

SOCIO-ECONOMIC CHARACTERISTICS OF CASSAVA VALUE CHAIN ACTORS IN ILESA WEST LOCAL GOVERNMENT AREA OF OSUN STATE

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ABSTRACT

The study examined the socio-economic characteristics of cassava value chain actors in Ilesa West Local Government Area of Osun State. Simple random sampling technique was used to collect data from 200 respondents in four selected wards using a structured questionnaire. The data collected were mainly on socio-economic characteristics of cassava value chain actors and value added to cassava by cassava processors: Data collected were analyzed using descriptive statistics. Results show that majority of the respondents were married and their average age was found to be 49 years. Most of the respondents (76%, 70%, and 54%) of input dealers, producers and marketers respectively were males, while 80% of processors were females. Majority of the input dealers (70%) and processors (62%) have family sizes ranging from 1 to 5 while the producers (62%) and 48% of the marketers have family sizes ranging from 6 to 10. Farmers with primary and secondary school education dominated cassava value chain actor's activities in the study area. Also, the result shows that 64% of cassava processors transformed cassava into cassava flour (gari, fufu, lafun) while remaining 36% transformed cassava into, starch, animal feed, cassava bread and cassava chips. It was recommended that, cassava production could be improved and sustained through provision of soft loans

Keywords: Cassava Actors, Cassava Flakes, Constraint, Osun State, Transformation, Value Chain.

Introduction

Cassava (*Manihot esculenta*) is an important staple crop in the tropical world, ranking third in importance after rice and maize (FAO, 2013). Cassava originated from tropical Brazil, where it was spread to other parts of Latin America in post Columbia times before it was introduced into East Africa via reunion by the end of 1800s. It is widely grown in Africa especially Nigeria since the 1850s (Smith *et al*,

1986; Ene, 1992). Cassava is successfully grown today and is adapted to the zone ranging from latitude 30⁰N to latitude 30⁰S of the equator and at elevation of up to 200m above sea level. It is tolerant to soil with a pH range of 5 - 9 (Rogers and Appon, 1972; Hahn and Alvarez, 1993), rainfall of 500 - 2,540mm annually and temperatures of 18-35⁰C (Jones, 1959). Cassava is a major subsistence staple

food crop, with annual world production estimated at over 249 million tons in 2010 (FAO, 2010). In 2010, the average yield of cassava crop worldwide was 12.5 tons per hectare. The most productive cassava farms in the world were found in India, with a nationwide average yield of 34.8 tons per hectare in 2010. This made Cassava to rank third in importance after Rice and Maize (FAO, 2010). Africa produces over half of the world's supply. In 2010, the FAO estimated that 52% of the world output of cassava came from Africa and Nigeria accounted for 20.55% (International Institute of Tropical Agriculture {IITA, 2011}). According to Thai Tapioca Trade Association (TTTA, 2010), almost 60% of world production is concentrated in five countries, Nigeria (20.55%), Thailand (12.23%), Brazil (11.03%), Indonesia (8.23%) and the Democratic Republic of Congo (6.41%). Cassava supplies 38.6 percent of the caloric requirement in Africa. In 2009, it was estimated that about 700million people relied upon cassava for most of their caloric requirement (FAO, 2009).

Total world cassava utilization is projected to reach 275 and 291 million tons by 2020 (Westby, 2008a) with some researchers estimating the number closer to 291 million tons (Scott *et al*, 2000). In sub-Saharan Africa, cassava is cultivated on small farms often in fields to be set aside as fallow and often cropped on marginal soil, replacing crops that require greater soil fertility and cultivation. Cassava provides a reliable and inexpensive source of carbohydrates for people in sub-Saharan Africa, where consumption is the highest per capita in the world (Westby, 2008b). The main area of cassava utilization is as a traditional staple food, and processing is done at home. It is estimated that 88% of cassava produced in African countries is consumed as staple food (Kaine, 2011). Cassava also is associated with mixed cropping systems, Cassava roots can remain in the ground for 18 months or more without spoiling.

