

UDK (UDC) 339.1(669)

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AN ANALYSIS OF THE STRUCTURE, CONDUCT AND PERFORMANCE OF GARRI MARKET IN ETHIOPE-WEST LOCAL GOVERNMENT AREA OF DELTA STATE, NIGERIA

The study examined the structure, conduct and performance of *garri* market in Ethiope-West Local Government Area of Delta State, Nigeria. It specifically, among other objectives, determined the profitability of *garri* marketing and investigated *garri* price determinants. Data for the study were obtained using well-structured questionnaire administered to 120 randomly selected *garri* sellers in six markets in the area. Data analysis was achieved using descriptive statistics (such as tables, percentages and frequencies) and gross margin analysis. The study revealed that there were large number of buyers and sellers, but some of them are so large that they can influence the prevailing market price, supply and demand condition, that the *garri* market system exhibits a reasonable degree of freedom of entry and exit in and out of the *garri* market. However, about 25% of the sellers belong to *garri* sellers' association that charged fees and issued license to members as long as they are willing to operate within the codes of conduct laid down by the association and non-members were not allowed to operate in such market except the payment of certain levies. Major price determinants were found to be seasonal variation and labour costs respectively accounting for 33.3% of the price determinants. The study further revealed that under the existing *garri* production in Ethiope-West Local Government Area of Delta State, Nigeria, each seller on the average had a gross margin of ₦5, 475.00 (26.65 EUR) implying profitability. Since *garri* market has enormous potentials as a major staple food and reliable source of income, market opportunities can be fully developed through the provision of infrastructures such as modern market, efficient transportation and communication systems.

Keywords: *Garri*, conduct, profitability and gross margin

INTRODUCTION

Nigeria grows more cassava than any other country in the world. Its production is currently put at about 34 million tonnes a year (FAO, 2004). Total area harvested of the crop in the year 2003 was 3.1 million hectares with an average yield of about 11 tonnes per hectare. The production of cassava is

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concentrated in the hands of numerous small-holder farmers located primarily in the South and Central regions of Nigeria (Ezedinma *et al*, 2007).

Traditionally, Nigerian farmers, processors and traders seem to have responded to the demand for convenient foods from cassava especially *garri*, *fufu* and cassava chips in urban centres and across Nigerian borders (Ezedinma *et al*, 2007).

According to Lemchi (1999), cassava is usually traded in some processed form, generally *garri*. It is estimated that 70% of the cassava produced in Nigeria is processed into *garri*. As a result, *garri* is the most commonly traded cassava product. *Garri* prices, therefore, are a reliable indication of the demand and supply of cassava. Other relevant processed cassava foods in the traditional (food) market include *fufu*, *lafun* and *abacha* (Onabolu, 2001).

Garri is a fermented and roasted/fried granular product from cassava. It was considered a poor man's food until recently. It is now elevated to an urban convenience food. It is a cheap and ready source of vital energy. *Garri* production involves peeling, grating, de-watering, and fermentation, sieving, frying and bagging of cassava after harvest. This process gives white or creamy-white *garri* while the addition of palm oil prior to de-watering adds a yellow colour to *garri*. Yellow *garri* is preferred and can cost twice as much, making it less available to poorer households. *Garri* is commonly consumed either as a paste made with hot water and eaten with vegetable sauce or soaked in cold water with sugar, coconut, roasted peanut, fish or boiled cowpea as complements (Ezedinma *et al*, 2007).

Cassava is mainly produced for domestic markets but presently, some of the dry processed food products from cassava (such as *garri* and *fufu* flour) are known to be finding their way to emigrant Nigeria communities in the United States of America and Europe (Dipeolu *et al*, 2002).

A lot of efforts are currently being accorded to the marketing of *garri*. However, not much attention has been given to price fluctuation, structure and performance being witnessed in the marketing of cassava products especially *garri* in Ethiope-West Local Government Area of Delta State, Nigeria. This research therefore targeted to determine the various factors associated with the price variation, structure, conduct and performance of the *garri* market and provide information for researchers and policy-makers.

