

## Poverty Level of Cassava Flakes (GARI) Marketers in Osogbo Agricultural Zone, Osun State, Nigeria

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### Abstract

This study examined the poverty level of cassava flakes (gari) marketers in Orolu, Boripe and Egbedore local government areas in Osun state. A multi-stage sampling method was employed to select one hundred and eighty (180) respondents. Analytical tools employed in the study include the descriptive statistics, FGT P-alpha, budgetary, and ordinary least squares regression. Findings revealed that nearly all (96.7%) the study respondents were female. Respondents' mean age was 43.98 years (economic active age) and the mean household size was 9 members. Also 76.7 percent of the marketers had some level of formal education, while 23.3% had no formal education. 28% of the marketers were living below the poverty line. The poverty headcount, poverty gap and severity indexes of the marketers were 28%, 11.6% and 6.0% respectively. Marital status and household size were negatively significantly related to the respondents' poverty level. The gross margin which was ₦43,645.33, showed that gari marketing is profitable in the study area. It is therefore recommended that the marketers should be enlightened to maintain small household size by participating in family planning programme. They should also be involved in cooperatives and social groups.

**Keywords:** poverty, garri marketers, FGT and budgetary analysis

### INTRODUCTION

The marketing of agricultural produce is regarded as unique and deserving of specialized attention due to the perishability and bulkiness of the products involved. The fact that most of these products are basic foodstuffs whose price and distribution are considered strategic by government, also leads to the establishment of statutory institutions within the agricultural marketing sector (Porter, *et al.*, 2004).

In the agricultural sector in Nigeria, cassava flakes, 'gari' as it's commonly called among Yoruba tribe, is derived from cassava and its marketing is a fairly large industry. Cassava tuber is commonly and widely cultivated throughout the country and gari is one of the commonest and cheapest sources of dietary carbohydrate and it is consumed by over 130 million people in Nigeria. (Okwara, 2010).

It is steadily demanded and widely consumed among various categories of people both rural and urban areas across all income groups; low, medium and high. Gari is produced following harvesting of cassava, peeling, grating, dewatering, fermentation (optional), sieving, frying and bagging (Afolabi, 2009). Gari marketing provides jobs for a large number of people living in both the rural and urban areas. Gari has a steady national demand pattern all-year-round in Nigeria. Seasonal variability in gari prices is low and highly rational since it can be produced throughout the year. (Asinobi, *et al.*, 2009)

Gari business attracts different set of actors at farm gate, village market, peri- and urban- market (Porter *et al.*, 2004).

Gari has a long shelf life, a year or more as long as it is not exposed to moisture, it is therefore also attractive to urban consumers (Nweke, 2003). This product is easily transported to urban markets several kilometers away or as export commodity. With the above market characteristics of gari, one would be tempted to think that urban and rural gari marketers are the sets of agro-allied workers that should live above poverty despite the increasing poverty in agriculture, urban and rural areas of Nigeria. This is because the product they deal in is available, steadily demanded all-year-round, consumed nation-wide, and its price rises in tandem with the general inflationary trend in the country. Since poverty is very pronounced in the agricultural sector especially among farmers, agro-allied workers too may have their share of the poverty situation. The marketers buy gari from the processors. (Asinobi, *et al.*, 2009)

The cassava crop (*Manihotesculeta* or *Manihotutilissima*) believed to have originated from Brazil and introduced into West Africa by the Portuguese, is considered the most productive crop in the tropics (Edeh *et al.*, 2009). According to Ironkwe (2009), cassava is a major cash crop for most of the farmers in Nigeria. Next to Zaire, Nigeria is the second largest producer of cassava in the world, and it is one of the food crops on which

several part of the world look up to Nigeria for leadership in research and production. It is a major crop of the humid tropics and production in Nigeria accounted for about 35% of the total output of Africa (FAOSTAT, 2005).

Cassava marketing in Nigeria is a model of a competitive market and depicts the following characteristics: the operators are independent and decentralized in decision –making, they have fairly homogeneous products though some exhibit certain levels of price differentiation which Ikpi (2002) reported as having monopolistic tendencies. The general outlook is that the degree of competition in the market is fairly high; hence, the market can be described as belonging to the perfectly competitive industry. Moreover there exists free mobility of resources in the industry, and buyers and producers are well informed about the industry's activities.

