Original Research Article

Analysis of Marketing Margins and Efficiency of Cassava-based product in Cross River Central Agricultural Zone, Nigeria

Abstract

The study was carried out to determine marketing margins in the marketing of garri in Cross River Central Agricultural Zone, Nigeria. The study employed primary data which were obtained directly from garri marketers and analyze with the use of descriptive statistics and marketing efficiency model. A three stage (multi-stage) sampling technique was used in the selection of respondents and using 10% proportionality a sample size of 196 respondents was obtained from sample frame of 1960. Analysis of the result showed that garri marketing in the area is greatly influenced by the socio-economic characteristics of garri marketers. Furthermore, result indicated that marketers in Ofodua and Ochon markets recorded the lowest margin of ₦200 per bag of garri. This is against the ₦300 margin recorded by marketers in Apiapum, Okuni, Nko and Akparabong markets, ₦400 for markets in Ugep and Ikom Urban and ₦600 for the market in Agoi, respectively. The average marketing margin for garri in the markets was ₦378. Producers of garri sell it to the wholesalers in bulk sometimes through intermediaries like the village agents or directly to them. Retailers obtain the product from wholesalers and retail directly to final consumers also sometimes passing through movement agents and cooperative consumer outlets before reaching the final consumer. The mean marketing efficiency for garri across the study area is 0.78. This is slightly lower than the average efficiency level for Ugep, Apiapum and Ikom urban markets (0.90, 0.8. and 0.90, respectively). The following were recommended: trading activities and attributes of garri traders should be regulated by governments to ensure efficiency in the business, government, corporate bodies and NGO's should assist in the rehabilitation of feeder roads to guarantee easy movement of garri from the producers to the consumers and traders in garri should be provided with training by government to increase their efficiency in the distribution of garri.

Key-words: Garri, profit margin, market, distribution channel, farm gate prices

1. Introduction

According to Onyeabor (2009), marketing is the process by which agricultural products flow from the producers to the consumers in order to effect exchange of goods and services that

satisfy the needs of individuals, groups or the entire society. He further posited that in the process of marketing, buyers and sellers are linked together and can react to current situations especially price in reaction to the forces of supply and demand. Participants thereby generate incomes which enhance their production and welfare. An effective and efficient marketing system enhances consumption, output and economic development.

Marketing margin is an equilibrium entity that is a function of the difference between the equilibrium of retail and farm prices (Okoh and Egbon, 2002). The margin provides neither a measure of farmer's well-being nor of the marketing firms' performance and also gives an indication of the market structure and efficiency. Marketing margin for a particular commodity is the difference between what the consumer pays for the final product and the amount the producer receives and at each intermediary level, it is the difference between price received on resale and the purchase price (Jayara 1992, Olukosi and Isitor, 1990 and Arene, ~~2003~~2008). Marketing margin reflects the costs and profit of middlemen and has remained an important tool in analyzing the performance of marketing systems.

Garri is a staple food prepared from the roots of cassava *(Manihot esculenta crantz)*. Its importance in bridging the food gap in Nigeria cannot be overemphasized (Ekuibika, 2010). In recent times, many rural households have anchored their livelihood on garri processing and marketing. This is because of the strategic position of garri in the food marketing systems of Nigerians and it is the most common form in which cassava is consumed and marketed, (Ngoddy, 1997 and Ekwe and Ike, 2010). They further held that more than half of the garri produced in rural areas of Nigeria are destined for sale; the producers usually take the garri to urban markets for sale to the final consumers. The study specifically focused on the analysis of marketing margins in the marketing of garri in the study area, with following specific objectives:

i. describe socio-economic attributes of garri makerters in the area

ii. determine levels of marketing margin of garri marketers in the study area

iii. identify main channel of distribution of garri

The following hypotheses guided this study:

i. levels of marketing margin do not significantly influence garri marketing in the study area

ii. socio-economic attributes do no significantly influence garri marketing and their marketing margins in the area

2. Materials and Method

Methods of Data Collection and Analysis

The study employed primary data. Primary data were obtained directly from garri marketers in the Cross River Central Senatorial zone. A three stage (multi-stage) sampling technique was used in the selection process. In the first stage, three (3) Local Government Areas (LGAs.) were purposively selected from the six (6) LGAs making up the zone, because of the preponderance of garri marketing activities in those LGA's. In the second stage three (3) villages were randomly selected from each of the local government areas earlier selected giving a total of nine (9) villages. The third stage involved obtaining a list of garri marketers from registered garri marketers association in the study area. Using 10% proportionality a sample size of 196 respondents was obtained from sample frame of 1960, as shown ion Ttable 1. below: Furthermore, according to Hejase and Hejase (2013, p. 272), "descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data." Therefore, this study analyzed data collected with descriptive statistics such as frequency

distribution tables, percentages, mean scores and graphical representations. Moreover, marketing efficiency model is~~and~~ used to capture the specific objectives.

