

Determinants of Socio-Economic Status of Cassava Processing Entrepreneurs in South-Eastern Nigeria

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ABSTRACT

South-Eastern Nigeria is one of the highest cassava producing zones in Nigeria. This expectedly should be a boost to socio-economic status (SES) of cassava processing entrepreneurs (CPE) in the area. However, the determinants of CPEs' SES seem not certain. The study, therefore, examined the determinants of CPEs' SES in south-eastern Nigeria. Multi-stage sampling procedure was used in selecting respondents. Imo and Anambra states were purposively selected due to their prominence in cassava enterprise. Nine LGAs of 27 LGAs in Imo and 6 LGAs of 21 LGAs in Anambra states were randomly selected. Systematic sampling procedure was also used to randomly select 20% of registered CPEs (50, 36) from Imo and Anambra states respectively resulting in 86 entrepreneurs. Data were collected and analyzed using questionnaire and descriptive statistics, Chi square and regression respectively. Most CPE were females (87.5%) and having mean age, experience and annual income of 53.33 ± 6.629 , 36.87 ± 10.160 and $\text{N}275771.7 \pm 03.17$ respectively. Majority (59.3%) had moderate SES. Source of shop ($\beta = 3.798$), benefits derived ($\beta = 7.075$), scale of operation ($\beta = 12.006$) income ($\beta = 3.120$) and experience ($\beta = 1.760$) are top predictors of CPEs' SES. The study has revealed that the SES of CPE is moderate and this is not encouraging to attract and sustain popular participation among entrepreneurs. It is expedient that appropriate intervention mechanism be put in place with the aim of developing improved processing techniques and reduce the constraints to cassava processing enterprise.

Keywords: Cassava Processing, Benefits, Socio-Economic Status, Garri Processing

Introduction

Cassava (*Manihot esculenta crantz*) is a root crop cultivated and consumed as a staple food in most developing world. FAO (1996), Nweke (1996) and Tollens (1992) observed that cassava contributes about 40% of the food calories consumed in Africa and both the rich and poor farmers often derive cash

income from it. It is a versatile commodity with numerous products and uses. Each component of the plant (stem, roots and leaves) can be valuable to its cultivator. The leaves may be consumed as a vegetable, or cooked as a soup ingredient or dried and fed to livestock as a protein feed supplement, the stem is used for plant propagation and grafting while the roots are typically processed to remove naturally occurring toxins and provide storable products for human and industrial consumption (Lancaster *et al.*, 1982).

Cassava processing involves the transformation of raw cassava tubers into one or more finished domestic and internationally traded products by the processor. According to Sanni *et al.*, (1998) cassava processing is aimed at reducing the limitation of cassava roots, increase shelf-life and reduce naturally occurring cyanogens and overcome to overcome perishability of fresh cassava roots (COSCA 1988 and Imo ADP 2003).

In Nigeria majority of the rural populace of south east is highly reputed in cassava processing enterprise due to its enormous socio-economic contributions. It is no gain saying that high potentials for sustaining and/or improving the rate of cassava processing enterprise in the area rests with giving formidable attention to the needs of entrepreneurs. Similarly, if the contribution cassava processing enterprise can make to the socio-economic status (SES) of the entrepreneurs is to be improved, there is need to identify the determinants of cassava processing entrepreneurs' socio-economic status in region.

It is against this background that the study:

1. Describes the socio-economic characteristics of cassava processing entrepreneurs
2. Determines benefits derived by cassava processing entrepreneurs
3. Determines the socio-economic status of cassava processing entrepreneurs
4. Identify constraints facing cassava processing entrepreneurs

Methodology

The study area is South-eastern Nigeria. South-eastern Nigeria consists of Abia, Anambra, Ebonyi, Enugu and Imo states. The zone is surrounded on all sides by other tribes (the Bini, Ijaw, Ogoni, Igala, Tiv, Yakurr and Ibibio). South-east is among the leading cassava producing zones in Nigeria. This perhaps makes cassava processing enterprise to thrive adequately in the area.

