

# Market Structure of Yam in Selected Market in Ibadan, Oyo State, Nigeria

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**Abstract**— This study carried out Market Structure of Yam in selected markets in Ibadan. Oyo State, It specifically determined profitability of Yam marketing and examined the market structure for yam in the study area. Five markets centres were covered and simple random sampling techniques were used to select a total of 120 yam sellers in the study area. Gross margin and gini-coefficient techniques were used to analyse the data collected. The profitability analysis showed that yam marketing in Bodija is more profitable as the seller on the average realizes a net profit of N111,075. The result of the Gini coefficient for yam sellers obtained in the study area was 0.572 which implies that yam market in the study area is imperfectly competitive with the market structure inclining towards monopoly.

**Keywords**— yam, market structure, profitability, gross margin, gini coefficient.

## I. INTRODUCTION

Yam (*Dioscorea* species) is a premium crop in the Nigeria food system and Nigeria is the world's largest producer with an aggregate annual output in excess of 50% of yam produced worldwide in 2000. Nigeria alone accounted for 26million tonnes followed by Ghana and Cote'divoire with 3million and 2.9million tonnes respectively [1]. Yam tubers are the consumable product of yam crop, and the tubers are sources of carbohydrate. The tubers can be prepared for consumption by boiling and eating with stew, roasted and eating with stew, boiling and pounding, eating with stew, as porridge, yam balls, sliced and fried into yam chips [2]. [3], enumerated that some basic decision needs to be taken on the food market structure that would leads to more effective market performance. Since production is not complete until the product get to the hands of the final consumers, this study therefore carried out market structure of Yam in selected markets in Ibadan, Oyo State. Specifically, it (i) determined the profitability of yam marketing in the study area and (ii) examined the market structure for yam in the study area.

## II. RESEARCH METHODOLOGY

The study was conducted in Ibadan capital of Oyo State, Nigeria. Ibadan is located in south western Nigeria, 128km in land northern of Lagos and 530km southwest of Abuja, the federal capital, and is a prominent transit point between the coast region since the day of British colonial rule, and part of the cities ancient protective walls still stand to this day. Ibadan has rainfall of about 1250mm minimum and 1800mm maximum, it lies between latitude 70N and 900N of the equator and longitude 20E and 50E of the Greenwich meridian. Ibadan has two distinct seasons; Rainy season between April and October; and the dry from November and March. The temperature ranges between 270C and 380 C with relative humidity of about 25% to 90%.

Five markets centers were covered namely Bodija market, Oje market, Dugbe market, Oja'oba market, and Oritamerin market. Each market was purposively selected in each local government where different species of plank can be found in Ibadan. Simple random sampling techniques was used to select a total of 120 yam sellers consisting of 45 yam sellers in Bodija market, 20 yam sellers in Oje market, 15 yam sellers in Dugbe market, 25 yam sellers in Oja-oba market and 15 yam sellers in Oritamerin market on the basis of the size of each market in the study area. The data for the study was collected using structured questionnaire. Personal visit were made to the market to obtain first hand information on other relevant market issues that could not be captured by the questionnaire. Gini co-efficient as used by [4] was adopted to measure the relative degree of income inequality among yam sellers. The model specification is as follows;

Gini co-efficient=  $1 - \frac{\sum XY}{\sum X \sum Y}$  Where X= the percentage of sellers, Y= the cumulative percentage of total sales,  $\sum XY$ = the summation of XY. The gross margin and marketing margin analysis as adopted by [5] was used to measure the profitability of yam marketing. The market performance of any particular product is usually determined by taking method of storage, transportation, grading and standardization into consideration. Gross

margin analysis is to estimate the profitability of yam marketing as represented below.  
GM= GI - TVC

Where; GM= Gross Margin, GI = Gross Income, TVC=Total Variable Cost.

