



Profitability of *Gari* Processing in Yewa North Local Government, Ogun State

*¹Olojede, M. O., ²Adeoye, A., ³Amao, O., and ⁴Taiwo, O. A. ⁵Oladiipo, D. O.

¹Department of Agricultural Extension and Management; ²Department of Cooperative Economics;

³Department of Agribusiness; ⁴Department of Agricultural Technology
Oyo State College of Agriculture and Technology, Igboora, Oyo State.

*maryoljede2003@gmail.com; 08036789125

Abstract

The study was carried out to analyze the profitability of *Gari* processing in Yewa North Local Government Area, Ogun State. Primary data was used and Systematic random sampling technique was employed to select every 15th person to make a sample of 105 respondents from the study area. An interview schedule that contains information to facilitate the realization of the objectives was administered. Descriptive statistics, Gross Margin and Benefit Cost Ratio were used to analyze the objectives. The result revealed the mean age of 48years Majority (77%) of the respondents were females, while few (23%) were males. This may be due to the fact that *Gari* processing is usually seen as females' off-farm activities. Therefore, females are more involved than males. Average numbers (50%) of the respondents were Christians and majority (73%) were married with mean household size of 4 persons. Average number (52%) of the respondents had secondary education which means they could at least read and write and the mean years of working experience was 16 years. Furthermore, farming was the major occupation (85%), using family and hired labour (65%) for production and produced at medium scale (50%). Majority (93%) of the respondents were using manual method for processing. The benefit cost ratio was calculated to be 1.72 which means *Gari* processing was profitable in the study area. Weather variation and inadequate processing method unfold as major constraints to *Gari* processing in the study area. It was therefore recommended that *Gari* processors should involve themselves in some self-help programmes like cooperative societies and government as well as non-governmental organizations should empower the processors with new equipment's to keep their processing up to date and increase their scale of production.

Keywords: Profitability; *Gari*; Processing

Introduction

Cassava (*Manihot esculenta*) is well known as a staple root crop for over 80 million people around the world; (Food and Agricultural Organization, 1996). It plays a food security role in Africa where annual production feeds over 80 million people annually (Nweke and Eneta, 1999). Cassava per capita consumption is very high and provides about 80% of the total energy intake of many Nigerians (Ani, 2010). As a food crop, cassava fits well into the farming systems of the smallholder farmers in Nigeria because it is available all year round, thus ensuring household food security. Cassava is a leading staple food for over 90 million people living in the rural and urban areas and it is a key component of urban worker diets of Nigerians (IITA, 1988). Aside from its use as human food, it can be used for the production of flour for confectioneries, formulation of animal feeds and the production of industrial starch, industrial alcohol, adhesive and gums; Balogun (2003). Apart from its usage as a

major ingredient in livestock feeds, processed cassava serves as industrial raw material for the production of adhesives, bakery products, dextrin, dextrose glucose, lactose and sucrose. Food and beverage industries use cassava products in the production of jelly caramel; pharmaceutical and chemical industries also use cassava alcohol (ethanol) in cosmetics and drug production. Also, cassava peels are used mainly in the compounding of livestock feeds. There is a very high demand for cassava products both in local and foreign markets (Abdul-Azeez, 2013). The growth in cassava production has been primarily due to rapid population growth, large internal market demand, complemented by the availability of high yielding improved varieties of cassava, a relatively well-developed market infrastructure, and the existence of improved processing technology (Onyinbo *et al.*, 2011).

Gari, which is a dry granule made from root of cassava through a series of actions is a cheap



alternative to many other energy giving food in Nigeria (Sanni, 1994). Processing *Gari*, starch and tapioca (popularly known as *Gari ijebu*) from cassava is one of the major economic activities of the women of Nigeria. *Gari* is produced mainly as staple food and it is consumed daily in one form or the other by almost everyone in Nigeria and hence there is need for massive production, processing, utilization and storage for marketing of the product. The use and consumption of *Gari* have transcended ethnic and state boundaries in Nigeria. Indeed, *Gari* is considered the most widely consumed stable food in Nigeria, today. In the southern part of the country, *Gari* accounts for about 60% of the total calorie intake of the people; Ugwu; (1992). Cassava can be processed into *Gari* using the following pattern from harvesting to storage:

Harvest----- Peeling---- Washing----
Grating/Milling----Fermentation---Pressing----
Shifting-----Frying-----Cooling-----Sieving----
-Packaging-----Storing in a cool/dry place.