The population of the study consists of all cassava processing entrepreneurs in south-eastern Nigeria. Imo and Anambra states were purposively selected because of their prominence in cassava processing enterprise. Multi-stage sampling procedure was used in selecting the respondents. Systematic sampling procedure was also used to randomly select 20% of registered cassava processing entrepreneurs (50, 36) from Imo and Anambra states respectively resulting in 87 entrepreneurs. A total of 86 questionnaires were administered in form of interview schedule to collect data on respondents' socio-economic characteristics, benefits derived, socio-economic status (SES) of cassava processing entrepreneurs and constraints to cassava processing enterprise. Descriptive statistics (such as frequency counts and percentages, Chi square and regression were used to analyse the data

Discussion of Findings

Socio-economic Characteristics of Respondents

Age

Table 1 reveals that most (71.3 %) cassava processing entrepreneurs were within the age mean age of 53.0 years. This implies that cassava processing enterprise is carried out by active and energetic people in the area. This is not expected giving the rate at which young and energetic working population is migrating out of the study area to the cities in search of white collar jobs or other quick income earning ventures.

Sex

Table 1 shows that majority (89.5%) of the respondents were females. This indicates that cassava processing enterprise is mostly carried out by female entrepreneurs. The result concurs with the finding of Ajieh and Uzokwe (2007) that women play a leading role in cassava enterprises, contributing about 67% of the total labour in the south-east, 58% in south-west, and 88% in North-central zones, with involvement in virtually all activities namely hoeing, planting, weeding, harvesting, transporting, storing, processing, marketing and domestic chores.

Marital Status

Table 1 reveals that majority of the respondents (97.7%) were married. The result is expected and supports the idea that married people have more responsibilities hence their increased need for coping strategies to financial and food security obligations in their households. The result confirms the finding of Ekwe et al., (2009) that most food crop farmers, cassava processors and marketers in the South-east were married.

Household Size

Table 1 reveals that most cassava processors (96.5%) had household size of above 8. The result implies that most entrepreneurs are likely to source some cheap labour within the households to assist in cassava processing activities. The result is in line with that of Ironkwe, *et al*, (2009) who reported that most farm enterprise families in Nigeria have large household size of between 6 to 10 persons.

Educational Attainment

Table 1 reveals that a large proportion of cassava processing entrepreneurs (61.6%) completed secondary school education. The result therefore implies that most cassava processing entrepreneurs in the area have formal knowledge of cassava processing and can use it to understand and evaluate information on new processing techniques to raise their enterprise. The result is in line with the finding of Uchechi and Ebelenna (2009) that most people in cassava enterprise in Abia state, Nigeria could read and write.

Years of Experience

Table 1 shows that year of experience of most processing entrepreneurs (84.9%) were within 25-50 years of experience. The result was expected as involvement and acquisition of skills and knowledge in the enterprise begins at early childhood stage in the area. This implies that cassava processing is not just an occupation but a way of life of the respondents. The finding is in line with that of Ironkwe *et al.*, (2009) that most people in South-eastern Nigeria are highly experienced in farm enterprise.

Income Per Annum

Table 2 shows that mean annual income for cassava processors was ₦275771.7. This implies that cassava processing entrepreneurs in the study area are generally low-income earners. This calls for a careful review on the potential of processed cassava products as a foreign exchange earner in Nigeria. The result supports the finding of Odoemenem and Otanwa, (2011) that respondents in cassava enterprise earn less than ₦300 per month in Benue State, Nigeria.

Source of Shop Acquisition

Table 2 reveals that most processors (69.8%) shop from their families. The result is expected as the age long traditional means of shop acquisition from families for most agro-enterprise is still in practice. The result is consistent with Agbo (2006) and Nandi, *et al.*, (2011) who listed family as a major source of land/shop acquisition for agribusiness in Nigeria.

