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ECONOMIC ANALYSIS OF CASSAVA PROCESSING IN EGBEDA LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

UGEGE B. H., TUNDE-FRANCIS A. A., ODEYALE O. C AND IBODE, R. T

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ABSTRACT

Cassava is one of the most important crops that can be cultivated all year round yet there is inability to meet the quantity demanded by industries and other end user of the product. This study was carried out to analyse cassava value chain in Egbeda local government area of Oyo state, Nigeria. Primary data needed for the study were collected through the administration of questionnaires. A total of 85 questionnaires were administered. Descriptive (Table and Frequency) and budgetary analysis was used. Well-constructed questionnaires were administered to major actors in the chain (farmers/producers, marketers and processors.). The result revealed that there are three major cassava processed products in the study area; garri, cassava dough(fufu) and cassava chip (lafun).The result also revealed that females are more involved in the marketing(71.14%) and processing(85.71%) of cassava. Also most of the respondents were betweeen the age range of 31-50. The study also revealed that to every one tonne of fresh cassava 275000(garri), 34500 (wet fufu) and 45000(cassva chip) are produced respectively. While the average gross margin estimated for the producer/farmers was N706111. Also it was discovered that poor marketing information is a major challenge faced by the processors. It is therefore recommended that cassava processors should organize to form an association and a cooperative society to strengthen the marketing network.

KEYWORD: Economic, Analysis, Cassava, processors,

INTRODUCTION

Cassava (*Manihot esculenta Crantz*) is an essential food for over 600 million people in large parts of sub – Saharan Africa, South America and Asia. It is a tropical perennial crop cultivated mainly for its edible root. More than half of the world's cassava is produced in Africa. It is a major source of calories for over 40% of the population (*Arthur et al.,* 2009). Cassava is one of the most important crops for Nigerian farmers; it is the most widely cultivated crop and largely cultivated by small-scaled farmers that depend on seasonal rainfall *(Ganeshkumar et al., 2017).* The crop is preferred by most resource-constrained farmers because of its low input requirements, tolerance to low rainfall and ease of propagation by use of vegetative stem cuttings. It provides food and income to over 30 million farmers and large numbers of processors and traders.

Over 90% of cassava produced in the country is consumed locally with less than 10% utilised for industrial purposes. Cassava roots constitute an important source of employment and income. It can be transformed into a considerable number of commodities varying from conventional and innovative food products, to livestock feedstuffs, ethanol and starch and its many derivatives. Cassava root can be processed locally into products like Garri, Chip, lafun, Tapioca, Starch, fufu, Chips etc, to sell in their local markets and communities

Garri is a form of carbohydrate food gotten from processed cassava root, it is the most widely consumed and traded of all food products made from cassava roots. It is processed by peeling, washing, grating and fermenting the mature cassava roots. After a few days fermentation, say three to five days depending on preference, the grated mash is bagged, de-watered and grated again. The second

Ugege B. H., Federal College of Forestry, Ibadan, Oyo State, Nigeria
Tunde-Francis A. A., Federal College of Forestry, Ibadan, Oyo State, Nigeria
Odeyale O. C., Federal College of Forestry, Ibadan, Oyo State, Nigeria
Ibode, R. T., Federal College of Forestry, Ibadan, Oyo State, Nigeria

grating will make the granule smaller and friable. Garri can be consumed by soaking in cold water or making pasta with it and eating with delicious soup. The market structure of garri is characterized by perfect competition in the sense that there are many buyers and sellers who are not in a position to influence the market. Another product gotten from cassava root is sticky dough (fufu) .It is known by many names; fufu, Akpu (in Igbo), loi loi, Santana and Mr White. The origin of fufu is from the Ibo land where is popularly called Akpu. Sticky dough (fufu) is prepared by peeling roots, washing, cutting into pieces and steeping in water to ferment for three to four days. There are other cassava products, fermented chip (lafun).

Cassava chain is an elaborate but essential food production system that require so many actors to maintain sustainability and food security. Despite the role of cassava in Nigeria economy, the value addition mechanism is inadequately utilized. Processing is predominantly done on small scale, resulting to inability to meet the quality and quantity demand of the industry and other users of the product.

The main objective of the study is to carry out the economic analysis of cassava processing in the study area with a view to providing strong economic performance and significant improvement on the income of the respondents.

METHODOLGY

STUDY AREA

The study was carried out in Egbeda, It is one of the Local Government Area in Oyo State, comprising of many district and villages of Ayede/Alugbo, Egbeda, Erunmu, Olodo/Kumapayi, Osegere,Owobaale/Kasumu, Adeyadi, Alagbo, Ayede, Buramo, Fatade, Fayo and others. It is located to the East and North East of Ibadan city. It is bounded on the west by Irewole local government area in Osun state Nigeria. Its headquarters is Egbeda town. It lies on geographical coordinates 7^0 22^1 0 " North and 4^0 3^1 0" East. The local government area has a total area measuring 191square kilometers and witnesses two major seasons which are rainy and dry seasons. Farming is one of the major economic activity in Egbeda local government area.

