PROFITABILITY ANALYSIS OF CASSAVA PROCESSING AMONG WOMEN FOLKS IN SAGAMU LOCAL GOVERNMENT AREA, OGUN STATE

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Abstract: This study was carried out to determine the profitability analysis of cassava processing among women folks in Sagamu Local Government Area, Ogun State, Nigeria. A simple random sampling technique was used to select a total number of one hundred and twenty (120) sampled cassava processors for the study. Primary data and secondary data were used for the study. Descriptive statistics was used to describe the socio-economic characteristics and major problems that constraint the processors while budgetary technique analysis was used to analyse the profitability of the cassava processing business. The regression was used to find the effects of loan use on cassava processing net income. The result of the analysis revealed that 37.5% of the respondents fall between 41-50 years of age and 68.3% of the processors were married with the processors having one form of education. The result of the study also showed that 50% of the women processors were engaged in trading and had household size within 4 and 6 members as the family size. The processing experience of the women respondents showed the average processing experience of the respondents was 15.18 years. The average years of participation in the cooperative activities were 4.57 years. The effect of loan use on cassava processing income show that quantity of cassava processed and the number of years spent in the cooperative were significant. Cassava processing is a viable profit making venture in the study area with a net revenue of ₦153,967.4, ₦102,772.6 and ₦118,403.91 for Garri, Lafun and Fufu respectively. The problems identified by the majority of the respondents included lack of processing machines and other identified problems were identified by minority. The study concludes that cassava processing is a viable profit making venture and quantity of cassava processed and number of years spent in a cooperative may cause an increase in cassava processing profit. The major problem of cassava processing was lack of processing machines. Government and development agencies should organize sensitization programmes for cassava processors on the potentials that exist in the new emerging markets for cassava products.

Keywords: Profitability, Cassava Processing, Women Folks, Garri processors, Fufu processors.

Introduction

The poverty situation in Nigeria is quite severe. Both the qualitative and quantitative measurements attest to the growing incidence and depth of poverty in the country (NBS, 2004). Recent evidence from the National Bureau of Statistics (NBS) supports the fact that poverty in Nigeria is on the increase. According to NBS (2010), the national poverty rate of Nigeria increased from 28.1 per cent in 1980 to 54.4 per cent in 2004, and 69.0 per cent in 2010. In addition, the UNDP report of 2009 estimated the Human Poverty Index (HPI) value of Nigeria at 36.2 percent, ranking the country 114 out of 135 countries measured. This implies that Nigeria is becoming poorer with the passage of time.

Cassava is one of the most important food items available in Nigeria and the whole of West Africa. It is a popular product because it is cheap and easy to produce in all tropical regions. It is found to be extremely tolerant to environmental stress which makes it suitable for present farming and food system in Africa (Onwudiwe et al., 2015). It is one of the major cash crops grown in most parts of Nigeria. Cassava as a food crop in the tropics, accounts for 33% of all staple foods produced in sub-Saharan Africa (Odebode, 2006). Millions of people

depend on the crop as a major source of food (energy) as a result of the economic crises in most countries. Also, cassava processing is one of the off-farm activities carried out by the rural women.

Cassava is a versatile crop; all parts of the plant including its root have been processed into a number of products. These include food for human consumption, animal feeds and industrial based products. Cassava based diets are main sources of dietary energy. Cassava food products include garri, lafun, fufu, flour, tapioca and chips. Dextrins, starch, syrups, alcohols and dextrose are products from cassava. Some of these serve as raw materials in different industries (Ashaye et al., 2007). Nigeria is the largest producer of cassava in the world.

The cassava crop (*Manihot esculeta* or *Manihot utilissima*) believed to have originated from Brazil and introduced into West Africa by the Portuguese is considered the most productive crop in the tropics (Edehand Ojemade, 2009). Cassava unlike other roots is a long duration crop that is particularly tolerant to drought conditions and can be stored in the ground for up to 36 months (Sanni, 2005). This is why cassava has been called the "famine security crop". These

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good qualities allow the cassava farmers some flexibilities in their work schedules, hence their relative ease of growing cassava with other crops (Alabi and Oviasogie, 2005). Cassava is a major cash crop for most of the farmers in Nigeria.