Problem Statement

The reduction of cassava production in the country has made the Federal Government of Nigeria and International Fund for Agricultural Development (IFAD) to jointly initiate the Cassava Multiplication Programme (CMP) with the aim of promoting cassava utilization as a commodity based approach against food insecurity (Adeniji and Jimoh, 2000). Despite the enormous activities of processors in improving the economic activities of the majority of the female-processors who are very essential to the economic base of individual family unit (Egharevba, 1992), all is still not well. This is because producers of *Gari* are perennially plagued with the age longed problem of seasonal variations in product prices, a phenomenon that has been identified as "cyclic effect" in previous studies and several other constraints (Obinne and Anyanwu, (1991); RTEP, (2001); Emokaro and Erhabor, (2006)). Consequently, processors are unduly cautious enough to ensure that *Gari* are not produced on a large scale in order to prevent any glut in the market. In line with this development, can one say that *Gari* producers are operating profitably?

Although Nigeria produces about 34 million metric tons annually (FAO 2014) most of the cassava produced in Nigeria is consumed locally. And in spite of the fact that Nigeria is

the world largest producer, its output falls below total demand for the crop as food, for industry and export. However, farmers' use of indigenous knowledge in the processing of cassava into *Gari* for immediate economic returns and continuous revenue generation calls for critical evaluation. Hence, the focus of this study is to evaluate the profitability of cassava processing into *Gari* to determine its level of profit among local producers. It is generally observed that there is low level of investment in small scale cassava processing into *Gari*. This is evident in the preponderance of women most of whom are resource poor in cassava processing into *Gari* enterprises. Inadequate empirical data on value addition to cassava processing into *Gari* might be the bane of the inability of the enterprise to attract the necessary attention of private entrepreneurs in the sector. This therefore portends negative consequences for the food security and employment generation situations in Nigeria at large.

Objectives of the Study

The main objective of the study was to analyze the profitability of *Gari* processing in Yewa North Local Government Area.

The specific objectives of the study were to:

- Describe the socio-economic characteristics of the *Gari* processors.
- Identify the various methods of *Gari* processing in the study area.
- Determine the profitability of *Gari* processing in the study area.
- Identify the constraints to *Gari* processing profitability in the study area.

Justification of the study

According to (Chukwuemeka, and Nzewi, 2011) past success of the Agricultural Development Projects (ADP) in Nigeria were based on the availability of right technology, access to inputs, adequate market and other infrastructural provisions. Processing of cassava has also been reported to be affected by several factors in Nigeria which limit the contribution of the crop to the development of Nigeria's economy (Adebayo and Sangosina, 2005; Ntawuruhunga, 2010). Much recently, Nigeria has shown interest in bio-fuel obtainable from cassava. This is evident in the ethanol fuel programmed in which sites have been mapped for the cultivation of cassava (Adeoti, 2010). Thus, the need for intensification of the product is obvious. This study will serve as an eye-



opener to the level of profitability of *Gari* processing to as many investors who might be interested in investing into the business in large scale so as to contribute to the increase in its production. This in-turn will boost the economy of the Nation; facilitate food security and employment generation. The policy makers will be well informed on the areas to which incentives are to be directed in other to encourage and increase production of *Gari* in the Nigeria.

Materials and Methods

This study was carried out in Yewa North, Ogun state. Primary data were obtained through the administration of interview schedule which were used to obtain information from 105 cassava processors with the use of a systematic sampling technique in order to obtained the desired sample size. Information such as age, sex, marital status, education, household size, religion, etc. were obtained. Descriptive statistics, Gross Margin Analysis and Benefit Cost Ratio were used for the analysis.

Measurement of variables

TFC = Total Fixed Cost, TVC = Total Variable Cost, TC = TFC + TVC

TR = Total amount realized from the *gari* processing, GM = TR – TVC, $n = \frac{TR}{TC}$, BCR = TR ÷ TC

Where:

GM = Gross Margin, TR = Total Revenue, TC = Total Cost, n = Profit

Result and Discussion

Table 1 showed the mean age to be estimated as 48years which implies that majority of the respondents were in their productive age. This

means that they could still carry out their *Gari* processing activities actively. It was further revealed that 78.09% of the respondents were female, while 21.90% were males which may be due to the fact that *Gari* processing is usually seen as females' off-farm activities. Therefore, females are more involved in it than males. Also the table revealed that majority (74.28%) were married while many (52.38%) were Christians and 54.28% had secondary educational. This implies that sizeable number of the respondents passed through school irrespective of the level. The mean household size and year of experience were 4 persons and 16 years respectively.

The table further showed that 85.71% of the respondents had farming as their primary occupation. This implies that farming was prevalence as primary occupation in the study area. Also 41.90% of the respondents belong to one farming association or the other, while 58.09% of the respondents did not belongs to any farming association. Also the table showed that 22.85% of the respondents get credit from Artisan work, 14.28% of the respondents sourced their capital from trading, while 1.90% of the respondents sourced for credit from commercial bank loans, 21.90% of the respondents get credit from cooperative societies, while 39.04% of the respondent's source credit from off farming proceeds. The table further revealed that 66.66% of the respondents used family and hired labour together and 52.38% produced at medium scale while 15.23% of the respondents produced at large scale of production and the rest (32.38%) produced at small scale.

