CHAIN ANALYSIS OF CASSAVA PEELS, IN OGUN STATE, NIGERIA

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ABSTRACT

This study examined the value chain of cassava peels in Ogun State Nigeria. Multistage sampling technique was used to select 180 cassava processors and marketers. Socio-economic data were obtained from respondents with the use of pre-tested questionnaires. Data were analysed using descriptive statistics, budgetary technique, Stochastic Frontier Analysis (SFA) and Student t-test. The study found that majority (84.3% and 52.8%) of processors of cassava peels and marketers were female. In addition, 60.2% of the processors and 51.4% of the marketers had secondary education. The value chain activities carried out by processors were transportation, drying and packaging while marketers transported, packaged and put the peels in storage for future sales. The SFA revealed that cost of labour ($p<0.01$) and quantity of fresh cassava peels ($p<0.01$) were the main determinants of output of dried cassava peels by the processors. The inefficiency model revealed that the efficiency of producing dried cassava peels increased with increase in age ($p<0.01$), credit access ($p<0.01$), household size ($p<0.01$) and membership of cooperative society ($p<0.01$). Furthermore, the cost function revealed that cost of sieving ($p<0.05$) and depreciation on capital item ($p<0.01$) increased the production cost of dried cassava peels. The mean technical, allocative and economic efficiency of producing dried cassava peels were estimated as 94%, 83% and 78% respectively. This study concluded that production of cassava peels is efficient and its trade is profitable. The study recommends that cassava processors and marketers should form cooperative groups to increase access to credit for higher output and trade of peels.

KEYWORDS: Cassava Peels, Cassava Processors, Cassava Marketers, Stochastic Frontier Analysis.

INTRODUCTION

A serious competition exists between the livestock feed industry and other channels in the food chain (especially man) over conventional feed ingredients such as Maize and Soya bean. This had resulted in the high cost and scarcity of these conventional feedstuffs. Poultry feed producers are thus faced with the task of finding alternative feedstuffs that will not compromise quality. The search of such alternatives has been a concern for animal nutritionists in Nigeria for over a decade (Onyimonyi and Okeke, 2005; Onyimonyi and Onukwufor, 2003; Onyimonyi and Okeke, 2002; Tuleun *et al.*, 2005; Oke *et al.*, 2005).

Such alternative feedstuffs as cassava peel do not have any direct food requirement by man. They are waste and even constitute health hazards and nuisance in waste disposal of these industries. Since these peels could make up to 10-20% of the wet weight of the roots, they constitute an important potential resource for animal feeds, if properly processed by a bio-system. Research results indicate that, cassava peel if properly processed can constitute up to 40 percent of the diets of rabbits (Omole and Sonaiya, 1981).

However, the transformation of cassava waste into various forms for food, feed, and industrial raw material has the potential to help developing countries improve food security, create additional value in rural settings, generate income and employment and develop a more favourable balance of trade. Oluwalana (2011) reported that there are opportunities to utilize agro-processing wastes such as cassava peels to generate wealth. The wealth so generated from wastes can lead to reduction of poverty among the rural entrepreneur especially the women processing herbal soap in particular. This concept is called the "waste to wealth" initiative to improve the economic and health status of the beneficiaries.This article examines the value chain of cassava peels in Ogun State Nigeria.

METHODOLOGY

The study area

Ogun State is located in the south – western Nigeria and was created in 1976 by the then Federal Military Government from the old western region. It is located within latitudes $3^{0}30$'N - $4^{0}30$'N and longitudes $6^{0}30$'E- $7^{0}30$E (Ogun State Annual Report, 2000). The state has a total of 20 Local Government Areas. Ogun State is bounded in the west by the republic of Benin, in the south by Lagos State and the Alantic Ocean, in the east by Ondo State and in the North by Oyo State. Ogun State covers a land area of 16,762 square kilometres with a population of 3,728,098 (2006 population census). The Ogun State Agricultural Development Programme (OGADEP) has divided the State into four zones (Abeokuta, Ijebu-Ode, Ikenne and Ilaro) based on geographical spread and administrative convenience.

Sample Size and Sampling Techniques.

Information on this study was obtained from primary source of data. The primary data was collected through structured questionnaire from the main value chain actors such as cassava processors and marketers.