The problem of poverty goes beyond low income, savings and growth. It includes high inequality, which includes among others, unequal access to basic infrastructure and unequal capabilities in education and health status. Incidentally, the importance of unequal access to opportunities assets, income and expenditure cannot be overemphasized as it plays important roles in reducing poverty and spurring the economy to long – term development (Olaniyan and Awoyemi2005; Aderonmu, 2007).

Despite the huge natural resources, poverty is widespread in Nigeria. Poverty became widespread after the implementation of Structural Adjustment Programme (SAP) in Nigeria (Babatunde et al, 2008). However, poverty can be reduced drastically if the prevailing social and political conditions are conducive for foreign investments. Foreign investments cannot be fully entrenched in an environment of political and economic instability (Babatunde et al, 2008).

Nigeria is one of the countries of the world that has greater number of poor people especially among the rural dwellers. About 70% of Nigerians living in rural areas are poor and have access to limited social services and infrastructures (Yakubu et al, 2010)

Most poor rural dwellers depend on agriculture for food and income (FAO, 2005).

The poor in Nigeria are not just people living with resources but with less money, they are among the poorest of the poor. Households are not only poor, they also suffer from vast inequality in incomes, assets (including education and health status), control over public resources, and access to essential services as well as pervasive insecurity (World Bank, 2002). The disproportionate distribution of resources has its consequences on economic growth and is therefore one of the main policy issues that needs to be addressed in Nigeria.

In a study conducted by Afolabi (2009) which was on assessment of gari marketing in South-Western Nigeria, it was observed that 92% of the respondents were in their active middle age, it was also revealed that gari market was dominated by retailers which accounted for 60.6% of the sellers though there were other categories of sellers such as processors /sellers (25.4%), wholesalers (14.0%). A Gini-coefficient of 0.4426 obtained in this study indicated a high level of concentration in the gari market.

In this study however, the poverty levels of gari marketers in Osogbo Agricultural Zone, Osun State is of great concern. The main objective of the study is to categorize the marketers according to their poverty status in the study area. The specific objectives are to identify the socio-economic characteristics of gari marketers in the study area, to categorize the marketers according to their poverty status in the study area, to examine the profitability of gari marketers' enterprise in the study area, and to examine the determinants of poverty among the gari marketers.

## **METHODOLOGY**

### **The Study Area**

The study area was Osun state in south western Nigeria. Osun state is located between latitudes 7.0° North and 9.0° North of the equator and longitudes 2.8° East and 6.8° East of the meridian. It lies in the equatorial rain forest belt and approximately has a land area of about 8,602km<sup>2</sup> and lies between 300 and 600 above sea level with a largely gentle and undulating landscape and its capital is in Osogbo. It is bounded in the East and West respectively by Ondo and Oyo State, while Kwara and Ogun states are its boundaries in the North and South respectively.

Administratively, Osun state comprises of 30 local government areas with landed area of 9,251 square kilometers and an estimated population of 4,137,627 million people (National Population Commission, 2007). The Osun state agricultural development programme (OSSADEP) is divided into 3 zones namely Osogbo, Ife/Ijesa and Iwo. The predominant population of Osun State is Yoruba. The vegetation of the state comprises of rainforest zone, derived savannah and savannah. The people of Osun are mostly farmers who engaged in cultivation of both cash and foods crops and rearing of livestock. The average rainfall ranges from 1125mm in the derived savannah to 1475mm in the rain forest belt. The mean annual temperature ranges from 27.2°C in the month of June to 39.0°C in December. The soil types are varied but most contain high proportion of clay and sand, and are mainly dominated by laterite.

### **Study sample and sampling techniques**

The population of the study comprises all gari marketers in Orolu, Olorunda and Osogbo Local Government

Areas in Osun state of Nigeria. A multi-stage sampling technique was employed to select one hundred and eighty (180) gari marketers. In the first stage, three (3) Local Government Areas (LGAs) were selected in Osun State namely Orolu, Egbedore and Boripe LGAs. In the second stage, two (2) marketing centres were randomly chosen from each LGA. The third and last stage involved random selection of 30 respondents from each of the 6 marketing centers in the study area and this accounted a total of one hundred and eighty (180) gari marketers that constituted the sample of the study.