Over the past years, cassava production in sub-Saharan Africa has risen substantially, but most of the gains in overall production are attributed to an increase in the area of land cultivated rather than an increase in yield. Global value chain Initiative (GVCI, 2008) pointed out an arrangement that describes the linkages of participants and their value creating activities that enhance the movement of goods and services from production, processing to the end user (consumer). The number and conduct of the participants along the chain determine its efficiency, pricing and returns accruing to each at every state (GVCI, 2008). Daniel *et al*. (2006) pointed out that value chain is an analysis that allows an understanding of a sequence of activities, which are needed to bring a product from its production to the final consumer.

The 'value chain view' implies a system of interaction and relationship between different actors and organizations. The system usually includes more than a handful producers and market stalls. In value chain, business development services are as much part of the chain as the enabling environment and as producers, processors, collectors and consumers (Daniel *et al*. 2006). Therefore, understanding the mechanism within the value chain system, allows for distinguishing bottlenecks, failure and improvement possibilities within the system. Daniel (2007) defined value chain as an analytical as well as an operational model. The model takes up the facts that a product is rarely directly consumed at the place of its production. It is transformed, combined with other products, transported, packaged and displayed and so on until it reaches the final consumer. This implies that various actors who are linked by trade own the raw materials, intermediate products and final products and services, and each adds value to the product. The paper intends to describe the socio-economic characteristics and the constraints encountered by cassava value chain actors in

the study area. Hence, the research specific objectives are to:

- (i) describe the socio-economic characteristic of the cassava value chain actors in the study area.
- (ii) describe how value is added to cassava by cassava processors in the study area.

Material and Methodes

Study Area

The study was conducted in Ilesa West Local Government Area of Osun State, Nigeria. The area lies between latitudes 7° 37'N to 7° 39'N and longitudes 4° 43'E to 4° 47'E with a total land area of 63km². The headquarters is located at Ereja square (now at Omi-Aladiye, Osogbo Road), and it is purely an urban area. The square is the headquarters of Ilesa division. The projected population of the study area for the year 2018 is 145,747 (National Population Commission {NPC, 2006}). The annual mean temperature is about 29.44°C and annual mean rainfall measures about 1,524mm. Majority of the inhabitants in the area are farmers; this is due to the rich soils which support production of crops such as cassava, maize, soybeans, potatoes, cotton, among others. A handful of them are engaged in cash and food crop production, while some are also involved in livestock farming (Poultry, Cattle, Sheep and Goat, etc).

Methods

The data for the study was generated using a structured questionnaire. Cassava value chain actors in the study area constitute the sampling frame for this study. A cross sectional data of two hundreds respondents were sample randomly. Four wards were randomly selected out of ten wards in Ilesa West Local Government Area (LGA) of Osun State. The wards are Itakogun, Idasa, Isokun, and Ereja. Fifty each of cassava value chain actors were selected using simple random sampling techniques from cassava input dealers, cassava producers, cassava processors and cassava marketers respectively from the four wards. A structure questionnaire was used for the data collection, the administered questionnaire contained information on the socio-economic characteristics of the cassava value chain actors and constraints faced by them in the course of their activities. Descriptive was used for the analysis.

Results and Discussion

Socio-economic Characteristics of Respondents

The responses of the cassava value chain actors in the study area are presented using descriptive statistics. The social characteristics include age, sex, marital status, family size (Table 1), while the economic characteristics include level of education, year of experience, sources of capital and the main occupations (Table 2).

Table 1: Social Characteristics of Respondents

Variable	Input Dealers		Producers		Processors		Marketers	
Age range (years)	Freq	%	Freq	%	Freq	%	Freq	%
≤ 30	4	8	2	4	7	14	3	6
31 – 40	13	26	10	20	5	10	11	22
41 – 50	20	40	20	40	28	56	14	28
51 – 60	11	22	11	22	8	16	19	38
> 60	2	4	7	14	2	4	3	6
Mean	47.96							
Gender								
Male	38	76	35	70	10	20	27	54
Female	12	24	15	30	40	80	23	46

Marital status

Single	1	2	1	2	6	12	13	26
Married	39	78	30	60	20	40	30	60
Divorced	10	20	15	30	14	28	7	14
Widowed	0	0	4	8	10	20	0	0

Family size

1 - 5	35	70	19	38	31	62	25	50
6 - 10	15	30	31	62	19	38	24	48
11 - 15	0	0	0	0	0	0	1	2

Source: Field survey, 2014.

