



PAT 2008; 4 (1): 71-81: ISSN: 0794-5213

Online copy available at

www.patnsukjournal.com/currentissue



Marketing of Fresh Okra in Ebonyi State, Nigeria

Anuebunwa F.O.

National Root Crops Research Institute, Umudike, Umuahia Abia State.

Abstract

The study examined the performance of fresh okra marketing system in Ebonyi State of Nigeria through the analysis of market structure, marginal analysis and farmers' share of the consumers expenditure on fresh okra that went to the marketing system in 2007. Multi-stage sampling method was used in the selection of 6 markets, 120 wholesalers and 120 retailers from the sampling frame of markets and okra traders respectively. Structured interview schedule was used in cross sectional data collection from the traders. The Gini coefficient values indicate that the market falls within the realm of imperfectly competitive markets. The marketing margin at the wholesale and retail levels were ₦1,895 and ₦970 per metric tonne respectively. The farmers share indicate that 9.59% and 4.84% of the consumers expenditure on fresh okra went to the participants in the marketing system respectively, implying a low market performance. The degree of seller concentration can be reduced by removing any hindrance to entry into the trade. There should be improved market information for effective arbitraging. The introduction of extension education programmes for market intermediaries will improve their technical knowledge and skill.

Key word: Okra, Marketing system, Market structure, Marketing margin, Ebonyi.

Introduction:

Okra, (*Abelmoschus esculentus* Moench) is one of the commonly marketed vegetable in Ebonyi State of Nigeria. It is marketed mainly as a fresh fruit vegetable. It features prominently in most households in the preparation of soup and as an ingredient in the preparation of yam porridge (Anuebunwa and Obiechina 1989). The Southern area of Ebonyi State is a major producing area. The volume of production stimulated the emergence of the Okra markets in the area and it is important source of farm household income. A Marketing system is a set of participants, markets and product flows that interact to ensure exchange of goods and services in an organized arena. Market performance refers to the assessment of the market in terms of the norms of marketing efficiency. The performance of any industry is determined by the structure of the industry and market conduct (Bain 1968; Kohls and Uhl 1990). Studies on food marketing have established a direct, casual and deterministic relationship between market structure, conduct and performance (Okereke and Anthonio 1988; Anuebunwa 2002; Anuebunwa *et al.* 2006; Marion and Muller 1983). The structure of the market implies those characteristics of the organization of the market that seen to affect the behavior and performance of the market. These characteristics include the number of sellers and nature of the product, ease of entry, nature and size of the purchasers of the firms products and the firms ability to influence demand by advertising (Anuebunwa

2002; Anuebunwa 2006; Okereke and Anthonio 1988). Based on these characteristics, two theoretical market models have been distinguished (Bateman 1976; Bressler 1984; Hanson 1971; Scarborough and Kydd 1992). These are perfect and imperfect markets.

Food crop marketing generally operates within the realm of perfect market framework. However, in the real world, food markets operate with some degree of imperfect knowledge, resulting into imperfectly competitive markets, characterized by many sellers of similar products, but imperfection result from differentiation in the services provided, behaviour of market participants, and the level of marketing margin (Anuebunwa 2002; Anuebunwa *et al.* 2006). Under competitive conditions, marketing margins should change with shifts in the demand for and supply of marketing services, the latter depending on factor costs and technological changes and the former on consumer income and performances (Scarborough and Kydd 1992). By comparing costs and prices, inference can be made about the economic efficiency of marketing, exchange and price formulation. Under the neo-classical economic model of perfect competition (Hanson 1971), returns to economic activities should be just sufficient to reward investment of resources. The performance of food and vegetable marketing have shown very low gross margins due to bulkiness, perishable nature and high risks and uncertainty in food marketing. Similarly, the level of marketing margin has influence on the magnitude of the portion of the consumers expenditure on food that the farmers receive. Anuebunwa *et al.* 2006; Anuebunwa 2006; Njoku 1994; Njoku and Nweke 1985). This study determines the market structure for fresh okra, marketing margin and the farmers' share of the consumers expenditure on okra that went to the marketing system with a view to highlighting the performance of the okra marketing system.

Research efforts on fresh okra marketing in Ebonyi State are relatively scanty. There is, therefore, dearth of information on fresh okra marketing. Hence, there existed gaps in policy and development. A study on fresh okra marketing will bridge these gaps by providing the necessary data required for planning and policy formulation.