### III. RESULTS AND DISCUSSION

Table.1: Income Distribution of Yam Sellers in the study Area and Computation of Gini coefficient for yam sellers in Ibadan

Sales [N]	No of sellers	% of sellers (X)	Cumm. Frequency	% cumm. Frequency sellers	Total sales/month	% total sales	% cumm. Of total sales [Y]	ΣXY
1-100,000	9	7.5	9	7.5	730,000	1.5	1.5	0.001125
100,000-200,000	21	17.5	30	25.0	3,580,000	7.4	8.9	0.015575
200,001-300,000	23	19.2	53	44.2	5,641,000	11.7	20.6	0.039552
300,001-400,000	10	8.3	63	52.5	3,430,000	7.1	27.7	0.022991
400,001-500,000	13	10.3	76	63.3	6,261,000	13.1	40.8	0.044064
400,001-500,000	6	22.5	82	68.3	3,550,000	7.4	48.2	0.0241
600001-700000	27	9.2	109	90.8	17,102,000	35.5	83.7	0.188325
700,001-800,000	11	100	120	100	7,845,000	16.3	100	0.092
	120				48,139,200			0.4277

Source:Field survey, 2015

The yam market concentration was determined by means of Gini coefficient. Table 1 shows that 7.5% (N 0 - 100,000) of yam sellers accounted for 1.5% of the total monthly sales, 17.5% (N 100,001-200,000) accounted for 7.4% of total monthly sales, 19.2% (N 200,001- 300,000) accounted for 11.7% of total monthly sales, 8.3% (N 300,001-400,000) accounted for 7.1% of total monthly sales, 10.8% (N 400,001- 500,000) accounted for 13.1%, 5% (N 500,001- 600,000) accounted for 7.4% of total monthly sales, 22.5% (N 600,001-700,000) accounted for 35.5% of total monthly sales, while 9.2% (N 700,001 -

800,000) accounted for 16.3% Of the total monthly sales. The result of the Gini coefficient for yam sellers obtained in the study area was 0.572. This implies that yam market in the study area is imperfectly competitive with the market structure inclining towards being a monopoly. This is in contrast with study by [6] on the analysis of the fundamentals in palm oil marketing in Osun state, Nigeria, which shows that Gini coefficient of 0.4277, meaning low level income inequality.

$$\text{Gini coefficient} = 1 - \frac{\sum XY}{\sum X \sum Y} \\ = 1 - \frac{0.428}{0.74} = 0.572.$$

Table.2: Market Performance of Yam Marketing in the Study Area

Market	No of Sellers	Gross Revenue	Total Variable cost	Gross Income (₦)	Return/Naira Invested
Dugbe	15	170,100.00	119,100.00	51,200.00	1.4
Bodija	45	555,375.00	444,300.00	111,075.00	1.3
Oje	20	409,095.24	356,714.29	52,380.95	1.2
Ojaoba	25	430,273.68	371,894.74	58,378.95	1.2
Oritamerin	15	550,000.00	494,100.00	55,900.00	1.1

Source: Field survey, 2015

Table 2: Shows the market performance of yam marketing in the study area, the performance of any particular product is usually determined by taking methods of

storage, transportation, loading and offloading, and standardization into consideration. Which shows that yam marketing in Bodija is more profitable as the sellers are

on the average realizes a net profit of N 111,075 in a year. This is because the market consists of the highest number of sellers and different varieties of yam were found in the market. The marketing efficiency using (Total Revenue/ Total variable cost) for Dugbe, Bodija, Oje, Ojaoba, and Oritamerin were 1.4, 1.3, 1.2, 1.2 and 1.1 respectively. This means that yam marketing in the study area were highly efficient since the value were more than 1. This is in conformity with [7] who says that values that are less than 1 are not efficient. Analysis of Gross and Marketing Margin, One of the indicators of marketing performance is the marketing margin. Marketing margin is the cost of performing marketing function. It is the difference between what the consumer pays for the final product and the amount the producer receives. Gross margin on the other hand is the difference between the Gross Income (Sales) and Total Variables Cost.

#### IV. CONCLUSION AND RECOMMENDATION

The business of yam in the study area shows that the business is profitable. Bodija market is more profitable as the seller on the average realizes a net profit of N111, 075. This is because the market consists of the highest number of sellers and different varieties of yam were found in the market. Government agencies like the ministry of agriculture should try to organize workshop and seminars on a regular basis for the wholesalers and retailers so as to impart them more knowledge on yam marketing. This is necessary for the easy flows of the product from the farm available to the consumers.

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