#### Method of data collection and data analysis

Primary data were collected from the study respondents using interviewer-administered semi-structured questionnaire through administration of personal interview schedule with well structured questionnaire and the data collected were subjected to descriptive analysis, FGT (Foster Greer Thorbecker), budgetary analysis and ordinary least squares regression. Descriptive statistics such as frequency table, percentages were used to analyse selected socio-economic characteristics of respondents.

#### **Regression model**

$$PCHE = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8)$$

Where: PCHE= Per Capita Household Expenditure

The per capita household expenditure (PCHE) which is used as a proxy for income and a measure of welfare in poverty measurement is calculated as follows;

$$PCHE = \frac{\text{Total household monthly expenditure}}{\text{Household size}}$$

PCHE is the dependent variable while  $X_1$  to  $X_8$  are the independent variables.

$X_1$  = Age of household head (in years);

$X_2$  = Gender (dummy)

$X_3$  = Marital status (dummy)

$X_4$  = Household Size;

$X_5$  = Years spent in school (in years)

$X_6$  = Years of experience (in years)

$X_7$  = other occupation (dummy)

$X_8$  = member of social group (dummy)

#### **Foster, Greer and Thorbecke Analysis**

According to Babatunde et al (2008), poverty indices are the measurement of headcount ratio ( $P_0$ ), depth of poverty ( $P_1$ ) and severity ( $P_2$ ). These measures are based on a single formular but each index put different weight on the degree to which household or individual falls below poverty line

The mathematical formular of P-alpha is written as follows;

$$P_\alpha =$$

$$\frac{1}{N} \sum_{i=1}^q \left( \frac{Z - Y_i}{Z} \right)^\alpha \text{ Foster, Greer and Thorbecke, 1984}$$

Where  $Z$  = the poverty line

$q$  = the number of individuals below poverty line

$N$  = the total number of individuals in the reference population

$Y_i$  = the expenditure/income of the household in which individual lives

$\alpha$  = Forster-Greer-Thorbecke (FGT) index and takes on the values of 0, 1, and 2.

$P_0$  when,  $\alpha = 0$  gives the poverty incidence

$P_1$  when,  $\alpha = 1$  the depth of poverty

$P_2$  when,  $\alpha = 2$  the severity of poverty.

The mean per capita household expenditure (MPCHE)

$$MPCHE = \frac{\text{Total per capita household expenditure}}{\text{Total number of household}}$$

#### **Budgetary Analysis**

Total Revenue = Price x Quantity of the product

Total Cost = Total variable cost + Total fixed cost

Gross Margin= Total Returns – Total Variable Cost

## **RESULTS AND DISCUSSION**

### **Socio-Economic Distribution of Respondents**

Table 1 showed that ages of respondents ranged from 20 – 60 years and above with the mean age of respondents being 43.98years. Nearly all (96.7%) the respondents were female. Respondents with number of household members between 1 – 5 were 28.9%, those having 6 and 10 members constituted 37.8% respondents and 33.2% had more than 10 household members were 33.2%. The mean household size for the marketers was 9 members.

Majority (76.7%) of the respondents were married while others were separated (8.9%), widowed (7.8%) and single (3.3%), divorced (3.3%). Slightly above half (51.1%) of the respondents had primary education one-fifth (20.0%) had secondary education, while only few (5.6%) had tertiary education. However, about twenty three percent of the respondents have no formal education. Majority (56.6%) of the respondents had about 10 years of experience and few (2.2%) had more than 30 years of experience. The mean years of experience were 11 years. Slightly less than two-third (63.3%) of the respondents earned above ₦40, 000 per month while 36.7% earned below ₦ 40,000 per month.

#### **Relationship between poverty index and socio-economic characteristics**

Table 2 showed that marital status was negatively significant at 5 percent among the marketers. Also, household size and membership of social groups were significant at 1 percent among the marketers. The Adjusted R<sup>2</sup> is 0.67. The negative signs of marital status and household size indicate that gari marketers that are married and those that have large household size tend to be poor while those that belong to social groups tends toward non-poor.