Methodology

The marketing study was conducted in the Southern area of Ebonyi State of Nigeria in June/July 2007. This area lies on latitude 06^o51'N longitude 07^o25'E with an altitude of 400m above sea level. Six okra markets Eke Ishiagu, Amaukwu, Nkwo Obinagu, Amuzu Ishiagu, Mile 11 and Nkwo Akaeze markets were randomly selected for the study from a list of markets. A compiled list of okra wholesalers and retailers was the sampling frame from which 120 okra wholesalers and 120 okra retailers were randomly selected for study. Structured interview schedule was used in cross-sectional data collection from the traders during the period June/July 2007. The reliability and validity of the data collection instrument were ensured through a pre-test of the interview schedule on randomly selected 10 okra wholesalers and 10

okra retailers. Gini coefficient was used to measure the degree of seller concentration of the traders through the use of total value of monthly sales as an index measurement of the market share. The Gini coefficient (G) was computed as follows;

$$G = I - \sum_{i=1}^k X_i Y_i$$

Where X_i = percentage of sellers in the i th class of traders, Y_i = cumulative percentage of sellers in the i th class traders, K = number of classes.

The Gini coefficient varies from 0 to 1, where 0 implies perfect equality in the distribution (perfect market) and 1 implies perfect inequality (imperfect market). The closer the Gini coefficient is to zero, the greater the degree of equality and the lower the level of concentration and the more competitive are the markets. Similarly, as the Gini coefficient approaches unity, the greater is the degree of inequality and the higher the level of concentration and the more imperfect are the markets.

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; 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 Discussions

The distribution of fresh okra wholesalers by average size and total value of monthly sales are shown in Table 1. The average monthly sales were ₦ 12, 170.24 equivalents to 0.308 metric tones. Forty four percent of the wholesalers made sales valued ₦79,000.00 representing 5% of the total value of monthly sales while 5% made sales worth ₦286,125.00 representing 19% of the total value of monthly sales. Three percent of the wholesalers handled 21% of the total value of monthly sales while 96% handled 53% of the total value of monthly sales.

The Table showed that a small percentage of the wholesalers accounted for the higher percentage of total monthly sales. The distribution gave a Gini coefficient of 0.812. At the retail level (Table 2), the average monthly sales per retailer was ₦ 7,948.00 representing 0.192 metric tonnes. Two percent of the retailers made sales worth ₦450, 455.00. This accounted for 47% of the total value of monthly sales. Furthermore, 98% of the retailers made total monthly sales of ₦503, 365.00. The distribution also showed that very few retailers accounted for the higher total monthly sales with Gini coefficient of 0.838. Table 3 shows the marketing margin analysis per metric tonne. The cost incurred in the marketing of fresh okra was ₦ 1,895 and ₦ 1,030 at the wholesale and retail levels respectively. Transportation accounted for 58% at the 53% of the variable cost at the wholesale and retail levels respectively. Packaging materials and handling, accounted for 20% of the variable costs at the wholesale level while loading and offloading accounted for 23% at retail level. At both market levels, security fee accounted for the highest fixed marketing cost. The total cost outlay at the wholesale and retail levels were ₦37,605.00 and ₦ 40,530.00 per metric tonne respectively.

The gross marketing margin was ₦3,790.00 and ₦2,000.00 respectively. The gross marketing margin at the wholesale level exceeded that at the retail level by 5%. The net marketing margin from fresh okra trading at the wholesale and retail levels were ₦1,895.00 and ₦970.00 respectively.

The farmers' share of the consumers' expenditure on okra were 90% and 95% at the wholesale and retail levels.

Table 4 showed the distribution of total value of monthly sales and net marketing margin according to traders' years of experience in marketing. The trend shows that the total value of monthly sales and net marketing margin increase with increase in years of experience in marketing.

One of the characteristic features of the market for fresh okra is the existence of many buyers and sellers. The distribution of the traders by average size and total of monthly sales suggest a high degree of seller concentration as indicated by the Gini coefficient values of 0.812 and 0.8 at the wholesaler and retailer levels respectively. The inequality in the volume of sales between the wholesalers and retailers may be due to the differences in the degree of risk in sourcing for supplies and the wholesalers have more capital base, better access to information and better bargaining power. These advantages tend to discourage new entrants into the wholesale trade. Furthermore, the existence of the high degree of seller concentration in both markets may be due to the characteristic features of the fresh okra market and collusive practices in buying and selling. Other characteristic features highlighted include barriers such as the registration process for new entrants at the wholesale level. The differences in the packaged okra implies some level of

product differentiation. The assertion of wholesalers having more access to market facilities and information sources may adversely affect the quality of fresh okra handled, hence, reduction in sales earning. This high level of seller concentration coupled with the above features indicates that the fresh Okra market is an imperfect competitive market. The marketing cost of ₦1,895.00 (wholesale level) and ₦1,030.00 (retail level) and purchase price of ₦35,710.00 and ₦39,600.00 respectively, indicates that the investment base for the marketing of one metric tonne of fresh okra were ₦37,605.00 and ₦40,530.00 respectively. The farmers' share in the okra market implies that 9.59% and 4.82% of the consumers expenditure on fresh okra went to the marketing system respectively.

