International Journal of Innovative Agriculture & Biology Research 7(3):1-10, July-Sept., 2019

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Profitability Analysis of Cassava Products Marketing In Ogun State, Nigeria

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ABSTRACT
This study assessed the analysis of marketing of cassava products. It was carried out in Yewa Division of Ogun state, Nigeria. Data were obtained through well-structured questionnaire administered on one hundred and twenty sampled respondents. Multi-stage sampling technique was used in selecting the respondents. The methods of analysis used were descriptive and quantitative analysis including frequency table, analysis of cost and return, examine marketing efficiency of the cassava's products and the marketing channel of the products. The result of the analysis shown that majority 35 percent of cassava products marketers were between the age bracket 31-40 years and majority which make up 71.7 percent were female, were at their active age and female were more involved in marketing of cassava products than male. About 46.7 percent of the respondents have no formal education, this shows that inappropriate level of illiteracy exist among the cassava product marketers. The result also showed that 68.3 of the respondents have other occupations, which implies that they were participating in the marketing to get more income for their livelihood. And majority 50.8 percent have 6-10 years of marketing experience while is not important to be a member of an association before starting marketing of cassava products. The finding revealed that majority 70.8 percent of the marketers have marketing efficiency which range between 0.90-1.00, this indicates an efficient marketing; also majority of small scale (Retailers) which made up of 46.9 percent have their marketing efficiency between 0.90 – 1.00, this also indicates an efficient marketing. However, the marketing efficiency for both producers and wholesalers were found between the range of 0.90- 1.00, which also indicate an efficient marketing. The result of Budgetary Analysis revealed that the mean Total Revenue (TR) is ₦12,516 while the means Total Cost (TC) is ₦9,028.95. The mean Net Income (NI) and Gross Margin (GM) of market of cassava products was deduced used to be ₦3,487.05 and ₦4935.17 respectively. The result also shows that profitability index (PI) and Operation Ratio (OR) 0.28 and 0.60 respectively. The findings showed that the respondents seriously faced the problem of high cost of transportation, inadequate fund in marketing cassava products, poor and instable price of the product, high purchasing price and lack of capital. However, it is recommended that there should be an effective road network that will allow the ease of transportation of cassava products.
Keyword: Market, Cassava, Efficiency, Products, Data

INTRODUCTION

Cassava (*Manihot esculenta)* is an important staple crop for 550 million people in developing countries (Nweke, 2004) and it is the sixth major staple in the world after rice, wheat, maize, potato and sweet potato (Nassar and Ortiz, 2007). Cassava is a staple food crop in many nations of the tropics. It is the

most widely cultivated crop in the southern part of Nigeria in terms of hectare and number of farmers growing it. Indeed, it is grown by almost every household in Nigeria (Nweke *et. al.,* 2000).

In Africa, cassava is gradually changing its status from a famine-reserve, rural food staple and non-tradable crop to a cash crop destined for urban consumption, livestock feed, export and industrial raw materials (Nweke, 2004). The world leading producers are Nigeria, Ghana, Brazil, Democratic Republic of Congo, Indonesia, Tanzania and Thailand with African countries producing more than 50% of the total world production (Nassar and Ortiz, 2007). Nigeria ranked first in the world in cassava production in 2009 where 3.1 million tonnes were planted producing 37 million tonnes with an average yield level of 11.8 t/ha.

Cassava is an essential part of the diet of more than seventy (70) million Nigerians. Cassava appears to be a 'food choice' even in the face of alternative food options in urban areas. Close to 40 percent of Nigerians consume cassava more than 4 times in a week (FAO 1997). Cassava's starchy roots produce more food energy per unit of land than any other staple crop.

