EVALUATION OF FROZEN FISH MARKETING IN SOUTHWESTERN NIGERIA

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ABSTRACT

The study examined the marketing of frozen fish in southwestern Nigeria. It determined the profitability of fish marketing and investigates the market structure for fish in the study area. A multistage sampling technique was used to select 150 frozen fish marketers in the study area. Gross margin analysis and Gini-coefficient were used to analyze the data collected. The study revealed that a frozen fish marketer earned an average of ₦ 25, 950.70 per month as gross margin which indicates that fish marketing is a profitable venture in the study area. The study also reveals that the Gini-coefficient for fish marketers in the study area to be 0.3336 which indicates low level of inequality in income distribution among the respondents.

Keywords: Gross-margin, Frozen fish, Gini-co-efficient, Market Structure

INTRODUCTION

Domestic production of fish and fisheries products supply about 40% of animal protein consumed by the average Nigerian (Mabawonku, 1986). Artisanal fisheries have the social objectives of generating supplementary income, diversification of activities and employment generation particularly in the riverine and coastal areas. Many people are engaged in direct fishing activities such as production, distribution or marketing and processing of fishes. In terms of contribution to the Gross Domestic Product, the fisheries sub-sector accounted for 1.74%, 1.79% and 1.69% during the year 2001, 2002 and 2003 (CBN, 2004). The demand for fish has been rising rapidly as a result of increases in population, per capita income and price of alternative sources of animal protein. Unfortunately, the domestic supply of fish has not satisfied the demand. Comparison of the total fish supply (FOS, 1999) and the projected fish demand in Nigeria (Tobor, 1990) over the years has shown that there has been fish demand-supply deficit in the country. The domestic fish production is grouped as industrial and artisanal fisheries. While the artisanal fisheries are sold as smoked fish, the frozen fish is made up of catches by industrial and imported fisheries. The persistent inflation in the country has eroded the value of the naira forcing many cold room operators and retailers to abandon the business. This therefore call for review of the situation and hence the need for this study. This study specifically determines the profitability of frozen fish marketing and examines the market structure for frozen fish in the study area.

RESEARCH METHODOLOGY

The study was carried out in southwestern Nigeria (Figure 1) comprising six states (Oyo, Ogun, Osun, Ondo, Lagos, Ekiti). The area has a tropical climate with its characteristic high temperature all the year round and heavy rainfall during the rainy season (April - September). A multi-stage sampling technique was used to select 150 frozen fish marketers in the study area and structured questionnaire administered on them. Ondo State was selected to minimize cost. Three Local Government Areas were then randomly selected from the eighteen Local Government Areas in the State. Five towns or villages were randomly selected from each local government area. Ten respondents were then randomly selected from each town or village to make a total of 150 respondents.

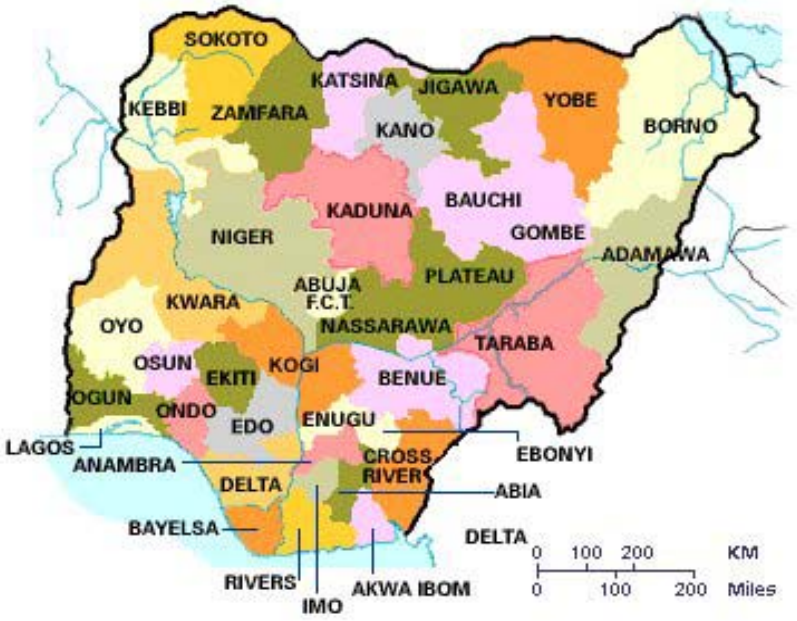

Figure 1. Map of Nigeria

Data Analysis Technique

Gross margin analysis was used to determine the profitability of frozen fish marketing among the respondents.