OBJECTIVES OF THE STUDY. The general objective of the study was to examine the structure, conduct and performance of *garri* marketing in Ethiope-West Local Government Area of Delta State, Nigeria. The specific objectives were to:

- (i.) Identify the structure of *garri* market in Ethiope-West Local Government Area of Delta State, Nigeria;
- (ii.) Evaluate the conduct of the *garri* market in the study area;
- (iii.) Determine the performance of *garri* market in terms of profitability and;
- (iv.) Identify *garri* price determinants in the study area.

MATERIAL AND METHODS

The study area was Ethiope-West Local Government Area of Delta State, Nigeria. Its choice for the study was premised on the fact that cassava is one of the major crops grown in large quantities and *garri* marketing constitutes one of the main sources of income to farmers. Six major markets in the area were randomly selected. They are Jesse, Mosogar, Ugbenu, Oghareki, Ogharefe and Oghara junction markets. Data for the study were collected using a well-structured questionnaire administered to 120 randomly selected *garri* sellers/traders in the study area. Data analysis was achieved using descriptive statistics such as means and standard deviation and inferential statistics- gross margin analysis.

Gross margin analysis was used to estimate/determine the performance of *garri* marketing in terms of profitability. The gross margin is as:

$$GM = TR - TVC$$

Where:

GM = Gross Margin/ha

TR = Total Revenue/ha

TVC = Total Variable Cost/ha

While the Net Profit is given as:

$$\pi = GM - TFC$$

Where:

π = Profit/ha

TFC = Total Fixed Cost/ha

RESULTS AND DISCUSSION

The Structure of *Garri* Market in Ethiope-West Local Government Area of Delta State of Nigeria.

The structure of *garri* market considered include the type of market stall, ownership of stalls, price information passed among sellers and buyers, free entry and exit and market periods.

Place of sale and/or type of market stalls

The results of the study show that majority (46.7%) of the sellers in the markets have *garri* sold in the open, 25% of sellers were on roofed/covered stalls while 28.3% of the sellers use both open and roofed stalls (Table 1).

Table 1: The structure of *garri* market in Ethiope-West Local Government Area of Delta State, Nigeria.

Structure	Frequency/No. of Respondents	Percentage (%)
Market Stall Type		
Open Air	56	46.7
Covered/Roofed	30	25
Both	34	28.3
Total	120	100
Stall Ownership		
Owned (Private)	44	36.7
Rented	76	63.3
Total	120	100
Source of price information		
Fellow sellers in other markets	80	66.7
Cost of Production	40	33.3
Total	120	100
Garri association membership		
Yes	30	25
No	90	75
Total	120	100
Market period		
Daily	-	-
3-Days interval	40	33.3
4-Days interval	80	66.7
5-Days interval	-	-
Total	120	100

Source: Field Survey, 2006.

This result indicates that sellers in the open air were predisposed to spoilage agents like rain. The sellers however claimed more patronage and accessibility being in the open. Again, cost of production (i.e. cost of rent) was drastically reduced thereby increasing their profit margin.

Stall Ownership

With respect to stall ownership as is presented in table 1, majority (63%) of the sellers were on rented stalls/ground/space where they are made to pay the sum of ₦20.00 (0.1 EUR) daily to the Local Government Authorities for the

maintenance of the market and ₦1, 000.00 (4.9 EUR) monthly on rent while 36.7% of the sellers owned the space or stall or ground given to them by the community. They do not pay rent. This implies that those on rented spaces or stalls or grounds had lesser profit margin.