Table 1: **Selection of Respondents in the Study Area**

S/N	LGA	Villages	Sample Frame	Sample size(Number of Respondents)
1	Yakurr LGA	Ugep, Agoi, Nko	600	60
2	Obubra LGA	Ofudua, Ochon, Apiapum	800	80
3	Ikom LGA	Ikom Urban, Okuni and Akparabong	560	56
Total	3	9	1960	196

Source: field survey, 2018

Model specification

Marketing Efficiency Model (Shepherd model of marketing efficiency~~.~~)

This model is concerned with the productivity of the resources used in the production and marketing process (in quantitative terms) by computing the coefficient of marketing efficiency (CME) this is the ratio of estimated costs incurred by marketing agencies and producers combined, to the value of product sold and expressed in percentage, it is given as:

$$CME = \frac{TC}{TR} \times \frac{100}{1}$$

Where, CME = coefficient of marketing efficiency

TC = Total cost of marketing

TR = Total Revenue from marketing

Marketing efficiency is maximization of the ratio of output of marketing to the input of marketing and is given as:

Marketing efficiency = <u>Value of output</u> X <u>100</u>

Value of input 1

The higher the coefficient obtain<u>ed</u>, the higher the marketing efficiency (Onyeabor, 2009).

3. Result<u>s</u> and Discussion

Socio-economic attributes of garri marketers

The analyzed result of socio-economic attributes of garri marketers with respect to age, sex, marital status household size, educational qualification, trading experience, business size, annual income are presented in <u>T</u>table 2.

Table 2: Socio-economic Characteristics

Variable	Frequency	Percentage (%)	Mean
Age (years)			
15-30	24	12.3	
31-45	79	40.3	
46-60	61	31.1	
61 and above	32	16.3	
Total	196	100	43
Sex			
Male	49	25	
Female	147	75	
Total	196	100	
Marital Status			
Married	119	60.7	
Not Married	57	29.1	
Widowed	20	10.2	
Total	196	100	
Household Size (number)			
1-5			
6-10	75	38.7	
11 and above	82	41.8	
Total	39	19.9	
	196	100	9
Educational Qualification (years)			
1-6			
7-12	71	36.2	
13-18	92	46.9	
18 and above	24	12.3	

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Variable	Frequency	Percentage (%)	Mean
Total	9	4.6	
	196	100	10
Trading Experience (years)			
1-10			
11-20	64	32.7	
21-30	73	37.2	
31 and above	34	17.3	
Total	25	12.8	
	196	100	9
Number of bags of garri (50kg)			
40-60			
61-80	43	21.9	
81-100	76	38.829.1	
101 and aboveTotal	57	10.2	
	20	100	
	196		
Annual Income (₦)			
100000-200000	85	43.4	
201000-300000	68	34.7	
301000-400000	28	14.3	
401000 and above	15	7.7	
Total	196	100	196000

Source: field survey, 2018

Note, figures in brackets represent standard deviation

Variable	Frequency	Percentage (%)	Mean
Age (years)			
15-30	24	12.3	
31-45	79	40.3	
46-60	61	31.1	
61 and above	32	16.3	
Total	**196**	**100**	**43**
Sex			
Male	49	25	
Female	147	75	
Total	**196**	**100**	
Marital Status			
Married	119	60.7	
Not married	57	29.1	
Widowed	20	10.2	
Total	**196**	**100**	
Household Size (number)			
1-5	75	38.7	9
6-10	82	41.8	
11 and above	39	19.9	
Total	**196**	**100**	
Educational Qualification (years)			
1-6	71	36.2	10
7-12	92	46.9	

13-18	24	12.3	
18 and above	9	4.6	
Total	196	100	
Trading Experience (years)			
1-10	64	32.7	9
11-20	73	37.2	
21-30	34	17.3	
31 and above	25	12.8	
Total	196	100	
Number of bags of garri (50kg)			
40-60	43	21.9	
61-80	76	38.8	
81-100	57	29.1	
101 and above	20	10.2	
Total	196	100	
Annual Income (N)			
100000-200000	85	43.4	196,000
201000-300000	68	34.7	
301000-400000	28	14.3	
401000 and above	15	7.7	
Total	196	10	