Cassava is the third important staple after rice and corn. In general, Indonesian people preferred rice over other staples, and increasing average income led to decreasing cassava consumption. Adeyemo and Akinola (2010) stated that cassava is regarded as an inferior food. As staple, cassava is consumed as a substitute for rice, such as when rice price is high during pre-harvest period (Adekanye and Olumide, 1988). Nevertheless, because poor people consume more non-rice carbohydrate food staples compared to non-poor, and rural people consume more carbohydrate staples than urban people, cassava plays a substantial role in increasing food availability in rural areas in many districts. At the same time, considering the likely reduced rice supplies in the long run due to leveling off of rice production and productivity in the face of high population number of 260 million people, the government of Indonesia has taken measures to reduce dependence on rice through a food diversification program focusing on non-rice staples, especially cassava. Despite the low performance of food diversification program Nelson and Panggabean (1991), the implementation of the program itself has basically acknowledged the significant role of cassava in promoting food security in the country, particularly in areas where it has been planted and consumed for a long time.

Cassava has many uses, which has made the crop a potentially high major foreign exchange earner in Nigeria. Of recent, following the interest of foreign nations in buying cassava products from Nigeria, the prospect for enhanced foreign exchange earnings from cassava export is becoming increasingly high. To realize this goal of earning reasonable amount of foreign exchange through the export of cassava, the difference between the total output of cassava tubers and its domestic demand for food has to be significantly high. This could be achieved through the intensification of cassava production and efficient marketing mechanism which would take care of differences in production between lean and peak seasons of harvest (Westby, 2008). Activities of research stations and most government policies in Nigeria are directed towards increasing the production of cassava. Not much has been done to improve the marketing system. Increased food production will only be meaningful if the marketing system is efficient to ensure that food produced in the farm gets to the final consumer in the proper form, at the right place and in good time. More importantly, the marketer should be able to sell at such a reasonable price that would encourage him/her to remain in business either locally or internationally (Okafor *et. al.*, 2002).

Despite the fact that cassava production in Nigeria is increasing at 3per cent every year, the country continues to import starch, flour, sweeteners that can be made from cassava. The demand for industrial cassava based products such as glucose and dextrose and starch is rising. For instance, about 121,000 metric tonnes of glucose and dextrose was imported in 2008, which was about three times more than imports in 2002 (Ayodele *et al.*, 2011). Besides, the need to meet the food demands of the ever increasing Nigerian population, industrial requirements such as the production of laundry starch and livestock feeds have made the establishment of large-scale cassava farm business desirable for farmers and industrialists. Cassava farmers are currently faced with problems bordering on poor pricing of the product locally. In the past, farmers have had to abandon their cassava farms due to what experts termed "cyclic effect", mainly resulting from the perennial problem of seasonal variations in product prices which ultimately results in poor returns for farmers and marketers (Ayoade & Adeola, 2009, Reuter 2007). There is therefore the

need to study the current effort at cassava marketing in the study area in order to evolve strategies that could circumvent future reoccurrence of this age-long problem.

Cassava is produced mostly by smallholder farmers on marginal or sub-marginal lands of the humid and sub-humid tropics (Awoyemi & Kehinde 2006). Such small-holder systems as well as other aspects of its production often create problems, including: the unreliability of supply, uneven quality of products, low producer prices, and an often costly marketing structure. Thus, the challenge is to create a strategy that affects production, processing, and marketing in such a way that they provide an array of high quality products at reasonable prices for the consumers, while still ensuring a good profit margin for the producers without requiring them to assume the largest part of the development risk (Adegeye & Ditto, 1985). The profitability and marketability level of the cassava products is yet to be ascertained in some localities including Yewa Division of Ogun State. But the knowledge of this is required so as direct the focus on effort at fighting under-development among cassava farmers and marketers. This study will therefore examine the problems associate with marketing efficiency and look for ways to improve the marketing efficiency during depressed economy.

Objectives of the study

The broad objective of this study is to analyze profitability analysis of cassava product marketing in Yewa Division of Ogun State, Nigeria. The specific objectives of the study are to: estimate the marketing efficiency of cassava product marketers in the study area; describe marketing channel of cassava product; estimates the costs and returns to cassava production and identify the problems encountered by the cassava product marketers in the study area.