Women can be described as an indispensible group in the development of any nation (Safiya, 2011). Women play significant and potentially transformative roles in agricultural growth in developing countries, but they face unrelenting obstacles and economic constraints limiting further contribution in agriculture. Women are responsible, in addition to seeking livelihoods, for keeping their homes and providing for their children (Lawanson,2003). Women have great potentials necessary to evolve a new economic order, to accelerate social and political development and consequently transform the society into a better one (Safiya, 2011). Kayode *et al.,* (2013) described Nigerian women as a crucial factor for production. According to him, they assume this status because they are largely responsible for the bulk of crops production, agro-based food processing, preservation of crops and distribution of outputs or products from farm centers to urban areas. The importance of women in the agricultural development as stated above cannot be overemphasized and this has led to the empowerment of more women in production and processing of various crops such as Cassava, maize and yam.

Cassava can be cultivated with family labour, land, hoe and machete, making it an alternative and low-risk crop for poor women farmers. Also, cassava is available to low income rural households in the farming of simple food products which are significantly cheaper than grains such as rice, maize and wheat (FAO, 2006).Cassava is mainly produced by small scale farmers in rural communities and is primarily consumed in the form of *garri* or *fufu*. However, cassava can be processed into several other product like chips, flour, pellets, adhesives, alcohol and starch which are raw materials for livestock feed, alcohol/ethanol, textiles, confectionery, wood and food industries (Iheke, 2008).

Processing of cassava into different products and its availability all year round makes it an important staple food crop for Nigerian households especially in rural sector (Balogun *et al.,* 2009). The processing of cassava into different products is a tedious activity which requires several stages of processing. Rural women have been identified to make significant contribution to cassava production and processing in Nigeria (Onwudiwe *et al.,* 2014). The rural woman helps to prepare, plow, weed and harvest the cassava farm. Apart from production, rural women are the major labour in processing and marketing of cassava root. In spite of the rigorous activities carried out in producing cassava, the production and income generated by these women on cassava production have not been able to sustain their livelihood.

Objectives of the Study
The main objective of the study is to analyse the effect of cassava processing as a means of poverty alleviation among women folks in Sagamu Local Government Area of Ogun State, Nigeria.
The specific objectives are to:
   i.   describe the socio-economic characteristics of the women folks in the study area;
   ii.   investigate effect of loan use on cassava processing in the study area;

   iii.   estimate the profitability of cassava processing in the study area;
   iv.   examine the effect of cassava processing on status of the processors;

Research Methodology
Study Area
The study was carried out in Sagamu Local Government Area of Ogun State, Nigeria. Sagamu or Ishagamu is a conglomeration of thirteen towns located in Ogun State along the Ibu River and Eruwuru Stream between Lagos and Ibadan, founded in the mid-19th century by members of the Remo branch of the Yoruba people in south-western Nigeria. The 13 towns that made it up are:Makun, Offin Sonyindo, Epe, Ibido, Igbepa,Ado, Oko, Ipoji,Batoro, Ijoku, Latawa and Ijagba. It is the capital of Remo Kingdom and the paramount ruler of the kingdom - Akarigbo of Remo's palace is in the town of Offin in there. (Nigeria-galleria, 2020).

The Sagamu region is underlain by major deposits of limestone, which is used in the city's major industry, the production of cement. Agricultural products of the region include cocoa and kola nuts. Sagamu is the largest kola nut collecting center in the country. The kola nut industry supports several secondary industries such as basket and rope manufacturing, which are used to store the kolanuts.For Administrative convenience, Sagamu Local Government Area is divided into (15) Fifteen Political Wards, namely. Ward 1 Oko, Epeand Itunla 1, Ward 2 – ,Oko, EpeItunla II, Ward 3 – AiyegbamijIjoku, Ward 4 – Sabo 1, Ward 5 – Sabo II, Ward 6 – Itunsokun Oyebajo, Ward 7 – Ijagba , Ward 8 – Latawa, Ward 9 – Ode-lemo, Ward 10 – OgijojIkosi, Ward 11 – Surulere, Ward 12 – Isote, Ward 13 – Simawa, Ward 14 – Agbowa, Ward 15 – Ibidojitun Alara.
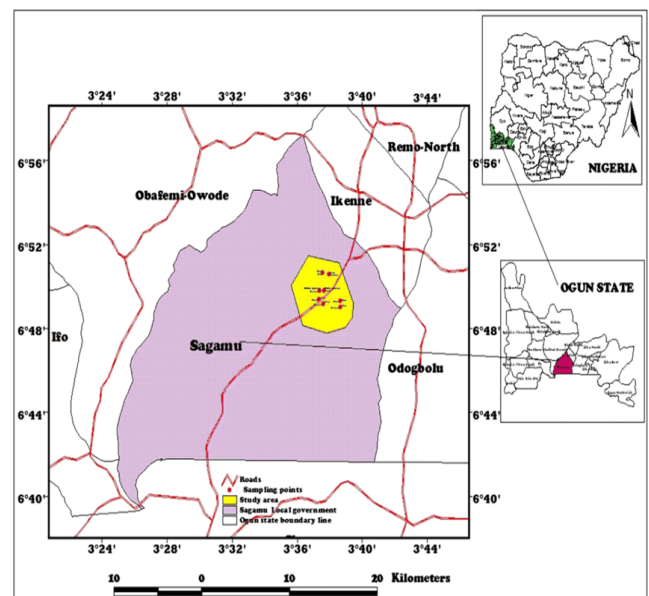

