**	**132,900**	**108,100**	**124,600**
Mean		**14,525**	**14,537**	**14,487**	**16,612**	**13,512**	**15,575**

Estimated monthly profitability of palm oil

Total revenue   =   4,560,000

VARIABLE COST

Purchase   =   2,757,000

Transportation   =   153,000

Loading   =   26,000

Off - loading   =   24,000

Security   =   6,000

Association	=	12,000
Total variable cost	=	2,978,000

FIXED COST

Cost of empty gallon	=	17,000
Storage	=	58,000
Taxes	=	15,000
Total fixed cost	=	90,000
Total cost	=	3,068,000
GM TR-TVC	=	1,582,000
Mean GM	=	13,183
NMI TR – TC	=	1,492,000
Return on investment TR/IC	=	1.48

Source: Field survey data 2016