Table 1: Distribution of the Respondents according to their Socio-economic Characteristics

Characteristics	Frequency	Percentage (%)	Mean
Age (years):			48
30 or less than	9	8.57	
31 – 40	21	20.00	
41 – 50	43	40.95	
Above 50	32	30.47	
Gender:			
Male	23	21.90	
Female	82	78.09	
Marital Status :			
Married	78	74.28	
Single	7	6.66	
Divorced	12	11.42	
Widowed/er	8	7.62	
Religion:			
Christianity	55	52.38	
Islamic	38	36.19	
Traditionalist	12	11.42	
Education Level:			



Characteristics	Frequency	Percentage (%)	Mean
Primary	26	24.76	4
Secondary	57	54.28	
Tertiary	8	7.61	
No formal Education	14	13.33	
Household size(persons):			4
1 -4	45	42.85	
5 – 8	56	53.33	
Above 8	4	3.80	
Year of Experience (years):			16
1 – 10	54	51.14	
11 – 20	30	28.57	
21 – 30	9	8.57	
Above 30	12	11.42	
Primary Occupation:			
Farming	90	85.71	
Trading	9	8.57	
Artisan	3	2.85	
Civil Servant	3	2.85	
Membership of Association:			
Yes	44	41.90	
No	61	58.09	
Source of Credit:			
Commercial Bank	2	1.90	
Artisan returns	24	22.85	
Farming Proceeds	41	39.04	
Trading returns	15	14.28	
Cooperative	23	21.90	
Source of Labour:			
Family labour	11	10.47	
Hired labour	16	15.23	
Family and hired labour	70	66.66	
Friend labour	4	3.80	
Friend and family labour	4	3.80	
Scale of Production			
Large scale	16	15.23	
Small scale	34	32.38	
Medium scale	55	52.38	

Source: Field Survey, 2023

Table 2: Methods of Processing

Variable	Frequency	Percentage (%)
Improved Method	7	6.66
Local/Manual	98	93.33

Source: Field Survey, 2023

Table 3: Gross Margin Analysis

Fixed Cost	
Machine	87, 270
Fryer	31, 790
Jack	33,515
Total TFC	152,575
Variable cost	
Sieve	745.50
Ladle	250
Bowls	880.60

Broom	180.50
Knife	573.50
Basket	2,486
Cassava	85,910
Water	724
Matches	80.60
Food	2,321
Firewood	5,998
Labour	5,741
Grating	3,445
Others	245
Total TVC	109,580.7
Total Cost(TC)	262,155.7
Total Revenue (TR)	449,905
Gross Margin (GM)	340,325
Profitability (n)	187,749.3
Benefit Cost Ratio (BCR)	1.72

Source: Field Survey, 2023

Table 4: Distribution of the Respondents According to Constraints faced by Gari Processor

Variable	Not a problem	Serious problem	Very serious problem	WMS	Remark
Weather variation	3(2.85%)	53(50.47%)	49(46.66%)	2.48	1 st
Market price fluctuations	4(3.80%)	67(63.80%)	34(32.04%)	2.25	8 th
Poor road facility	4(3.80%)	53(50.47%)	48(45.71%)	2.42	2 nd
Inadequate water supply	54(51.42%)	34(32.38%)	17(16.19%)	1.64	11 th
Inadequate of skilled labour	23(21.90%)	66(62.85%)	16(15.23%)	1.93	10 th



Variable	Not a problem	Serious problem	Very serious	WMS	Remark
Fluctuation of cassava supply	4(3.80%)	65(61.90%)	36(34.28%)	2.30	7 th
Absence of cooperative society	12(11.42%)	70(66.66%)	23(21.90%)	2.11	9 th
High cost of procuring processing equipment	2(1.90%)	57(54.28%)	46(43.80%)	2.41	3 rd
Market price fluctuation	3(2.85%)	57(54.28%)	45(42.85%)	2.40	4 th
High cost of transportation	1 (0.95%)	58(55.23%)	46 (43.80%)	2.42	2 nd
Inadequate capital to produce on large scale	0	60(57.14%)	45(42.85%)	2.42	2 nd
Poor storage facility	5(4.76%)	53(50.47%)	47(44.76%)	2.40	4 th
Scarcity of produce to meet market demand	1(0.95%)	63.(60.00%)	41(39.04%)	2.38	5 th
Lack of improved processing method	2(1.90%)	55(52.38%)	48(45.71%)	2.42	2 nd