Age of Respondents

Age of a respondent determines the effort and quality of labour he/she deploys (Alkali, 2003). The age distribution of the cassava value chain actors is presented in Table 1. The result shows that most of the cassava value chain actors representing 66% of input dealers, 60% of the producers, 56% of the processors and 50% of the marketers are between 31 and 50 years old. This indicates that most of the cassava actors are in their active age years. This implies that most of the actors involved are likely to be physically fit to perform along the cassava value chain. However, there is more concentration of the processors (56%) within the 41- 50 years than the other three groups. This implies that people in this age category are more mature and experienced in dealing with processing task. This is consistent with the finding of Fakoya *et al.* (2010) who observed that respondents in such age brackets are more innovative, motivated and adaptable individuals who cope with processing challenges. The mean age of cassava actors was 47.96 years. Rathman *et al.* (2002) shows that 47.96 years is within the economically active age and as such will respond positively to any intervention aimed at improving their productive capacity.

Genders of Respondents

Cassava value chain reflects different gender roles for men and women in production, processing and other activities. Gender is state of being a male or a female, which in turn, leads to defining the necessary function of

each individual in the society (Baker and Silverton, 1985). The result (Table 1) of gender distribution of the respondents in the study area shows that with the exception of processing, males are more involved in other activities like input dealership, cassava production and cassava marketing while females dominate the processing activities. Involvement of females in processing activities may be as a result of the more carefulness of females over males, as a great deal of carefulness is required in cassava processing activities. The distribution shows that 76% of the input dealers and 70% of the producers are males while 80% of the processors are females. These are in agreement with the findings of Ofuoku (2009) and FAO (2007) that male respondents were fully in cassava actors' activities, where the female engaged mostly in processing and marketing. Oyewo *et al* (2016) also stated that farming activities are dominated by males. It was further discovered women are mostly involved in processing of cassava into various products like flakes (gari), flour and starch. Some of the women also involve in the marketing of these products within and outside the community. This fact is supported by the works of Lewis (1984) and Ajayi (1995).

Marital Statuses of the Respondents

The marital status determines the family size of the cassava actors and consequently determines the number of people expected to work on the farm. The marital status of cassava value chain actors is presented in

Table 1. The result reveals that majority of the cassava value chain actors representing 78% of the input dealers and 60% each of the producers and marketers are married, while 30% of the producers are divorced. This distribution may have affected the availability of family labour since married people are expected to have children that have energy to work for them in their respective activities. This result agrees with the work of Ofuoku(2009) and Fakoya *et al.* (2010) who noted that married people have the responsibility of catering for the needs of their families and therefore engage in various economic activities that would serve as sources of income.

Household Size of the Respondents

The household size of a cassava actor determines the contribution of the family members along the cassava value chain. This determines the number of family members in a household that could contribute to family labour. Table 1 reveals that most of the input dealers (70%) and processors (62%) have family sizes ranging from 1 to 5. This implies that input dealers and processors in the study area have small household size. Arthur (2006) also observed that small family size enjoy better economic and social lives which have great influence on better understanding of environmental conditions but reduced labour availability. Furthermore, majority of the producers (62%) and 48% of the marketers have family sizes ranging from 6 to 10. This also implies that producers and marketers in the study area have large household size. Large household size ensures availability of It also supports the results of Ninson (2012), Chukwu (2013a) and Chukwu (2013b) that farmers with higher educational attainment are usually faster in adoption of improved

labour (Ninson, 2012 and Nurudeen, 2012). This finding supports the result of Onubuogu and Onyeneke (2012); Onubuogu *et al.* (2013) and Esiobu *et al.* (2014) who reported that large household size compliment labour to enhance production and reduce the cost of hired labour.

