

Comparative Study on Profitability of Garri Production and Marketing in Khana Local Government Area, Rivers State, Nigeria

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ABSTRACT

The study comparatively analyzed the profitability of garri production and marketing in Khana LGA., Rivers State, Nigeria. The specific objectives were to described the socio-economic characteristics of garri dealers in the study area, examined the profitability of garri for producers and marketers, and identified challenges to efficient garri production and marketing in the study area. Data for the study were collected via the use of questionnaire from 120 respondents and analyzed using descriptive statistics and budgetary techniques. The result showed that most of the respondents were female (63.3%) while (36.6%) were male. (80%) of the respondents had different level of education. (61.7%) of the respondents finance their agribusiness via personal savings. The profitability analysis indicated that return from garri production was lower than marketing. The net farm income/plot was N52,853.36 with an average gross margin/plot of N64,752.22 was realized in garri marketing. The gross ratio of 0.56 for garri production while 0.46 for marketing ,and the operating ratio of 0.44 for garri production while 0.34 for marketing. The study concluded that garri marketing was more profitable than production. The study recommended that Government should make policy reforms to facilitate price stability for investment in garri enterprise, expansion of economic empowerment programme, provision of basic infrastructural facilities such as good roads network to curtail marketing cost.

KEYWORDS: Profitability, Garri, Production, Marketing, Khana LGA

INTRODUCTION

Garri is obtained from processed roots and tubers crops commonly known as cassava, its saved as food for man, raw materials for industrial manufacturing, and livestock feeds. The Growing awareness of the value-chain of both actual and potential of root crops is reflected in its priorities in recent studies by international agricultural research. Abubakar (2003) said that the current trend in cassava production and demand showed that cassava production is increasing globally and the growing of cassava is expending to the semi-arid areas where cassava were not cultivated

for over 30 years. The cash income from cassava was more egalitarian than other major staples food crops because of its low cash input cost (Nweke, 2004).

In meeting the Sustainable Development Goals (SDGs) for food security in Nigeria and fostering economic empowerment, the cassava value-chain development have been identified because of the country's huge potential for cassava production and the growing global demands (AfDB, 2015). Production and processing of cassava in Nigeria in to other forms like garri is still predominantly local, yet Nigeria is one of the largest producers of cassava and cassava products in Africa (Philip, Sanni and Akoroda, 2004; AfDB, 2015). Cassava is a basic food calories consumed in Africa (IITA, 1990). A major and most popular form in which cassava is processed and marketed in Nigeria is garri (Ezedinma, Okechukwu and Sanni, 2005). Garri can be described as a fermented and roasted granular product from cassava. Several studies have established the high acceptability and consumption of garri both in the rural and urban areas in Nigeria (Philip *et al.*, 2004; Maziya-Dixon *et al.* 2004; Adebayo Lamboll, Westby, 2009). Thus garri processing and marketing has the potential of contributing immensely to economic empowerment and development of the downstream component of the agribusiness sector in Nigeria. However, inadequate marketing system for garri and other food products has been identified as a constraint to agricultural development in Nigeria, particularly in rural communities (Nweke, 1997; AfDB, 2015). Ezedinma, Okechukwu and Sanni (2005); Sanzidur and Brodrick (2006) observed that in Nigeria, garri prices exhibit cyclical peaks and troughs due mainly to the inability of markets to absorb supplies.

High product price variations coupled with high transaction costs and risks in the cassava-garri marketing system predisposes it to poor linkage with the non-agricultural sectors which can cause disincentives for production and reduce export earnings (EEA, 2004). Studies have showed that efficient marketing system stimulates agricultural production (Awoyinka and Ikpe, 2005). However, marketing of food in Nigeria has been characterized by a lot of deficiencies (Adekanye, 1998; Adekanye, 2013). These deficiencies have constrained sustainable agricultural development in one way or the other.