#### **Poverty indices for gari marketers**

Table 3 showed the mean per capita expenditure (MPCHE) per month was ₦5, 246.54. The moderate poverty line (2/3 of MPCHE) for marketers was ₦3, 497.70. Anygari marketers spending less than ₦3, 497.70 per month on consumption is described as poor. The core poverty line (1/3 of MPCHE) was ₦1, 748.85 per month for marketers. The incidence of poverty (or poverty head-count for marketers was 0.283, this means that 28.3% of gari marketers were below the poverty line, they spent below ₦3, 497.70 per month. The poverty gap or depth (P<sub>1</sub>) for the marketers was 0.116, indicating that an average poor gari marketer would require 11.6% of the poverty line to get out of poverty. The poverty severity index was 0.060 for marketers.

#### **The profitability of gari marketers**

Table 4 showed the cost and returns for the gari marketers. Marketers have no fixed cost per month; they had been depreciated and added to variable costs. From the finding it was estimated that the variable or working cost was ₦459,037.53 and total revenue was ₦502,682.84 per month which indicated that a marketer earned ₦43,645.33 as gross margin per month. This shows that the business is profitable.

### **CONCLUSION AND RECOMMENDATION**

Based on the major findings of this study, it could be concluded that gari marketing involved women within economically active age, with some formal education and large household sizes. The gari marketing business was seen as profitable with high gross margin. About 28.3% of gari marketers were below the poverty line and they spent below ₦3, 497.70 per month which was the poverty line. It was also revealed that large household size caused the marketers to live below the poverty line while association with social group improves their non poor status. It was recommended that the marketers should be enlightened to maintain small household size by participating in family planning programme. They should also be involved with cooperatives and social groups.

### **REFERENCES**

- Aderonmu, J.A. (2007): Poverty eradication in rural Nigeria. The role of local government. A paper presented at a conference on "Empowerment of Rural people" organized by charity centre for Advancement and Rural Empowerment, Abuja in Jos, 6-8 December.
- Afolabi J.A. (2009): An assessment of Gari Marketing in South-Western Nigeria. Pp 33-34.
- Asinobi, G.O, Ndimantang, B and Nwujuba, C.U (2009): Cassava, processing, trends and constraints in Ohaji-Egbeda Local Government Area of Imo State, Nigeria. *Journal of Sustainable Development*, Vol3 No 1, 120-125
- Babatunde, R. O. Olorunsanya, E.O.and A. D. A. Adedoja (2008): "Assessment of Rural Household Poverty". Evidence from South-western Nigeria". *America-Eurasian Journal Agriculture and Environment Science*, 3(6).
- Edeh, H. O. and Ojemade A. C., (2009): "Cost and Returns Analysis of Cassava production in Edo State, Nigeria". In: Oloyede A. O., B. C. Okoye, K. C. Ekwe, G. O., Chukwu N. Nwachukwu and O. Alawonde (Eds.), Global Food Crisis and Nigerian Agriculture, Global Food Crisis and Nigerian Agriculture, *Proceedings of the 43<sup>rd</sup> Annual Conference of the Agricultural Society of Nigeria held at Research fellow, African Institute of Applied Economics, Enugu State*. P 353.
- FAOSTAT, (2005): "Food and Agriculture Organization Database". *Web Site* <http://www.fao.org>
- Food and Agriculture Organization, (2005): "Food and Agricultural Organization". *Web site* <http://www.fao.org>. <http://www.fao.org/ftp/faostats>
- Foster Greer Thorbecke (1984): A methodology for Measuring Food Poverty Applied to Kenya, *Journal of Development Economics* Vol.,No1 1984,Pp 59  
<http://wbln0018.worldbank.org/rdv/food.nsf/All+Documents/cc3283195c4180525669BC9F2?Open+Document>.
- Ikpi, A., (2002): Policy directions and performs for a competitive cassava subsector in Nigeria. *Invited paper for a workshop on "Cassava Competitiveness"*. Ibadan, Nigeria, November 19-22.

Ironkwe, (2009): "Gender Differences in Cassava Production and Processing ". A case study of Ebonyi State, Nigeria. In: Oloyede A. O., B. C. Okoye, K. C. Ekwe, G. O.,Chukwu N. Nwachukwu and O. Alawonde (Eds.), Global Food Crisis and Nigerian Agriculture, *Proceedings of the 43<sup>rd</sup> Annual Conference of the Agricultural Society of Nigeria held at National Root Crops Research Institute UmudikeAbia State. P 653.*

Nigeria Population Census, (2006): "Nigeria Population Census".

