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Economic Analysis Of Citrus Marketing In Benue And Kano States Of Nigeria

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Abstract: ***This paper examines the profitability of the citrus marketing system between Benue and Kano States of Nigeria. Descriptive statistics and gross margin analysis were used to analyze primary data obtained from the study area. The study finds Citrus marketing was profitable with a return on investment of 1.22 and 3.56 per naira returns for retailers and wholesalers respectively; the returns to investment could be improved if traders associations promote and support institutions to control the citrus market to avoid cases of illegal and or multiple taxes; and the trade is viable alternative source of gainful self employment.***

Keywords: Citrus marketing; Gross Margin; return on investment: retailers, wholesalers

I. INTRODUCTION

Sweet orange (*Citrus sinensis*) is one of the most important fruits in the tropical and subtropical regions of the world. Citrus fruits are produced all around the world. According to Food and Agriculture Organization (FAO) of the United Nations (2009), 140 countries produce citrus fruits. However, most production is concentrated in the northern hemisphere, accounting for around 70% of total citrus production. Citrus fruits include oranges, grapefruits, lemons, limes, and easy peelers; primarily traded in fresh fruit and processed citrus fruit markets into sweet juice, frozen concentrate, rind oil, pectin used in jams and jelly pulp residue that is used for flavour for food items (Fakayode *et al*., 2010). In Benue State, sweet orange is commonly produced by farmers to supplement their income. Commonly found varieties of sweet orange include ‘washington’, ‘ibadan sweet’, and ‘valencia’.

It is a commonly accepted belief that markets for agricultural products do not operate efficiently based on large spreads between prices paid by consumers and received by producers over both space and time (Abdulsalam, 2004; Hays, 1973). Since the capacity to process this important produce is largely missing in Benue state and the citrus farmers harvest at the same time, the local markets are often glutted, leading to high quantities of fruits spoilage. This scenario creates doubt in the ability of the citrus marketing system to work efficiently to produce suitable incentives to meet consumer’s needs more accurately in terms of type, quality and quantity of supply. Therefore, the relationship which exists between the citrus markets in Benue and Kano states in terms of performance, margins, and constraints needs to be understood in order to utilize it for the promotion of citrus production. Therefore, it is imperative for citrus marketing to be assessed in consideration of the specified locations. Specifically, the study estimated the marketing costs and margins in the citrus marketing system.

THEORETICAL FRAMEWORK

Marketing refers to the business activities involved in the movement of commodities from production to consumption. Marketing brings the impersonal forces of demand and supply

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together irrespective of the location of the market (Adekanye 1988; Olukosi *et al.*, 2007). The features of marketing include prices, marketing institutions and their functions. Prices are particularly important as they determine profits and incomes of market actors (Adekanye, 1988). Marketing functions have major activities such as physical, facilitating, pricing and exchange functions performed in the marketing system (Olukosi *et al.*, 2007). Marketing margin is the difference between producer and consumer prices of an equivalent quantity and quality of a given commodity (Vanessa and Jonathan 1992).

II. METHODOLOGY

THE STUDY AREAS

BENUE STATE

Benue state is a rich agricultural region lying between longitudes $6^0 31^1$ E and 10^0E and latitudes $6^0 3^1$ N and 8^0 10^1N. It derives its name from the river Benue, the second largest river in Nigeria. The land area covered is 34,059 sq Km. Benue State share boundaries with Cameroon and six states namely, Nasarawa to the north, Taraba to the east, Cross River, Ebonyi and Enugu to the south, and Kogi to the west. The predominant climate is a typical tropical climate with two seasons- rainy season from April to October in the range of 150-180 mm per annum, and dry season from November to March. Temperatures fluctuate between 23^0C to 31^0C in the year. The State has an estimated population of 5 million people (NPC, 2006) whose main occupation is farming; hence, agriculture is the mainstay of the people's economy. Farm produce produced in commercial quantities in the area are fruits, grains and tubers.

KANO STATE

Kano state lies between latitude 10^0 35^1 to 12^0 40^1 N of the equator and $7^0 42^1$E to $9^0 15^1$E of the Meridian. The State population is predominantly Hausa and Fulani and has an estimated 2006 population of 9.5 million people. The State covers a land area of 42,592 sq Km, which is mostly a Sudan savanna vegetation located in North-Western Nigeria. Kano state borders Katsina State to the north-west, Jigawa State to the northeast, and Bauchi and Kaduna states to the south. The climate has two distinct seasons: a dry season from October to May. Temperatures ranged from 15.9^0C and 33^0C (KNARDA, 2005). About 90% of the land in Kano State is arable. Agriculture is the largest sector in Kano state in term of provision of employment and income to its populace. Over 70% of the working populations are directly or indirectly engaged in agricultural activities. Main crops produced are: Groundnut, Guinea corn, Maize, Sugarcane and Gum Arabic. Others are rice, honey, ginger, pepper, coloring leaves, and different kinds of vegetables; Kano State is rich in livestock.

SAMPLING PROCEDURE

This study used a two-stage sampling method. Firstly, four citrus markets – two from each state were identified. A rapid diagnostic survey method using semi-structured questionnaire and informal interview of key informants, as well as direct observation of market transactions was used in this study. Secondly, from each market, 30% of traders from an abridged market listing were selected by using Random Sampling subject to a ceiling of 50 traders per market who were engaged in marketing citrus as suggested by Ngigi (2008) and Umeh *et al.*, (2013). In all, 150 respondents including 105 wholesalers and 45 retailers were used for the study.