Educational and Vocational Characteristics

Education plays a vital role in adoption of innovative practices among the traders, producers, processor and marketers. Education is seen as a means of acquiring knowledge on new technology being practiced to add value and increase efficiency. With high level of education, adoption of new technology becomes easy. Adebayo *et al.* (2008) found that level of education is a significant factor that determines the adoption of cassava grater (a technology) by cassava processors in the South west, Nigeria. Amao *et al.* (2011) stated that higher level of education determines the quality of skills of farmers; their abilities; efficiency and how well informed they are about the innovations and technologies around them. Table 2 reveals that 42% each of producers and processors have attained and obtained primary school certificate respectively, while 38% each of the input dealers and marketers attended secondary school education. It was observed that farmers with primary and secondary school education dominated the cassava value chain. Williams (1997), Adesoji and Farinde (2006) noted that secondary education can equip farmers with some managerial skills in agri-business and help in understanding innovations. farming technologies and marketing techniques than farmers with little or no education.

Table 2: Educational Characteristics of the Respondents

Variable	Input Dealers		Producers		Processors		Marketers	
	Freq	%	Freq	%	Freq	%	Freq	%
Education status								

No Formal	3	6	11	22	14	28	10	20
Primary	17	34	21	42	21	42	20	40
Secondary	19	38	15	30	12	24	19	38
Tertiary	3	6	1	2	1	2	1	2
Islamic	7	14	1	2	2	4	0	0
Adult Education	1	2	1	2	0	0	0	0
Occupation								
Primary	40	80	29	58	43	86	41	82
Secondary	10	20	21	42	7	14	9	18
Year of experience								
1 -10	20	40	9	18	12	24	12	24
11 - 20	23	46	31	62	20	40	24	48
21 - 30	7	14	7	14	17	34	11	22
> 30	0	0	3	6	1	2	3	6
Source of capital								
Personal saving	9	18	26	52	30	60	20	40
Friend & relative	16	32	21	42	15	30	28	56
Money lender	20	40	3	6	4	8	1	2
Bank	5	10	0	0	1	2	1	2

Source: Field survey, 2014.

Occupation of the Respondents

Occupation involves activity that is carried out by an individual to derive a certain benefit or to enable the individual sustain a living. The distribution of the cassava value chain based on occupation is shown in Table 1. Most of the respondents 80%, 58%, 86% and 82% of input dealers, producers, processors and marketers respectively consider their engagements in cassava activities along the value chain as their primary occupations, and they are also involved in secondary occupations in case of failure in cassava value chain activities. This implies that farming is the most common activities in the area. This supports the finding of Yuguda *et al.* (2013) reported that 60% of the respondents were in full time farming business.

Years of Experience of the Respondents

Years of experience refers to the number of years over which the cassava value chain actors have been engaged in cassava processing activities. The more experienced one is the higher the profit margin. Also, the more the period an actor spends in the practice, the more he improves in managerial capability and overall efficiency. Experience in

business enhances output performance (Onubuogu and Onyeneke, 2012; Onubuogu *et al.* 2013). The results of the cassava value chain actors based on the years of experience are represented in the Table 1. The result indicates that most of the cassava value chain actors (60%, 72%, 70% and 76%) of input dealers, producers, processors and marketers respectively have not less than 10 years of experience. It is expected that the actors are aware of new production technology and method of production and would likely achieve higher level of productivity. This supports the finding of Maurice (2004) who reported a positive and significant relationship between farming experience and technical efficiency in cassava production. Danso-Abbeam *et al.*, (2012) also concluded that farming experience does not only increase efficiency but also increases the quantity of output realized from the farm. Nurudeen (2012) stated that farmers with more experience would be more efficient, have better knowledge of climatic conditions and market situation and are thus, expected to run more efficient and profitable enterprises.

