

Original Article

Analysis of garri retailing in selected markets in Kaduna metropolis, Kaduna state, Nigeria

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ABSTRACT

The study examined the analysis of garri retailing in four selected markets in Kaduna metropolis. Purposive and random sampling techniques were used to select the 60 garri retailers used for this study. Data were collected from garri retailers using structural questionnaires. The data were then analyzed using descriptive statistics, market margin analysis, and marketing efficiency analysis. The result indicated that about 65.0% of retailers are female and about 100.0% are between the ages of 21 and 60 years. The market margin analysis values that ranged 9.79–15.33% showed that garri retailing has low profitable margins in the study areas, the result of marketing efficiency coefficient that ranged between 3.0% and 12.0% revealed that all the garri retailers in the study area are highly inefficient in the retailing of garri. The retailers are also faced with diverse problems such as spoilage of garri, bulkiness nature of garri, high cost of both transport, and storage facilities. It is recommended that garri retailers should form cooperative society in order to pool their resources together to enable them address the identified problems to be more efficient in the retailing of garri.

Keywords: Analysis, garri, Kaduna, markets, retailing

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INTRODUCTION

Garri is the most popular West African staple food produced from cassava. It is consumed as processed using cold water in addition to other condiments such as sugar, groundnut, and groundnut cake or reconstituted with hot water to give a dough-like paste called “Eba”, which is consumed with sauce or different types of soup. Garri is a versatile commodity because its organoleptic characteristics can be adjusted to conform to consumer specifications. The main arguments against garri include its bulky starch content which can be augmented during processing or consumption. Garri should be consumed with animal or plant protein accompaniments^[1] or protein enriched with soybeans to boost its protein content.^[2] It is, therefore, the most developed, convenient and storable commodity from cassava. Garri may be produced at a small, medium, or large scale,^[3] but in Nigeria many women processed garri on a small scale for economic reasons. At this level, there has been a change from “Processing with little or no mechanization at

subsistence level” to “Commercial small-scale processing using essential equipment.”^[3] These essential equipments are available in various parts of West Africa. Production of garri starts with cassava harvesting, followed by peeling of the cassava, grating, dewatering, fermentation, sieving, frying, and bagging. This process will give white or creamy white garri while addition of palm oil before dewatering will add yellow color to garri. Yellow garri is assumed to be better than the white garri and, therefore, attracts more price that may be as twice as that of white garri, reducing its availability to poorer households. Garri is commonly consumed either as a paste made with hot water and eaten with soup or by soaking in cold water with sugar, coconut, roasted peanut, fish, and boiled cowpea as complements. A report by^[4] reflects that garri is truly a national food with urban market presence. Garri appears to be a “food of choice” even in the face of alternative food options in urban area.^[5] It 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

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their ways to emigrants in America. Garri market has been very unstable, with its prices experiencing volatile swings in both price and availability.

Neglect of agricultural activities has been a very serious problem affecting both producers and marketers of agricultural produce in the country. This situation appears to be aggravated by government and policy makers who have not considered production and marketing of food crops as serious problems to the economic development of the nation.^[6] Often, people believe that middlemen are making the profit while farmers suffer. This may or may not be correct. Studies have not tried to relate the producer's margin with marketer's margin in the same environment and season. This has led to spatially separated conclusions at different points in time. The consequence may be poor policy formulation due to wrong signal. Agriculture marketing in Nigeria had a lot of problem associated with it which include lack and proper transportation facilities, the nature of the sources of supply, price instability, lack of uniform weights and measured the growth of Urban center, and information about product and mentioned there is need to study the economy at various market to know whether agricultural marketing could be profitable.

