

Economic Analysis of Pineapple Marketing in Edo and Delta States Nigeria

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Abstract: Pineapple, the third most important tropical fruit in the world after banana and citrus is a delicious fruit with fine flavour and high nutritive value. Its marketing is as essential as its production because increases in production without a well developed marketing system leads to postharvest losses of all possible gains. The study analyzed marketing channels and efficiency of the marketing system for pineapples in Edo and Delta States. A multistage sampling technique was used in selecting respondents within the study area. Data were analyzed using descriptive statistics and gini coefficient. The major market channel for pineapple was from the farmers to wholesalers to retailers. Market margin obtained per week in October, 2010 was N47, 491.30 with marketing efficiency value of 1.33. A major constraint to pineapple marketing is the perishable nature of the fruit. The study suggests that the constraint of perishability can be controlled if the marketers have access to storage facilities such as plastic trays. This will go a long way in reducing the problem of damage during transportation of the fruits.

Key words: Pineapple % Marketing channel % Marketing efficiency % Edo State % Delta State

INTRODUCTION

Pineapple (*Ananas comosus*) is the third most important tropical fruit in the world after banana and citrus [1]. Important producing countries are Brazil, India, China, Nigeria, Mexico and Colombia. They produce the fruit primarily for fresh fruit markets and processing industry. Nigeria ranked 6th on the list for world pineapple production with nearly 800,000 tones produced annually [2]. It is a delicious fruit with fine flavour and high nutritive value. Its content makes it a good raw material in confectionery industries for making sweet, fruit drinks and household food additives [3]. It has medicinal value and a fragment consumption of pineapple juice immunes one against fever parasites [3].

Agricultural marketing can be seen as part of agricultural production without which it (agriculture) will remain stagnant. It dictates how often the producer will increase and or produce their output [4]. Thus, marketing of pineapple is as essential as its production since an effective marketing system helps to harmonize demand and supply and stimulate production [5].

Production increases without a well developed marketing system lead to all possible gains from the production effort going into the drains of postharvest

losses. According to [6], the analysis of the state of Nigerian food losses during marketing shows the following percentages of post harvest losses: Yam (20 - 30%), Maize (25 - 30%), Pineapple up to 70% and pawpaw, (40 - 60%). In addition, pineapple marketing cannot be overemphasized considering the number of industries springing up which make use of pineapple as raw material for their production [5]. However, it is characterized mainly by the problem of perishability among others. Often, marketers are compelled if not forced to sell their fruits at a very low price to avoid huge wastage or total loss and this reduces their marketing margins and efficiency. Thus, the study analyzed the marketing channels and efficiency of the marketing system for pineapple in the study area: The specific objectives were to:

- Ⓒ Examine the socio-economic characteristics of respondents.
- Ⓒ Examine the marketing channel of pineapple in the area.
- Ⓒ Analyze the marketing margin and efficiency of pineapple marketing.
- Ⓒ Identify major constraints to efficient marketing of pineapple.

MATERIALS AND METHODS

Study Area: The study was conducted in Edo and Delta States, Nigeria. Edo State is situated between latitude 2°40'S and 4°30'N of the Equator and longitude 5°0'W and 6°40'E of the Greenwich meridian. The land area is 19,035km², the climate is tropical. The mean annual temperature is 25.1°C to 27°C. Crops grown in the State include telfaria, irvingia, maize, yam, pineapple, okra, amaranthus, cassava, pepper, coconut among others [7].

Delta State on the other hand, has 25 local government areas covering a total of 24, 480 square kilometers. The provisional 2006 population census results put the population of Delta State at 4,098,391. Agriculture and agro-related activities are the human occupation of the people of Delta State; with a greater population living in the rural areas of the state. The climate favours the growth of different food and cash crops. The major crops grown in the study area include cassava, yam, maize, vegetable crops, cocoyam, plantain and banana, pineapple, oil palm and rubber [8].

Sampling Procedure: A multi-stage sampling technique was used in the study. The first stage of the sampling procedure involved the selection of Edo and Delta State which were purposively selected because of the volume of production of pineapple in the areas. In the second stage, Uhumwode Local government in Edo South Agricultural zone was purposively selected in Edo State. In Delta State, the second stage of the sampling involved the selection of two Local Government Areas in the state prominent for pineapple production (Ikah South and Aniocha-South).

Data Sources: Primary data was utilized for the study. This was collected using pre tested and validated structured questionnaire. 27 questionnaires were administered in Edo State and 50 in Delta State. However, 64 questionnaires were used for the analysis while 13 were discarded because they were giving spurious results.

Descriptive statistics as well as marketing margin and efficiency analysis were used to achieve the stated objectives.