Gross margin can be represented as: $G.M = G.I - TVC$

where

G.M	=	Gross Margin
G.I	=	Gross income
TVC	=	Total variable cost

The market structure was examined by using the Gini-coefficient which can be presented below:

$$\text{Gini-coefficient} = 1 - \sum XY$$

where

X	=	Percentage of frozen fish sellers
Y	=	Cumulative percentage of income of fish sellers
$\sum$	=	Summation sign

RESULTS AND DISCUSSION

Cost and Returns of Respondents

Table 1 reveals that cost of purchase accounted for 93.1% of the total variable cost while cost of transportation accounted for 0.45%. Storage accounted for 1.2% while the cost of labor accounted for 3.5% of the total variable cost. Cost of rented stalls and miscellaneous cost accounted for 1.25% and 0.5% respectively. Analysis also showed that total variable cost per seller in the study area was ₦ 273,157.90 while the total revenue per seller was ₦ 299,107.90 per month indicating a gross margin of ₦ 25,950 per seller per month.

Table 1: Cost and Returns for Frozen Fish Sellers in the Study Area.

Items	Amount (₦)	Percentage of TVC
Cost of purchase	38,146,500	93.1
Transportation	184,381,58	0.45
Storage	491,684.21	1.2
Labour cost	1,434,078.95	3.5
Cost of hired stalls	512,171.05	1.25
Miscellaneous cost	204,868.42	0.5
Total Variable Cost (TVC)	40,973,684.21	
Total Revenue (TR)	44,866,184.21	
Total variable cost per seller	273,157.9	
Total revenue per seller	299,107.9	
Gross margin per seller	25,950	

Source: Data Analysis, 2003
(US$ = N120)

The Market Structure for Frozen Fish in the Study Area

The market structure for fish in the study area is not perfect competitive because of the hindrance posed by the market association. The value of Gini-coefficient ranges between 0 and 1 (Todaro, 1983). The closer to unity, the greater the degree of income inequality and hence the higher the level of sellers concentration and vice versa. The Gini-coefficient for frozen fish sellers in the study area shown in Table 2 (i.e 0.3336) reveals low level of inequality in income distribution which may be an indication that frozen fish marketing is dominated by retailers.

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Table 2: Computation of Gini-coefficient for frozen fish sellers in the Study Area

Sales	No. of sellers (Frequency)	% of Marketers (X)	Cumulative Frequency	Cumulative % of Sellers	Total Sales (₦)	% of Total Sales	Cumulative % of Total Sales (Y)	XY
<100,000	56	37.33	56	37.33	22026.45	49.1	49.1	0.1833
100,001 – 200,000	39	26	95	63.33	9341139.55	20.82	69.92	0.1818
200,001 – 300,000	25	16.67	120	80	36833513.72	8.21	78.13	0.1302
300,001 – 400,000	12	8	132	88	318985.70	7.11	85.24	0.0682
400,001 – 500,000	7	4.67	139	92.67	2840029.46	6.33	91.57	0.0428
500,001 – 600,000	4	2.67	143	95.34	2126657.13	4.74	96.31	0.0257
600,001 – 700,000	1	0.67	144	96.01	726832.18	1.62	97.93	0.0007
700,001 – 800,000	3	2	147	98.01	327523.14	0.73	98.66	0.0197
800,001 – 900,000	1	0.67	148	98.68	399309.04	0.89	99.55	0.0007
>900,000	2	1.33	150	100	20187.83	0.45	100	0.0133
Total	150	100	-	-	44,866,184.21	100	-	0.6664

Mean Value of Sales = N299,107.89

Gini-coefficient = $1 - \sum XY$

= 1 – 0.6664

= 0.3336