ANALYTICAL TECHNIQUE

Descriptive statistics and gross margin (GM) analysis were used to analyze obtained data.

$$GM(\pi) = \Sigma(TR - TVC) = \Sigma(PQ - \Sigma X_i)$$

Where:
TR =total revenue
TVC = total variable cost
P = price of 100Kg bag of sweet orange
Q = number of sweet orange bags
X_i = variable costs in marketing sweet orange

III. RESULTS AND DISCUSSION

GROSS MARKET MARGIN ANALYSIS FOR CITRUS TRADERS

The average monthly return of the wholesalers in the study area was ₦10,891.70 per bag, translating to a gross return was ₦108,149,100.00. The costs include the purchase value, labour costs, transportation, taxes, sacks and commission. Table 1 presents expenses incurred

S/N	Description	Cost (₦)
1.	Departmental receipt	
a.	4 wheels vehicle (J5)	2000
b.	6 wheels vehicle(9/11)	2500
c.	10 -12 wheels vehicle	3000
d.	16 – 22 wheels vehicle	4500
2.	Charter Receipt	
a.	Each vehicle	1000
3.	National Union Receipt	
a.	Each vehicle	1000
4.	Development levy receipt	
a.	Each vehicle	1000
5.	Check point expenses	
a.	Drivers pass at Abinsi (Makurdi LGA)	1000
b.	Produce/ Police check point	2000
a.	Plucking per bag	150
b.	Loading/cushioning per bag	150

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c.	Bagging per bag	50
d.	Sewing per bag	50
e.	Citrus sellers association Levy per bag	50
f.	Sack	100
G	Offloading	50
7.	*Dilali's* commission per bag	200

Table 1: Expenses incurred by Citrus wholesalers

Transportation costs constitute the largest and most significant portion (42.44%) of the total expenses with purchase value coming second with 26.12%. Handling expenses reflected in labour cost is also important with 16.34%. The result of this study agrees with the assertion of Adegeye and Dittoh (1982) that the bulky nature of agricultural products contributes highly to the magnitude of their marketing margin.

The average monthly gross margin of the oranges for wholesalers was₦77,735,353.00 for 9,930 bags or ₦7,828.73 per bag (Table 2). The return per naira spent in the trade was ₦3.56. This implies that for every ₦1.00 spent by the wholesaler, a profit of ₦2.56 was made. The estimated average amount of oranges handled per month by a wholesaler was 95 bags.

Costs/Returns	(₦)/100 kg Bag	% of Total Cost/Return
Returns	**10,891.70**	**100**
Costs Items		
Purchase value	800	26.12
Labour costs	500.63	16.34
Transportation	1,300	42.44
Levies Charter Receipt		
National Union Receipt	152.32	4.97
Developmental Levy		
Check point expenses (Police and Produce)	15.32	0.50
Sacks for bagging	94.70	3.09
Commission Agents	200.00	6.53
Total Variable cost	***3,059.97***	***100***
Gross Margin	**7,828.73**	
Marginal Return per naira invested	3.56	

Table 2: Average costs, returns and profitability of sweet orange wholesalers per month

The cost incurred for the marketing of citrus by the retailers came from items purchase value, labour (loading and offloading) costs and transportation costs. Transportation costs are the main cost, as the retailers must convey the bulky commodity from the market to their sales point in the town. Compared to the wholesalers, the transport cost is a small portion (2.58%) of the total cost. The purchase value is the main cost (96.55%) unlike in the case of wholesalers. The average monthly return of the retailers was ₦14,175.48 per bag while the gross return was ₦24,133,750. This was from an estimated monthly average number of bags of 38 bags. Table 4 shows details of the costs and returns for the retailers Table 3. The monthly gross margin of the oranges for the retailers was ₦4,367,750.00 or ₦2,565.49 per bag. The return per naira spent in the trade was ₦1.22. This implies that for every ₦1.00 spent by the wholesaler, a profit of ₦0.22 was made. As expected, retailing with less risk and lower capital requirement attracts less profit compared to wholesale trade of sweet orange.

Costs/Returns	Average (₦)/Bag	% of Total Cost/Return
Returns	14,175.48	100
Costs Items		
Purchase value	11,209.99	96.55
Transportation	300	2.58
Loading and Offloading	100	0.86
Total Variable cost	11,609.99	100
Gross Margin	2,565.49	
Marginal Return per naira invested		1.22

Table 3: Average costs, returns and profitability of citrus retailers per month

IV. CONCLUSION AND RECOMMENDATIONS

Citrus marketing was profitable with 1.22 and 3.56 per naira returns on investment for retailers and wholesalers respectively. Therefore, it recommends that: traders Associations should promote and support institutions to control the citrus market to avoid cases of illegal taxes. The trade should be encouraged through the provision of finances by banks and other financial institutions to serve as alternative source of gainful employment. Feeder roads should be provided around the cluster of orchards in the citrus producing villages to facilitate the movement of farm produce and reduce cost of transportation, fruit damage.

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