The two approaches to estimate marketing performance are: marketing margin and the analysis of market channel efficiency. It (marketing margin) is most commonly used to refer to the difference between producer and consumer prices of an equivalent quantity and quality of a commodity while marketing efficiency is essentially the degree of market performance [9].

Marketing margin was calculated as follows:

$$MM = TR - TMC \quad (1)$$

Where;

TR = Total Revenue;

TMC = Total Marketing Cost;

MM = Marketing Margin.

Marketing efficiency was calculated thus:

$$ME = TR/TMC \quad (2)$$

Where

ME = Marketing efficiency.

TMC includes cost price in Naira; cost of loading and offloading, cost of transportation in Naira and other miscellaneous costs.

TR = Total Revenue (Sales revenue).

RESULTS AND DISCUSSION

Marketing Channel of Pineapple: The route taken by goods as they move from producer to consumer is called the channel of distribution, (Figure 1). As the product comes from the farm, through the producer; it reaches the consumer by passing through several hands like the agent, wholesaler and retailer. All these three are called middlemen. These middlemen are connecting links between producers of goods, on one side and consumers, on the other. They perform several functions such as buying, selling, storage, etc. These middlemen constitute the channels of distribution of goods. In the study area, the farmers produce and sell to wholesalers and to retailers; farmer's agents also purchase from the farmers and sell to retailers or wholesalers who in turn sell to the consumers. Farmers also sell to retailers as well as consumers as they sell some part of the pineapples in their home. These channels constitute the indirect channel of distribution. If the producer is producing goods on a large scale, it may not be possible for him to sell goods directly to consumers. As such, he sells goods through middlemen. These middlemen may be wholesalers or retailers. A wholesaler is a person who buys goods in large quantities from producers; where as a retailer is one who buys goods from wholesalers and producers and

Table 2: Average marketing costs

Costs	Value (in Naira per week)
Quantity of pineapples marketed per week in the study area	807.19kg
Average total marketing cost (ATMC)	144,487.70
Average total revenue (ATR)	191,978.90
Marketing margin (ATR - ATMC)	47,491.30
Marketing margin (%)	24.73%
Marketing efficiency (ATR/ATMC)	1.33

Source: Field Survey, 2010

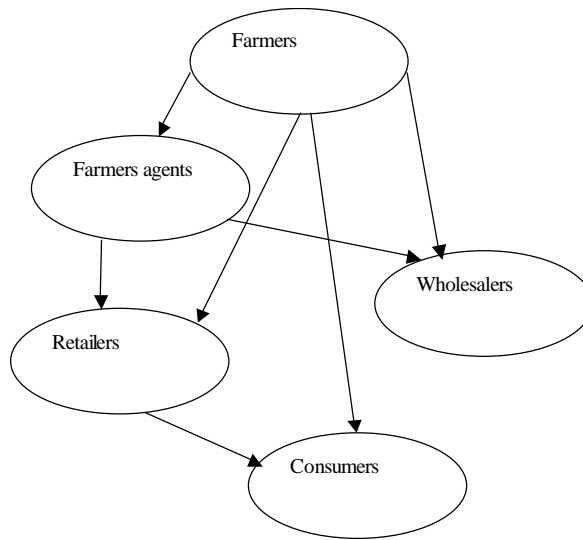
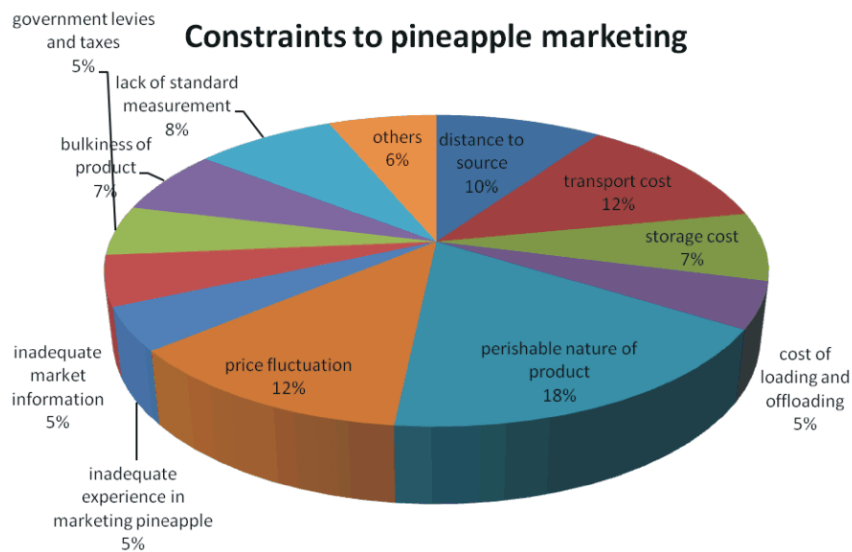


Fig. 1: Marketing channel of pineapple

Source: Field Survey, 2010



Source: Field Survey, 2010

sells to ultimate consumers as per their requirement. However, when the farmer himself sells some quantity of his produce at home, it is termed a direct channel of distribution as there is no middlemen between the producer and consumer.