RESEARCH METHODOLOGY

The Study Area

The study area for this study was Yewa Division of Ogun State, Nigeria. The Yewa Division is made up of five Local Government Areas out of the twenty Local Government Areas in Ogun State and the population is 31.4percent of the 5.2million in the State (NPC, 2006). Given the estimated growth rate to be 2.8 percent per annum; the population is expected to be about 8 million. The five Local Government Areas in the division are: Ado-Odo/Ota, Imeko-Afon, Ipokia, Yewa North and Yewa South. Yewa Division has a short rainfall regime, thus its classification as a semi-savannah area. Ogun State is in the south western part of Nigeria which was created in February, 1976 with Abeokuta as the capital. The State lies within latitude $6^0 55^1$-7^0N and longitude $3^0 46^1$-$4^0 05^1$E. The State belongs to the rain forest zone with two distinct climatic seasons; the rainy season between March and November followed by dry season. It is dominated by Egba's, Egbado's (Yewa's), Ijebu's, Remo's, Awori's and Egun's, all belonging to the Yoruba ethnic group.

Sources and methods of collection

Both Primary and secondary data were used in this study. The instrument for the primary data collection was structured questionnaire and personal interview of small scale cassava products marketers in the study area. Secondary data were used to complement the primary data; this was gathered from relevant texts, journals, internet and statistical bulletins.

Sampling techniques

A three (3) stage sampling technique was used for this research at the first stage two Local Government Areas were selected out of five (5) Local Government Areas in the Division. At the second stage, five (5) communities were randomly selected from each of the Local Government, then at the third stage twelve (12) respondents were selected to give a total number of one hundred and twenty (120) respondents.

Methods of Data Analysis

Both descriptive and inferential statistics were used for the study. The descriptive statistics such as frequency table and percentages were used to describe the socio-economic characteristics of cassava product marketers in the study area such as age, sex, marital status, educational level, among others; and to describe the marketing channel of cassava products; and identify problems encountered by the marketers in the course of performing marketing functions. While inferential statistics was used to examine cost and return structure and marketing efficiency of cassava products marketers.

Marketing Efficiency

The marketing efficiency was achieved using the formular below. The model indicated that marketing efficiency is calculated by adding all the value added to marketing activities multiply by a full percentage.

$$\text{Marketing Efficiency} = \frac{\text{Value of Market Input}}{\text{Value of Market Output}} \times 100\%$$

Cost and Return Structures

To determine the cost and return of cassava marketers, Gross Margin Analysis method was used to determine the overall gross margin per hectare and the net farm income per hectare.

Where:

GM =TR –TVC
NI= GM-TFC
PI=NI/TR
OR=Operating Ratio
NR=Total Revenue
TVC =Total Variable Cost
TFC =Total Fixed Cost
NI= Net Income
PI= Profitability Index

RESULTS AND DISCUSSION

Table 1: Socio Economic Characteristics of the respondents

Variables	Frequency	Percentage
Age (years)		
Below 30	28	23.3
31-40	42	35
41-50	28	23.3
51-60	13	10.9
Above 60 years	9	7.5
Sex		
Male	34	28.3
Female	86	71.7
Educational Level		
No Formal Education	56	46.7
Primary Education	42	35
Secondary Education	19	15.8
Tertiary Education	3	2.5
Marital Status		
Single	7	5.8
Married	101	84.2
Divorced	4	3.3
Widow	8	6.7
Occupation		
Farming	39	32.5
Trading	38	31.7
Artisan	30	25
Civil servants	13	10.8
Household Size (persons)		
1-3	16	13.3
4-6	43	35.9
7-10	52	43.3
Above 10	9	7.5
Marketing Experience (years)		
1-5		
6-10	33	27.5
11-15	61	50.8
16-20	14	11.7
Above 21	5	5.2
	7	5.8
Membership of Cooperative Society		
Yes	32	26.7
No	88	73.3
Marketing Profit		
Below ₦1,000	16	13.3
₦1,001- ₦5,000	60	50
₦5,001- ₦10,000	36	30
Above ₦10,000	8	6.7
Total	**120**	**100**