Source: field survey, 2018
Note, figures in brackets represent standard deviation

Entries in Ttable 2 below shows that majority (40.3%) of the garri marketers examined were between the ages of 31-45 years. The mean age was 43 years, which implies that majority of the traders were within the active age. This result is consistent with the finding of Kuye and Ettah (2016) who also found that the cassava farmers they studied were within the same mean age of 43 years. This age portends activeness of traders in the business and decision making. The rResult however contradicts that of Ebewore and EIdoge (2015) who found an average age of 50 years for garri marketers in their analysis of marketing of garri in Delta State, Nigeria.

The result also shows that 75% of the garri traders were females, while 25% were males which mean that more females than males were involved in trading activities in the study area. This result is variance to the findings by Okoh and Egbon (2002) that garri trading activities are dominated by males and production by females. The marital status of respondents show that

60.7% were married, 20.1% not married and 10.2% widowed respectively. This result is an indication that garri traders use this business to cater for their families. This result also agrees with that of Okoh and Egbon (2002) that most of the garri traders are married with high household size.

Result further shows that majority (41.8%) had household size of 6-10 members, while the minority (19.9%) have household size of 11 members and above. This result is an indication that most of the traders have a sizeable household size. This could be because of the high percentage of respondents who are married and also shows a high dependency on the income of the business. This result was in in line with the findings of Ebewore and EIdoge (2015) who found out that a higher proportion of the respondents had household size of 6-10 members, findings further contradicts that of Adinya, Enya and Kuye (2007), who found an average household size of 5 persons in a study of the structure of Ofatura goat market Obubra Local Government Area of Cross River State. Educational qualification of the respondents shows that majority (46.9%) had between 7 to 12 years of formal education. This means that garri traders had good level of education (secondary school education) that will enhance the marketing of the product. This result contradicts Lemchi, Ifeanyi-Obi and Olatunji (2011) who found out that majority of the garri traders studied had either no formal education or had primary education (1-6 years) only.

The result of the trading experience further shows that 37.2% which formed the majority had trading experience of 11 to 20 years. The long years of trading experience is because this business is predominant in the area as a result of the large scale production and consumption of the product (garri) in the area. On number of bags of garri (50kg bag), majority (38.8%) had business size of 81-100 bags, per month. This result means that majority of the traders are small scale garri traders. This finding agrees with the findings of Okoh and Egbon (2002) whose study

showed that majority of the garri traders examined were small scale traders, with no large warehouses.

As many as 43.4% of the garri traders representing the majority made an income of ₦100,000- ₦ 200,000, with a mean income of ₦196,000. This result shows that the income received from garri trading in the study area is poor. This result disagrees with that of Ali and Jampada (2007) who found out that small scale entrepreneurs should have an income of between ₦150, 000 and N200, 000 per month to be able to break- even and make reasonable profit.   .

 Marketing Margin Analysis

Marketing margin measures the share of final selling price that is obtained by a particular agent in the marketing chain. It is the difference between the price paid by the consumer and that received by the producer. Table 3 shows the marketing margin for garri across the selected markets studied. Marketers in Ofodua and Ochon markets recorded the lowest margin of ₦200 per bag of garri.

Table 3: Marketing Margin for Garri Sellers in the Study Area

| Market	WholeSale Price(₦)	Producers Price(₦)	Market Margin(₦)
Ugep	2,700	2,300	400
Agoi	2600	2000	600
Nko	2500	2200	300
Ofudua	2600	2400	200
Ochon	2600	2400	200
Apiapum	2600	2300	300
Okuni	2700	2400	300
Ikom Urban	2800	2400	400
Akparabong	2700	2400	300
Average	**2,356**	**2,000**	**378**

Source: field survey, 2018.

This is against the ₦300 margin recorded by marketers in Apiapum, Okuni, Nko and Akparabong markets, ₦400 for markets in Ugep and Ikom Urban and ₦600 for the market in Agoi, respectively. The average marketing margin for garri in the markets is ₦378 which is slightly lower than the marginal values in Ugep, Ikom Urban and Agoi markets, respectively and greater values in Ofodua, Ochon, Apiapum, Okuni, Nko and Akparabong markets, respectively. This implies that a fairly moderate margin recorded in Apipum, Okuni, Nko and Akparabong markets may have been caused by the series of marketing activities involved in garri and some other food items and the poor marketing system. This result is in agreement to that of Chukwuji, Inoni and Ike (2007) marketing activities involved in garri and poor marketing system caused low marketing margin in the study: determinants of the technical efficiency in garri processing in Delta State, Nigeria. Result contradicts that of Ekwe, C. and Ike, N. (2010) in their study of sustaining garri enterprise for rural livelihood they found out a high a marketing margin of an average of ₦500.