Multistage random sampling technique was used to select 180 cassava based processors and marketers in the study area. This involved four stages, the first stage, involved the purposive selection of two zones from the four zones of the Ogun State Agricultural Development project (OGADEP) namely Abeokuta and Ijebu zones. This was done because of the predominance of cassava based farming and processing in these zones. In the second stage, six blocks were proportionately selected from the two zones; three blocks from Abeokuta zone with a total of 6 blocks and three blocks from Ijebu zone with a total of 6 blocks. The third stage involved a simple random sampling of two cells from each block and this makes a total of twelve cells in all. The fourth and final stage involved a random selection of fifteen processors and marketers (that is nine processors and six marketers = 15) from each cell resulting in a total of 180 respondents.

Methods of Data Analysis

The study data were analysed using descriptive statistics, budgetary technique, and stochastic frontier analysis and the cost function analysis. Frequencies, percentages and mean were used to describe socio – economic variables such as age, sex, educational level and years of experience in processing and marketing of cassava peels. The gross margin analysis was used to determine the profitability of processing and marketing cassava peels. The stochastic frontier analysis based on the works Coelli (1995) was used to estimate coefficients of the parameters of production function and to analyse the economic efficiency of processing cassava peel in Ogun State Nigeria. The theoretical model underlying the analysis includes the technical efficiency and allocative efficiency. The relationship of the previously mentioned model will give us the overall performance measure which is the economic efficiency of processing cassava peels in the study area. Detailed specifications of the theoretical framework are common in literature (Coelli, 1995).

Model specification

Gross Margin Analysis

The gross margin for an average processor and marketer of cassava peel was calculated and compared as the difference between the total revenue and total variable cost. The mathematical equation is given below;

$GM_i = TR_i - TVC_i$ ……………………………………………

Where i is the number of processors and marketers from i…. n

GM_i = Gross margin realized from the ith processor and marketer of cassava peel (₦)

TVC_i = Total variable cost

TR_i = Total revenue

$TR_i = P_iQ_i$

Pi = Price per unit of output (₦)

Qi = Output (Kg)

NP = TRi – TCi
Where NP = Net profit

Depreciation

The straight line depreciation method was used to calculate the depreciation cost of the equipments (fixed assets such as baskets, trays, bags, sieves etc.) used in cassava peels value chain in the study area.

$$\text{Annual depreciation} = \frac{Pp - S}{n}$$

Where Pp = Purchase price, S = Salvage_value, n = no of years of useful life of the asset.

Measures of financial outcome

The returns per naira invested and operating ratios were used to determine and compare the measure of financial outcome of the cassava peels value chain actors in the study area. They were calculated using the formular below:

Returns per naira invested which is $\frac{\text{Total revenue}}{\text{Total cost}} = \frac{TR_i}{TC_i}$

Operating Ratio which is $\frac{\text{Total Cost}}{\text{Total Revenue}} = \frac{TC_i}{TR_i}$

All these determine the profitability and financial level of production.

Stochastic Frontier Production Model

For the purpose of analyzing the economic efficiency of cassava peels to various useful consumer products in the study area, The stochastic frontier production function model for estimating value chain level technical efficiency is specified as: following Amaza and Olayemi (2001):

$Yi = f(Xi;\beta) + \varepsilon_i = 1, 2, \ldots\ldots n$ ....(1)

Here Yi is output, Xi denotes the actual input vector, β is vector of parameters to be estimated/production function and ε_i is the error term that is composed of two elements, that is: $\varepsilon_i = V_i - U_i$

Where Vi is the symmetric disturbances assumed to be identically, independently and normally distributed as $N(0, \sigma^2_v)$ given the stochastic structure of the frontier. The second component Ui is a one-sided error term that is independent of V and is normally distributed as $(0, \sigma^2_u)$, allowing the actual production to fall below the frontier but without attributing all short falls in output from the frontier as inefficiency.

$\sigma^2 = \sigma^2_u + \sigma^2_v$ .... (2)

Furthermore, $\gamma = \frac{\sigma^2_u}{\sigma^2}$ .... (3)

The variance ratio parameter γ (Gamma) according to Dawson and Lingard (1991) is represented as below; $\gamma = (0 \leq \gamma \leq 1)$.