Sources of Business Capitals for the Respondents

Capital as used here refers to money for financing cassava input in the study area. Capital is one of the factors of production without which the production will not be possible. The importance of capital in production is much particularly as related to small holder farmers, as most farmers have little or no money to carry out important farm operations or purchase modern input in production. Capital also is important because it helps the farmers to expand their activities. Sources of capital for cassava value chain actors are presented in Table 2. The result shows that 60% of the processors and 52% of

the producers rely on their personal savings to finance their activities; 56% of the marketers and 42% of the producers source their capitals from friends and relatives, while 10% of the input dealer sources their capitals from banks. This result indicates that farmers do not have much access to capitals from banks in the study area. This is because either the actors do not know the procedure to get loans from banks or they are small holders who lack collateral which could be used to obtain bank loans. Similarly, Alimi (1999) observed that food crop farmers' major sources of capital (working capital) were personal saving which were inadequate.

Result of Value Added to Cassava by Cassava Processors

The transformation of cassava in terms of value addition to cassava by cassava processors is displayed in the Figure 1.

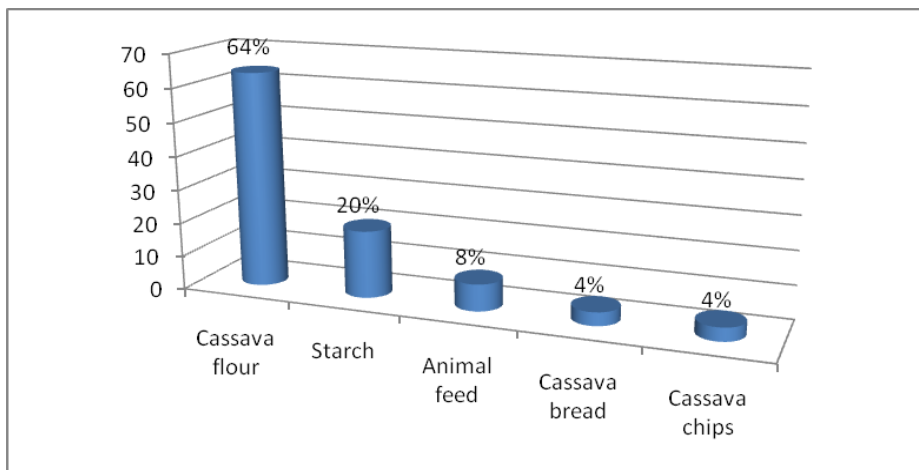


Figure 1: Distribution of cassava processors based on involvement in value addition to cassava

Value addition at the processor's level involves converting raw cassava to end products. Figure 1 shows the distribution of cassava processors based on their impact in adding value to cassava by transforming cassava into different products such as: cassava flour (gari, fufu, lafun), starch, animal feed, cassava bread and cassava chips. The result shows that most

of the respondents are involved in at least one form of value addition to cassava. Majority (64%) of the cassava processors is involved in transforming cassava into cassava flour such as. Awoyemi and Kehinde (2006) reported that the main product obtained from processing cassava was flakes (gari), which is the most common food in West Africa. A similar result

was obtained by Okorie, (2006) where transformation of cassava into flakes (gari) was the highest value added to cassava in terms of returns. Common cassava products in Nigeria includes flake (gari), akpu, tapioca, starch, chips and flour, flake (gari) is the most common cassava product accounting for over 70% (Foundation for Partnership Initiatives in the Niger Delta {FPIND, 2011}). In this study, 20% transformed cassava into starch while only 8% are involved in transforming cassava into animal feeds. Abolagi *et al.* (2007) argued

Conclusion and recommendation

Based on the findings of this study, it can be concluded that farmers engaged in cassava value chain activities in the study area are in their active age; males are more involved in activities like cassava input dealers, cassava production and cassava marketing, while their

that the value chain in Nigeria is imperative to the sustainability of the cassava sector, as it will help strengthen links between supply and demand in the most effective way. Furthermore, Kaine (2011) concluded that processing increases cassava shelf-life in storage, and that value addition leads to an increase in marketing margins of the processors. Philip *et al.* (2010) reported cassava can be processed into many edible products through value addition such as cassava flour, fufu, gari, starch, tapioca.

female counterparts are more engaged in processing activities. Also, Cassava actors in the study area prefer personal savings than loans to finance their activities. It is therefore recommended that policy makers should ensure easy access to credit lending in order to encourage the actors to get credit from financial institutes.

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