SAMPLING PROCEDURE AND SAMPLING SIZE

Purposive sampling techniques was used to select eighty-five respondents. A total of 85 questionnaires were administered to the respondents in the study area. Thirty-six(36) of the respondents were farmers/producers ,thirty-five(35) were processors and fourteen(14) were marketers.

DATA COLLECTION

Data were collected through the administration of a well- structured questionnaire and personal interview on the socio-economic characteristics, cost and return on each activities of the actors in the study area. The questionnaire were divided into three categories; the farmer/producers, the marketer and the processors.

METHOD OF DATA ANALYSIS

The data collected was analyzed using descriptive and budgetary analysis. Descriptive statistics was used to assess demographic characteristics of the respondents, while budgetary analysis (Gross margin) was used to determine income of the actors in the chain.

The Gross margin can be expressed as follows;

GM= TR-TVC

Where,

TR= Total Revenue

TVC= Total variable cost

Result and Discussion

Table 1: Socio-economic characteristics of the respondent

Variables	Producers/ farmers				Processor				Marketers			
Gender	Frequent	%	Mean	Standard deviation	Frequency	%	Mean	Standard deviation	Frequency	%	**mean**	**Standard deviation**
Male	36	100			2	14.29			8	22.86		
Female	0	0			12	85.71			27	71.14		
Total	36	100			14	100			35	100		
Age												
Below 20	1	2.78			1	7.17			0	0		
21-30	0	0			3	21.43			15	11.43		
31-40	13	36.11			6	42.86			11	31.43		
41-50	12	33.33			3	21.43			15	42.86		
Above 50	10	27.77			1	7.41			5	14.29		
Total	36	100	42.40	7.18	14	100	35.5	6.76	35	100	**40.7**	**4.14**
Marital status												
Single	5	12.89			3	21.43			4	11.43		
Married	24	66.67			10	71.43			29	82.86		
Engage	4	11.11			1	7.14			2	5.71		
Divorced	3	8.33			0	0			0	0		
Total	36	100			14	100			35	100		
Education attainment												
No formal	2	5.5			2	14.29			7	20.0		
Primary	11	30.36			3	21.43			7	20.0		
Secondary	13	36.11			7	50.0			9	25.71		
Tertitary	8	22.22			2	14.29			11	31.43		
Adult education	2	5.6			0	0			1	2.86		
Total	36	100			14	100			1	100		
Household size												
Less than 5	18	50			8	57.14			16	45.7		
5-10	18	50			6	42.86			19	54.29		
Total	**36**	**100**	**5.0**	**6.75**	**14**	**100**	**4.64**	**1.14**	**35**	**100**	**5.2**	**7.2**
Years of experience												
Less than 5	1	2.78			8	57.18			10	28.57		
6-10	18	50			6	42.86			19	54.29		
11-15	11	30.55			0	0			3	8.57		
16 & above	6	16.67			0	0			3	8.57		
Total	**36**	**100**	**10.72**	**7.18**	**14**	**100**	**5.14**	**0.85**	**35**	**100**	**7.6**	4.14
Other sources of income												
Farming	14	38.89			0	0			7	20.0		
Civil servant	5	13.89			3	21.43			1	2.86		
Trader	3	8.33			5	35.71			13	37.14		
Artisan	10	27.78			4	24.37			6	17.14		
Others	4	11.11			2	14.21			8	22.86		
Total	**36**	**100**			**14**	**100**			**35**	**100**		

Source: Field Survey, 2022

Table 1 revealed that females are more involved in the marketing and processing of cassava 71.14% and 85.71% respectively. It was also observed that 69.44% of farmers, 74.39% of marketers and 63.99% of processors were between the age range of 31 and 50 years, indicating that they were in their active and productive age and are expected to contribute immensely to the development of the industry. This findings agree with Chikezie, *et.al.* (2012) who reported that youths are majorly involved in cassava production due to the vigor and activeness. The study further shows that 66.67% (farmers), 82.86% (marketers) and 71.43% (processors) of the respondents are married, this is an indication that cassava value chain serve as a means of livelihood and they are expected to show greater commitment because of their financial obligation. This corroborates with the works of Oladoja, Adedoyin & Adeokun (2008) who agreed that marriage comes with responsibility and hence an important factor in

livelihood of individuals. Also among the actors in the chain, 36.11% (farmers) had secondary education, 31.4% (marketers) had tertiary education while 50% (processors) had secondary education. This is an indication of some level of literacy in the chain. Also 50% of the farmers in the chain had 6-10years experience, 54.29% of the marketers had 6-10years experience in the business while 57.14% of the processor had less than 5 years' experience.

Table 3: BUDGETARY ANALYSIS FOR PRODUCING PER HECTARE OF CASSAVA BY FARMERS.
This table discusses the costs and returns of cassava cultivation in the study area.

