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Marketing System for Fresh Okra in Kogi State, Nigeria

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Abstract

Fresh okra is an important but highly perishable vegetable. Thus, there is need for efficient marketing of the vegetable to arrest its wastage. In the light of this, this study examined marketing of fresh okra in Kogi State, Nigeria. Specifically, the study examined the marketing channel adopted by fresh okra marketers, identified the marketing functions carried out by the intermediaries in okra marketing, analyzed the marketing margin and overall efficiency of the traders as well as constraints to efficient marketing of the vegetable. A combination of purposive and random sampling techniques were used to obtain information from 40 wholesalers and 40 retailers in the study area using structured questionnaire. Descriptive statistics, marketing margin and marketing efficiency tools were used for the analyses. The findings reveal that fresh okra marketing system in the study area is centralised. Net marketing margins of N4,190/ton and N1,960/ton were earned by the wholesalers and retailers respectively, with marketing efficiency of 11.53% and 4.80% respectively, implying that marketing of fresh okra was profitable but less efficient in the study area. The major constraints to efficient okra marketing by the traders were inadequate capital, inadequate access to market information, spoilage resulting from poor storage system and high cost of transportation. Therefore, the study calls for provision of credit facilities, efficient storage system, and good road infrastructure by government and development agencies as well as unhindered dissemination of market intelligence and information among the traders.

(**Keywords:** Okra, marketing intermediaries, marketing efficiency, problems).

Introduction

Vegetables are an important part of the diet of millions of people all over the world, particularly in the tropics. More than 10,000 plant species are eaten as vegetables worldwide (Tsao and Lo, 2003). Among these species, only about fifty are commercially important. The importance of vegetables in the diet of healthy individuals cannot be overemphasized, as they constitute vital sources of minerals, vitamins, dietary fibres, fats, starches and

protein intake. Vegetables also neutralize the acid substances produced by other high-energy foods. Vegetables not only form an essential part of a well-balanced diet, but the flavor, aroma and colour also make them important in human diet (Lannoy, 2001). A balanced diet should contain 250-325g of vegetables and the average human requirement for vegetable is 285g/person/day for a balanced diet (Nwachukwu and Onyenweaku, 2007). The average consumption of vegetable crops is, however, far from

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being sufficient in almost all the developing countries in Africa because their production is carried out by small-scale farmers (FAO, 1990). It is therefore desirable that production and distribution of these crops be improved and sustained to meet the required consumption demand of the populace.

Okra is an important vegetable that is grown and widely distributed in the tropics, subtropics and warmer portions of the temperate region (ECHO, 2003). Okra contains carbohydrates, proteins and vitamin C in large quantities (Adeboye and Oputa, 1996). The essential and non-essential amino acids that okra contains are comparable to that of soybean. Young immature fruits of okra are important fresh fruit vegetable that can be consumed in different forms. They could be boiled, fried or cooked. In Nigeria, okra is usually boiled in water resulting in slimy soups and sauces, which are relished. Magness *et al.* (1971) had reported that the immature pods are used as boiled vegetables and are either eaten fresh, canned or frozen. Tindall (1986) and Schippers (2000) reported that they are dried and used as soup thickeners or used in stews. Okra mucilage is suitable for medicinal and industrial applications. It has medically found application as a plasma replacement or blood volume expander (Markose and Peter, 1990; Farinde *et al.*, 2007). Hence, it plays a vital role in human therapy.

The major problem of the marketing of okra is its perishable nature, which makes marketers to sell out their

products at very low prices; often below the cost price in order to avoid losses and wastage. In Nigeria, there are two distinct seasons for okra, the peak and the lean seasons (Bello *et al.*, 2006). During the lean season, okra fruits are produced in low quantities. Thus they are scarce and expensive (Bamire and Oke, 2003). In the peak season, it is produced in large quantities much more than what the local populace can consume. Much is therefore wasted. Proper processing, preservation, marketing and utilisation of okra achievable through efficient marketing system is necessary to arrest the wastage usually experienced during the peak season.

Analysis of agricultural market system is important not only in promoting economic activities but also in facilitating availability of agricultural produce to consumers. FAO (1992) also argued that margin analysis can provide clues to significant weaknesses and inefficiencies in marketing system. Thus, a study on marketing system of fresh okra is necessary to understand the complexities involved and to identify bottlenecks with a view to providing efficient services in the transfer of the vegetable from producers to consumers. This study therefore sought to examine the marketing channel used in the marketing of fresh okra, identify the marketing functions performed by the intermediaries and how they affect efficient marketing of the vegetable, analyze the marketing margin and overall marketing

efficiency as well as the factors militating against efficient marketing system of okra. This study will guide policy-makers, members of the agricultural development community, researchers, and traders on methods and approaches that can be used to promote marketing of fresh okra.