Garri is the most popular West Africa staple food product from cassava. It is consumed as processed or reconstituted with hot water to give a dough-like paste called "Eba". Garri is a dehydrated food and cassava product. It has always been a cheap source of carbohydrate for humans. Its average moisture content is 8-10% with industrial processing and 12-14% with traditional processing and so can be stored for several months. Garri processing followed harvesting of cassava, peeling, grating, dewatering, fermentation (optional), sieving, frying and bagging. This process will give white or creamy white garri while addition of palm oil prior to dewatering will add yellow colour to gari. A report by (Philip *et al.*, 2004) reflected that cassava (garri) is truly a national food with urban market presence,

Garri appears to be a "food of choice" even in the face of alternate food options in urban areas (Maziya *et al.*, 2004). It has been obvious that in Nigeria and some part of West Africa, garri has become an essential food supply commodity. This is evidenced by the high demand and the increases in price. The demand is continuous and despite the increased in domestic production, the prices are still increasing. The high price could be attributed to high demand and the general inflation being experienced in various sectors (Asumugha *et al.*, 2007).

Garri has come to command a unique and important position in the economy of Nigeria. Its market potentials and exportation have been earning foreign currency for the nation economy. Also, garri exportation has become a source of income to farmers and traders in the country. The objectives of this study were specifically to: describe the socio-economic characteristics of the garri producers/marketers in the study area; determine the profitability of garri production/marketing; and identify challenges to efficient garri production and marketing in the study area.

METHODOLOGY

Study Area: The research work on comparative study on profitability of garri production and marketing was conducted in Khana Local Government Area of Rivers State. Its administrative seat (headquarter) is in Bori. It has a land area of 560km² and an average temperature of 25⁰c. The area has several rivers and tributaries flowing within its territory. The total precipitation is estimated at 2900mm of rainfall per annum. The postal code is 504 with a coordinate of 4.6476⁰N and 7.3949⁰E. Their major occupations are: farming, fishing, trading. Their estimated population was about 294,217 in 2006 census (NPC, 2006).

Sampling Procedure and Sample Size

Primary source of data was used for this study, via a well structured questionnaire. Multi-stage sampling technique was adopted to select ten farming communities that are preponderance garri producers and marketers. They are kereken Bo-ue, Sogho, Bianu, Zaakpon, Kaa, Kaani, Kor, Gwara, Nwiiyaakara and Lueku. The next stage was the random selection of 12 garri producers/marketers from each community already selected giving a total of 120 respondents that were used for the study.

Data Analysis; Data collected were analyzed using descriptive statistics and budgeting techniques.

Model Specification

Evaluation of profitability of enterprise was achieved by using Farm Budgeting Technique (Gross Margin and Net Farm Income analysis). Costs and returns analysis formed the basis for farm profitability assessment. Gross Margin analysis according to Olukosi, Isitor and Ode (2006) is one of the methods of calculating profitability of small scale farming enterprises..

Gross margin is the difference between the Gross Farm Income (GFI) and the Total Variable Cost (TVC) as depicted in Equations (1).

$$GM = GFI - TVC \dots\dots\dots (1)$$

Where: GM=Gross Margin

GFI=Gross Farm Income

TVC=Total Variable Cost

The net farm income is defined as:

$$NFI = GM - TFC \dots\dots\dots (2)$$

Where: NFI=Net Farm Income

GFI=Gross Farm Income

TFC=Total Fixed Cost

The profitability of garri production/ marketing was analyzed using various financial ratios stated in Equations (3), (4) and (5).

Gross ratio is a profitability ratio that measures the overall success of the farm. The lower the ratio, the higher the returns.

$$GR = TFE/GI \dots\dots\dots (3)$$

Where: GR=Gross Ratio
TFE=Total Farm Expenses
GI=Gross Income

Operating ratio is directly related to the farm variable input usage. The lower the operating ratio, the higher, the profitability of the farm business.

$$OR = TOC/GI \dots\dots\dots (4)$$

Where: OR=Operating Ratio
TOC=Total Operating Cost
GI=Gross Income

Return on Capital Invested in profitability index is defined as the measure of amount accrues to the enterprise as net income for every naira invested. The higher, the return on investment, the more profitable the farm enterprise.

$$RI = GM/TVC \dots\dots\dots (5)$$

Where: RI=Return on Capital Invested
GM=Gross Margin
TVC=Total Variable Cost

RESULTS AND DISCUSSION

Result in Table 1 revealed that most of the respondents (75.8%) fell within the age bracket of 41-50 years with the mean age of 49 years. This implies that people within the active age are mostly involved in the cassava enterprise. This is in support of Nweke (1994), in a study carried out in Ivo, Ebonyi State whose findings revealed that the mean age of garri processors was 52 years old, also noted that age affects the working ability of the processors. Ijigbade *et al.*, (2014) noted that the older the producer, the less adoptive they becomes to innovations which negatively affected their efficiency.