Nweke, F. I. (2003): "New Challenges in the cassava transformation in Nigeria and Ghana. *Paper presented at the In Went, IFPRI, NEPAD and CTA conference and success in African Agriculture. Pretoria Dec1-3,2003.*

Okwara, K. (2010):Gari Processing is Panacea for Poverty Alleviation.p1

Olaniyan O. and Awoyemi T. (2005): Inequality in the distribution of Household Expenditure in Rural Nigeria: A Decomposition Analysis. *U.I Ibadan Draft Final Research Report submitted to the African Economic Research Consortiun (AERC), Nairobi for the second phase collaborative Poverty Research Project. P2.*

Porter, G., Lyon, F.; Potts, D. and Bowyer-bower, T. (2004): "Improving market institutions and urban food supplies for the poor: a comparative study of Nigeria and Zambia Scoping phase". *Draft Report presented at the Workshop on Urban Food Market Study held at Niger link Hotel, Abuja. Dec. 9<sup>th</sup> to 13, 2004.*

World Bank, (2002): "Poverty trends and voices of the poor: Social indicators, health status and health Care seeking". *Web Site*<http://www.worldbank.org/povertydatatrends/health.htm>

Yakubu O. D. and Aderonmu J. A. (2010): Rural Poverty Alleviation and Democracy in Nigeria's Fourth Republic (1999-2009). Department of Political Science, Kogi State University, Ayingba. *Journal of Social Sciences* Vol.3 No2. P1

**Table 1.Socio-Economic Distribution of Respondents**

Socio-economic xtics	Frequency	Percentage
<b>Age</b>		
20-30	18	10.0
31-40	50	27.8
41-50	66	36.7
51-60	40	22.2
> 60	6	3.3
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Sex</b>		
Male	6	3.3
Female	174	96.7
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Household size</b>		
1-5	52	28.9
6-10	68	37.8
> 10	60	33.3
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Marital status</b>		
Single	6	3.3
Married	138	76.7
Widowed	14	7.8
Divorced	6	3.3
Separated	16	8.9
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Educational status</b>		
No formal schooling	42	23.3
Primary school	92	51.1
Secondary school	36	20.0
Tertiary school	10	5.6
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Years of Experience</b>		
<10	102	56.7
11-20	66	36.7
21-30	8	4.4
> 30	4	2.2
<b>Total</b>	<b>180</b>	<b>100.0</b>
<b>Income/month</b>		
<10,001	4	2.2
10,001 - 20,000	30	16.7
20,001 - 30,000	14	7.8
30,001 - 40,000	18	10.0
40,001 - 50,000	78	43.3
> 50000	36	20.0
<b>Total</b>	<b>180</b>	<b>100.0</b>

Source: Field Survey, 2010

\* Mean age = 43.98years. Mean household size= 9 members

Mean years of experience = 11 years

Table 2: Determinants of poverty index of marketers

Variables	Coefficients	Standard error	t-ratio
Constant	3.440***	0.952	3.625
Age	-0.065	0.044	-1.488
Gender	-0.001	0.000	1.420
Marital status	-0.311**	0.153	-2.036
Household size	-0.087***	0.011	-7.964
Education	0.027	0.018	1.519
Years of experience	0.008	0.009	0.821
Other occupation	0.160	0.137	1.170
Member of Social group	0.324***	0.134	2.414

Source: Field survey, 2010\*\*\* 1% significant level, \*\* 5% significant level. R2 = 0.672

Table 3: Poverty indices for marketers of gari(per Month)

Group	MPCHE	Relative	Core poverty	Po	P <sub>1</sub>	P <sub>2</sub>	Povertyline
Line%	%	%					
Marketers	N5,246.54		₦ 3,497.70	₦1,748.85	28.3	11.6	6.0

Source: Field survey, 2010.

\*MPCHE: Mean Per Capita Household Expenditure

Table 4: Summary of Cost and Returns per month

Variables	Cost (₦)
Income	502,682.86
Variable Component	
Transportation	15,500.00
Purchase of gari	441,284.90
Shop rent	540.00
Communication	1,088.89
Tax	33.33
Bucket (Dep)	32.11
Congo	53.78
Bags (Dep)	504.52
(b)Total Variable cost TVC	459,037.53
Income =TR (a)	502,682.86
GM (a-b)	43,645.33

Source: Computed from Field Data, 2010

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