Items	Amount(N)
Land rentage	10000 : 00
Land Preparation (clearing, ploughing, harrowing)	150000 : 00
Cost of cutting (50 bundles)	27000 : 00
Planting cost (labor)	50000 : 00
Cost of weeding(herbicide and labour	50000 : 00
Fertilizer cost(fertilizers and labor)	60000 : 00
Harvesting cost	50000 : 00
Total Cost Revenue	**397000 :00**
Yield in tonnes produced	20tonnes
Selling price/ tonne	57000
Cassava tuber	1140000
Cassava cuttings	15000
Total Revenue	**1155000**
Net Revenue	**758000**

Source: Field survey, 2022

Table 3 above is the income contribution analysis for cassava producers in the study area. From the table, the Gross Margin of the producers was estimated as N758,000 per hectare. Therefore cassava farming can be regarded as a profitable venture in the study area. This is in line with (Tim-Ashama, 2016) that farm business is more profitable and lucrative with efficiency of production transforming into more profitability.

Table 4: Constraints faced by the farmers/Producers

Variable	True	False
High cost of production	32(88.89%)	4(11.11%)
High cost of hired labour	8(22.22%)	28(77.78%)
Poor extension services	26(72.22%)	10(27.78%)
Poor market network	31(86.11%)	5(13.89%)
Poor access road	29(80.56%)	7(19.44%)
Poor market information	32(88.89%)	4(11.11%)
Inadequate capital	23(63.89%)	13(36.11%)
Low returns from business	7(19.44%)	29(80.56%)
Weak linkage between cassava farmers and processors	4(11.11%)	32(88.89%)
Unavailability of Inputs	33(91.67%)	3(8.33%)

Source: Field survey, 2022

The table 4 reveals the challenges faced by cassava producers in their course of production. The major constraints faced by the producers, in order of importance, were unavailability of inputs, high cost of production, poor market information, poor market network; while weak linkage between cassava farmers and processors, low returns from business and high cost of labour were considered as less constraints by the producers.

Table 5: Costs and Returns to Cassava Processing/tonne in the Study Area

Items	Garri	Fufu	Cassava chip
Cost of Cassava	40000	40000	40000
Cost of labour	13000	8000	8000
Cost of Transportation	10000	10000	10000
Cost of fuel (Firewood)	1000	-	-
cost of water	1000	1000	1000
Cost of Packaging Material	500	500	500
Variable cost	**65500**	**59500**	**59000**
Fixed cost			
Depreciation	1000	1000	1000
Total cost	66500	60500	60000
Sales from product			
Qty produced in kg	250	300	333
Selling price/kg	350	300	300
Sales from products	87500	90000	99900
Sales from peels	5000	5000	5000
Total revenue	92500	95000	104900
Gross margin	27500	34500	45000

Source: Field survey, 2022

Table 6 shows the income generated from cassava processing. The study revealed that cassava processing is a profitable enterprise. This is in line with the findings of Lawal et al. (2013) and Ehinmowo et al.(2015) who found that cassava processing to garri, cassava chip and cassava dough(fufu)are profitable. It was also revealed that cassava chip contribute more 45000/tonne among the processes, followed by garri 34,500/tonne. Though the profitability of cassava chip is more but the demand and rate of turn of garri is more than cassava chip. This contrasts the findings of Okeowo(2015) who found that fufu had the highest gross margin .It should be noted that cassava chips is further milled into lafun. Lafun is similar to fufu the difference is that lafun is a dried product that has a good shelf life and fufu is a wet product that has a much lower fiber content. It is often considered that consumer preference for fufu is low this may be due to its inherent undesirable characteristics short shelf life, and odour .Though its production is concentrated more in the eastern part of the country. Garri is mostly consumed possibly due to the fact that it is a pre-cooked convenience food and is commonly consumed by soaking in cold water

Table 7: Constraints faced by Processors

Variable	True	False
High cost of production	27(77.14%)	8(22.86%)
High cost of hired labour	21(60.0%)	14(40.0%)
Poor extension services	20(57.14%)	(42.86%)
Poor market network	16(45.71%)	19(54.29%)
Poor access road	16(45.71%)	19(54.29%)
Poor market information	32(91.43%)	3(8.57%)
Inadequate capital	21(60.0%)	14(40.0%)
Low returns from business	20(57.14%)	15(42.86%)
Weak linkage between cassava farmers and processors	6(17.14%)	29(82.86%)
Unavailability of Inputs	16(45.71%)	19(54.29%)

Table 7 reveals the challenges faced by cassava processors in the study area. The major constraints faced by the processors, in order of importance, were poor market information, high cost of production, high cost of hired labour, inadequate capital, poor extension service, low returns from business; while weak linkage between cassava farmers and processors, poor market network and poor access road were considered as less constraints by the processors.

CONCLUSION AND RECOMMENDATIONS

This study analyzed the economic contribution of cassava processors into the garri, cassava dough (fufu) and cassava chips and it was revealed that cassava processing is a profitable enterprise. It was also revealed that cassava chip contributed more 45000/tonne follow by garri 34,500/tonne. Though the profitability of cassava chips and cassava dough (wet fufu). Also the study revealed that poor market information is a major constraint faced by cassava processors.

It is therefore recommended that cassava processors should organize to form an association and a cooperative society to strengthen the marketing network.

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