Source of Finance

Table 2 reveals that majority (100.0%) got their finance from personal savings. This implies that entrepreneurs cannot venture into large scale cassava processing enterprise as a result of meager personal savings. The finding is consistent with Gwary *et al.*, (2008) who reported that personal savings was a major source of finance for most agro entrepreneurs in Askira/Uba Local Government of Borno State Nigeria.

Table 1: Distribution of Cassava Processing Entrepreneurs Based on Socio-Economic Characteristics

Variable Description	F	%
Age		
30-45	8	9.3
46-55	46	53.5
56-65	31	36.0
>65	1	1.2
		Mean = 3.33, SD = ±6.627
Sex		
Female	77	89.5
Male	9	10.5
Marital Status		
Married	84	97.7
Single	1	1.2
Widow	1	1.2
Household size		
<5	1	1.2
5-8	2	2.3
>8	83	96.5
		Mean = 6.99, SD = 1.427
Education		
Post secondary	22	25.6
Primary	11	12.8
Secondary	53	61.6
Experience		
<25 years	8	9.3
25-50	73	84.9
51-75	5	5.8
		Mean = 36.87, SD = 10.160
Income		
<100,000	7	8.0
100,001-200,000	6	6.9
200,001-300,000	15	57.5
300,001-400,000	20	29.9
>400,000	41	4.6
		Mean: 275771.7± 03.17
Source of shop		
Rented/lease	39	45.3
Family	60	69.8
Communal	26	30.2
Outright Purchase	48	55.8
Government	22	25.6
Source of fund		
Personal savings	86	100.0
Credits from banks	13	15.1
Inheritance	20	23.3
Gifts/donations	3	3.5

Source: Field Survey, 2013

Cassava Processors' Scale of Operation in Cassava Enterprise

The cassava processing entrepreneurs' perception of their scale operation as shown in Table 2 reveals that gari (98.8%), *fufu* (98.8), tapioca (95.3%) and chips (90.7%) were processed at small scale. The result is an indication of continuity in post-harvest losses and decline in the nation's food output which calls for rural infrastructural transformation. The result is in line with the findings of Sanni, *et al*, (2009) that production and processing of most traditional foods or intermediate products, such as *fufu*, gari, flour, tapioca, chips and starch are mainly carried out by micro and small-scale processors.

Table 2: Distribution of Cassava Processors Based on Scale of Operation

Variable Description	Small Scale		Medium		Large Scale	
	F	%	F	%	F	%
Processed of fresh roots into starch	0.0	0.0	0	0.0	0	0.0
Processed fresh tuber into gari	85	98.8	1	1.2	0	0.0
Processed fresh tuber into tapioca	82	95.3	1	1.2	0	0.0
Processed fresh tuber into <i>fufu</i>	85	98.8	1	1.2	0	0.0

Source: Field Survey, 2013

Benefits Derived from Cassava Processing Enterprise

Food Security

Table 3 shows that benefit of food security derived during rainy (79.0%) and dry seasons (77.9%) by most processors was high while it was moderate during famine (83.7%), crop failure (73.3%) and in all seasons (70.9%). The result is a confirmation of the common saying that "there is no hunger with cassava in the land". This implies that cassava processing enterprise is an all time important venture that can be relied upon for food sufficiency. The result agrees with the position of Kalu (2003) that "there is no famine where cassava enterprise is practiced" thus; cassava is simply a "food security" crop.

Collateral for Credit

Table 3 reveals that using processing enterprise as collateral by processors to obtain loans from banks (79.0%), government (78.0%) and Cassava Farmers' Association (75.6%) by processors was low while moderate from family members (75.6%). This means that cassava processing enterprise has no wide acceptability as collateral for credit in the study area. This result is in line with the findings of Okpukpara, (2010) that banks handling credit funds are found in the cities away from rural communities and demand collateral in form of land (preferably in the cities) or house to some immovable assets as prerequisites for giving loans and accessing such credit is always difficult.