Figure 1: Map of Ogun State showing Sagamu the Study Area
Source: Oguntade *et al,* (2020)

Methods of Data Collection
Primary data were used for the study. The data were collected from respondents using well-structured questionnaire. The secondary data were used for this study and were collected from journals, articles and other relevant sources.

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Sampling Technique

The multi-stage sampling technique was used to select households with women respondents who are cassava processors in the selected communities in the study area. In the first, the study area was divided into (15) wards and eight (8) wards were randomly selected. While in the second stage, fifteen households with female cassava processors were randomly selected from each wards, making a total of one hundred and twenty (120) sampled women processors for this study.

Methods of Data Analysis

Data were analyzed using descriptive statistics, budgetary analysis and Ordinary Least Square regression model.

(i) ***Socio-Economic Characteristics of the Women Folks***

Descriptive statistics, including frequency counts, tables, charts, percentages and means were used to analyze the socio-economic characteristics of the respondents.

(ii) ***Effects of loan use on cassava processing in the study area***

The OLS Regression Model was used to determine the effect of loan use on cassava processing and it is specified implicitly as:

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

Where:

Y_i = Net income (₦).

X_1 = Quantity of cassava processed (₦)

X_2 = Amount of loan obtained (Naira)

X_3 = Age of respondent (years)

X_4 = Processing experience (years)

X_5 = Household size (Number)

X_6 = Cooperative membership (years)

X_7 = Educational level (years)

U_i = Error term

(iii) ***Profitability of cassava processing***

Fefa *et al.,* (2014) provided a more flexible framework for analyzing cassava processing and extent to which these are income generating and profitable among operators to enhance poverty reduction. The profitability analysis models or functions are presented below. The budgetary technique for analysing profitability of cassava processing technologies was expressed as follows:

$GM = TR - TVC; \pi = GM - TFC$ ……………………. (1)

Where,

GM = Gross Margin

π = Profit

TR = Total Revenue

TVC = Total Variable Cost

TFC = Total Fixed Cost

The rates of return were calculated as:

$$\frac{Gross\ Margin}{TVC}$$ ……………………………………………….. (2)

(iv) ***Problems encountered during cassava products processing***

Descriptive statistics was used to identify the problems encountered during cassava products processing in the study area. Descriptive tools such as mean, frequency distribution, charts and measure of central tendency was used in the study.

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Results and Discussions
Table 1: Socio-Economic Characteristics of the Respondents

Variables	Frequency	Percentage (%)	Mean
Age Group (years)			
20 - 30	5	4.2	*54.31 years*
31 - 40	12	10.0	
41 - 50	45	37.5	
51 - 60	37	30.8	
> 60	21	17.5	
Marital Status			
Single	3	2.5	
Married	82	68.3	
Divorced	6	5.0	
Widowed	25	20.8	
Separated	4	3.3	
Educational Level			
No formal Education	18	15.0	
Primary Education	53	44.2	
Secondary Education	40	33.3	
Tertiary Education	9	7.5	
Occupation			
Trading	60	50.0	
Artisan	11	9.2	
Farming	36	30.0	
Civil service	9	7.5	
Others	4	3.3	
Household Size (person)			
1 - 3	22	18.3	*5 persons*
4 - 6	79	65.8	
7 – 9	19	15.8	
Experience (years)			
1 - 10	55	45.8	*15.18*
11 - 20	41	34.2	
21 - 30	16	13.3	
>30	8	6.7	
Year of Participation			
Not members	51	42.5	*4.57*
1 - 5	34	28.3	
6 - 10	22	18.3	
11 - 15	8	6.7	
16 – 20	5	4.2	
Total	**120**	**100**	

Source: Field Survey, 2020

Data in Table 1 presented the socio-economic characteristics of the farmers in the study area. Age is an important factor which affects production. The mean age of the processor is 54.31 years as revealed in Table 1. This suggests that the processors belong to the economically active population category which is between 25-59 years. They can therefore put more effort into cassava processing in order to increase their output. The result in Table 1 also revealed that 51.7% of the respondents between 20 – 50 years of age and 49.2% of the respondents were above 50 years. This agrees with Pur *et al.,* (2007) that the level of male youth involvement in agriculture has reduced due to urban migration, schooling and part-time farming. Fakoya and Daramola (2005) found that respondents within this age range are more innovative, motivated and adaptable persons who can withstand challenges arising from processing.