Methodology

This study was carried out in four (4) Local Government Areas (LGAs) of Kogi State, Nigeria. Kogi State is located in the North Central part of the country. It is made up of eighteen Local Government Areas and lies between latitudes $6^{\circ} 30' N$ and $8^{\circ} 50' N$ and longitudes $5^{\circ} 51' E$ and $8^{\circ} 00' E$. The choice of the study area was based on the availability of fresh okra in the area throughout the year due to presence of Omi dam in the state. The dam is used as a source of water for irrigating okra farms and this facilitates okra marketing in the area and attracts traders from many parts of the country.

The target population for this study was okra traders. Three-stage sampling technique was employed for the study. The first stage was random selection of four LGAs in the State namely, Yagba West, Yagba East, Kabba/Bunu and Mopa-Muro LGAs. This was followed by purposeful selection of a main market from the list of the selected LGAs based on volume of vegetables sold in the markets. The third stage involved purposeful selection of ten wholesalers and random selection of ten retailers from each of the main markets, based on the list of okra traders obtained from the Market

Association in each market. This gave a total of 80 respondents (40 wholesalers and 40 retailers). Information on background of respondents, marketing channel adopted, marketing functions performed, the cost and selling prices of okra at the various stages of marketing, problems faced in marketing of fresh okra and other relevant parameters were collected through structured questionnaire augmented with interpersonal oral interview.

Data obtained were analyzed with descriptive statistics, gross marketing margin and efficiency analyses. Descriptive tools such as percentage, mean and frequency distributions were used to describe the demographic and socio-economic characteristics and the marketing functions of the respondents as well as the problems faced by the respondents in okra marketing. Performance of fresh okra marketing systems was analysed using marketing margin and market efficiency as adopted by Obasi and Mejeha (2008) and Anuebunwa (2007) as follows:

$$\text{Marketing margin} = \frac{\text{Selling Price} - \text{Supply Price}}{\text{Selling Price}}$$

$$\text{Marketing efficiency} = \frac{\text{Value added by marketing (Net Profit)}}{\text{Total Marketing Cost}} \times 100$$

The farmers' share of the consumers' expenditure on okra that went into the marketing system was determined through the analysis of the marketing margins. This was determined using

the approach adopted by Adekanye (1982), Barau *et. al.*(1993) and Anuebunwa (2006). The approach determined the traders gross marketing margin as the difference between cost price and the selling price. This is expressed as follows

$$D = C - A$$

Where D = Traders gross marketing margin, C = Sales from fresh okra (₦), A = Cost of Fresh okra (₦).

The farmers' share was then derived either, as the difference between the selling price of okra and the traders gross marketing margin and then expressed as percentage of selling price or by expressing farmers selling price (purchase price) as percentage of retail price (selling price).

Results and discussion demographic and socio-economic characteristics of respondents

Table 1 shows the socio-economic characteristics of the respondents. As regards the gender of the respondents, 98.75% were female while just 1.25% were male. The implication of this is that marketing of okra is dominated by women in the study area. This may be due to the fact that selling okra allows them to be engaged in other domestic chores like child-upbringing and house-keeping (Ayinde and Idris, 2005; Omotesho et al., 2012).

With respect to marital status, a majority of the respondents were married with an average number of four children. This implies that the respondents have family labour that could assist in the marketing. Forty seven and a half per cent (47.5%) of the respondents had no formal

education, 35.0% had primary education, 11.25% had secondary education while just 6.35% had tertiary education. The low number of more educated respondents in the business could result from the preference of more educated people for white collar jobs (Muhammad-Lawal et al., 2009).

Marketing experience has a profound influence on marketing activities as it determines the level of skills acquired in carrying out marketing functions. Table 1 shows years of marketing of okra by the respondents. Further analysis of the results shows that the mean number of years of okra marketing experience was 15.4. This implies that okra marketing is an age-long profession in the study area.

As regards source of okra by the respondents, majority of the wholesalers (95%) and all the retailers (100%) do not engage in field production themselves. This means that majority of the respondents depend mainly on local farmers as the source of okra for marketing. Also, majority of the wholesalers (95%) and retailers (97.5%) are not members of any cooperative society. This means that the respondents are not likely to enjoy the inherent benefits of cooperation such as reduced marketing costs/increased income and broader market opportunities.