Price information passed among sellers and buyers

As can be seen in table 1 above, 66.7% of sellers were informed of *garri* price by fellow sellers in other markets i.e. the prevailing price of *garri*. 33.3% of the sellers of *garri* in the area impose prices based on their cost of production and/or transportation. However, individual sellers decide on a profit margin and then bargain with buyers for a high price as seemed reasonable while the buyers bargain for a lower price as possible. *Garri* prices in the study area were dependent largely on the buyer's ability to bargain as well as their relationship with the sellers. This is in conformity with Okereke (1988) that the bargaining power to an extent determines the price a commodity can be bought.

Mode of entry into the market and membership of association of *garri* sellers.

With regards to entry and exit into the *garri* market in the study area, results show that 25% of the sellers belong to *garri* sellers' association that charged fees and issued license to members as long as they are willing to operate within the codes of conduct laid down by the association and non-members were not allowed to operate in such market except on the payment of certain levies. This is a barrier entry and a deviation from the principles of perfect market completion. On the other hand, 75% of the sellers do not belong to *garri* association. Individuals with necessary capital, skill and entrepreneurial expertise were free to enter the business of buying and selling *garri*. This explains the presence of large number of buyers and sellers with small holdings in the area. Also, many sellers face numerous buyers therefore, an individual seller cannot noticeably affect the market price of *garri* by altering his output neither could consumers' perceptibility influence price by raising or lowering his demand. Hence, buyers and sellers adjust quantities bought and sold to obtain optimal level at a given market price.

Market period

The results as presented in the table 1 above, show that majority (66.7%) of the markets in the study area hold every four days while 33.3% hold every three days. None of the markets hold daily.

Profitability of *garri* marketing in Ethiopie-West Local Government Area of Delta State, Nigeria (Gross Margin Analysis).

The unit of measurement of *garri* sold in the market the *basin*. A *basin* is equivalent to 25kg. Each *basin* of *garri* was sold at ₦1, 500.00 (7.3 EUR). This gave total revenue (TR) of ₦1, 125,000.00 (5,473.5 EUR).

Table 2: Gross margin analysis of *garri* marketing in Ethiope-West Local Government Area of Delta State, Nigeria.

Variable Costs (VC)	Value (₦/Basin of 25kg)	Percentage of Total Cost (%)
Labour	184,000.00 (895.3 EUR)	38.81
Rent on stalls/ground/space	144,000.00 (700.6 EUR)	30.37
Transportation Cost	140,000.00 (681.2 EUR)	29.53
Total Variable Cost (TVC)	468,000.00 (2,364.6 EUR)	98.71
Fixed Costs (FC)		
Marketing Tax	3,600.00 (17.5 EUR)	0.76
Capital Depreciation	2,500.00 (12.2 EUR)	0.53
Total Fixed Cost (TFC)	6,100.00 (29.7 EUR)	1.29
Total Costs (TVC+TFC)	474,100.00 (2,306.7 EUR)	100

GM = TR-TVC

₦1,125,000.00 (5,473.6 EUR) - ₦468,000.00 (2,364.6 EUR)

₦657,000.00 (3,196.6 EUR) **GM/Seller=₦5,475.00 (26.6 EUR)**

Net Profit = (GM-TFC)

₦675,000.00 (3,284.2 EUR) - ₦650,000.00 (3,162.5 EUR)

₦650,900.00 (3,166.9 EUR)

Source: Field Survey, 2006.

The result of the gross margin analysis presented in table 2 shows that the average variable cost and total fixed cost incurred for selling *garri* per annum in Ethiope-West Local Government area of Delta State, Nigeria were ₦468, 000.00 (2,364.6 EUR) and ₦ 6,100.00 (29.7 EUR) respectively accounting for 98.71% and 1.29% of the total cost respectively. Of the cost components, labour cost of ₦184, 000.00 (895.2 EUR) heist percentage (38.81%) of the total cost. With the total revenue generated of ₦1, 125,000.00 (5,473.6 EUR), the gross margin and net profit raised per year were ₦657, 000.00 (3,284.2 EUR) and N650, 900.00 (3,166.9 EUR) respectively. On the average therefore, the gross margin per seller was ₦5, 475.00 (26.6 EUR).