Improved Socio-Economic Status

Table 3 shows that most processors derived high benefits of income (69.8%), recognition (65.1%) and material possessions (58.2%) while that of chieftaincy title (54.7%) was moderate. The result is consistent with the finding of Achinewhu and Owuamanam, (2001) that cassava enterprise offers flexibility to resource poor in rural communities serving either as subsistence and generating cash income for most producers, processors, marketers and other agro-industrial stakeholders.

Employment

Table 3 shows that employment benefit was high on full-time (50 %) and part-time (44.2) employment. The result implies that cassava enterprise is a two edged sword that brings fortune to its bearer from both sides. The result is in conformity with Odoemenem and Otanwa (2011) who reported that cassava enterprise provides most Nigerians with employment on either full-time or part-time basis.

Table 3: Distribution of Cassava Processing Entrepreneurs Based on Benefits Derived

Variable	High	Moderate	Low	Weighted scores
Food Security During:	%	%	%	
Dry Season	79.0	19.8	1.2	277.8
Rainy Season	77.9	18.6	2.4	272.6
All Season	16.3	70.9	8.1	198.8
Famine	3.5	83.7	8.2	186.1
Crop failure	1.2	73.3	12.8	163.0
Collateral for Credit from:				
Government	1.2	7.0	78.0	95.6
Association	2.4	5.8	76.7	95.5
Banks	0.0	5.8	79.0	90.6
Family	1.2	75.6	14.0	168.8
Improved SES:				
Income	65.1	10.5	1.2	213.5
Chieftaincy	3.5	54.7	36.1	158.0
Material Possession	58.2	19.8	3.5	217.7
Recognition	69.8	8.1	1.2	226.8
Employment:				202.3
Part-time	50.0	24.4	3.5	169.6
Full-time	44.2	15.6	5.8	232.6

Source: Field Survey, 2013

Socio-economic Status of Entrepreneurs in Cassava Processing Enterprise

Forty three (43) socio-economic indicators were valid across the study area of South- Eastern Nigeria. Based on the responses of the processors to possession and non possession of the 43 items, the socio-economic status scores were generated. This was done by assigning numbers to the items. The mean and standard deviation of the sum of scores of each item were obtained. Items with standard deviation of <0.8 were picked out to get the 43 valid items. The overall mean and standard deviation of the 43 items was used for categorization of the respondents into high, medium and low social economic status. Thus, respondents whose scores were below mean SES - 1SD were categorized as having low SES. Respondents whose scores were within the mean score \pm 1SD were categorized as having medium SES, while those respondents, whose scores were mean + 1SD were categorized as having high SES.

The socio-economic status scores range between one hundred and eighteen (110) and one hundred and sixty seven (170) as in Table 4. The result revealed that 91.9% of the processors belong to medium socio-economic status. The result is an indication that the contribution of cassava processing enterprise to the SES of entrepreneurs in the study area is moderate. The result is consistent with FAO (2003) that reported that the living standard of over 80% of agricultural population in Africa is on the average.

Table 4: Distribution of Processing Entrepreneurs on SES (n = 86)

Socio-Economic Class	Scores Range	F	%	Mean	S D
Low	110.0-150.88	7	8.1	159.69	8.80
Moderate	150.89-168.49	79	91.9		
High	168.50-170	0	0.00		

Source: Field survey, 2013

Constraints to Cassava Processing Entrepreneurs

The result on Table 5 shows that cassava processing is faced with serious constraints like: lack of finance (100.0%), non-availability of modern equipment (98.8%), collateral (97.7%), lack of labour (95.5%), cost of processing (93.0%), credit facility (92.6%) and lack of contact with extension agents (91.9%). Also revealed to be serious constraints include high interest rate on loan (88.4%), limited processing option (81.4%) and water (79.1%) From the weighted scores, finance was the most serious constraint facing cassava processing entrepreneurs. The result implies that most processors are not spared from the numerous constraints bedeviling other entrepreneurs in cassava enterprise. The result is in line with Oyegbami and Oboh (2010) that lack of water, unstable

price, lack of technical know-how, finance, and access roads are serious constraints facing processors of agricultural products.