Table 1: Socio-economic characteristics of the respondents

Variable	Wholesalers (N = 40)			Retailers (N = 40)			Overall (N = 80)		
	Frequency	Percentage	Mean	Frequency	Percentage	Mean	Frequency	Percentage	Mean
Gender									
Male	1	2.5		0	0		1	1.25	
Female	39	97.5		40	100		79	98.75	
Marital Status									
Single	4	10		0	0		4	5.0	
Married	36	90		40	100		76	95.0	
No of Children/wards			4.3			4.3			4.0
1 - 4	19	47.5		12	30.0		31	38.8	
5 - 8	7	17.5		25	62.5		32	40.0	
9 - 12	14	35.0		3	7.5		17	21.3	
Educational status									
No formal education	14	35.0		24	60.0		38	47.5	
Primary education	14	35.0		14	35.0		28	35.0	
Secondary education	7	17.5		2	5.0		9	11.25	
Tertiary education	5	12.5		0	0		5	6.25	
Marketing experience			14.2			16.8			15.4
1 - 5 years	4	10.0		7	17.5		11	13.8	
6 - 10 years	11	27.5		11	27.5		22	27.5	
11 - 15 years	9	22.5		7	17.5		16	20.0	
16 - 20 years	4	10.0		6	15.0		10	12.5	
□ 20 years	12	30.0		9	22.5		21	26.3	
Source of supply									
Own farm	2	5.0		-	-		2	2.5	
Local markets	6	15.0		36	90.0		42	52.5	
Farm gate	32	80.0		4	10.0		36	45.0	
Membership of Cooperatives									
Yes	2	5.0		1	2.5		3	3.75	
No	38	95.0		39	97.5		77	96.25	

Source: Authors' Computation from Survey Data

Marketing channel used by the respondents

The analysis of marketing channel was intended to provide a systematic knowledge of the path which okra marketing follows right from the point of production (okra farming) to the point of consumption. According to Olukosi et al. (2005), marketing channel helps in assessing the importance and performance of the marketing system.

The marketing channel adopted for marketing of okra by the respondents may also sell to the retailers who in turn sell to the final consumers.

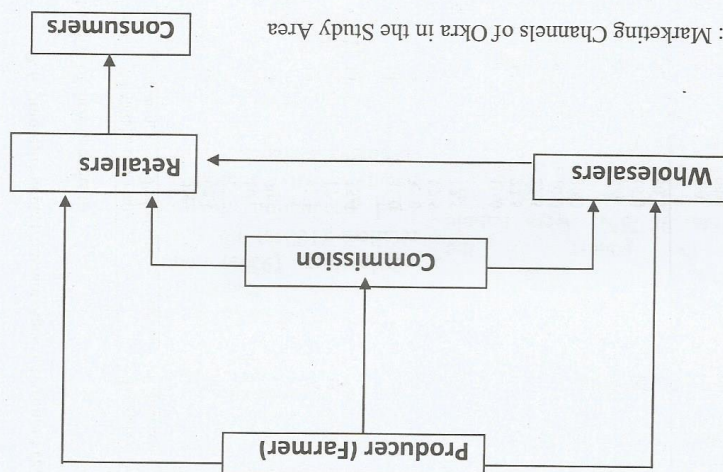


Figure 1: Marketing Channels of Okra in the Study Area

Source: Survey, 2011

Marketing functions performed by the respondents

The marketing functions performed by market participants can determine the efficiency of marketing at any level. Sixty two and a half per cent (62.5%) of the wholesalers perform grading and sorting. In the study area, okra is graded mainly by the degree of ripeness: succulent and woody vegetables. While all the retailers provided packaging materials such as nylon and wrapping papers, 87.5% of the wholesalers in the study area do not provide packaging material (basket). This is probably because provision of packaging material like basket will increase the marketing cost.

Both the wholesalers and retailers in the study area perform storage functions. However, the methods used are crude. During storage, the respondents used fresh green leaves to cover the okra in rooms or stalls. They lamented their inability to store the fresh okra for more than 2 – 3 days before it loses its freshness and greenness.

Majority (85%) of the wholesalers pass information about price and availability of okra. The use of mobile phones and sending messages through co-marketers are the means of passing information about price and availability of okra in the study area.

Most of the respondents (95% of the wholesalers and 85% of the retailers) transport okra from point of purchase

to point of sale. Buses and trucks were used by the wholesalers while the retailers used motorcycles, manual trucks, wheel barrow and head-carriage in the study area.