Garri is a staple food prepared from the roots of cassava (*Manihot esculenta Crantz*). It is importance in bridging the food gap in Nigeria that cannot be overemphasized.^[7] 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.^[8] 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 will also serve as a base for further research as information was generated on the marketing of garri. It will, therefore, benefit the farmers, students, and potential investors. Aside, analysts, researchers, and extension workers need a more basic knowledge that relates product demand to supply. The result could help policy makers take more informed decisions that could help reshape production and marketing of cassava crops in the country so as to enhance food security. It is against these essentials that this study seeks to provide useful information on garri marketing so that other researchers who might want to carry out further studies on garri marketing can make use of this information. The study, therefore, aimed at carrying out marketing analysis of garri among retailers in selected markets in Kaduna metropolis.

MATERIALS AND METHODS

Study Area

The study was conducted in the Central, Sabo, Barnawa, and Mando markets. The four markets are located within Kaduna

metropolitan town. Kaduna state is located within the Guinea Savannah Region on latitude 10°32' E and longitude 7°17' N. It has an estimated annual rainfall of about 1000—1500 mm per annum and a land mass area of about 3174.5sq km. The state has contributed immensely to the Nigerian economy especially in the area of agricultural production of major crops such as tomato, yam, cassava, maize, millet, and pepper. The selected markets are known for marketing of various agricultural products and by-products such as garri, cassava flour, yam flour, tomatoes, pepper, maize, beans, yam, sweet potatoes, Irish potatoes, onions, okra, and other vegetables. The markets have several tribes and ethnic groups I such as Yoruba, Hausa, Ibo, and Fulani land other locals interacting together harmoniously.

Sampling Procedures

Two stage sampling techniques were used for the study. The first of sampling technique is the purposive selection of four markets in Kaduna metropolis. The markets selected purposively were Central, Sabo, Barnawa, and Mando markets, respectively. The second stage of sampling is the random sampling of garri retailers in the selected markets. Fifteen retailers were selected from each market making a total of 60 retailers that were used for the study.

Method of Collecting Data

Primary data were used for this study. The primary data were obtained by administering a well-structured questionnaire to the respondents.

Analytical Tools

The data collected were analyzed using descriptive statistics such as frequency percentages and tables to achieved objectives 1 and 4 while marketing margin analysis was used to achieve objectives 2 and marketing efficiency coefficient was used to achieve objective 3.

Marketing margin

This was used to achieve objective 3. It was employed to determine the fraction of consumer's expenditure on a commodity that is received by producer and each of the marketing agents. The formula that was used for marketing margin is specify as

$$\text{Marketing margin (\%)} = \frac{\text{Retailing price of garri} - \text{Supply price of garri}}{\text{Retailing price of garri}} \times 100$$

Marketing efficiency

Marketing efficiency is maximization of the consumer satisfaction or utilities created and the value added to the commodities as it passes through the market.^[9] The study adopted the definition of marketing efficiency as given by.^[10]

$ME = RP/TMC - 1$

Where, M.E = Marketing efficiency of different markets

RP = Retailing price of garri in different markets

TMC = Total marketing cost that is supply cost plus cost of marketing services such as cost of processing, transporting, loading and off-loading, and commission charges in different markets.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

Age of the respondents

Table 1 shows the distribution of respondents based on their age. About 36.7% of the respondents are between the age of 51 and 60 years, 35.0% range between the ages of 41 and 50 years, 21.6% ranges between the age of 31 and 40 years, and 6.7% of the respondents are between 21 and 30 years of age, respectively. The result revealed that 100.0% of garri retailers in the study area are in their active and working age of between 21 and 60 years. Upton^[11] recorded that age influences managerial decision-making.

Gender of the respondents

Table 1 also indicated that 65.0% of the respondents were females while 35.0% were male. This shows that the retailing of garri is gender sensitive in the study area. This result revealed that the females are more involved garri retailing than the males in Kaduna metropolis which implies that the males are involved in activities that requires exertion of strength such as farming of cassava used for making the garri than the females. The result was not in agreement with the findings of,^[12] which stated that men were the main providers of the household and supports the family more than women.