Marketing Margin and Efficiency: The marketing margin obtained for pineapple marketing in the study area is N47,491.30 for 807.19kg of pineapples marketed per week, while the efficiency of pineapple marketing is 1.33. The marketing efficiency obtained in this study is greater than

one (Table 2) this is in consonance with [5] and [10] where a pooled marketing efficiency of 1.17 and 1.70 were obtained respectively. The marketing margin value obtained from the study implies a wide gap in prices between wholesalers and retailers. Despite the fact that the marketing efficiency of pineapple from the study is efficient (as shown in the efficiency value greater than 1), it can be improved. Which implies that the system of marketing adopted by the marketer *ceteris paribus* can accrue more margins.

Constraints to Pineapple Marketing: From the survey, perishable nature of pineapple is the major constraint to its marketing (17.84%) in addition to transportation cost (12.28%) and price fluctuation (12.28%) as shown in Figure 2. Marketing of horticultural crops such as pineapple is quite complex and risky due to the perishable nature of the produce, seasonal production and bulkiness. The study revealed that the major constraint to pineapple marketing is perishability which among other things can be due to how the fruit was harvested, handled and stored.

CONCLUSION AND RECOMMENDATION

These marketers sell a large percentage of their produce at the farm-gate. They sell these to wholesalers who take the pineapple to distant markets within and outside Edo and Delta States. Marketing of pineapple in the study areas was found to be efficient. Based on the findings from this study pineapple marketing can be more efficient if the constraint of perishability is reduced. This can be controlled by having access to storage facilities such as plastic trays which can reduce the problem of damage during transportation of the fruits.

REFERENCES

1. Loeillet, D., 1997. The World Pineapple Market: the importance of Europe; *Acta Horticulturae*, 425: 37-48.
2. Rohrbach, K.G., F. Leal and D'Eeckenbrugge, 2003. History, Distribution and World Production; Edited by D. Bartholomew, K. Rohrbach and R.E. Paull, in *The Pineapple: Botany, Production and Uses*; CAB International.
3. Hasegawa, S., C.H. Fong, Masako Miyaka and J.H. Keithy, 1996. Limonoid glucosides in fruit molasses. *Journal of Food Science*, 61(3): The Institute of Food Technology, 211 North La Salle Street, Chicago IL 606 01.
4. Oluwatayo, I.B., T.T. Awoyemi and A.B. Sekunmade, 2003. Economics of palm oil marketing in Ibadan North Local Government Area of Oyo State, Nigeria; Horticultural Society of Nigeria (HORTSON) Proceedings of the 21st Annual Conference, pp: 10-13.
5. Adesope, A.A.A., Y.A. Awoyinka and D.A. Babalola, 2009. Economic analysis of group marketing of Pineapple in selected markets of Osun-State, Nigeria, *acta Satech, Journal of life and Physical Sciences*, Babcock University, Ilishan-Remo, Ogun State, Nigeria, 3(1): 47-52.
6. Malcom, C.B., 1999. Post-Harvest Food Losses and the World Food Problem. Dept. of Food Science and Technology Publishing Co., Geneva, pp: 31-41.
7. Egharevba, R.K.A., F. Ogbe and F. Obasogie, 2004. Food systems for improved human nutrition: studies for food production in home gardens in Edo State, Nigeria; *Nigeria Journal of Horticultural Science*, Vol. 9, November, 2004, published online by AJOL.
8. Ofuoku, A.U., 2009. Effect of extension training on adoption of improved farm practices by farmers in delta State Nigeria, *Journal of Applied Agricultural Res.*, 1: 13-19, ISSN 2000-750x, Agricultural Research Council of Nigeria, 2009.
9. Scarborough, V. and J. Kydd, 1992. Economic analysis of agricultural markets: A manual. Marketing Series. Natural Resources Institute. University of Greenwich, Chatham, U.K., 5: 166.
10. Eze, C.C. and J.S. Orebiyi, 2005. Profitability Of Pineapple Marketing In Owerri, Imo State, Nigeria, *Journal of Agriculture and Food Sci.*, 3(2): 151-157 ISSN: 1597-1074.