The variance ratio parameter γ has two important characteristics:

i. When σ^2 tends to zero, then u is the predominant error in equation (1) and γ tends to 1, implying that the output of the sampled farmers differs from the maximum output mainly because of difference in technical efficiency.

ii. When σ^2_u tends to zero, then the symmetric error v is the predominant error in equation (1) and so γ tends to 0. Thus based on the value of γ, it is possible to identify whether the difference between a farmer's output and the efficient output is principally due to random errors (γ tends to 0) or the inefficient use of resources (γ tends to 1) (Kalirajan, 1981).

Following Belbase and Grabwoski (1985), the technical efficiency estimation is given by the mean of the conditional distribution of inefficiency term Ui given ε_i and thus defined by:

$E(U_i|\varepsilon_i) =$ .... (4)

$$\frac{\sigma_u \sigma_v}{\sigma}\left[\frac{f(\varepsilon_i\lambda/\sigma)}{1 - f(\varepsilon_i\lambda/\sigma)} - \frac{\varepsilon_i\lambda}{\sigma}\right]$$

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here $\lambda = \sigma^2_u / \sigma^2_v$, $\sigma^2 = \sigma^2 + \sigma^2$ while f and F represents the standard normal density and cumulative distribution function respectively evaluated at e/a

The farm specific technical efficiency is defined in terms of observed output (Y1) to the corresponding frontier output (Y_i*) using the available technology derived from the result of equation (15) above as:

$$TE = \frac{Y_i}{Y_i *} = \frac{E(Y_i \mid u_i, X_i)}{E(Y_i \mid u_i = 0, X_i)} = E\left[\exp(-Ui/\varepsilon)\right] \qquad \ldots\ldots\ldots\ldots(5)$$

Therefore, TE = exp (-U_i)

TE takes values within the interval zero and one (i.e between 0 and 1), where 1 indicates a fully efficient farm.

The stochastic frontier cost functions model for estimating farm level overall economic efficiency is specified as:

$$C_i = g\,(Y_i, P_i; \alpha) + \varepsilon_i \quad i = 1, 2, \ldots\ldots n \qquad \ldots\ldots\ldots (6)$$

Where C_i represents total production cost, Y_i represents output produced, P_i represents prices of inputs, C_i represents the parameters of the cost function and ε_i represents the error term that is composed of two elements, that is:

$\varepsilon_i = V_i + U_i$

Here V_i and U_i are as defined earlier. However because inefficiencies are assumed to always increase costs, error components have positive signs Sharma, Pingsun, and Halina (1999).

The farm specific economic efficiency (EE) is defined as the ratio of minimum observed total production cost (C*) to actual total production cost (C) using the result of equation 6 above. That is:

$$EE = \frac{C_i}{C_i *} = \frac{E(C_i \mid u_i = 0, Y_i P_i)}{E(Y_i \mid u_i, Y_i P)} = E\left[\exp(-Ui \mid \varepsilon)\right] \qquad \ldots\ldots\ldots (7)$$

Here EE takes values between O and 1.

Hence a measure of farm specific allocative efficiency (AE) is thus obtained from technical and economic efficiencies estimated as:

$$AE = \frac{EE}{TE}$$

This means that $0 \leq AE \leq 1$

Stochastic Frontier Production Function Analysis.

The stochastic frontier production function analysis based on Coelli (1995) was used to estimate coefficients of the parameters of the production function and to analyse the economic efficiency of processing cassava peels in the study area.

Technical Efficiency (TE)

The technical efficiency of the ith sample processor of cassava peels in the study area is the relationship between total output of dry cassava peels and the inputs used in processing.

The estimation of the stochastic frontier was accomplished by maximum likelihood estimation (MLE) according to Ali and Flin (1989). The processing technology of the processors of cassava peels in the study area was specified by the following function;

$Yi = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + Ei$.....................................(1)

Where Yi = total output of dry cassava peels (kg)

X_1 = labour in mandays (₦)

X_2 = quantity of fresh cassava peels (kg)

X_3 = depreciation (₦)

β_0 = constant

β's = parameters to be estimated

e = error term

Allocative Efficiency

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The allocative or price efficiency of the processors of cassava peels was analyzed using the Stochastic Production Frontier. According to Adekoya (2011), Cobb – Douglas Cost Frontier for processors of cassava peels in the study area is presented explicitly as:

$\Pi^* = \varphi_0 + \varphi_1 P_1 + \varphi_2 P_2 + \varphi_3 P_3 + \varphi_4 P_4 + (V_{it} - U_{it})$.................................(3)

Where:

Π^* = Normalised profit in naira per processor (defined as the revenue less variable cost normalized by the price of cassava peels output).