Analysis of marketing margin and efficiency of fresh okra marketing

Table 2 reveals the marketing margin, the farmers' share and marketing efficiency in the study area. On the average, the purchase price of okra by the wholesalers and retailers were N34, 530/ton and N39,500/ton respectively. An average okra wholesaler and retailer incurred a total cost of N36,330/ton and N40,590/ton respectively and sold the okra for N40,520/ton and N42,550/ton respectively, giving a marketing margin of N5,990/ton and N3,050/ton at wholesale and retail levels respectively. Thus, higher marketing margin was recorded for the wholesalers than the retailers. Harrison *et al.*, (1987) reported lack of competition, cost inefficiency, greater degree of uncertainty to be likely present at the wholesale level. These factors may perhaps be responsible for higher marketing margin recorded at the wholesalers' level.

The farmers' shares were 85.22 per cent and 92.83 per cent respectively for wholesalers and retailers. The implication of this is that 14.78 per cent and 7.17 per cent respectively of fresh okra consumers' expenditure go to the marketing system. The marketing efficiency of fresh okra by the respondents were just 11.53% and 4.84% at wholesale and retail

levels respectively. This implies there are constraints to efficient marketing of fresh okra by the respondents.

Table 2: Marketing margin and farmers' share in Kogi State

Parameters	Wholesalers (Average cost ₦ /ton)	Retailers (Average cost ₦/ton)
Purchase price of fresh okra (A)	34,530	39,500
Marketing costs		
Variable cost		
Transportation cost	950	420
Packaging material	300	120
Handling charges	90	90
Commission agent fee	50	50
Fixed cost		
Rent	200	200
Sanitation fee	40	40
Security fee	170	170
Total marketing cost (B)	1,800	1,090
Total cost	36,330	40,590
Selling price (C)	40,520	42,550
Gross market margin (D) [D = C - A]	5,990	3,050
Net marketing margin [D - B]	4,190	1,960
Farmers' share (%)	85.22	92.83
Gross marketing margin as % of selling price	14.78	7.17
Marketing efficiency (%)	11.53	4.84

Source: Survey Data, 2011

Table 3: Problems facing efficient marketing of fresh okra

Problems	Wholesalers		Retailers	
	Frequency	Percentage	Frequency	Percentage
Spoilage	13	32.5	30	75
Insufficient capital	36	90	39	97.5
High transportation cost	23	57.5	5	12.5
Inadequate access to market information	28	70	31	77.5
Others	5	12.5	7	17.5

Source: Field Survey, 2011

Barriers to efficient marketing of fresh okra in the study area

The major problem of fresh okra marketing faced by the respondents was insufficient capital. Most of the respondents complained of inadequate capital to build or hire market stalls and expand their business. This is followed by lack of access to improved market information for effective arbitrage.

The respondents also lamented over the level of spoilage they encountered in fresh okra marketing. They complained that they had no perfect means of preserving fresh okra to have good price for their commodity while maintaining the quality of the vegetable at the same time.

High cost of transportation from point(s) of purchase to the point(s) of sale was another problem faced by the respondents. Many of the wholesalers regretted that most of the roads to the markets were not motorable, resulting in high cost of transportation for their commodity. Other problems complained by the respondents were those of risks and uncertainty in okra marketing.

Conclusion and recommendations

This study examined marketing of fresh okra in Kogi State, Nigeria. The study stemmed from the need to satisfy the nutritional requirements of the populace through efficient marketing of vegetables. The study reveals that marketing of fresh okra

is a profitable but less efficient (11.53% and 4.80% at wholesale and retail levels respectively) in the study area, signifying that there are problems militating against efficiency of okra marketing in the study area. Majority of the wholesalers and retailers are not members of a cooperative societies and also use crude methods of storage. The study also showed that inadequate capital, inadequate access to market information, spoilage resulting from poor storage system, and high cost of transportation are the major problems militating against efficiency in fresh okra marketing.

Based on the findings of the study, it is recommended that wholesalers and retailers should form cooperative societies. This will enable them benefit from economies of scale in marketing of fresh okra. Besides, government authorities, non-governmental organizations (NGOs) and development agencies should assist the traders by providing them with sufficient market stalls and space. They could also enhance the economic power of the traders by empowering them through micro credit facilities. The local government authorities should make the entrance to the market stalls and space easily accessible so that vehicles could reach the traders' stalls and space for bulk evacuation. Access to improved market information for effective arbitrage should be provided by instituting a unit in the local government authority and state Ministry of Agriculture (in collaboration with research agencies

and universities) to collect, analyze and disseminate timely information on prices, demand and supply situation for fresh okra. This could be through radio, newspapers and bulletins. Also there is need for research institutes and agencies to develop improved means of preserving the vegetable. This will help in maintaining fresh okra for a long time and prevent it from wastage. The introduction of extension education programmes for the marketing intermediaries will also improve their technical knowledge and skills to make the marketing system become responsive to consumers' demand and guide against spoilage.

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