Marital status of respondents

Table 1 again showed that 3.3% of the respondents were divorcee, 6.7% were widow, 16.7% were single, and 73.3% were married. This reveals that married people are more into retailing of garri than the singles. This might be as a result of the singles migrating from place to place while the married are looking for income to sponsor their children to schools, settle medical bills, feeding, and shelter. The result was in line with the study of,^[13] that reported that the majority of garri marketers in South Western Nigeria were married.

Household size of respondents

Table 1 also revealed that about 65.0% of the respondents had household size that ranges between 1 and 5 persons, 31.7% of the respondents had a household size that ranges between 6 and 10 persons, and 3.3% of the respondents had household size that ranges between 11 and 15 persons, respectively. The

Table 1: Socioeconomic characteristics distribution of the respondents

Variable	Frequency (F)	Percentage
Age range		
21–30 years	4	6.7
31–40 years	13	21.6
41–50 years	21	35.0
51–60 years	22	36.7
Gender		
Female	39	65.0
Male	21	35.0
Marital status		
Single	10	16.7
Married	44	73.3
Widow	4	6.7
Divorcee	2	3.3
Household size		
1–5 persons	39	65.0
6–10 persons	19	31.7
11–15 persons	2	3.3
Educational level		
No formal education	3	5.0
Arabic education	8	13.3
Primary education	21	35.0
Secondary education	28	46.7
Tertiary education	0	0.0
Year of experience		
1–5 years	6	10.0
6–10 years	5	8.3
11–15 years	17	28.3
16–20 years	32	53.4
Total	60	100.0

Source: Field Survey, 2019

results revealed that the majority of the respondents have a large household size that is above six people which shows that their labor need may be provided by the family.^[12] Stated that family size or household size is the total number of individuals who live within and feed in the household. A household is made up of head, wives, and children and to some extent family relatives.

Educational status of the respondents

Table 1 also indicates that 5.0% of the respondents had no formal education, 13.3% of the respondents received Arabic education, 35.0% of the respondents attended primary school, and 46.7% of the respondents attended secondary school, respectively. The result revealed that none of the garri

retailers had tertiary education but about 81.7% of the retailers had formal education consisting of secondary and primary education which might have positive effect on their rate of accepting new innovations concerning marketing strategies. This implies that reasonable populations of the respondents are educated and due to their education level, it will be easier to adopt new technologies in marketing and deal with problems of risk and uncertainty in marketing.^[12]

Year of experience in garri retailing by the respondents

Table 1 also signified that about 8.3% of the respondents had experience in garri retailing that ranges between 6 and 10 years, 10.0% of the respondents had retailing experience that ranges between 1 and 5 years, 28.3% of the respondents had experience that ranges between 11 and 15 years, and 53.4% of the respondents had been retailing garri for the past 16 years and above. The result revealed that the majority of the respondents has a long years of garri retailing business. This result is in conformity with the work of,^[14] in which the majority of garri marketers in Delta state had been in garri marketing business for long years.

Table 2: Distribution of the respondents based on sources of garri

Source	Frequency (F)	Percentage
Producers	2	3.3
Wholesalers	58	96.7
Total	60	100.0

Source: Field Survey, 2019

Table 3: Marketing margin of garri in the four selected markets in Kaduna metropolis per number of measures sold per day

Market	SP (Naira)	RP (Naira)	MM	MM (%)
Central	5969.00	7050.00	0.1533	15.33
Sabo	3518.00	3900.00	0.0979	9.79
Barnawa	3458.00	3900.00	0.1133	11.33
Mando	3406.00	3900.00	0.1267	12.67

Source: Field survey 2019, SP: Supply price for number of garri measures sold per day in Naira, RP: Retailing price for number of garri measures sold per day in Naira, MM: Marketing margin

Table 4: Marketing efficiency for garri retailing in four selected markets in Kaduna metropolis

Market	RP (NAIRA)	SP (NAIRA)	MC (NAIRA)	TMC (NAIRA)	ME
Central	7,050.00	5,969.00	314.00	6,283.00	0.12
Sabo	3,900.00	3,518.00	282.00	3,800.00	0.03
Barnawa	3,900.00	3,458.00	209.00	3,667.00	0.06
Mando	3,900.00	3,406.00	195.00	3,601.00	0.08