Source: Field Survey, 2017

Data in Table 1 revealed that majority of the cassava product marketers (58.3) percent are within the age of 31-50 while just 7.5 percent are in the age bracket 60 years and above. This implies that majority of marketers of cassava products in the study are within their prime age and are still agile to market the cassava products and earn more income for themselves in order to improve their socio-economic status. Majority (86 percent) of the respondents are female while others are male, which means marketing of cassava products are mostly dominated by females, which are expected, as females are naturally endowed in this area.

Findings revealed that majority 46.7 percent have no formal education while very few 2.5 percent attended tertiary institutions with 35.0 and 15.8 percent have primary and secondary education respectively. This implies that education is essential for profitable cassava product marketing. Also 84.2 percent of the respondents are married. This implies that marketers will be willing to increase their income in order to cater for their family, improve their economic status and standard of living

The occupation distribution of the respondents showed that only 32.5% of the respondents involved solely in cassava product marketing while others (67.5%) engaged in other occupation like trading, civil service, artisanship, farming and they participate in these businesses so as to augment their source of income.

The total household of the respondents comprises of their wives or husbands, children and their dependents. The result revealed that 79.2% of respondents have 4 – 10 persons as their households members. This implies that as the households increase, there will be increase in marketing of cassava products in order to meet the demand of home.

The findings also revealed that 62.5 percent of the respondents have cassava product marketing experience between 6 – 10 years. It is indicated that the marketers are well experienced in the business and the knowledge gained would help to improve the business. Some of them earned ₦10,000 per month and joined cooperative society in order to source for fund for the business expansion, growth and to increase their profit.

Marketing Efficiency of cassava products

As shown in Table 2, the finding revealed that majority 70.8 percent of the marketers have marketing efficiency which range between 0.90-1.00; this indicates an efficient marketing; also majority of small scale (Retailers) which made up of 46.9 percent have their marketing efficiency between 0.90 – 1.00, this also indicates an efficient marketing. However, the marketing efficiency for both producers and wholesalers were found between the range of 0.90-1.00, which also indicate an efficient marketing of cassava products in the study area.

Table 2: Marketing efficiency of cassava products and categories of marketers

Range of ME	All Marketers Freq	Retailers Freq	Wholesalers Freq	Producers Freq
Less than 0.50	9 (7.5)	9 (13.6)	-	-
0.51- 0.60	3 (2.5)	3 (4.5)	-	-
0.61- 0.70	6 (5.0)	6 (9.1)	-	-
0.71- 0.80	9 (7.5)	9 (13.6)	-	-
0.81- 0.90	8 (6.7)	8 (12.1)	-	-
0.91- 1.00	85 (70.8)	31 (46.9)	30 (100)	24 (100)
Total	**120 (100)**	**66 (100)**	**30 (100)**	**24 (100)**

Source: Field Survey 2017. Note: Figures in Parentheses are in percentage

Marketing Channels of Cassava Products

The sequence of intermediaries or middlemen activities in a market through which goods pass or route from producers to the final consumers is known as marketing channel. From the result of the study figure1, it was revealed that most of the marketers of cassava products were producers at the same time, which make the movement of products to by-pass the wholesalers and retailers before getting to final consumers in most cases, these categories of marketers operate on small scale basis but those who operate on medium and large scale sell to the wholesalers or retailers.

Producer → Consumers

Producer → Retailers → Consumers

Producer → Wholesalers → Consumers

Producer → Wholesalers → Retailers → Consumers

Figure 1: Marketing channel of cassava products in the study area.