P_1 = price of packaging normalized by price of cassava peels per processor (₦)

P_2 = Price of labour normalized by price of cassava peels per processor (₦)

P_3 = Price of sieve normalized by price of cassava peels per processor (₦)

P_4 = depreciated capital items (₦)

φ_0 = constant

φ 's = parameters to be estimated

V_{it} = random errors which covers random effects on the production outside the control of the processors decision unit.

U_{it} = allocative inefficiency

Technical and Allocative Inefficiency

Technical and allocative inefficiency effects is the result of behavioural factors which could be controlled by efficient management (Coelli and Battase, 1996) They are assumed to be independent of the error term.

The estimated technical and allocative inefficiency model is presented explicitly by

$\mu i = \delta_0 + \delta_1 Z_1 + \delta_2 Z_2 + \delta_3 Z_3 + \delta_4 Z_4 + \delta_5 Z_5 + \delta_6 Z_6$...........................(4)

Where:

μi = inefficiency effect

δ = a vector of unknown parameters to be estimated

Z_i = (I = 1,2,3,4,5,6) Factors contributing to inefficiency

Z_1 = Age of the processors in years

Z_2 = Educational level

Z_3 = Years of experience in cassava peels processing

Z_4 = Access to credit (access 1; 0 otherwise)

Z_5 = Household size

Z_6 = membership of cooperative society

Economic Efficiency (EE)

The Economic Efficiency is the overall performance measure of processing cassava peels in the study area. The economic efficiency of processing cassava peels was analysed using the relationship below

EEi = TE x AE...(5)

Where:

EEi = Economic efficiency

AE = Allocative (cost) efficiency

TE = Technical efficiency

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Sampled Respondents

The result of the socioeconomic characteristics of cassava value chain actors considered in this study is presented on Table 1 below and it revealed that the mean age of the cassava peel value chain actors was 44 years and 38 years for processors and marketers respectively. Also 77.9 percent and 81.2 percent of processors and marketers are aged below 50 years. This implies that majority of the value chain actors are in their economically active age. In addition, 60.2% of the processors and 51.4% of the marketers had secondary education. In terms of sex, the study revealed that 15.7 percent are male while 84.3 percent are female for processors of cassava peel while for marketers of cassava peel 28.3 percent are male and 52.8 percent are female respectively. The result revealed that majority of the actors in cassava peel value chain in the study area are female and this may be due to the fact that women are predominant in processing and marketing of agricultural produce while the males are basically into food crop production. In terms of years of experience in the trade, majority of them were very knowledgeable. About 61.9 % of the respondents had at least 6 years of experience in the trade.

Table 1: Socio – Economic Characteristics of Respondents in the Study Area.

	Processors		Marketers		Pooled	
Variable	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Age Group (Years)						
21-30	21	19.4	22	30.6	23	12.8
31-40	30	27.8	23	31.9	53	29.4
41-50	29	30.7	14	18.7	43	23.9
51-60	17	15.7	5	6.9	22	12.2
>60	11	10.2	0	0.0	11	6.1
Total	108	100.0	72	100.0	180	100.0
Mean		44		38		
Sex						
Male	17	15.7	34	28.3	51	28.3
Female	91	84.3	34	52.8	129	71.7
Total	108	100.0	72	100.0	180	100.0
Educational Level						
No Formal Education	6	5.6	4	5.6	10	5.6
Primary	37	34.3	31	43.1	68	37.8
Secondary	65	60.2	37	51.4	102	56.7
Experience(years)						
≤ 5	11	10.2	7	9.7	18	10.0
6-10	30	27.8	24	33.3	54	30.0
11-15	16	14.8	19	26.4	35	19.4
16-20	19	17.6	10	13.9	29	16.1
21-25	7	6.5	5	6.9	12	6.7
26-30	14	13.0	7	9.7	21	11.7
≥ 31	11	10.0	0	0.0	11	6.1

Source; Computed from field Survey, 2017.

Table 2 presents the quantity cf cassava peels processed and marketed by the respondents per month. The result revealed that 8.3% of the processors and 12.96% of the marketers produced and sold less than or equal to 49.9kg of cassava peels. However, 31.9% of the processors and 14.81% of the marketers produced and sold between 50.0kg and 99.9kg of cassava peels per month. On the average, processors produced 111.59kg of cassava peels while the marketers sold 113.26 kg of cassava peels per month.