Table 5: Distribution of Cassava Processing Entrepreneurs on Constraints to Cassava Processing

Variable Description	Serious		Mild		Not a constraint		Weighted score
	F	%	F	%	F	%	
Finance	86	100.0	0	0.00	0	0.00	200.0
Credit facilities	71	82.6	15	17.4	0	0.00	180.2
Lack of technical know-how	78	90.7	5	5.8	3	3.5	187.2
Shop	37	43.0	19	22.1	30	34.9	108.1
Collateral to secure loan	84	97.7	2	2.3	0	0.00	197.4
Limited processing option	70	81.4	10	11.6	6	7.0	174.4
Non-availability of modern Equipment	85	98.8	1	1.2	0	0.00	198.8
Non-availability of labour	82	95.5	3	3.5	1	4.2	194.5
Poor extension agents' contact	79	91.9	7	8.1	0	0.00	191.9
Water	68	79.1	2	2.3	16	18.6	160.5
Cost of processing	80	93.0	6	7.00	0	0.00	193.0

Source: Field survey, 2013

Test of Research Hypotheses

Relationship between Selected Socio-Economic Characteristics of Cassava Processing Entrepreneurs and Their Socio-Economic Status

Table 6 reveals that age ($\chi^2 = 17.657$, $p = 0.007$), marital status ($\chi^2 = 15.562$, $p = 0.004$), education ($\chi^2 = 43.137$, $p = 0.000$), and experience ($\chi^2 = 17.058$, $p = 0.013$) significantly and positively influence the SES of cassava processing entrepreneurs. The result of chi-square analysis which shows a significant relationship between the age of processors and their socio-economic was expected as it is one of the major challenges to cassava processing enterprise in the study area. The result implies that scale of cassava processing enterprise will continue to be low with increased rural-urban migration of youths in the study area. The result corroborates the finding of Okoruwa and Ogundele (2006) that processors age has significant relationship with their productivity and socio-economic status.

Marital status was also significant in determining the SES of processors. This is expected because marriage is a measure of a person's socio-economic position in the cultural value system of the study area. This implies additional hands which married processing entrepreneurs are likely to use in reducing labour cost and increasing benefits from the enterprise.

Education also has significant influence on cassava processors' SES. This was also expected and it is an indication that educated processing entrepreneurs are

likely to have easy access to innovations and improved tools that could enhance their productivity and SES. The result is in agreement with Nwaru (2007) who found out that education and training help to unlock the natural talents and inherent enterprising qualities of people, enhances their abilities to understand and evaluate productive techniques leading to increased productivity and income.

The result further indicates that experience had significant relationship with processors' SES. This was expected as educated entrepreneurs would easily adopt innovations that will boost their enterprise and SES. The finding implies that the more educated a processor is, the more efficient he could be in developing and modifying skills that are capable of bringing turn-around in his enterprise. The result is in conformity with Okoye *et al.*, (2008) who reported that the more experienced an entrepreneur is, the more efficient his decision making processes and willingness to take risks that can transcend into improved productivity and benefits.

Table 6: Chi-square Analysis between Selected Socio-Economic Characteristics and Socio-Economic Status of Entrepreneurs in Cassava Enterprise

Variables	Df	Processors	
		χ^2	p
Age	6	17.657	0.007**
Sex	2	1.434	0.488
Marital status	4	15.562	0.004**
Household size	4	8.632	0.071
Education	4	43.137	0.000**
Experience	4	17.058	0.013*

Regression Showing Determinants of Cassava Processing Entrepreneurs' Socio-Economic Status

From the regression analysis result in Table 8, source of shop ($\beta = 3.798$, $p = 0.021$), benefits derived ($\beta = 7.075$, $p = 0.038$), scale of operation ($\beta = 12.006$, $p = 0.016$) income ($\beta = 3.120$, $p = 0.037$) and experience ($\beta = 1.760$, $p = 0.040$) are the top predictors of processors' socio-economic status. This implies that SES of processors to a large extent is determined by source of shop, scale of operation, income, benefits derived and experience.