Source: Field Survey 2017

Cost and Return for Cassava Products

The result of the analysis from Table 3 revealed that the mean Total Revenue (TR) is ₦12516 while the means Total Cost (TC) is ₦9,028.95. The means Total Variable Cost (TVC) constituted the greatest share of the Total Cost 84.0 percent with a value of ₦7,580.83, of this ₦5,320.41 was cost of the products from the markets representing 58.9 percent. Cost of transportation is ₦ 613.20(6.8 percent), cost of labour is ₦114.02 (12.6 percent) and cost of nylon ₦504.20 (5.6 percent). The Total Fixed Cost (TFC) constituted only 16 percent of the total cost with the value of ₦1448.12. The mean Net Income (NI) and Gross Margin (GM) of market of cassava products was deduced used to be ₦3487.05 and ₦4935.17 respectively. The result also shows that Profitability Index (PI) and Operation Ratio (OR) 0.28 and 0.60

respectively which indicated that increase in marketing function and performance will bring maximum output and profit for the marketers.

Table 3: Cost and Return Analysis of Cassava Products Marketers

DESCRIPTION	MEAN VALUE ₦	% OF TR
Total revenue from cassava products	12516	100
Variable costs		% OF TC
Cost of cassava products	5320.41	59
Cost of transportation	613.20	6.8
Cost of nylon	504.20	5.6
Cost of labour	1143.02	12.6
Total variable cost	7580.83	84
Total fixed cost	1448.12	16
Total cost	9028.95	
Gross margin	4935.17	
Net income	3487.05	
Profitability Index (PI)	0.28	
Operation Ratio	0.60	

Source: Field Survey 2017

Problems faced by Marketers of the Cassava Products

From the findings, various problems facing the cassava product marketers have been indentified as shown in Table 4. High cost of transportation (80%), inadequate fund (75.8%) and poor and instable price of the product (76.7%) have the highest percentage and seriously posed problems to the marketers in the study area. The marketing function, efficiency, conduct and performance are seriously threatened by these problems militating against the profitability of the cassava products marketing output. Efforts are being made by the marketers to circumvent or overcome these problems.

Table 4: Distribution of the problems faced by marketer of the cassava products

Problems	Serious	Not Serious
High cost of transportation	96 (80)	24(20)
Inadequate Fund	91 (75.8)	29 (24.5)
Poor and instable price of the product	92 (76.7)	28 (23.3)
High Purchasing price	58 (48.3)	62 (51.7)
Lack of capital	70 (58.3)	50 (41.7)
Lack of storage	52 (43.3)	68 (56.7)
Bad road	79 (65.8)	41 (34.2)
Inadequate in Social Amenity	74 (61.7)	46 (38.3)
Low Profit realized from business	59 (49.2)	61 (50.8)
Spoilage	57 (47.5)	63 (52.5)
Inappropriate processing technology	57 (47.5)	63 (52.5)
Lack of march machinery and tools	70 (58.3)	50 (41.2)
Poor Marketing Facilities	65 (54.2)	55 (45.8)
Labour Intensive	65 (54.2)	55 (45.8)
Problem from the middlemen	74 (61.7)	46 (38.3)

Note: Figures in Parentheses are in percentage

Source: Field Survey 2017

CONCLUSION AND RECOMMENDATIONS

In conclusion, this study examined the profitability analysis of cassava products marketing in Yewa North of Ogun State, Nigeria. Data were obtained from primary source to determine the cost and return profile, market efficiency and problems encountered in marketing cassava products in the study area. This study has shown that the marketing of cassava product were basically on small scale basis, this is because there is limited access to credit while some use it as a supplement to their primary source of income. Finding revealed that the marketing of cassava product is done mostly by women. The study concluded that marketing of cassava products are highly profitable and worth going into as a business, also it is more profitable when it is embark on large scale since the products are consumable.

Based on the findings of this research, the following recommendations are made: There should be an effective road network that will allow the ease of transportation of cassava products. Government should improve social amenities and infrastructures in rural areas, and provide credit facilities to encourage youth to participate in the business. The marketers should join cooperative societies to enable them access credit in other to improve their level of operation and profit.

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