Conclusion:

There is a positive relationship between trading experience, total value of monthly sales and net marketing margin. The marketing is characterized by large number of buyers and sellers, differentiation and in the services provided, barriers to entry, and high level of seller concentration. Structurally, the market is an imperfect competitive market. The values of the economic indicators used suggest some degree of structural inefficiency in the marketing system. This inefficiency may be reduced by adopting measures that will improve competition such as provision of sufficient market stalls, space, micro credit facilities and timely dissemination of information on prices and demand and supply situations. The level of marketing margin indicates low market performance. The farmers' share in the fresh okra market suggest that 9.59% and 4.82% of the consumers expenditure on fresh okra went to the wholesale and retail marketing system respectively.

Recommendations:

The degree of seller concentration can be reduced by removing any hindrance to entry into the trade such as the provision of sufficient market stalls and spaces by local government authority and enhancing the economic power of the traders by empowering them through micro credit facilities. The local government authority should make the entrance to the market stalls and spaces more motorable so that Vehicles could reach the traders stall and spaces for bulk evacuation. Access to improved market information for effective arbitraging should be provide by instituting a unit in the local government authority and State Ministry of agriculture (in collaboration with research agencies and universities) to collect, analyses and disseminate timely information on prices, demand and supply situation for fresh Okra and other food staples using radio, newspapers and bulletins. The introduction of extension education programmes for market intermediaries will improve their technical knowledge and skill so that the marketing system becomes responsive to consumers' demand.

Table 1. Distribution of fresh okra wholesalers by average size and total value of monthly sales

Monthly sales (₦)	Frequency	% of Wholesaler (Xi)	Cumulative %	Total Value of Monthly sales (₦)	%of Total value of monthly sales	cumulative % (Yi)	$\sum X_i Y_i$
38,000 – 76,000	53	44.17	44.17	79,000	5.41	5.41	0.024
76,001 - 114,001	38	31.67	75.84	168,020	11.50	16.91	0.054
114,002- 152,002	18	15.00	90.84	241,504	16.54	33.45	0.050
152,003 –190,003	6	5.00	95.84	286,125	19.59	53.04	0.027
190,004- 228,004	4	3.33	99.17	301,280	20.63	73.67	0.025
228,005- 266,005	1	0.83	100	384,500	26.33	100	0.008
Total	120	100		1,460,429			0.188
Mean				12,170.24			
Gini coefficient= 0.812							

Table 2. Distribution of fresh okra retailers by average size and total value of monthly sales

Monthly sales (₦)	Frequency	% of Wholesaler (Xi)	Cumulative %	Total Value of Monthly sales (₦)	%of Total value of monthly sales	cumulative % (Yi)	$\sum X_i Y_i$
12,000 – 15,000	85	70.83	70.83	90,065	9.44	9.44	0.067
15,001 – 18,001	20	16.67	87.50	110,650	11.60	21.04	0.035
18,002 – 21,002	8	6.67	94.17	142,440	14.93	35.97	0.024
21,003 – 24,003	5	4.17	98.34	160,210	16.80	52.77	0.022
24,004 – 27,004	1	0.83	99.17	202,115	21.19	73.96	0.006
27,005 – 30,005	1	0.83	100	248,340	26.04	100	0.008
Total	120	100		953,820	100		0.162
Mean				7,948.50			
Gini coefficient=	0.838						

Table 3. Marketing margins in Ebonyi State

Parameter/metric tonne	Wholesaler		Average cost (N)		Retailer	
	Amount (N)	% Contribution	Amount (N)	%	Contribution	
Cost of fresh okra (A)	35,710		39,500			
Marketing costs:						
Variable cost:						
Loading and loading	210	12.92	210		23.08	
Transportation	950	58.46	480		52.75	
Package materials & handling	320	19.69	150		16.48	
Market maintenance fee	20	1.23	20		2.20	
Feeding	75	4.62	50		5.49	
Commission agent fee	50	3.08	-		-	
Total variable cost	1,625	100	910		100	
Fixed cost:						
Market stallage fee	100	37.04	50		41.67	
Sanitation fee	20	7.41	20		16.66	
Security fee	150	55.55	50		41.67	
Total fixed cost	270	100	120		100	
Total marketing cost (B)	1,895		1,030			
Sales of fresh okra (C)	39,500		41,500			
Gross marketing margin (D)						
(D = C – A)	3,790		2,000			
Marketing margin (Net Marketing margin) (D – B)	1,895		970			
Gross marketing margin as % of Selling price	9.59		4.82			
Farmers' share	90.41		95.18			