The result on Table 1 showed that majority (63.3%) of the respondents were female, this could be as a result of the fact that men are more involved in cultivation of cassava rather than processing and marketing, This finding conforms with Ndubueze-Ogaruku *et al.*, (2015), did similar study in Ughelli, Delta State and found out that, majority (78.6%) of the respondent involved in garri processing were female. Also, Nwaneri *et al.*, (2015) confirmed that the populations of garri processors were dominated by female.

Maritally, (81.6%) of respondents were married, and this agreed with the findings of Bello *et al.*, (2008), the study on rural women processing of cassava in Doma Local Government Area of Nasarawa State, found out that (85%) of the respondents were married.

The result also reveals that about (44.2%) of the garri processors had primary education and 5.0% had tertiary education. This showed that many of the garri producers and marketers are educated. This is not in conformity with the findings of Okpeke *et al.*, (2015) who reported that cassava processors were illiterates. Both colours of garri (68.3%) happened to be majorly produced in the study area; this is in agreement with Ijigbade *et al.*, (2014) in a study conducted

in Ondo State, revealed that the preference of garri produced in terms of colour was made known that the majority of respondents produced both garri.

Table 1 further indicated that majority (46.7%) of garri dealers had experience of 6-10 years with a mean value of 6.8 years of experience.

Average household size was 6 persons which is above the national average household size of 5 persons (Babalola, 2014; NBS, 2007). It has been observed that large family size may imply more supply of labour hence reducing money spent to hire labour (Nwaru, 2006; Okolo, 2007). However, Babalola (2013); Gebremedehin and Swintin (2003), opined that with increasing household size, respondents tend to divert funds originally meant for enterprise expansion to cater for domestic household needs.

Also, (61.7%) of the respondents finance their business through personal savings. The mean income of garri dealers was N124,000, and (41.7%) of them earned between N120,000.00 and N240,000.00 in the business.

Table 1: Socio-economic characteristics of the respondents (n=120)

Variables	Description	Freq.	Percentage	Mean
Age	Less than 30	9	7.5	48.6
	31-40		18	15.0
	41-50		91	75.8
	51 and above	2	1.7	
Gender	Male	44	36.6	
	Female	76	63.3	
Marital Status	Single	9	7.5	
	Married		98	81.6
	Divorced		5	4.2
	Widowed		8	6.7
Household Size	0-3	4	3.3	
	4-6		77	64.2
	7=9		34	28.3

	>9		5	4.2	
Educational level	No formal education	24	20.0		
	Primary		53	44.2	
	Secondary		37	30.8	
	Tertiary		6	5.0	
Experience (years)	1-5		14	11.7	
	6-10		56	46.7	
	11-15		13	10.8	6.8
Type of garri Produced	White	31	25.8		
	Yellow	7	5.8		
Source of Finance	Both		82	68.3	
	Personal saving		74	61.7	
	Loan from friends		5	4.2	
	Loan from commercial bank	1	0.8		
Average Monthly Income	Loan from Cooperatives		39	32.5	
	Loan from microfinance banks		1	0.8	
	60,000-120,000	31	25.8		
Income	129,001-240,000	50	41.7		124,000
	240,001-480,000		33	27.5	
	480,001 and above	6	5.0		

Source: Field Survey, 2021.

Table 2 depicts the costs and returns from garri production and marketing in the study area. The results revealed the total cost as the addition of fixed cost in garri production and marketing given as (N11,277.90 and 11,898.86) and variable cost (N41,027.42 and N32,809.26). The fixed items in this study were: frying plate, scoops skillet, interest charges on loan, and depreciation while the variables items were the costs of labour, tubers, transportation, firewood, grating and pressing, tax payment, bagging, miscellaneous. It was observed that interest charges on loans formed the bulk of fixed cost while purchase of raw cassava tuber formed the bulk of variable

cost. The result revealed that the total cost incurred on garri production was N52,305.32 and N44,708.12 for marketing per month.