Marital status of the respondents is a situation where the respondents are married or not. It is used to find out if the respondent is married with responsibility or not. It was shown that 68.3% of the processors were married which implies that most of the respondents were matured and able to take care of their households. Indicating that the processors are likely to make use of family labour for their activities. Other results shown in the table also revealed 20.8% were widowed, while 10.8% are either single, divorced or separated. This implies that cassava processing is majorly a source of household income for married womenfolk in the study area.

Education is of paramount importance in rational decision taking, it can indirectly determine the decision of household heads as regards household consumption. Majority of the processors had one form of education or another. The result showed that 85% of the respondents had one form of education or another while just 15.0% of the women processors had no form of formal education. Education is important in processing because knowledge and skill is needed. The implication of this is that the processors are likely to readily adopt new technology and innovation.

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estimated at ₦103,318.68. The rate of return on investment to lafun production was 5.86%.

Table 3: Profitability Distribution of the Processors

Variable	GARRI		LAFUN		FUFU	
	Mean (₦)	% of TC	Mean (₦)	% of TC	Mean (₦)	% of TC
Revenue	187,433.33		120,956.66		148,625.00	
Variable Cost						
Cost of cassava tuber	25,415.83	*75.95*	13,539.16	*74.25*	19,302.50	*63.87*
Basket	737.50	*2.20*	327.08	*1.79*	1,703.33	*5.64*
Packaging cost	1,375.00	*4.11*	1,267.50	*7.00*	1,349.16	*4.46*
Sack	1,546.66	*4.62*	2,044.58	*11.21*	3,400.00	*11.25*
Transport	550.00	*1.64*	129.16	*0.71*	727.08	*2.41*
Firewood and palm oil	424.58	*1.269*	125.00	*0.69*	636.66	*2.11*
Kerosene	200.83	*0.60*	205.50	*1.13*	317.50	*1.05*
Pot shed	1,140.41	*3.41*	0	0	709.58	*2.35*
Total Variable Cost	*31,390.81*	*93.80*	*17,637.98*	*96.73*	*28,145.81*	*93.13*
Fixed Cost						
Total Fixed Cost	**2,075.12**	**6.20**	**596.08**	**3.27**	**2,075.28**	**6.87**
Total Cost	*33,465.93*	*100.0*	*18,234.06*	*100.0*	*30,221.09*	*100.0*
Gross Margin	*156,042.52*		*103,318.68*		*120,479.19*	
Net Income	*153,967.4*		*102,772.6*		*118,403.91*	
RRI	*4.97*		*5.86*		*4.20*	

Source: Field Survey, 2020

Problems encountered during cassava products processing
There are major constraints encountered during cassava products processing in the study area as shown in Table 4. The problems identified by the majority of the respondents included lack of processing machines (50.0%) and other identified problems were identified by minority.

Table 4: Problems encountered during cassava processing

Problems	Frequency (n=120)	Percentage (%)	Rank
Land Tenure lack of fund	34	28.3	*5th*
High Cost of Labour	44	36.7	*2nd*
Crude Implements	36	30.0	*4th*
Lack of Processing Machines	60	50.0	*1st*
Labour Intensive	34	28.3	*5th*
Lack of Inputs	28	23.3	*6th*
Poor Marketing	43	35.8	*3rd*
Poor Transportation	44	36.7	*2nd*
Inadequate Firewood	13	10.8	*7th*

Source: Field Survey, 2020

Conclusion
The study concluded that cassava processing is done by married women who are within their economic active age and had one form of formal education or another with their primary occupation being trading. The processors had moderate household size and are experienced in cassava processing with an average of 15.18 years' experience. The women participate in cooperative activities. Cassava processing is a viable profit making venture and quantity of cassava processed and number of years spent in a cooperative may cause an increase in cassava processing profit. The major problem of cassava processing was lack of processing machines.

Recommendations
From the result of this study the following recommendations were made and they are:
1. Small scale entrepreneurs should seize the opportunities offered by cassava processing as a means of income diversification.
2. Government and development agencies should organize sensitization programmes for cassava processors on the potentials that exist in the new emerging markets for cassava products.
3. Processors should be provided with adequate processing technology in order to improve value addition to cassava and reduce the drudgery it entails. Cassava farmers should therefore be educated on the potentials that exist in cassava processing and how they can seize the opportunities to increase their income.

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