The significance of source of land/shop which was mainly from family is consistent with *a priori* expectation in that the more the processor own shops from families, the more their output, benefits and socio-economic status are likely to improve all things being equal. This implies that the more the processors acquire shop from families the better-off their socio-economic

status. The result is in line with the finding of FAO (2005) that the degree of control over land/shop for agricultural activities is a central factor affecting farmers' decisions on expansion, investment and benefits.

The result on benefits derived was expected also in view of the fact that entrepreneurs who make reasonable benefits are less likely to be poor than those whose activities and benefits are limited. This implies that as benefits from cassava processing enterprise increase so also is the socio-economic status likely to improve. The result is consistent with the finding of FAO (2005) that low level benefits from farm enterprise is a reason for the poor living standard of rural farm household in Nigeria.

The significant contribution of scale of operation (large scale, medium and small scale entrepreneurs) to the SES of cassava processors was expected because increase in profit margins is often dependent on appreciable scale of production all things being equal (Oniah *et al.*, 2008). This implies that the lesser the processors' scale of operation, the lesser their benefits and SES. The result is in line with the finding of Ogbonna and Asumuagha,(2009), Asumuagha and Nwosu (2006) that the rate of returns from cassava enterprise is due to the absence of large-scale commercial and the concentration of the enterprise in the hands of numerous small holder investors located mostly in the south and central regions of Nigeria.

The result on experience was also in line with *a priori* expectation as experience has been known to lead to perfection in activities. This implies that the more experienced a processor is, the more the likelihood of improved SES. The result is in line with a previous result obtained by Agwu (2009) which stated that years of experience led to an increase in the quantity of maize processed as well as improved processors techniques and living standard.

Table 8: Coefficient of Regression Showing the Determinants to Cassava Processing Entrepreneurs' Socio-Economic Status

Variables	Processors		
	β	t	Sig.
Constant	158.829	7.190	0.000
Age	0.617	0.300	0.765
Sex	0.780	0.246	0.806
Marital status	-4.696	-1.053	0.296
Household size	0.286	0.077	0.939
Education	-0.409	-0.225	0.823
Experience	5.365	2.095	0.040*
Income	3.120	4.345	0.037*
Scale of operation	12.006	2.864	0.016*
Benefits derived	7.075	5.867	0.038*
Constraints	-1.431	-1.208	0.234
Source of shop	3.798	2.364	0.021*
Source of labour	-4.198	-1.223	0.226
Source of capital	1.797	0.798	0.428

****Significant at 0.01 * Significant at 0.05**

Conclusion

The study investigated the determinants of socio-economic status of cassava processing entrepreneurs in south-eastern Nigeria. It therefore concludes that cassava processing entrepreneurs are not energetic enough to carry out processing activities based on their mean age of 53 years. This could be the reason for their low scale of operation as well as their moderate socio-economic status.

More importantly, source of shop, benefits derived, scale of operation, income and experience are the top predictors of cassava processing entrepreneurs' socio-economic status in south eastern Nigeria. These thus need to be explored in effort at improving the socio-economic status of the cassava processing entrepreneurs in the region.

Recommendations

Based on the conclusions, the following recommendations are made:

1. It is crucial to evolve a structure that would involve all the actors in the determination of priorities and intervention programmes for cassava processing enterprise. This should be done within a formidable framework that will ensure availability, suitability, accessibility and sustainability of the interventions as well as encourage entrepreneurs to improve upon their scale of operation for enhanced benefits and socio-economic status.

2. Effort should be made by Government and Non-governmental organizations to motivate young entrepreneurs who are more agile to be involved in cassava processing enterprise. This could be through waiver on collateral for credit, reduction in price and easy access to fertilizer, provision of rural infrastructure/amenities and modern processing equipment.
3. Rural infrastructure should be improved to enable entrepreneurs venture into more advanced approach in processing. These include stable electricity, adequate water, and means of transport and rural micro-finance banking.

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