Causes of *garri* price variation in Ethiope-West Local Government Area of Delta State, Nigeria.

The survey showed that seasonal variation was a major factor in determining the price of *garri* in the study area (see table 3). During the rainy season, *garri* price drops as a result of flooding which forces the farmers to harvest and process immediately and send to the market to avoid spoilage. Also, labour cost accounted for 33.3% of the price determinants in the study area. Transportation and sellers' association levies accounted for 16.7% each as determinants of *garri* price fixing in the study area.

Table 3: Identified price determinants of *garri* in Ethiope-West Local government area of Delta State, Nigeria.

Price Determinant	Frequency	Percentage
Seasonal Variation	40	33.3
Transportation	20	16.7
Traders' Association	20	16.7
Labour Costs	40	33.3
Total	120	100

Source: Field Survey, 2006.

CONCLUSIONS

It has been established that *garri* marketing in Ethiope-West Local Government Area of Delta State, Nigeria is profitable. The structure, conduct and performance of the market were uncompromised. There is free entry and exit of participants in the *garri* market. However, there were poor structures in the market in terms of storage, stalls and information dissemination to both buyers and sellers. Since *garri* market has enormous potentials as a major staple food and reliable source of income, market opportunities can be fully developed through the provision of infrastructures such as modern market, efficient transportation and communication systems by the government and other stakeholders.

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**ANALIZA STRUKTURE, PONAŠANJE I POSTIGNUĆA TRŽIŠTA
GARIJA U OBLASTI LOKALNE SAMOUPRAVE ETHIOPE-WEST U
DRŽAVI DELTA, U NIGERIJU**

SAŽETAK

Ova studijom je ispitivana struktura, ponašanje i postignuća tržišta *garija* u oblasti lokalne samouprave Ethiope-west u državi Delta, u Nigeriji. Studija je, između ostalog, imala za cilj da utvrdi profitabilnost tržišta *garija* i istraži deteminante koje utiču na cijenu *garija*. Podaci za studiju dobijeni su korišćenjem dobro strukturiranog upitnika sprovedenog na uzorku od 120 prodavaca *garija* na šest pijaca u toj oblasti, odabranih metodom slučajnog odabira. Dobijeni podaci su analizirani korišćenjem deskriptivne statistike (kao što su tabele, procenti i frekvencija) i analizom bruto marže. Studijom je otkriveno da postoji veliki broj kupaca i prodavaca, da su neki od njih razvili svoj posao u tolikoj mjeri da mogu da utiču na tržišnu cijenu, uslove ponude i potražnje i da tržište *garija* pokazuje značajan stepen slobode kada je u pitanju ulazak i izlazak robe sa tržišta. Međutim, oko 25% prodavaca pripada Udruženju prodavaca *garija* koje naplaćuje takse i izdaje dozvole svojim članovima, sve dok su oni spremni da rade u skladu sa kodeksom ponašanja utvrđenim u udruženju, dok prodavcima koji nisu članovi udruženja nije dozvoljeno da rade ukoliko ne plate određene dažbine. Utvrđeno je da su sezonske varijacije i troškovi radne snage glavne determinante cijene *garija*, odnosno da ove determinante pojedinačno čine 33,3% cijene. Studija je dalje pokazala da u postojećoj proizvodnji *garija* u oblasti lokalne samouprave Ethiope-west u državi Delta, u Nigeriji, svaki prodavac je, u prosjeku, imao bruto maržu od ₦5, 475.00, što ukazuje na profitabilnost. Kako tržište *garija* ima ogroman potencijal, kao glavna vrsta hrane i pouzdan izvor prihoda, mogućnosti tržišta će se u potpunosti razviti obezbjeđivanjem infrastrukture, kao što su moderne pijace, i efikasni sistemi transporta i komunikacije.

Ključne riječi: *gari*, ponašanje, profitabilnost i bruto marža