The rule of thumb is that a very wide margin between the producer's price and wholesaler price is an indication of an inefficient marketing system. In an efficient marketing system, the margin should be a function of transportation and other transaction cost incurred in carrying garri from producers to the wholesalers. The marketing margins of ₦200, ₦400 and ₦600 respectively recorded shows clearly that differences exist in the estimated markets based on this result, the null hypothesis that there is no significant difference in the marketing margin between the different garri markets in the study area is hereby rejected.

Marketing Channels of Garri Distribution in the Study Area;

Marketing channel of garri in the area indicates the process of making garri available to the consumers. ~~The diagram below~~ Figure 1 shows the marketing channel of garri sellers in the study area. Further, Figure 1 shows that the producers produce the garri and sell it to the wholesalers in bulk sometimes through intermediaries like the village agents or directly to them. Retailers obtain the product from wholesalers and retail directly to final consumers also sometimes passing through movement agents and cooperative consumer outlets before reaching the final consumer. Ekwe and Ike (2010) in their study sustaining garri enterprise for rural livelihood also found similar channel of movement of garri from the producers to the consumers.
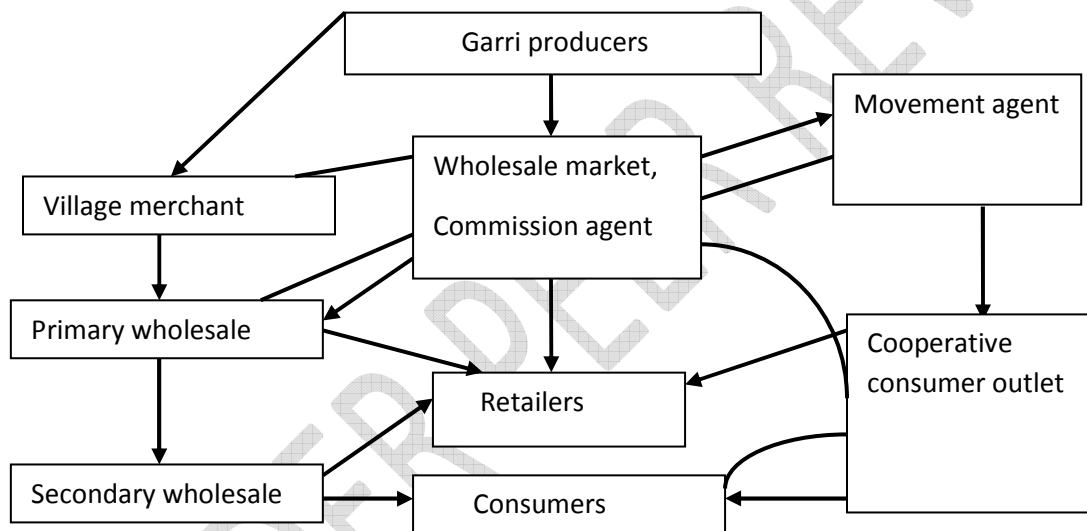
Figure 1. Channel of Distribution of Garri

~~The figure 1 shows the marketing channel of garri sellers in the study area~~

Marketing Efficiencies in Garri Marketing in the Study Area;

Table 4 shows the marketing efficiency values across the selected markets studied. The mean marketing efficiency for garri across the study area is 0.78.

Table 4: Levels of Efficiency in Marketing of Garri in the Area

Market	Efficiency Level	Market	Efficiency Level
Ugep	0.90	Apiapum	0.80
Agoi	0.50	Ochon	0.70
Nko	0.60	Ofodua	0.60
Ikom Urban	0.90		
Akparabong	0.60		
Okuni	0.70		
Average	**0.78**		

Source: field survey, 2018

This is slightly lower than the average efficiency level for Ugep, Apiapum and Ikom urban markets (0.90, 0.8. and 0.90, respectively). Agoi had the least marketing efficiency value of 0.50. This low marketing efficiency value may be attributed to the inability of garri marketers in this area to carryout effectively the various marketing functions which could have helped to strengthen their marketing efficiency. Garri is efficiently marketed in Ugep and IKom urban hence the highest marketing margin of 0.90. The high average marketing efficiency could be attributable to the long trading experience. This result agrees with that of Funke, Raphael and Kabir (2012), who also found efficient garri marketing in South Western Nigeria. Furthermore, result is in variance to that of Chukwuji, Inoni and Ike (2007), who found a low marketing efficiency in their study of the determinant of the technical efficiency in garri processing in Delta State.