Source: Field Survey, 2019, RP: Retailing price for number of garri measures sold per day in Naira, SP: Supply price for number of garri measures sold per day in Naira, MC: Marketing costs of garri measures sold per day in Naira, TMC: Total marketing costs of garri measures sold per day in Naira, ME: Marketing efficiency of garri retailers in different markets

Sources of garri

The result showing how the respondents buy their garri for sale is presented in Table 2. The table revealed that the majority (96.7%) of the garri retailers got their supply from the wholesalers. Only 3.3% of the retailers claimed to obtain their garri from producers directly.

Marketing margin analysis of garri retailing in selected markets in Kaduna metropolis

The result of marketing margin analysis of garri retailing in four selected markets in Kaduna metropolis is presented in Table 3. The result shows that the marketing margin of the markets ranges from 9.79 to 15.33% with marketers in Sabo market having the lowest marketing margin while those in the Central market have the highest market margin. The result revealed that the entire market margin was all low which signifies that garri retailing in the study area has very low profitable margin. This result, however, was not in line with the work of^[15] that reported higher marketing margin values for garri enterprises in Southern Nigeria.

Marketing efficiency for garri in the four selected markets in Kaduna metropolis per number of measures sold per day

The result of marketing efficiency for garri retailing in the four selected markets in Kaduna metropolis is presented in Table 4. The coefficient of marketing efficiency for garri retailers in the study area was calculated as 12.0% for retailers in the Central market, 8.0% for retailers in Mando market, 6.0% for those in Barnawa market, and that of Sabo market was 3.0%. This result indicates that the efficiency of garri retailers at the Central market is the highest, followed by that of Mando market, then that of Barnawa market while retailers in Sabo market were the least. This indicates that the retailers of garri in the Central market are more efficient. The coefficient of marketing efficiency across the four markets was actually <100% indicating that there is a lot of inefficiency in garri retailing in the study area. A market that is efficient does not only bring sellers and buyers together, it enables entrepreneurs to take advantage of opportunities, to innovate and improve in response to demand and price changes.^[16]

Table 4: Marketing efficiency for garri retailing in four selected markets in Kaduna metropolis

Market	RP (NAIRA)	SP (NAIRA)	MC (NAIRA)	TMC (NAIRA)	ME
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Source: Field Survey, 2019, RP: Retailing price for number of garri measures sold per day in Naira, SP: Supply price for number of garri measures sold per day in Naira, MC: Marketing costs of garri measures sold per day in Naira, TMC: Total marketing costs of garri measures sold per day in Naira, ME: Marketing efficiency of garri retailers in different markets

Table 5: Constraints associated with garri retailing in Kaduna metropolis

Problem	Frequency (F)	Percentage
Garri spoilage	54	90.0
Bulkiness of garri	54	90.0
Irregular supply of garri	7	11.7
High storage cost	51	85.0
High transportation cost	54	90.0

Source: Field Survey, 2019

Constraints associated with garri retailing in Kaduna metropolis

The result of Table 5 shows the various constraints associated with retailing of garri by the respondents. Spoilage of garri, bulkiness of garri, and high cost of transportation were identified by 90.0% of the retailers, respectively, as the main constraints confronting them in their business. High cost of storage was reported by 85.0% of the garri retailers as a constraint. Only 11.7% of the respondents agreed that irregularities in garri supply are a constraint. The result shows that the supply of garri to meet the demand of consumers in the study area is not a constraint. The high transportation cost identified as a constraint in garri retailing in this study was in agreement with the finding of^[17] who asserted that high transportation cost of agricultural products bring about wide variation in price between the urban and rural areas.