Table 2: Quantity of Cassava peels produced and sold per month.

Quantity (kg)	Frequency for processors	(%)	Mean for Processors (kg)	Frequency for marketers	(%)	Mean for marketers (kg)
49.9 or less	6	8.3	**111.59**	14	12.96	**113.26**
50.0 – 99.9	23	31.9		16	14.81	
100.0 – 149.9	28	38.9		55	50.93	
150.0 or more	15	20.8		23	21.29	
Total	**72**	**100**		**108**	**100**	

Source; Computed from field survey, 2017.

The result of the evaluation of costs and returns on Table 3 showed that the average cost of processing cassava peels was ₦3090.83k per month while the average cost of marketing processed cassava peels was ₦6145.96k per month, the gross margin for processing and marketing cassava peels were ₦9, 347.74k and ₦13, 666.22k per month respectively. The estimated profitability ratio revealed that return per naira for processing and marketing cassava peels were 3.97 and 3.20 respectively. The operating ratio for processing and marketing cassava peels were 0.25 and 0.31 respectively. These showed that the two enterprises were profitable to the respondents.

Table 3: Costs and Returns Structure of the Value Chain of Cassava Peels in kg/month /respondents

Cost and Returns	Processors Amount in ₦ per Kg	% of total cost	Marketers Amount in ₦ per Kg	% of total cost
Revenue (₦)				
Total Revenue(₦)	**12,279.00**		**19,694.00**	
Variable cost items				
Labour cost	150.00	4.85	-	-
Cost of Cassava Peels	-	-	3523.60	57.33
Cost of Transportation	1233.01	39.89	1890.86	30.76
Cost of Drying	1037.10	33.55	-	-
Packaging Cost	261.15	8.45	223.61	3.64
Storage Cost	-	-	157.35	2.56
Bagging Cost	250.00	8.09	-	
Market Tax charge	-	-	232.36	3.78
Total Variable cost(₦)	2931.26	94.84	6027.78	
Fixed Cost Items				
Sundry Material (Fixed cost)	159.57	-	118.18	
Total Fixed Cost(₦)	159.57	5.16	118.18	1.92
Total Cost (TC) (₦)	3090.83	100.00	6145.96	100.00
Gross Margin	9,347.74		13,666.22	
Profitability Ratios				
Return on investment	3.97		3.20	
Operating ratio	**0.25**		**0.31**	

Source; Computed from field survey, 2017.

The stochastic frontier production, cost and efficiency analysis of processing cassava peels.

The result on Table 4 which showed that the parameter estimates obtained from the Maximum Likelihood Estimate for processors of cassava peels revealed that only Depreciation on capital (X_3) have positive relationship with total output. The result also showed that Labour (X_1) and Quantity of cassava peel (X_2) have negative relationship with output and significantly influence it at ($P<0.01$) respectively. The negative signs of the coefficient of labour and quantity of cassava peels showed that the total revenue from processing cassava peels decrease with increase in labour and quantity of cassava peels along the chain.

Table 4: The Stochastic Frontier Production Function Results for processing cassava peels along the value chain

Variable	Regression coefficient	T value
Production function		
Constant	5.56*** (0.0894)	**62.2**
Cost of labour X_1	-0.0370*** (0.0379)	**-3.57**
Quantity of cassava peels X_2	-0.3071*** (0.0652)	**-8.10**
Depreciation X_3	0.0041 (0.0079)	**0.517**

Source; Computed from field survey, 2017.

The results of the inefficiency model revealed on table 5 showed that the efficiency of producing dried cassava peels increased with increase in age (P<0.01), credit access (P<0.01), household size (P<0.01) and membership of cooperative society (P<0.01). Credit access, household size and membership of association are significant at 1 % and tend to negatively influence the efficiency of cassava processing in the study area. The negative sign of these parameters implies that the higher the access to credit, larger household size and membership to an association the more efficient the processor becomes.