Conclusion and Policy Recommendations

Analysis of the results revealed that garri marketing in the area is greatly influenced by socio-economic characteristics of garri marketer. The marketing margins of ₦200, ₦400 and ₦600 respectively recorded shows clearly that differences exist in the estimated markets and it is attributed to intermediary agents between the producers and consumers of garri. The following

rrecommendations were proffered: trading activities and attributes of garri traders should be regulated by governments and other stakeholders to ensure efficiency and entrepreneurship in the business;, government, corporate bodies and NGO's should assist in the rehabilitation of feeder roads to guarantee easy movement of garri from the producers to the consumers;, traders in garri should be provided with training by government to increase their efficiency in the distribution of garri to the consumers and appropriate policies should be made by government to reduce intermediaries such as: commission agent, primary and secondary wholesalers, village merchant, etc. to ensure reasonable pricing to consumers.

References make sure to review carefully the write up of your references for consistency

Adinya, I.B, Enya V.E and Kuye O.O. (2007). Structure of Ofatura Goat Market Obubra Local Government Area of Cross River State. *Global Journal of Agricultural Sciences 6*(1) 2007 PP55 – 59.

Ali, E., Gaya, H. and Jampada, N. (2007). Economic Analysis of Marketing Margins in Maiduguri Gamburu Market Kachallari Alau Dam Landing Site of North Eastern. *Journal of Agricultural and Social Sciences.* 4(2): 3-6.

Arene, C. J. (2008). Agricultural economics. A functional approach. University of Nigeria Press, Enugu, Nigeria.

Chukwuji, C. O., Inoni, O. and Ike, N. (2007). Determinant of the Technical Efficiency in Garri Processing in Delta State, Nigeria. *Journal of Central European Agriculture* 8(3): 329-330.

Ebewore , S. and O. D. EIdoge (2015). Analysis of Marketing of Garri in Delta State, Nigeria. *Journal of northeast agricultural university. 2*(12) 2015

Ekubika, E. (2010). Economic analysis of cassava production farming in Akwa Ibom State, Nigeria. *Agric. Biol. Am., 4*(2). Pp. 24-31.

Ekwe, C. and Ike, N. (2010). Sustaining Garri Enterprise for Rural Livelihood: farmers indigenous Innovation in Southern Nigeria, MPRA paper, pp. 3-6.

Funke. O., B. Raphael S. Kabir (2012). Market Structure, Conduct and Performance of Garri Processing Industry in South Western Nigeria. European *Journal of Business and Management. 2*(3) 2012.

Hejase, A. J. and Hejase, H. J. (2013). Research Methods: A Practical Approach for Business Students (2nd edition). Philadelphia, PA, USA: Masadir Inc.

Jayara, D., (1992). Spatial pricing efficiency in garri markets: Tamic Nadu: *Indian Journal of Agricultural Economics. 47* (1): 79 – 89.

Kuye, O. O. and Ettah, O. I. (2016). Analysis of socio- economic factors affecting cassava production and value chain in Ikot Ekpene Local Government Area of Akwa Ibom State, Nigeria. Proceedings of farm management association of Nigeria (FAMAN) Abuja, 28th-2nd December, 2016.

Lemchi J, CC Ifeanyi-Obi, SO Olatunji (2011). Socio-Economic Factors Affecting the Marketing of Garri in Port Harcourt City of Rivers State*. Journal of Agriculture and Social Research (JASR). 4*(6) 2011

Ngoddy, P. O. (1997). Determinants of the Development of Technology for Processing Roots and Tuber in Nigeria, National Root Crops Research Institute Umudike.

Okoh, R and Egbon, P., (2002). A Test of markets integration: The case of Nigerian staple food stuffs. African Economic Research Consortium Report vol. 9 No. 2, Dec. 2002.

Olukosi, J. O. and Isitor, S. (1990). Introduction to Agricultural Marketing and Prices, Principles and Applications. Living books Series. G. U. publications, Abuja Nigeria.

Onyeabor, E N. (2009). Agricultural marketing for developing countries: John Jacob classic publishers, Enugu Nigeria.