CONCLUSIONS

The result of the study showed that 100.0% of garri retailers are in their active age of between 21 and 60 years, while their level of education was mainly secondary and primary school. The respondents were mainly female marketers with the majority having marketing experience of over 5 years and above. The result of the marketing margin showed that garri retailing has low profits in the study area and all the retailers are highly inefficient in carrying out all activities relating to sales of garri. Based on the result, it is concluded that garri retailing in the study area is a profitable venture though with little margin and the retailers are constrained with high cost of transportation, bulkiness nature of garri, garri spoilage, and high cost of

garri storage. Based on the result gotten from this study, it is recommended that the retailers should form cooperative society so that they can pool their resources together to solve some of the identified problems and government should come to the aid of the retailers so that solution to the various constraints such as transportation difficulties and storage facilities which affects garri retailing in the study area can be sought for to increase the efficiency of the retailers.

REFERENCES

1. Tubman AF. In: Akoroda MO, Arene OB, editors. Development of Cassava Processing and Preservation Facilities in Liberia. Kinshasa, Zaire: Proceedings of the 4th Triennial Symposium of the International Society for Tropical Root Crops (African Branch); 1989. p. 229-34.
2. Sanni MO, Sobamiwa AO. Processing and characteristics of soybean fortified garri. *World J Microbiol Biotechnol* 1993;10:268-70.
3. Sanni MO. Gari Processing in Ibadan Metropolis: Factors Controlling Quality at the Small-Scale Level. 9th ed. Ghana: Symposium of the ISTRC; 1991. p. 20-6.
4. Phillips T, Taylor DS, Sanni L, Akoroda M. A Cassava Industrial Revolution in Nigeria-The Potential for a New Industrial Crop; 2004. Available from: <https://www.fao.org/documents/show-cdr.asp?url=/docrp/007/y5548e/y5548e08.htm> [Last accessed on 2019 Aug 10].
5. Maziya-Dixon B, Akinyele IO, Oguntona EB, Nokoe S, Sanusi RA, Harris E. Nigeria Food Consumption and Nutrition Survey 2001-2003. Ibadan, Nigeria: Summary Report of International Institute of Tropical Agriculture; 2004.
6. Gyang JD, Wuyep EO. Acha, the grain of life. A bi-annual publication of raw material. *Res Dev Council* 2005;16:39-41.
7. Arene CJ. Agricultural Economics. A Functional Approach. Ibadan: University of Nigeria Press, Enugu, Nigeria; 2008.
8. Ebewore S, Eldore OD. Analysis of marketing of garri in Delta state, Nigeria. *Journal of Northeast Agricultural University* 2015;22:53.
9. Olukosi JO, Isitor S. Introduction to Agricultural Marketing and Prices, Principles and Applications. Living Books Series. Abuja Nigeria: GU Publications; 1990.
10. Shepherd AW, Ilboudo J. Marketing of Agricultural Products. Rome: Food and Agriculture Organization; 2010.
11. Upton M. African Farm Management. London: Cambridge University Press; 1987.

12. Rahman SA, Ogungbile AO, Tabo R. Factors affecting adoption of KSA III and ICS.V 400 sorghum varieties in Guinea Sudan Savannah of Nigeria. *J Crop Res Agrofor Environ* 2002;1:21-30.
13. Funke O, Raphael B, Kabir S. Market structure, conduct and performance of garri processing industry in South Western Nigeria. *Eur J Bus Manag* 2012;4:99-112.
14. Ebewore SO, Ukwuaba SI, Egbodion J. Analysis of price variation in the marketing of garri in delta state, Nigeria. *Sustain Agric Res* 2013;2:181-7.
15. Ekwe C, Ike N. Sustaining Garri Enterprise for Rural Livestock: Farmers Indigenous Innovation in Southern Nigeria. *MPRA Paper*; 2010. p. 3-6.
16. Fakayode SB, Omotesho OA, Babatunde RO, Momoh AA. The sweet orange market in Nigeria, how viable? *Res J Agric Biol Sci* 2010;6:395-400.
17. Ayinde OE, Idris AO. Intermarket and seasonal variation in prices. An appraisal of maize marketing in Kwara State. *Agrosearch* 2005;7:51-61.



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