Table 5; Inefficiency Model

Inefficiency Model	Regression coefficient	T – statistics
Constant	-8.59*** (0.978)	-8.79
Age (D_1)	-0.168*** (0..0115)	-14.57
Education level (D_2)	0.124*** (0.056)	2.19
Years of experience (D_3)	0.0751*** (0.0199)	3.76
Credit access (D_4)	-1.24*** (0.3955)	-3.126
Household size (D_5)	-0.590*** (0.0948)	-6.223
Membership of Association (D_6)	-6.64*** (0.564)	-11.77
Diagnoistic Statistics		
Sigma-squared (δ^2)	0.188*** (0.2968)	6.36
Gamma (γ)	0.996*** (0.00213)	466.69

**** implies significance at 1 percent, ** implies significance at 5 percent while * implies significance at 10 percent. Figures in parenthesis are standard errors.*

Source: Computed from field survey, 2017

The mean technical efficiency of processors of cassava peels was estimated to be 0.94. The mean output of 94 percent revealed that there is the potential for the cassava peels processors to increase their output by 6 percent under the present technology along the cassava waste value chain. More so, the mean allocative efficiency of 83 percent for the cassava peels processors along the chain revealed that there is room for 17 percent improvement in their output. Finally, the mean economic efficiency of 78 percent for the cassava waste (peel) processors implies that there is room for improvement by 22 percent and that there was a great potential for increasing the gross output and profit with the existing level of technology along chain.

Table 6: Distribution of Technical, Allocative and Economic Efficiency of processing cassava peels along the value chain.

Class	Frequency	Percentage
Technical Efficiency		
≤ 0.40	8	7.4
0.41-0.50	6	5.6
0.51-0.60	12	11.1
0.61-0.70	14	13.0
0.71-0.80	25	23.1
0.81-0.90	26	24.1
≥ 0.91	17	15.7
Total	**108**	**100**
Mean	**0.94**	
Minimum	**0.057**	
Maximum	**0.968**	
Allocative Efficiency		
≤ 0.10	41	38.0
0.11-0.20	27	25.0
0.21-0.30	15	13.9
0.31-0.40	10	9.3
0.41-0.50	6	5.6
≥ 0.51	9	8.3
Total	**108**	**100**
Mean	**0.83**	
Minimum	**0.018**	
Maximum	**0.996**	
Economic Efficiency		
≤ 0.10	46	42.6
0.11-020	36	33.3
0.21-0.30	15	13.9
0.31-0.40	4	3.7
≥ 0.41	7	6.5
Total	**108**	**100**
Mean	**0.78**	
Minimum	**0.0012**	
Maximum	**0.6779**	

Source; Computed from field survey, 2017.

CONCLUSION AND RECOMMENDATIONS

The result of the study revealed that majority of processors and marketers of cassava peels are female. In addition, the mean age of the cassava value chain actors was discovered to be 44 years for processors and 38 years for marketers. The result of the budgetary analysis revealed that marketing cassava peel is more profitable for marketers than processors. Furthermore, the stochastic frontier analysis revealed that labour and quantity of cassava peels increases the output of the processed cassava peels.

The inefficiency model revealed that the efficiency of producing dried cassava peels increased with increase in age ($p<0.01$), credit access ($p<0.01$), household size ($p<0.01$) and membership of co-operative society ($p<0.01$). The mean technical efficiency of processing cassava peels was estimated to be 0.94. The mean output of 94% revealed that there is the potential for processors of cassava peels to increase their output by 6% under the present technology along the cassava peels value chain. However, the mean allocative efficiency of 83% for the cassava peels processors along the chain revealed that there is room for 17% improvement in their output. More so, the mean economic efficiency of 78% for processing cassava peel implies that there is room for improvement by 22% and that there is a great potential for increasing the gross output and profit with the existing level of technology along chain. The result concludes that processors of cassava peels are economically efficient along the value chain in the study area.

Based on the findings of this study, it was recommended that there should be a deliberate effort by all stakeholders to encourage and promote value chain addition to cassava peels. Processors and marketers of cassava peels should be encourage to participate in educative programmes such as seminars, workshop and trainings to educate them on the importance of the value chains of cassava peels in order to increase the utilization potentials to generate income and reduce unemployment. Findings from the study revealed that the marketers of cassava peel are more profitable than the processors in terms of their gross margin. Therefore, government and the masses especially the rural farmers should be encouraged into marketing of cassava peels so as to generate more income and thereby alleviate poverty from their homes. Processors and marketers of cassava peels in the study area should therefore be encouraged to form cooperative groups and have access to credit from banks where they can obtain better capital base for higher output. Also, government should invest more in making credit available to farmers and processors at low interest rate and without collateral so that they can maximize the profit generated from the cassava peels and reduce production inefficiencies.

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