The results of net farm income analysis for garri production and marketing in Table 2 indicated that garri marketing in the study area was more profitable than garri production. The highest net farm income was N52,853.36 with an average gross margin of N64,752.22 was obtained. The positive net farm income showed that garri marketing is profitable in Khana LGA. Also, the gross ratio of 0.56 and 0.46, and operating ratio of 0.44 and 0.34 for garri production and marketing respectively indicated that garri marketing was more profitable than garri production. These results agreed with the findings of Olukosi *et al.*, (2006) who stated that the lower the gross and operating ratios, the higher the profitability of the enterprise and vice versa.

Table 2 showed that the highest return on investment (ROI) was N1.97 indicating that for every N1.00 invested in garri marketing, a return of N1.97 was made, while 1.27 was the return on investment for garri production, meaning that every one naira invested return 1.27. This reiterated that garri marketing business is a profitable venture in the study area. This contradicts the findings of Ijigbade *et al.*, (2014) and Erhabor *et al.*, (2007).

Table 2: Cost structure and returns analysis of garri production and marketing

Cost Items	Garri Production(N)	Marketing(N)
Fixed Cost		
Fry Plate	641.04	
Scoop	547.90	
Skillet	10,088.96	
Interest Charges on Loan		10,557.90
Depreciation		1,340.96
Total Fixed Cost (a)	11,277.90	11,898.86
Variable Cost		
Cost of Cassava tubers	21,087.66	
Cost of Labour	5,728.34	
Loading Cost		6,890.34
Offloading		6,631.2
Cost of grating and pressing	2,859.56	

Cost of Transportation	5,796.22	8,047.12
Tax payment		3,504.00
Cost of firewood	3,047.12	
Bagging	2,508.52	
Miscellaneous		7,736.58
Total Variable Cost (b)	41,027.42	32,809.26
Total Cost (a+b)	52,305.32	44,708.12
Returns		
Gross Farm Income (GFI)	93,742.87	77,561.48
Gross Margin (GM)	52,115.45	64,752.22
Net Farm Income (NFI)	40,837.55	52,835.36
Return on Investment (ROI)	1.27	1.97
Gross Ratio (GR)	0.56	0.46
Operating Ratio (OR)	0.44	0.34

Source: Field Survey, 2021.

Table 3 showed that all the enlisted challenges of garri production and marketing were experienced by the respondents in the study area. These include fluctuation in price, poor road network, high transportation cost, lack of storage facilities, high cost of raw materials, rodents/pests/diseases infestation, theft, insufficient fund, middle men problem and low level of demand as they all had a mean value that is greater than the criterion mean (>3.00). Similar result was reported by Olutunmise (2020) the study on transportation system and output market participation in Ondo State, Nigeria.

Table 3: Challenges to efficient garri production and marketing

CHALLENGES	MEAN RESULT	REMARK
Fluctuation in price	4.19 >	Agreed

Poor road Network	3.78	>	Agreed
High Transportation Cost	3.93	>	Agreed
Lack of Storage Facilities	3.61	>	Agreed
High cost of raw materials	3.78	>	Agreed
Rodents/Pest/Disease	3.55	>	Agreed
Theft	3.00	>	Agreed
Insufficient Fund	3.76	>	Agreed
Middle men problem	3.78	>	Agreed
Low level of demand	3.82	>	Agreed

Criterion mean: >3.00

Source: Field Survey, 2021.

CONCLUSION AND RECOMMENDATION

The study comparatively examined the profitability of garri production and marketing in Khana LGA, Rivers State, Nigeria. The findings showed that women were the major players in the garri enterprise. It was concluded that garri marketing business was more profitable than garri production in the study area. However, price fluctuation, poor road network, high transportation cost, lack of storage facilities, high cost of raw materials, rodents/pest/diseases infestation, theft, insufficient fund, middle men problem and low level of demand was reported as a major severe constraint to garri production/marketing. Based on these findings the following recommendations were made: Respondents should participate in cooperatives society as a way to reducing the exploitative influence of middlemen in the garri distribution channel, producers and marketers should be given access to funds, basic infrastructural facilities such as good roads network to curtail marketing cost should be provided to enhance marketing efficiency.

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