Table 4. Distribution of value of monthly sales and net marketing margin by trading experience in Ebonyi State

Trader's Years of experience	Total value of monthly sales (₦)		Net marketing margin (₦)	
	Wholesale	Retailer	Wholesaler	Retailer
1 – 5	72,506	45,400	60	94
6 – 10	76,508	45,900	75	96
11 – 15	118,202	70,620	108	105
16 – 20	252,240	119,000	322	115
21 – 25	256,001	192,500	435	166
26 – 30	324,289	231,400	445	175
31 – 35	360,683	249,000	450	179
Total	1,460,429	953,820	1,895	970

References:

- Adekanyi, T.O. (1982) Marketing margins for food: some methodological issues and empirical for Nigeria. *Canadian Journal of Agricultural Economics*, 30:333-344.
- Anuebunwa, F.O. (2002). A structural analysis of yam trade flows into Abia State of Nigeria. *Nigerian Agricultural Journal*, 33:17 -22.
- Anuebunwa, F.O. Lemchi, J.I, Njoku, J.E. (2006). Gari Marketing System in Abia State of Nigeria: An assessment of gari marketing margins. *Journal of Sustainable Tropical Agriculture Research*, 172:21-25.
- Anuebunwa, F.O. (2006). An assessment of the rice market structure in Ebonyi State of Nigeria. *Proceedings of the 40th conference of the Agriculture Society of Nigeria* Asumugha, G. N. Olojede A.O, Ikeorgu J.G, Ano A.O, Herbert U. (eds) National Root Crops Research Institute, Umudike Abia State, Nigeria, 16-20th October, 2006, Pp 87-89.
- Anuebunwa F.O, and Obiechina, C.O.B. (1989). Farming systems of Abalaliki Zone: Management of farm resources: *In On-Farm Research: Diagnostic survey of Abakaliki zone*, National Root Crops Research Institute, Umudike, Nigeria Pp 44-53.
- Bain, J.S.(1968). *Industrial Organization*, 2nd edition John Wiley and sons Inc. New York
- Barau, A.D, Olukosi, J.O, Amin, Y.A (1993). Performance of the Nigeria seed cotton market under the deregulated marketing system. *Agricultural Systems in Africa*, 3 (1): 64-69.
- Bateman, D.I. (1976). Agricultural marketing: a review of the literature of marketing theory and of selected application. *Journal of Agricultural Economic*, 27 (2) : 172-225.
- Bressler, D. (1984). An analysis of dynamic relationship: an application to the U.S. hog market. *Canadian Journal of Agricultural Economics*, 32: 109-124
- Hanson, J.L. (1971). *A Textbook of Economics*. Macdonald and Evans Ltd, London.
- Kohls, R.L. and Uhl, J.N (1990). *Marketing of Agricultural Products*. Macmillan Publishing Co. New York.
- Marion, B.W. and Mueller, W.F. (1983). Industrial Economic power and the food system. *In future frontiers in Agricultural Marketing Research*. Farris, P.L. (ed). Iowa State University press, Ames.
- Njoku, J.E. (1994). The economics of wholesale marketing of vegetables in Owerri area Southern Nigeria: The case of Onions. *Tropical Agriculture (Trinidad)*, 71 (2): 139-143.

- Njoku, J.E. and Nweke, F.I. (1985). Plantain marketing in South Eastern Nigeria. *Proceedings of the third meeting of the International Association for Research on plantain and Bananas, Abidjan, Cote 'Ivories' 27-31 May, Pp181-183.*
- Okereke, O. and Anthonio, Q.B.O (1988). The structural characteristics of the market for grains in Eastern Nigeria. *In Readings in Agricultural marketing, Adekanye, T.O. (ed), Longman, Ibadan, Nigeria, Pp 116-124.*
- Scarborough, V. and Kydd, J. (1992). *Economic analysis of agricultural markets: A manual. Marketing series, Vol.5* Natural Resources Institute, Chatham, United Kingdom.