Source: Field Survey, 2023

Conclusion and Recommendations

It was therefore concluded from the study that *Gari* processors were still practicing local method of processing *Gari* and females were more involved than males in the study area. According to the findings of this study, *Gari* processing is profitable and can serve as means of solving problem of women unemployment in our society. *Gari* processing can also reduce the level of food insecurity in the Nation, if more government and non-governmental organizations can invest in it in large quantity, introducing the improved methods of processing. Therefore, the following recommendations were suggested:

- Government as well as non-governmental organizations should empower the processors with new equipments in order to increase their scale of production.
- More well-to-do investors are encouraged to invest more into this lucrative *Gari* processing enterprise in large scale in order to be able to meet up with the high demand both in local and international market to combat the problem of food insecurity and unemployment in the nation.
- There should be government intervention in terms of soft loans that will assist the processors in the purchase of cassava for their processing. Processors should also assist themselves with some self-help programmes and also join cooperatives societies to get good capital for their processing activities and increase their income.
- Government should organize enlightenment programs like seminars and trainings for the *Gari* processors to relief them of their crude methods of processing and they are also encouraged to make use of modern processing methods for efficiency.

Reference

- Abdul-Azeez, (2013). Indigenous technologies in cassava processing: Implications for food security in Nigeria. *African Crop Science Proceedings*, 9, 325–328.
- Adebayo and Sangosina, (2005), 'A Quantitative Analysis of Food Requirement; Supply and Demand in Nigeria. 1968-1985', Federal Department of Agriculture, Lagos
- Adeniji, P., Jimoh., 2000. Cassava Supply Chain Arrangements for Industrial Utilization in Nigeria. IITA, Ibadan.
- Adeoti, (2010), 'The Green Revolution: A Food Production Plan for Nigeria'. Final Report Submitted to the Federal Ministry of Agriculture.
- Ani, (2010). Productivity Analysis of Cassava Based Production Systems in the Guinea Savannah: Case Study of Kwara State.
- Balogun (2003). Approaches for the development of small scale cassava processing and local food industries that meet the needs of the poor. In Pp. 9-12. Root Crops:
- Chukwuemeka, and Nzewi, (2011) Crop Production and Road Connectivity in Sub-Saharan Africa: A Spatial Analysis. Africa Infrastructure Country Diagnostic Working Paper 19. A publication of the World Bank.
- Eguono, (2015). Intercropping: A food production strategy for the resource poor farmers. *Nature and Science*, 5(1), 46–59.
- Essers, A. A., Ebong C., van der Grift, R. Nout, M. R. Otim-Nape, W. And Rosling, H. 1995a. Reducing Cassava Toxicity by Heap-Fermentation in Uganda. *International Journal of Food Science and Nutrition*, 46, 125-136.
- Essers, A. A., Jurgens, C. M. G. A. and Nout, M. J. 1995b. Contribution of selected fungi to the reduction of cyanogen levels during solid-



substrate fermentation of cassava.
International Journal of Food Microbiology
26, 251-257.

Essers, A.J.A., Vander Grift, R.M. and Voragen, A.G.J. 1996. Cyanogen removal from cassava root during sun-drying. *Food Chemistry*, 55, 319-325.

FAO (1999) Agricultural statistics for 1999. Food and Agriculture Organization of the United Nations
<http://apps.fao.org/page/collections?subse>
t=agriculture.

FAO, (2014). Food Outlook - Biannual Report on Global Food Markets – November 2014. Rome, p. 104. License: CC BY-NC-SA 3.0 IGO

Food and Agriculture Organization of the United Nations (1996); International Fund for Agricultural Development (IFAD), Rome, IT, pp. 1-62

Ntawuruhunga, (2010). Urban Crop Production in Southeast Nigeria: potentials and Constraints.

Nweke and Eneta, (1999). Research Design: Qualitative, quantitative, and mixed methods approaches. Sage publications.
Ebele NE, Emodi NV (2016). *J. Sci Res Rep* 10 (6):113.

Oniyinbo, C., Henry, G., Best, R., Kawano, K., Howeler, R.H., Iglesias, C., 2011. Cassava in Asia: Expanding the Competitive Edge in Diversified Markets. A Review of Cassava in Asia with Country Case Studies on Thailand and Vietnam. Validation Forum on the Global Cassava Development Strategy (2011, Rome, Italy) Proceedings, vol. 3.

Sanni, (1994) Natural toxin in fresh fruits and vegetable. Retrieved March 14, 1994.

Ugwu; (1992). The carbon footprint of cassava production systems through partial life cycle assessment. *J. crop Sci.* 93(3), 1266 – 1282.